Transcript Exhibit(s)

Docket #(s): L-0000D-03-0122-00000

Exhibit # : A1-A9, Cortessa 1, Olive 1 - Olive 4, S1-S3, C1, C2, Camelback LLC1 - Camelback LLC7, DMB1

Part I of II

APS

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EXHIBIT A-1

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AZ CORP COMMISSION
DOCUMENT CONTROL

June 16, 2003

Arizona Corporation Commission
Docket Control
1200 West Washington
Phoenix, Arizona 85007

L-00000D-03-0122

Re: Siting Committee Application of Arizona Public Service for a Certificate of Environmental Compatibility

Dear Sir/Madam:

Enclosed and filed this date are 25 copies and 1 original of the Application of Arizona Public Service for a Certificate of Environmental Compatibility.

Legal notices or other communications concerning the Application should be directed to:

Thomas Campbell
Lewis and Roca LLP
40 North Central Avenue
Phoenix, Arizona 85004

Very truly yours,

APS

Steven Goodman

cc: Laurie Woodall (w/encl., via hand delivery)
Office of the Attorney General
1275 West Washington
Phoenix, Arizona 85007

VIA HAND DELIVERY

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INTRODUCTION

Arizona Public Service Company (APS) is applying for a Certificate of Environmental Compatibility (CEC) for the proposed West Valley-South (WVS) 230-kilovolt (kV) Power Line and Substation Project (WVS Project).

OVERVIEW

APS electrical system planners recognized the need to increase electrical system infrastructure in the West Valley as a result of recent and projected future development. Required facilities include new transmission lines and substations. Specifically, APS electrical system planners identified a need for three 230kV substations and a 230kV transmission line within the WVS study area (bounded approximately by Cactus Road to the north, Baseline Road to the south, 99th Avenue to the east, and Oglesby Road to the west). To plan the locations of these future facilities, APS conducted a public involvement process and environmental studies for the WVS Project.

PROJECT NEED

System studies have shown that new electrical facilities are necessary to accommodate continued load growth in the West Valley, as well as to enhance the reliability of the existing electrical system. Specifically, the construction of new 69kV subtransmission facilities is necessary to provide reliable distribution of electricity to customers as the West Valley continues to grow. The WVS Project would provide the 230kV "backbone" to support the development of the local 69kV system. When fully constructed, the WVS Project would provide support to existing and planned electrical facilities in portions of Avondale, Buckeye, El Mirage, Glendale, Goodyear, Litchfield Park, Peoria, Phoenix, Surprise, Tolleson, and unincorporated Maricopa County. Construction of the WVS Project is necessary for APS to meet its legal obligation to serve customers in the West Valley.

PROPOSED SYSTEM OPTION

The Proposed system option includes three 230kV substation sites that would be constructed on approximately 10 acres of land, each would be interconnected by approximately 17.4 miles of 230kV transmission line. The following three proposed 230kV substation sites have been identified and would require connections via the proposed 230kV transmission line.

- TS2 is a proposed 230kV substation located in the area of the northwest corner of Olive Avenue and the Beardsley Canal. This substation is projected to be in service by 2012.

- TS3 is a proposed 230kV substation located in the area east of Perryville Road between Camelback Road and Indian School Road. This substation is projected to be in service by 2006.

- TS4 is a proposed 230kV substation located south of the existing Liberty Substation north of Broadway Road and east of Airport Road. This substation is projected to be in service by 2006. (Connection would be through the use of an existing 230kV [Rudd-Gila River] transmission line.)

ENVIRONMENTAL AND PUBLIC SITING PROCESS

The process of identifying and evaluating transmission line route segments and substation sites for the Proposed system option was conducted from September 2001 through May 2003. This process involved evaluating potential environmental impacts on existing and future land uses, as well visual, biological,

and cultural resources. Equally important was the incorporation of an extensive public involvement process used to communicate with the public and agencies regarding potential concerns associated with implementation of the WVS Project. The public involvement process included agency and stakeholder briefing meetings, several public meetings and presentations, and distribution of four project newsletters to more than 75,000 addresses.

APS considered environmental impacts and public, jurisdiction, and agency comments along with its engineering, right-of-way, and cost considerations when selecting locations for the proposed 230kV transmission lines and substation sites. The Proposed system option for the WVS Project was selected based on its environmental and engineering advantages, as well as input from much of the public, jurisdictions, and agencies. Advantages of the Proposed system option include the following:

- Locations for the proposed facilities that are compatible with existing and future uses in the West Valley
- Proposed facilities that are needed and appropriate considering the future "built" environment in the West Valley including maximizing opportunities to parallel major road rights-of-way or property boundaries where there are or will be similar vertical features (e.g., lights, signs, walls, buildings)
- Minimal environmental impacts due to strategic siting and the application of mitigation measures
- Public and jurisdictional support for the proposed transmission line and substation locations
- Consistency with City of Goodyear, Town of Buckeye, and Maricopa County general plans
- Support from Luke Air Force Base for the Proposed system option

CONCLUSIONS

The Proposed system option for the WVS Project would meet electrical system requirements while minimizing environmental impacts and responding to public input. In selecting the Proposed system option, APS coordinated extensively with public and agency stakeholders to make an informed and equitable decision for development of needed electrical facilities in the West Valley. The Proposed system option also would allow APS to meet its legal obligation to serve the electrical needs of the area. Accordingly, APS requests that the Arizona Transmission Line and Power Plant Siting Committee and the Arizona Corporation Commission grant a CEC for the Proposed system option included in this application.

APPLICATION

1. *"Name and address of the applicant, or in the case of a joint project, the applicants."*

Arizona Public Service Company
400 North Fifth Street
Phoenix, Arizona 85004

2. *"Name, address and telephone number of a representative of an applicant who has access to technical knowledge and background information concerning the application in question and who will be available to answer questions or furnish additional information."*

Applicant:

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3. *"State each date on which applicant has filed a ten-year plan in compliance with A.R.S. § 40-360.02 and designate each such filing in which the facilities for which this application is made were described. If they have not been previously described in a ten-year plan, state the reasons therefore."*

APS filed a ten-year plan on January 31, 2002 and January 31, 2003.

4. *"Description of the proposed facility, including":*

4.a. "With respect to an electric generating plant:"

Not Applicable

4.b. "With respect to a proposed transmission line:"

4.b.i. "Nominal voltage for which the line is designed; description of the proposed structures and switchyards or substations associated therewith; and purpose for constructing said transmission line."

Nominal voltage for which the line is designed:

The line would be designed for 230 kilovolts (kV) of alternating current.

Description of proposed structures:

The entire 17.4-mile route would be designed and constructed primarily with single-pole structures. The route would be constructed for double-circuit 230kV line underbuilt with double-circuit 69kV line.

Description of proposed substations:

The following sites have been identified for proposed new 230kV substations, and are shown as TS2, TS3, and TS4 on Figure 1:

- TS2 is a proposed 230kV substation located in the area of the northwest corner of Olive Avenue and the Beardsley Canal. APS system planners have projected the need for this substation to be in service by 2012.
- TS3 is a proposed 230kV substation located in the area east of Perryville Road between Camelback Road and Indian School Road. APS system planners have projected the need for this substation to be in service by 2006.
- TS4 is a proposed 230kV substation located south of the existing Liberty Substation north of Broadway Road and east of Airport Road. In order to maintain the existing APS interconnection with Western Area Power Administration (WAPA) at Liberty Substation TS4 substation would need to be in service by 2006.

Each substation would require approximately 10 acres, and would include the electrical facilities (i.e., dead-end structures, buswork, switches, transformers, breakers, and building structures), a wall and a gate. Final architectural characteristics and landscaping would meet the governing agency's requirements.

Purpose for constructing said transmission line:

The transmission line and substations are needed to accommodate APS' obligation to serve customers in the rapidly growing West Valley area. The transmission lines would interconnect several 230kV to 69kV substations to APS' 230kV system, which would allow further development of APS' 69kV system as the surrounding area develops. APS' detailed electrical system planning and need analysis is based on an assessment of

projected growth and the associated electrical load growth, as well as the evaluation of existing and future system limitations.

4.b.ii "Description of geographical points between which the transmission line will run, the straight-line distance between such points and the length of the transmission line for each alternative route for which application is made."

Description of geographical points of Proposed system option:

The proposed transmission line must interconnect the following electrical facilities:

- Future TS2 in Section 28, Township 3 North, Range 2 West, G&SRB&M
- Future TS3 in Section 22, Township 2 North, Range 2 West, G&SRB&M
- Future TS4 in Section 19, Township 1 North, Range 2 West, G&SRB&M (through the use of an existing 230kV [Rudd-Gila River] transmission line)

Straight-line distance between such points:

The straight-line distance between the existing 230kV (Rudd-Gila River) transmission line, which would tie into TS4 and TS3, is approximately 7 miles. The TS3 connection to TS2 would be approximately 5 miles. The total combined straight-line distance of all connections proposed is approximately 12 miles.

Length of the transmission line for each alternative route:

- Proposed system option: approximately 17.4 miles
- Alternative system option: approximately 15.5 miles

The Proposed and Alternative system options are illustrated on Figure 2.

4.b.iii "Nominal width of right-of-way required, nominal length of spans, maximum height of supporting structures and minimum height of conductor above ground."

Nominal width of right-of-way required:

The typical right-of-way width for a single-pole structure 230kV transmission line is approximately 100 feet. A maximum right-of-way width of up to approximately 150 feet would be required for the proposed transmission line. Factors that may affect the right-of-way widths include span lengths, pole type and framing, circuit configuration, and total number of circuits.

Nominal length of spans:

The single-pole structures that would be used for the transmission line typically would be between 110 and 160 feet in height with typical spans of between 300 and 700 feet, depending on terrain. Typical structure diagrams are provided in Exhibit G. Final design characteristics would be determined prior to construction.

Maximum height of supporting structures:

The maximum height of the structures would be approximately 160 feet above existing grade.

Minimum height of conductor above ground:

The minimum height of conductor for a 230kV transmission line would comply with National Electric Safety Code requirements.

4.b.iv "To the extent available, the estimated costs of proposed transmission line and route, stated separately. (If application contains alternative routes, furnish an estimate for each route and a brief description of the reasons for any variations in such estimates.)"

	Number of New 230kV Substations Needed for Connections	Total Length of Transmission Line (distance in miles*)	Total Estimated Cost of Project
Proposed System Option	3	17.4	$47.2 million
Alternative System Option	3	15.5	$44.1 million

* Distances are approximate.

4.b.v "Description of proposed route and switchyard locations. (If application contains alternative routes, list routes in order of applicant's preference with a summary of reasons for such order of preference and any changes such alternative routes would require in the plans reflected in (i) through (iv) hereof)."

APS is requesting a corridor of 3,000 feet from each side of the respective system option centerline for the Proposed or Alternative system options described below to provide for sufficient flexibility to accommodate final design and engineering. This would allow APS to work with affected landowners and the governing agency on specific routing and pole placement, and to address any cultural or biological resource issues that may be discovered during construction.

Approximately 7 miles of transmission line are common to the Proposed and Alternative system options: the north-south connection along Perryville Road from 0.5 mile south of Broadway Road to 0.5 mile north of Indian School Road. Section 7 of this application summarizes the reasons for the APS' preference for the Proposed system option.

Description of the Proposed system option:

The Proposed system option would begin south of Broadway Road in Section 28, Township 1 North, Range 2 West, located near the existing Liberty Substation. The transmission line would extend north along Perryville Road after tying into an existing east to west line in this area. The Proposed system option would parallel the west side of Perryville Road to McDowell Road, and then continue north along the east side of Perryville Road to the proposed TS3 substation site located at the corner of Perryville Road and 0.5 mile north of Indian School Road, in Section 22, Township 2 North, Range

2 West. The line then would extend east from the proposed TS3 substation toward Cotton Lane, in Section 23, Township 2 North, Range 2 West. Approximately 1,000 feet west of Cotton Lane, the line would angle to the northeast to avoid the Luke Air Force Base (LAFB) accident potential zone (APZ). The line would follow this angle for approximately 1,500 feet where it would reach Cotton Lane. The line would turn north and follow along the east side of Cotton Lane to Bethany Home Road, in Township 2 North, Range 2 West. At that point, the line would extend east on the south side of Bethany Home Road to Loop 303, in Section 13, Township 2 North, Range 2 West. The line would extend north along the west side of Loop 303 to Olive Avenue, in Township 2 North and 3 North, Range 2 West. At the intersection of Loop 303 and Olive Avenue the line would turn west and extend on the north side of Olive Avenue to the west side of the Beardsley Canal, in Section 28, Township 3 North, Range 2 West. The line would extend along the Beardsley Canal north for up to 0.5 mile to the northern edge of the proposed TS2 substation.

Description of the Alternative system option:

The Alternative system option would follow the same alignment as the Proposed system option from its start to where it would connect with the proposed TS3 substation in Section 22, Township 2 North, Range 2 West. From the proposed TS3 substation to the proposed TS2 substation, the Alternative system option would extend north along the east side of Perryville Road to Bethany Home Road, then turn west and extend along the south side of the Bethany Home Road alignment to the Tuthill Road alignment, where it would turn north and extend along the east side of the Tuthill Road alignment to Olive Avenue, in Section 32, Township 3 North, Range 2 West. At the intersection of Olive Avenue and Tuthill Road, the line would turn east and follow along the north side of Olive Avenue to the proposed TS2 substation site located west of the Beardsley Canal. The Alternative system option would be the same as the Proposed system option at the proposed TS2 substation site, extending north along the Beardsley Canal for approximately 0.5 mile to the northern edge of the site.

4.b.vi "For each alternative route for which application is made, list the ownership percentages of land traversed by the entire route (federal, state, Indian, private, etc.)."

The Proposed and Alternative system options would cross land owned by the following entities (see Exhibit A-2 for detailed studies):

	State Trust Land (miles)*	Private (miles)*	Total (miles)*
Proposed System Option	2.5	14.9	17.4
Alternative System Option	8.5	7.0	15.5

* Mileages are approximate.

5. *"List the areas of jurisdiction [as defined in A.R.S. § 40-360(1)] affected by each alternative site or route and designate those proposed sites or routes, if any, which are contrary to the zoning ordinances or master plans of any of such areas of jurisdiction."*

Areas of jurisdiction (as defined in A.R.S. § 40-360) affected each alternative site or route:

Substation Sites:

Locations of substation sites within each respective jurisdiction for planning and zoning are as follows:

TS2: Maricopa County
TS3: City of Goodyear
TS4: Maricopa County

Approximately 10 acres are needed for a 230kV substation.

Transmission Line Routes:

Approximate miles of transmission line located within each jurisdiction are as follows:

	Town of Buckeye (miles)	City of Goodyear (miles)	Unincorporated Maricopa County (miles)	Total (miles)
Proposed System Option	1.1	2.6	13.7	17.4
Alternative System Option	1.7	0.5	13.3	15.5

Portions of the transmission line, while in unincorporated Maricopa County, would lie within the municipal planning areas of the Town of Buckeye, City of Goodyear, and/or City of Glendale.

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

Substation Sites:

The locations of proposed substations were determined in coordination with the City of Goodyear, Town of Buckeye, Maricopa County, Arizona State Land Department, and the general public through the public planning process. Representatives of these entities participated in the jurisdictional planning workshops or were consulted individually. The TS2 substation would be located in unincorporated Maricopa County on State Trust land. Existing zoning of the proposed TS2 substation site is Rural-43 (residential) by Maricopa County. Within Rural-43 zoning, a substation is considered a "use by right" and would not require rezoning from Maricopa County. Existing zoning of the proposed TS3 substation site is agricultural (AG) by the City of Goodyear; this zoning allows for utility facilities with approval of a special use permit. The City of Goodyear identifies the proposed TS3 substation as a special study area (a special study has not been completed as of May 2003) within the 1998 general plan. The City of Goodyear has drafted a

General Plan Update 2002-2012 (scheduled for approval by City Council in June 2003 and to be voted on by the citizens of Goodyear in November 2003), which would designate the proposed TS3 substation site as residential allowing for residential zoning. The City of Goodyear has communicated with APS representatives to include the TS3 substation site and the Proposed system option within the Draft General Plan Update 2002-2012. Residential zoning would allow for utility facilities with approval of a special use permit. The proposed TS4 substation site is under the jurisdiction of Maricopa County, but within the Town of Buckeye's planning area (i.e., the Town of Buckeye has not annexed the proposed TS4 property, but Buckeye plans for the area). Under Maricopa County's zoning, which is Rural-43 for the TS4 site, the substation facility would be a "use by right." However, APS would continue to work with Buckeye to ensure consistency with future plans in the area. It is anticipated that all substations would be in compliance with land use zoning regulations prior to construction.

Transmission Line Routes:

The Proposed and Alternative transmission line routes (i.e., system options) were determined in coordination with the Town of Buckeye, City of Goodyear, and Maricopa County throughout the planning process. Representatives of these entities participated in the jurisdictional planning workshops. The Proposed and Alternative system options are not contrary to the current general plans and land use zoning ordinances of the affected jurisdictions.

LAFB was consulted to determine height restrictions associated with safety of the Base's air operations, APZs, and the potential for radar/communication interference. APS has committed to working with LAFB on heights of structures located along the Cotton Lane alignment and Loop 303 and has located the Proposed and Alternative system options outside of the Clear Zone, APZ 1, and the northern end of APZ 2. The Clear Zone and APZ 1 are areas located off the end of the LAFB runways where the 230kV transmission line would not likely be feasible under Arizona Revised Statutes. Both system options would follow along Perryville Road near McDowell Road and Interstate 10, which is located at the southern end of LAFB APZ 2. APS has consulted with LAFB on this segment, which is common to both alternatives, and has received support on the alignment, including this segment. The letter received from LAFB supporting the transmission line alignment within this part of APZ 2 is included in Exhibit J.

6. "Describe any environmental studies applicant has performed or caused to be performed in connection with this application or intends to perform or cause to be performed in such connection, including the contemplated date of completion."

See attached Exhibits.

The initial siting studies for the West Valley-South (WVS) Power Line and Substation Project (Project) were completed between September 2001 and November 2002. Further studies were completed to update the continuing development within the West Valley through May 2003. Communications with LAFB, the City of Goodyear, and other key stakeholders also continued through May 2003. The initial siting studies of the WVS Project were conducted to evaluate potential 230kV and 69kV transmission line routes and substation sites within the area bounded by approximately Cactus Road to the north, Baseline Road to the south, 99th Avenue to the east, and Oglesby Road to the west.

Environmental studies have been conducted for the Application for a Certificate of Environmental Compatibility pursuant to ARS § 40-360.03 and 40-360.06. Additionally, the environmental studies were conducted as part of the public planning process to identify the Proposed and Alternative system options. The analysis completed during the initial siting studies of the WVS Project is summarized within Exhibit B of this Application for a Certificate of Environmental Compatibility.

7. Rationale for system option preference

The range of impacts that would result from each of the alternatives described in this Application have been found by APS and its environmental consultant, URS Corporation, to be "environmentally compatible" pursuant to the factors in ARS § 40-360.06 and applied in prior Arizona siting decisions. A summary of the pertinent environmental differences between the Proposed and Alternative system options follows.

Proposed System Option:

The Proposed system option is preferred by APS based on environmental studies, engineering and system planning, and agency/jurisdiction and public input. The environmental advantages of the Proposed system option would include using *existing* linear corridors and minimizing land use and visual impacts on *existing* residential uses. The Proposed system option would parallel major linear features (i.e., roads, property boundaries, and half-section and section lines) for a majority of its entire 17.4-mile length. By locating the Proposed system option along the west side of Perryville Road (south of McDowell Road) and along the east side of Perryville Road (north of McDowell Road to 0.5 mile north of Indian School Road), APS would reduce the proximity of the line to existing residences. Similarly, land use and visual impacts on existing residential uses would be minimized along the northern portion of the alignment (i.e., from Perryville Road to Cotton Lane, north along Cotton Lane, east on Bethany Home Road, and north on Loop 303) because the area is agricultural. Additionally, the Proposed system option would locate the 230kV facilities approximately 1.5 miles from the White Tank Mountain Regional Park, minimizing impacts on views in and around the park. Public input suggested following Loop 303 to protect views of the White Tank Mountains from residential areas.

Finally, locating the Proposed system option west of Cotton Lane would keep the alignment out of the northern portion of the LAFB APZ 2. LAFB has supported the Proposed system option within APZ 2 along Perryville Road near McDowell Road and Interstate 10 (see Exhibit J).

Alternative System Option:

The Proposed and Alternative system options are similar with the exception of the alignment 0.5 mile north of Indian School Road (TS3 substation) leading to TS2 substation. While the Alternative system option is technically feasible and environmentally compatible, its location along the Bethany Home Road alignment, north on the future Tuthill Road alignment and east on Olive Avenue, would result in more visual and land use impacts on existing residential uses than what would occur under the Proposed system option. A second disadvantage of the Alternative system option is that the transmission line would be located along section lines without existing road access; however, access could be established if development occurs in the future. Additionally, the Alternative system option would be within close proximity to the White Tank Mountain Regional Park, resulting in potential indirect impacts on visitors' views along the park boundaries and near the entrance/exit to the park. Finally, there is less support for the Alternative system option by the Town of Buckeye, Maricopa Water District, Maricopa County Parks and Recreation Department, and the general public.

OVERSIZED MAP

-Figure 1
Proposed 230kV System Option

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
L-00000D-03-0122-00000

OVERSIZED MAP

-Figure 2
Proposed and Alternative 230kV System Options

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
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EXHIBIT A – LOCATION MAP AND LAND USE INFORMATION

In accordance with A.A.C. R14-3-219 Applicant provides the following location maps and land use information:

1. *"Where commercially available, a topographic map, 1:250,000 scale, showing the proposed plant site and the adjacent area within 20 miles thereof. If application is made for alternative plant sites, all sites may be shown on the same map, if practicable, designated by applicant's order of preference."*

2. *"Where commercially available, a topographic map, 1:62,500 scale, of each proposed plant site, showing the area within two miles thereof. The general land use plan within this area shall be shown on the map, which shall also show the areas of jurisdiction affected and any boundaries between such areas of jurisdiction. If the general land use plan is uniform throughout the area depicted, it may be described in the legend in lieu of an overlay."*

3. *"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 of 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 applicant's order of preference."*

4. *"Where commercially available, a topographic map, 1:62,500 scale, of each proposed transmission line route of more than 50 miles in length showing that portion of the route within two miles of any subdivided area. The general land use plan within the area shall be shown on a 1:62,500 map required for Exhibit A-3, and for the map required by this Exhibit A-4, which shall also show the areas of jurisdiction affected and any boundaries between such areas of jurisdiction. If the general land use plan is uniform throughout the area depicted, it may be described in the legend in lieu of on an overlay."*

LAND USE OVERVIEW

Land uses within the study area include residential communities, commercial retail and office parks, roadways, airports, a military air base, public and quasi-public facilities (e.g., correctional facility, churches, and post offices), parks, dispersed agricultural fields and associated facilities, transmission lines, communication facilities, and irrigation canals, among other uses.

INVENTORY METHODS

APS consulted with the planning jurisdictions of Buckeye, Goodyear, and Maricopa County for information on existing and future land uses. State and local governmental agencies (e.g., Arizona State Land Department [ASLD], Maricopa County Parks and Recreation Department, Flood Control District of Maricopa County [FCDMC], Roosevelt Irrigation District [RID], and Maricopa Water District [MWD]) and private developers were contacted to collect and discuss existing and future land use data. APS also invited jurisdictional/agency planners and community leaders to workshops throughout the initial siting process to keep them informed regarding the status of the siting process and to allow them to comment on the potential locations of substation sites and transmission line alternatives with respect to land use or other public concerns.

Electronic data were acquired for inventory purposes from various agencies. The Maricopa County Department of Transportation (MCDOT) provided jurisdictional data as MCDOT maintains city annexation boundary records (2001). ASLD provided ownership data (2001), and the Arizona Department of Water Resources (ADWR) provided the irrigation district boundaries (2002).

Existing and future land use data were collected for an area within 2 miles of the proposed and alternative 230kV transmission lines and substations, as required by the Arizona Transmission Line and Power Plant Siting Committee. A more detailed existing and future land use inventory (e.g., existing residential house counts) was completed for an 1/8-mile distance around proposed and alternative facilities to determine where land uses would be sensitive to the construction, operation, and maintenance of the proposed and alternative 230kV transmission lines and substations.

Information was compiled from agency maps and planning documents, aerial photography, and field investigations. All jurisdictional planning documents (e.g., general plans and available specific plans) used were the current resources for the municipalities during July 2001 through May 2003. Aerial photography from 2001 and 2002 was used for this inventory. Landiscor's Phoenix Real Estate Photo Books (March and April, first quarter of 2001 and 2002) initially were used to identify existing land uses and some specific future use developments. Aerial photography from Aerial Express flown in November 2002 and Landiscor's Phoenix fourth quarter 2002 Real Estate Photo Book were reviewed to update land uses based on growth and development that had occurred within the area. A majority of the field investigations were conducted in Fall of 2001. Several follow-up site visits were made in 2002 and 2003 to verify existing and future land use conditions, as the area is changing quickly.

Developments under construction within 2 miles of the Proposed and Alternative system options are considered existing land uses. By the time the proposed transmission line would be constructed, those developments could be completed.

Future land use incorporated existing developed land uses (i.e., residential, commercial, industrial, public-quasi-public, school or educational facilities, and mixed use), known approved developments, jurisdictional general plans, conceptual plans provided by developers, and field-posted signage for approved developments. Future uses were assigned to those lands with existing agricultural or vacant/undeveloped uses. The plans used are listed in Exhibit H. Project team members met with a representative of each jurisdiction to confirm land uses identified in general plans as well as where specific developments had been approved since the general plan was established.

Recently, the City of Goodyear developed a Draft General Plan Update 2002-2012; the Goodyear City Council is scheduled to approve the new general plan in June 2003. After the general plan has been approved by the City Council, the citizens of Goodyear will vote on the adoption of the new general plan in November of 2003. As this draft plan has yet to be approved, the existing adopted general plan, dated May 1998, was referenced for this land use inventory. However, the draft general plan also was reviewed and considered, as appropriate.

INVENTORY RESULTS

Jurisdiction and Ownership

This component of the inventory included identifying entities with administrative control over lands within the study area (see Exhibits A-2 and A-3). The authority to control the development of the land through planning and zoning ordinances is delegated to local governments by the state. Rights-of-way and other jurisdictional constraints such as irrigation districts and the White Tank Mountain Regional Park also were identified by APS.

Each agency (e.g., Maricopa County Parks and Recreation Department, Maricopa County Planning Department, ASLD, MWD, RID, and FCDMC) and jurisdiction was consulted and concerns were identified and included within the system selection analysis.

Jurisdiction and ownership for each system option and substation site are described briefly below. Descriptions are specific to the side of the road where the Proposed and Alternative system options would be located.

Proposed System Option

The Proposed system option would be located within three jurisdictions (i.e., approximately 1.1 miles within the Town of Buckeye, approximately 2.6 miles within the City of Goodyear, and approximately 13.7 miles within unincorporated Maricopa County). The Proposed system option would cross two ownership classifications (i.e., approximately 2.5 miles of State Trust land [managed by ASLD] and approximately 14.9 miles of private land). The Proposed system option also would cross within the respective limits of MWD (approximately 9.4 miles) and RID (approximately 2.6 miles).

Alternative System Option

The Alternative system option would be located within three jurisdictions (i.e., approximately 1.7 miles within the Town of Buckeye, approximately 0.5 mile within the City of Goodyear, and approximately 13.3 miles within unincorporated Maricopa County). The Alternative system option would cross two ownership classifications (i.e., approximately 8.5 miles of State Trust land [managed by ASLD] and approximately 7.0 miles of private land). The State Trust lands on the east side of Perryville Road north of Interstate 10 (I-10) near Perryville Prison are leased to the Department of Corrections (see Exhibit A-3). Additional State Trust lands, which also would require acquisition of right-of-way, are located adjacent to the White Tank Mountain Regional Park and north of Olive Avenue, west of the Beardsley Canal. The Alternative system option also would cross within the respective limits of MWD (approximately 5.0 miles) and RID (approximately 2.6 miles).

TS2 Substation

The proposed 10-acre TS2 substation site is located north of Olive Avenue and west of the Beardsley Canal on State Trust land within unincorporated Maricopa County.

TS3 Substation

The proposed 10-acre TS3 substation site is located north of Indian School Road and east of Perryville Road on private land that is incorporated under jurisdiction of the City of Goodyear.

TS4 Substation

The proposed 10-acre TS4 substation site is located north of Broadway Road and east of Airport Road south of an existing 345/230kV substation (i.e., Liberty Substation). The land is in unincorporated Maricopa County, but it lies within the Town of Buckeye's municipal planning area. This land is owned by APS.

Existing Land Uses

The study area is characterized by a variety of uses such as transportation, commercial, light-to-heavy industrial, residential, utilities, agricultural and grazing, parks, and other open space (see Exhibit A-4).

The primary transportation routes in the study area are I-10 and Loop 303. I-10 traverses from east to west through the study area. The Loop 303 corridor traverses north to south through the northern half of the study area. State Route 85 is located in the southeastern portion of the study area. Secondary road systems also occur throughout the study area. Commercial and industrial uses generally are located along these major transportation routes or in areas with adequate access to these routes.

Residential uses are dispersed throughout the study area; however, they are present in higher densities along major transportation thoroughfares and adjacent to commercial areas. Portions of the study area consist of low- to medium-density residential areas located within Buckeye, Goodyear, and unincorporated Maricopa County. Low-density residential areas are predominant throughout the study area, including areas surrounding the White Tank Mountain Regional Park and south of I-10. Individual or small cluster residences are located throughout the study area and near agricultural fields or within farm complexes.

Parks and preservation uses include the White Tank Mountain Regional Park and other smaller areas of open space. Other areas of open space designated for recreational use include golf courses.

Existing land uses for each system option and substation site are described below. Descriptions are specific to the side of the road where the Proposed and Alternative system options would be located.

Proposed System Option

Existing land use along the Proposed system option is primarily agricultural or vacant/undeveloped along transportation corridors (e.g., Perryville Road, Cotton Lane, Loop 303, and Olive Avenue). Two single residences are located west of Perryville Road and south of Broadway Road with three lots designated for mobile homes. The portion of the Proposed system option located along the west side of Perryville Road, from about Broadway Road north to the RID Canal, is primarily agricultural. Moving north along the west side of Perryville Road from the RID Canal to McDowell Road, land is primarily vacant/undeveloped. The Proposed system option along with I-10 and a 69kV transmission line is located within Luke Air Force Base's (LAFB's) Accident Potential Zone (APZ) 2 located along Perryville Road near McDowell Road. LAFB has concurred with the Proposed system option's location within APZ 2 at the intersection of Perryville Road and McDowell Road (see Exhibit J, Special Factors). Lands along the Proposed system option are primarily agricultural east of Perryville Road and west of Loop 303 from McDowell Road north to Olive Avenue. The Scott Libby Elementary School is located west of Perryville Road and south of Thomas Road. At this location, the Proposed system option would be located on the east side of Perryville Road opposite of the school approximately 285 feet from the nearest school building. An existing 12kV distribution line located on the west side of Perryville Road adjacent to the Scott Libby Elementary School would be placed underground for the entire length of the school property. Single residences are associated with agricultural areas located west of Loop 303 and south of Olive Avenue. LAFB is located approximately 1.5 miles east of Cotton Lane along the Proposed system option. Agricultural land is located generally north of Olive Avenue from Loop 303 west to Cotton Lane. Vacant/undeveloped land is located north of Olive Avenue from Cotton Lane west to the Beardsley Canal.

Alternative System Option

The Alternative system option would be in the same location as the Proposed system option along Perryville Road from south of Broadway Road to 0.5 mile north of Indian School Road.

Land uses along the Alternative system option from Perryville Road 0.5 mile north of Indian School Road to the proposed TS2 substation site include one residence located east of Perryville Road south of Camelback Road. An existing residential development (Cottonwood Estates, currently under construction) is located east of Perryville Road and south of Bethany Home Road. Lands along the Alternative system option located south of the Bethany Home Road alignment and east of the Tuthill Road alignment are primarily vacant/undeveloped. Lands north of Olive Avenue from the Tuthill Road alignment to the Beardsley Canal are also vacant/undeveloped.

TS2 Substation

Existing land use at the TS2 substation site is primarily vacant/undeveloped. The White Tank Mountain Regional Park entrance is located approximately 1.5 miles to the west of the TS2 substation site. The Beardsley Canal is adjacent to the TS2 substation site on the east. The nearest existing residential development (Sonoran Ridge Estates) is under construction south of Olive Avenue and west of the Beardsley Canal. An existing residential development (i.e., Clearwater Farms) occurs approximately 1 mile southeast of the site.

TS3 Substation

Existing land use at the TS3 substation site located east of Perryville Road is agricultural. Residential and vacant/undeveloped land are located along the west side of Perryville Road.

TS4 Substation

Existing land use at the TS4 substation site is agricultural. The existing Western Area Power Administration (WAPA) Liberty Substation and affiliated transmission lines are located adjacent to the north of the proposed TS4 substation site. Commercial use occurs adjacent to the southwest corner of the proposed TS4 substation site on the east side of Perryville Road. Residential use occurs adjacent to the southeast corner of the proposed TS4 substation site on the east side of Perryville Road.

Future Land Uses

Two levels of planned development were identified: approved developments and general plan uses. General plan land uses (e.g., parks/preservation, residential, commercial, industrial, mixed use, and school or educational facilities, etc.) are land use categories defined in planning documents from respective jurisdictions. Approved developments are defined as developments that have been submitted to a jurisdiction and may be at various stages from preliminary to final design (see Exhibit H for further detail).

Approved residential developments (either under construction or within various approval stages within the respective planning jurisdiction) greater than 160 acres were identified near the following intersections:

- *Blue Horizons Village*—Tuthill Road and Van Buren Street
- *Canyon Trails*—Buckeye Road and Sarival Avenue

- *Cotton Flower*—Yuma Road and Cotton Lane
- *Dreaming Summit*—Dysart Road and Bethany Home Road
- *El Cidro Ranch*—Citrus Road and Lower Buckeye Road
- *Jackrabbit Estates*—Jackrabbit Trail and Camelback Road
- *Litchfield Farms*—Perryville Road and Thomas Road
- *Palm Valley* and *Pebble Creek*—Sarival Avenue and Thomas Road
- *Pasqualetti Mountain Ranch*—Indian School Road and Jackrabbit Trail
- *Parkman Ranch*—Perryville Road and Van Buren Street
- *Russell Ranch*—Camelback Road and Citrus Road
- *Savannah*—Perryville Road and Camelback Road
- *Sonoran Ridge Estates*—Olive Avenue and Jackrabbit Trail
- *Sundance*—Watson Road and Buckeye Road
- *Verrado*—Tuthill Road from about I-10 north to the Glendale Avenue alignment
- *Vista De Montaña*—Van Buren Street and Perryville Road
- *White Tank Foothills*—Olive Avenue and Perryville Road
- *White Tank Mountain Ranch*—Peoria Avenue and Perryville Road

Approved developments that are less than 160 acres also were identified and mapped. Exhibit H further details approved future developments greater than and less than 160 acres.

In addition to approved development, APS considered future developments that have not been approved based on input from potential developers or landowners. APS was contacted about the possible development of residential and mixed uses in Sections 22 and 23 of Township 2 North, Range 2 West. Residential uses in these sections are not included in the currently adopted General Plan (1998) for the City of Goodyear, but these uses are being considered in the Draft General Plan Update 2002-2012 (scheduled for a public vote to approve the General Plan in November 2003). The potential for these areas to remain agriculture or convert to residential uses each have been considered in the impact analysis.

FCDMC has developed the White Tanks Flood Retarding Structure (FRS) #3 conceptual recreational plan for approximately 1,700 acres west of the Beardsley Canal, between the Bethany Home Road alignment and Northern Avenue alignment. FRS #3 is adjacent to the Alternative system option for approximately 2.5 miles. However, development of this facility is uncertain; the area may become a diversion channel rather than a large multi-use basin.

Future population growth in the West Valley also will require additional roadway access on north-south and east-west arterial roads. Consultations with MCDOT revealed that three existing roads would be widened or improved including Loop 303, Jackrabbit Trail/Tuthill Road, and McDowell Road. Studies currently are underway by MCDOT for engineering and construction along these roads. MCDOT has completed a study for improvement of the Olive Avenue corridor.

Future land uses for each system option and substation site are briefly described below (see Exhibit A-5). Descriptions are specific to the side of the road where the Proposed and Alternative system options would be located.

Proposed System Option

Future land use along the Proposed system option will be primarily residential or agricultural. Residential developments identified in general plans are anticipated west of Perryville Road from about Broadway Road north to the RID Canal. Approved residential developments (i.e., Vista de Montaña and Parkman Ranch) would be located west of Perryville Road between the RID Canal and I-10 (generally from

milepost 3.0 to 4.0, see Exhibit A-5). Mixed use identified in general plans will be located immediately south of I-10 along the west side of Perryville Road. The portion of the Proposed system option east of Perryville Road and west of Loop 303 between McDowell Road and Olive Avenue is designated as agricultural. General plan and approved industrial uses and general plan mixed use will be located between Cotton Lane and Loop 303, from 0.5 mile north of Indian School Road north to Northern Avenue. General plan residential development will be located west of Loop 303 and north of Olive Avenue from Northern Avenue to Citrus Road. An approved residential development (i.e., White Tank Mountain Ranch) will be located immediately north of Olive Avenue between Citrus Road and the Perryville Road alignment (generally from milepost 8.3 to 9.3, see Exhibit A-5). Commercial and residential developments identified in general plans will be located north of Olive Avenue from the Perryville Road alignment west to the Beardsley Canal.

The portion of the Proposed system option east of Perryville Road and west of Loop 303 may be designated for residential, industrial, and agricultural uses under the Goodyear Draft General Plan Update 2002-2012, scheduled for adoption in November 2003. If Sections 22 and 23 (of Township 2 North, Range 2 West) are designated in the Goodyear Draft General Plan Update 2002-2012 to include residential uses, APS anticipates that potential developers would move forward with planning for these areas and construction of residential uses. This would result in the Proposed system option crossing through an additional 1.5 miles of residential uses.

Alternative System Option

The Alternative system option would be in the same location as the Proposed system option along Perryville Road from south of Broadway Road to 0.5 mile north of Indian School Road.

Future land uses along the Alternative system option from Perryville Road 0.5 mile north of Indian School Road to the proposed TS2 substation site include approved residential developments (i.e., Savannah), which would be located east of Perryville Road between Camelback Road and Bethany Home Road. Residential use identified in general plans would be located south of the Bethany Home Road alignment between Perryville Road and the Tuthill Road alignment. A park or recreation area has been proposed by FCDMC (i.e., FRS #3) east of the Tuthill Road alignment between the Bethany Home Road alignment and the Northern Avenue alignment (generally from milepost 3.5 to 5.0, see Exhibit A-5). Future land uses along the Alternative system option would be primarily residential east of the Tuthill Road alignment from Northern Avenue to Olive Avenue and north along Olive Avenue to the Beardsley Canal (generally from milepost 5.0 to 8.5, see Exhibit A-5).

If Section 22 (of Township 2 North, Range 2 West) along Perryville Road is designated in the Goodyear Draft General Plan Update 2002-2012 to include residential uses, APS anticipates that potential developers would move forward with planning for these areas and construction of residential uses. This would result in the Alternative system option crossing through an additional 1.0 mile of residential uses.

TS2 Substation

Future land use at the TS2 substation site would be primarily residential as identified in general plans. White Tanks FRS #3 is located approximately 1 mile south of the TS2 substation site. A general plan educational facility may be located east of the Beardsley Canal.

TS3 Substation

Future land use at the TS3 substation site has not been identified as the area was labeled a "special study area" in the City of Goodyear General Plan (1998). Communications with the City of Goodyear's

planning staff revealed that no plans have been approved by the City for this area. Therefore, the future land use designation defaulted to the existing zoning (i.e., agricultural [AG]). Goodyear's Draft General Plan Update 2002-2012 identifies residential uses for this area (Section 22, Township 2 North, Range 2 West).

TS4 Substation

Future land use at the TS4 substation site is designated for commercial development with adjacent mixed use to the south and east in the current county general plan. Residential use, identified in general plans, would be located west of the proposed TS4 substation site across Airport Road. Additionally, multiple high-voltage transmission lines cross throughout the area and the existing WAPA Liberty Substation is located immediately to the north of this site.

IMPACT ASSESSMENT METHODOLOGY

Existing and future land use data were compiled in a geographic information system. Each land use category was assigned a compatibility level (Table A-1) indicating whether an area/use would be considered suitable for the proposed facilities. These compatibility ratings were developed from experience with past projects, and also included input from the public and technical advisors from various agencies. Compatibility levels range from incompatible to high. Compatibility of a particular land use varies depending on the specific conditions/circumstances of the area. Typically, residential land use would be considered less compatible than a commercial or industrial use because transmission lines and substation sites could resemble some of the facilities or uses (e.g., light poles or communication towers) at commercial or industrial sites.

TABLE A-1
COMPATIBILITY OF LAND USES WITH POTENTIAL ALTERNATIVES

Land Use Category	Compatibility
Existing Land Use	
Residential areas – all densities	Low
Commercial – retail/office areas	Moderate
Commercial – hotels/resorts	Low
Mixed use	Low/Moderate
Recreation areas – interpretive sites, regional parks	Incompatible/Low
Recreation areas – trails, greenbelts, golf courses	Low/Moderate
Schools – within or immediately adjacent to property boundaries	Incompatible
Churches	Low
Canals	Moderate/High
Communication facilities	Moderate/High
Roads/highways	Moderate/High
Scenic roads/parkways	Low
Industrial areas	High
Agricultural Land	Moderate/High
Vacant areas (disturbed or natural)	Low to High
Airports	Incompatible (in restricted zone)
Future Land Use	
Residential (approved/general plan)	Moderate
Commercial	High
Mixed use	Moderate/High

TABLE A-1 COMPATIBILITY OF LAND USES WITH POTENTIAL ALTERNATIVES	
Land Use Category	**Compatibility**
Recreation	Moderate/High
Schools	Incompatible/Low
Industrial	High
Roads/Highways/Parkways	Moderate/High
Agricultural Land	Moderate/High

After the compatibility of land uses was determined for siting a transmission line, preliminary links were sited within those areas with higher land use compatibility. Preliminary links are short segments of a transmission line that are combined to form routes between two substations. Routes are subsequently combined to form system options. After the Proposed and Alternative system options were identified, detailed impact assessments were completed to determine the impacts associated with each system option.

The impact assessment was conducted to determine the potential effect of each system option on existing and future land uses. The presence or absence of existing transmission lines and substations also was a factor in determining impacts, as the introduction of new structures would constitute a greater impact than rebuilding or upgrading an existing line. In addition, site-specific factors were considered including the nature of the potential losses or restrictions on a land use during and after construction of the transmission line. For each system option, only the impacts on land uses within the assumed right-of-way were identified. The impact assessment for each system option and substation was based on the criteria described in Table A-2.

TABLE A-2 LAND USE IMPACT ASSESSMENT CRITERIA	
Impact Rating	**Criteria**
Low	• Minimal potential conflicts with existing and planned land uses • Routes would have minimal conflict with agency planning guidelines • Examples may include residential areas with existing transmission and distribution lines, commercial or industrial areas, areas with good construction and maintenance access (e.g., roads), previously disturbed areas, and future general plan residential, commercial, and industrial areas
Moderate	• Some conflicts with existing and planned land uses; however, the potential for mitigation efforts to be successful may reduce impacts • Examples may include commercial areas, primary and secondary roads with no existing transmission lines, residential areas without existing transmission lines where homes are not displaced or access restricted permanently and/or temporarily, agricultural and/or ranching uses, undisturbed areas that have minimal recreational value and are planned for development, and future approved residential developments
High	• Route conflicts with existing and planned land uses (e.g., land areas may be identified as protected by agency planning guidelines and mitigation may not effectively reduce impacts to a lower level) • Examples may include existing residential areas without transmission and distribution lines where homes are displaced or access restricted permanently and/or temporarily, existing or planned school areas, existing or planned open space areas, airports, and areas with electrical utilities recently placed underground

A detailed impact assessment was completed for the Proposed system option, the Alternative system option, and the three potential substation sites. Impacts were identified for every 0.1 mile along the Proposed and Alternative system options. As shown on Exhibits A-2 through A-5, the Proposed and

Alternative system options are separated by nodes, which occur where each of the alternatives intersect one another. Each Exhibit displays the alternatives by color to represent the location of alternative segments. At each node, the mile markers representing the length of each segment begin at zero and advance until the alternative segment meets another segment or a proposed substation site. The segments between the nodes were separated into 0.1-mile sections, which were studied in further detail. The following sections summarize the impact assessment by mile markers and/or geographic location.

IMPACT ASSESSMENT RESULTS

Impacts were identified for three types of land uses (i.e., existing land use, future approved land use, and future general plan land use). Existing land use was considered to be more sensitive than future land uses. Future approved land uses were considered to be more sensitive than future general plan land uses. The rationale for these different sensitivity levels is that general plan uses would have the most opportunity to incorporate the proposed transmission line and substations into future uses. Approved uses may have less opportunity (if plans have been approved), and existing land uses would have the least opportunity to plan or account for the proposed transmission line or substations.

Jurisdiction and Ownership

The Proposed and Alternative system options would not affect current jurisdictional designations. APS would acquire necessary jurisdictional permits prior to construction and operation of the proposed facilities. Existing ownership could change as APS acquires easements, buys land, or leases easements for the proposed transmission lines and substations.

Existing Land Uses

Proposed System Option

The Proposed system option would result in low to moderate impacts on existing land uses. Moderate impacts would result on single residences located west of Perryville Road and south of Broadway Road (generally from milepost 0 to 0.4, see Exhibit A-4). Moderate impacts would result on agricultural lands located along the west side of Perryville Road and south of the RID Canal (generally from milepost 0.4 to 3.0, see Exhibit A-4) where the proposed transmission line would cross residential property but would not restrict access or require removal of residential structures. Low impacts would result on vacant/undeveloped lands located along the west side of Perryville Road from the RID Canal north to McDowell Road (generally from milepost 3.0 to 4.5, see Exhibit A-4). The Scott Libby Elementary School would not be impacted from a land use perspective. The Proposed system option would be located on the east side of Perryville Road. Scott Libby Elementary School is located on the west side of Perryville Road. The Proposed system option would be located approximately 285 feet from the closest school building. The 12kV distribution line located on the west side of Perryville Road adjacent to the Scott Libby Elementary School would be placed underground. Moderate impacts would result on agricultural lands located along the east side of Perryville Road between McDowell Road and 0.5 mile north of Indian School Road east to Cotton Lane, along Cotton Lane north to Bethany Home Road, along Bethany Home Road east to Loop 303, and along Loop 303 north to Olive Avenue. Moderate impacts would result near single residences west of Loop 303 and south of Olive Avenue (generally from milepost 6.8 to 6.9, see Exhibit A-4). Low impacts would result on vacant/undeveloped land located north of Olive Avenue from Cotton Lane west to the Beardsley Canal (generally from milepost 7.6 to 10.4).

LAFB was consulted concerning the proximity of the proposed facilities to its APZs and height restrictions along flight paths. Through this consultation, LAFB technical staff indicated that the location

of the Proposed system option would not impact flight operations and would be compatible with existing planning guidelines.

Alternative System Option

Impacts of the Alternative system option would be the same as for the Proposed system option along Perryville Road from south of Broadway Road to 0.5 mile north of Indian School Road.

Along the Alternative system option from Perryville Road 0.5 mile north of Indian School Road to the proposed TS2 substation site, moderate impacts would result on one residence located east of Perryville Road and south of Camelback Road. Moderate impacts would occur on residences in Cottonwood Estates on the southeast corner or Bethany Home Road and Perryville Road. Low impacts would result on vacant/undeveloped land located along the Bethany Home Road alignment from Perryville Road, turning north along the east side of Tuthill Road alignment, and extending east along the north side of Olive Avenue to the TS2 substation site (generally from milepost 1.5 to 8.4).

LAFB technical staff indicated that the location of the Alternative system option would not impact flight operations and would be compatible with existing planning guidelines.

TS2 Substation

Low impacts would occur on existing land uses, because the proposed TS2 substation site would be located west of the Beardsley Canal on vacant/undeveloped State Trust land managed by ASLD. A right-of-way application would be required by ASLD to locate the substation on this property. The area 0.5 mile north of Olive Avenue is partially disturbed from existing access roads through the area. The TS2 substation site is zoned Rural-43 (residential) by Maricopa County. A substation is considered a "use by right" and would not require rezoning.

TS3 Substation

Low impacts would occur on existing land uses, as the proposed TS3 substation site would be located on agricultural land. The TS3 substation site is zoned agricultural (AG) by the City of Goodyear. A substation at this site would require a special use permit. APS would comply with the appropriate City of Goodyear special use permit restrictions.

TS4 Substation

Low impacts would occur on existing land uses, because the proposed TS4 substation site would be located on agricultural land. The proposed TS4 substation site is under the jurisdiction of Maricopa County and zoned Rural-43, where a substation is a "use by right."

Future Land Uses

Proposed System Option

The Proposed system option would result in low to moderate impacts on future land uses. Low impacts would occur on general plan residential areas located along the west side of Perryville Road from about Broadway Road to the RID Canal (generally from milepost 0 to 3.0, see Exhibit A-5). Moderate impacts would result on approved residential developments (i.e., Vista de Montaña and Parkman Ranch) located west of Perryville Road from the RID Canal to just south of I-10 (generally from milepost 3.0 to 4.0, see Exhibit A-5). However, planning for the transmission line during final design and development of the

communities could mitigate impacts. Low impacts would occur on a general plan mixed use area located west of Perryville Road and south of I-10 (generally from milepost 4.0 to 4.2, see Exhibit A-5). Moderate impacts would occur on a general plan agriculture use located east of Perryville Road from I-10 extending north to 0.5 mile north of Indian School Road and east to 0.5 mile east of Citrus Road. Low impacts would result on general plan and approved industrial and general plan mixed use located 0.5 mile north of Indian School Road, extending north on Cotton Lane, east on Bethany Home Road, and north along the west side of Loop 303 to Northern Avenue. Low impacts would result on general plan residential use located west of Loop 303 and north of Olive Avenue. Moderate impacts would result on an approved residential development (i.e., White Tank Mountain Ranch) located north of Olive Avenue and west of Citrus Road (generally from milepost 8.3 to 9.3, see Exhibit A-5); however, planning for the transmission line during final design and development of the community could mitigate impacts. Low impacts would result on a general plan residential area located north of Olive Avenue and west of the Beardsley Canal.

If the Goodyear Draft General Plan Update 2002-2012 is adopted, Section 22 and part of Section 23 (Township 2 North, Range 2 West) may be developed with residential uses, resulting in moderate, rather than low impacts on land uses in this area (approximately 1.5 miles along the Proposed system option).

Alternative System Option

Impacts of the Alternative system option would be the same as those described for the Proposed system option along Perryville Road from south of Broadway Road to 0.5 mile north of Indian School Road.

Along the Alternative system option from Perryville Road 0.5 mile north of Indian School Road to the proposed TS2 substation site, moderate impacts would result on approved residential developments (i.e., Savannah) located east of Perryville Road north of Camelback Road to Bethany Home Road (generally from milepost 0.5 to 1.5, see Exhibit A-5). However, planning for the transmission line during final design and development of the community could mitigate impacts. Low impacts would result on general plan residential uses and on the White Tanks FRS #3 conceptual recreational facility located along the Bethany Home Road alignment from Perryville Road, extending north along the east side of the Tuthill Road alignment, and east along the north side of Olive Avenue (generally from milepost 0.5 to 8.5, see Exhibit A-5).

If the Goodyear General Plan 2002-2012 were adopted, future land uses in Section 22 may become residential, resulting in moderate impacts on future land uses (approximately 1.0 mile along the Alternative system option.

TS2 Substation

The addition of a substation at the proposed TS2 substation site would result in low impacts on future residential development identified for this area within Maricopa County's White Tank/Grand Avenue Area Plan, which is part of the comprehensive plan.

TS3 Substation

The addition of the proposed TS3 substation site would result in low to moderate impacts on future land use. According to the City of Goodyear General Plan, dated 1998, the TS3 substation site is located on land designated as a "special study area." However, no specific plans have been approved for the lands; therefore, low impacts would be anticipated on the continued agricultural use (based on current zoning). The Draft General Plan Update 2002-2012 identifies this area as residential. If the draft General Plan 2002-2012 were adopted, future land uses in Section 22 may become residential, resulting in moderate impacts on future land uses.

TS4 Substation

The addition of a substation at the proposed TS4 substation site would result in low impacts on future commercial land uses identified for this area within the Town of Buckeye general plan. Residential use identified in the Town of Buckeye general plan also would experience low impacts. Existing high-voltage transmission lines and the existing WAPA Liberty substation surrounding the proposed TS4 substation minimize land use impacts.

Summary

Table A-3 summarizes the level of impacts respective to the Proposed and Alternative system options, allowing for the comparison the three proposed system options.

TABLE A-3
LAND USE IMPACTS ASSOCIATED WITH EACH PROPOSED SYSTEM OPTION

	Level of Environmental Impact			
System Option	**High Impacts**	**Moderate Impacts**	**Low Impacts**	**Comments**
Proposed	No	Yes • Existing residences • Existing agriculture • Future approved residential development	Yes • Existing vacant/undeveloped land • Future general planned residential areas • Future general planned mixed use areas • Future approved industrial areas	• The majority of the Proposed system option is located along existing vacant/undeveloped land or agricultural lands on major arterials. • Future land uses along the Proposed system option are more compatible with least amount of impacts (e.g., industrial and mixed use). • The majority of the future residential development is general plan, allowing for future plans to accommodate the proposed transmission line within the final design.
Alternative	No	Yes • Existing residences • Existing agriculture • Future approved residential development • Requires new access to be established	Yes • Existing vacant/ undeveloped land • Future general plan residential areas • Future general plan mixed use areas	• The majority of the Alternative system option north of Bethany Home Road is located adjacent to the White Tank Mountain Regional Park and a future master planned community currently under construction. • There is a lack of existing access along the northern half of the Alternative system option.

Conclusion

A majority of the impacts on existing and future land use generated by the Proposed and Alternative system options would be low to moderate. The Proposed system option would result in lower impacts on existing and future residential and open space (parks/preservation) uses compared to the Alternative system option. Very few existing residential uses would be adversely impacted by the Proposed system option because the line would be located on primarily agricultural or vacant land. While both alternatives take advantage of major linear features (i.e., roads, property boundaries, and half-section and section lines), existing access could be used for construction along the entire alignment for the Proposed system option; the Alternative system option does not have adequate construction access established along its entire alignment. With respect to future land uses, the Proposed system option would impact fewer miles along approved or general plan residential areas because the line would be located in more areas planned for mixed use, commercial, and industrial uses (along Loop 303) compared to the Alternative system option. Where the Proposed system option would affect future land uses, particularly residential areas, planning for the transmission line during final design and development of the communities could reduce or mitigate impacts. Finally, neither the Proposed nor Alternative system option would impact LAFB air traffic procedures.

OVERSIZED MAP

-Exhibit A-1
General Project Location

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
L-00000D-03-0122-00000

OVERSIZED MAP

-Exhibit A-2
Jurisdiction

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
L-00000D-03-0122-00000

OVERSIZED MAP

-Exhibit A-3
Ownership

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
L-00000D-03-0122-00000

OVERSIZED MAP

-Exhibit A-4
Existing Land Use

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
L-00000D-03-0122-00000

OVERSIZED MAP

-Exhibit A-5
Future Land Use

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
L-00000D-03-0122-00000

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

Arizona Public Service (APS) electrical system planners recognized the need to increase electrical system infrastructure in the West Valley as a result of recent and projected future development. Required facilities include new transmission lines and substations. To plan the locations of these future facilities, APS conducted the West Valley-South (WVS) Power Line and Substation Project (Project). Specifically, APS electrical system planners identified a need for three 230kV substations, twelve 69kV substations, and an associated network of 230kV and 69kV transmission lines within the WVS study area (bounded approximately by Cactus Road to the north, Baseline Road to the south, 99th Avenue to the east, and Oglesby Road to the west). The environmental studies, and subsequent Environmental Report, completed for the WVS Project included analyses of impacts that would result from both the 230kV and 69kV facilities. As this application for a Certificate of Environmental Compatibility (CEC) is specific to 230kV facilities, APS has summarized the portions of the Environmental Report relevant to the 230kV facilities for this Exhibit. In addition, this Exhibit describes the data updates that have occurred since APS distributed the most recent project newsletter in November 2002. Exhibit B-1 illustrates the process used to identify transmission line and substation locations.

SUMMARY OF ENVIRONMENTAL REPORT

Based on the anticipated growth in the West Valley, system planners developed electrical demand estimates indicating a need for 230kV transmission lines and three 230kV substations. When fully completed, this infrastructure would provide support to existing and planned electrical facilities in portions of Avondale, Buckeye, El Mirage, Glendale, Goodyear, Litchfield Park, Peoria, Phoenix, Surprise, Tolleson, and unincorporated Maricopa County.

Overview of the Siting Process

The process of identifying and evaluating transmission line route segments and substation sites was conducted in sequential phases with a public involvement process during each phase. First, a study area and required facilities were defined by APS based on projected system loads. After definition of the study area, inventories of existing resources (i.e., jurisdiction and land use, visual resources, cultural resources, and biological resources) were conducted for the entire study area based on readily available information.

Second, preliminary links (short segments of potential transmission line between other intersecting segments) and broad areas for siting substations were defined. The preliminary links generally followed section lines, half-section lines, property boundaries, existing transmission lines, and roads. APS then contacted agencies (jurisdictional planners) and other community leaders to gather comments regarding the WVS Project, including preliminary links and substation sites. After agency input was received, a series of three public meetings was held to solicit input from the community regarding the project and preliminary link locations. Extensive input resulted in the additional consideration of Cotton Lane and Loop 303 for the 230kV corridor; these road alignments initially were considered only for 69kV lines needed in the area.

Third, to narrow down the links and substation sites, potential environmental impacts and APS technical considerations (e.g., constructability and right-of-way) were reviewed and areas/links with environmental or engineering constraints were eliminated from further consideration.

Fourth, links were combined to form various route segments (connections between two substations). A total of 19 potential route segments were identified and presented for public comment (based primarily on technical considerations, such as fewer turns or corridors where right-of-way opportunities appeared more likely). After route segments were identified, environmental analyses were conducted on each route segment to evaluate the potential impacts of each route segment and substation site on environmental resources. The results of preliminary environmental analyses were presented at meetings for jurisdictional planners and community leaders. In addition, a set of two public meetings was held to gather comments on the route segments and substation sites identified.

Fifth, system options, or combinations of transmission line route segments connecting multiple substations throughout the study area, were identified. Nine system options, all environmentally compatible, with associated substation sites, were developed and forwarded for public comment. These nine options were presented at a jurisdictional workshop, community leader meeting, and one public open house to gather comments on the options prior to deciding on which system options should be carried forward in the CEC application.

APS considered environmental impacts and public comments for the 230kV alternatives and substation sites to determine the compatibility of each system option with the surrounding environment and acceptability by the public. Based on the results of the environmental analyses and public input, APS presented four system options to the public and agencies in its November 2002 newsletter.

The four system options presented in APS' November 2002 newsletter were subsequently examined more thoroughly by APS and discussed with stakeholders such as the City of Goodyear and Luke Air Force Base (LAFB) prior to deciding which system options to include in the CEC application. As a result of the input received from these stakeholders and further technical analysis by APS planners, two final system options are included in this CEC application.

Environmental Analyses

As mentioned in the description of the siting process above, environmental analyses were conducted on 19 route segments, which included the following connections:

- Two routes from the Buckeye Substation connecting to the existing line on Lower Buckeye Road (which then connects into an existing substation)
- Two routes connecting from the Buckeye Substation to the TS3 substation
- Ten routes connecting from the proposed TS2 substation to the proposed TS3 substation
- Five routes connecting from the proposed TS3 substation to the proposed TS4 substation

Each route segment and substation site was analyzed for potential impacts on land uses (existing and future), visual resources (existing and future), cultural resources, and biological resources. The proposed 230kV facilities were evaluated with criteria similar to those presented within Exhibits A, C, D, E, and H included in this application.

System Options

The 19 route segments were combined into 9 system options based on the environmental impact analyses, public input, and APS' technical considerations. The system options varied slightly in some areas from the initial route alignment to account for engineering and environmental constraints. It is important to note that the system options developed included 230kV and 69kV facilities, due to the spatial relationship among the facilities needed in the area. APS was able to reduce the miles of 69kV transmission lines built by consolidating them with the 230kV transmission lines where appropriate.

The nine system options developed for the 230kV and 69kV transmission lines are shown on Exhibits B-2 through B-4.

Based on the environmental impacts associated with both the 230kV and 69kV transmission lines proposed in each system, the system options were ranked according to their environmental impacts (where rank 1 was the least impact and 9 was the greatest impact). The environmental ranking of the system options is shown in Exhibit B-5.

Each of these system options is technically feasible, environmentally compatible (though with varying levels of 230kV/69kV impacts), and would meet the electrical needs of the growing WVS study area. However, based on the differences among the system options with respect to public acceptability and constructability, four system options were presented to the public and agencies in the November 2002 newsletter (see Exhibit J).

UPDATES TO THE ENVIRONMENTAL DATA

The West Valley continues to experience dramatic growth, which constantly changes the natural, cultural, and human environment of the area. In addition, as potential alignments for the 230kV transmission line were narrowed, more specific information became available. As a result of these changes, the environmental analyses conducted on system options were updated after the most recent project newsletter was distributed in November 2002. Updated information was gathered during continued public and agency outreach efforts, particularly meetings with agency representatives, as well as through updated aerial photography and subsequent field reconnaissance. These updates are summarized below.

The system options shown in the November 2002 newsletter compared to the system options carried forward for inclusion in the CEC application are compared in Table B-1.

TABLE B-1
SYSTEM OPTIONS CARRIED FORWARD FROM THE ENVIRONMENTAL REPORT TO THE CEC APPLICATION

Final 230/69kV System Option Presented in the Environmental Report Carried Forward in the November 2002 Newsletter	230/69kV System Option Presented in the November 2002 Newsletter	230kV System Option Carried Forward in the CEC Application
System Option A (modified to follow Loop 303 rather than Cotton Lane)	Preferred System Option	*Dropped from further consideration
System Option A	Alternative 1 System Option	Proposed System Option
System Option D (modified to follow Loop 303 rather than Cotton Lane)	Alternative 2 System Option	Alternative System Option (modified)

TABLE B-1 SYSTEM OPTIONS CARRIED FORWARD FROM THE ENVIRONMENTAL REPORT TO THE CEC APPLICATION		
Final 230/69kV System Option Presented in the Environmental Report Carried Forward in the November 2002 Newsletter	**230/69kV System Option Presented in the November 2002 Newsletter**	**230kV System Option Carried Forward in the CEC Application**
System Option G	Alternative 3 System Option	**Dropped from further consideration
*Based on extensive discussions with Luke Air Force Base **Based on updated technical analysis of area load forecast		

Luke Air Force Base

Though APS had extensive discussions with LAFB during the siting process described above, LAFB did not conduct specific analyses for any alternatives until APS narrowed consideration to the four system options presented in the November 2002 newsletter. With only four options to evaluate, representatives from LAFB's Airspace Management Office analyzed each option to identify potential issues with respect to air traffic control procedures and accident potential zones (APZs). LAFB staff used technical models to evaluate potential conflicts posed by the four system options with its flight operations. In addition, LAFB representatives expressed concern to APS regarding the placement of 230kV facilities within APZs 1 and 2, near the vicinity of Loop 303 and Cotton Lane.

LAFB determined that the Preferred system option presented in the November 2002 newsletter would pose a greater safety concern for the pilots by locating the alternative within the northern portion of APZ 2 near Loop 303 and 0.5 mile north of Indian School Road.

APZ 2 also extends southwest along Perryville Road near McDowell Road and Interstate 10 (Exhibit B-6). However, the location of the transmission line for the Proposed and Alternative system options within APZ 2 along Perryville Road was not identified by LAFB as a potential conflict with the APZ 2 designation in this area (see Exhibit J for correspondence from LAFB).

The Preferred system option, Alternative 1, and Alternative 3 as presented in the November 2002 newsletter would cross part of APZ 2 near Loop 303 0.5 mile north of Indian School Road. All four system options presented in the November 2002 newsletter would cross part of APZ 2 as well along Perryville Road near McDowell Road and Interstate 10. As a result of the technical analyses and further communication between APS and LAFB representatives, APS proposed to carry forward a slightly modified version of Alternative 1 as presented in the November 2002 newsletter. This modification would allow the alignment to stay outside APZ 2 near 0.5 mile north of Indian School Road as desired by LAFB. The modified Alternative 1 system option as presented in the November 2002 newsletter was then renamed the *Proposed system option* (see Figure 1 of the Application section) identified within this CEC application and the Preferred system option was eliminated from further consideration. Alternative 2 from the November 2002 newsletter subsequently was renamed the Alternative system option in this CEC application. The remainder of this Exhibit refers to the Proposed and Alternative system options as presented in this CEC application.

As noted in correspondence from APS to LAFB representatives, APS has committed to continue to work with LAFB regarding final design and placement of the proposed facilities to ensure they are compatible with air traffic control procedures.

Updated Technical Analysis

Based on recent updated technical analysis of area load forecasts and the latest distribution and sub-transmission plans, it was determined that the 230kV transmission lines into the Buckeye Substation were not necessary. Therefore, the 1.5-mile segment leading south from the Buckeye Substation to an existing 230kV transmission line was eliminated from the Proposed and Alternative system options. As a result, the Alternative 3 system option was also eliminated from further consideration.

City of Goodyear General Plan Update

The City of Goodyear has indicated its support for the project (see letter dated April 28, 2003 in Exhibit J).

The current general plan (adopted in 1998) discusses a special study area process to determine future land uses for Sections 22 and 23, Township 2 North, Range 2 West. The proposed transmission line and TS3 substation would be located along Perryville Road and along the half-section line in 22 and 23 within this special study area. However, a special study was not completed for the area since the 1998 General Plan was adopted. Therefore, for the purpose of this study, the future land use within the special study area was based on the existing land use (agriculture) and current zoning of the area (AG). Rezoning of the site could not occur unless an amendment was made to the currently approved general plan.

Based on the current general plan, future land use and visual impacts associated with the Proposed system option and TS3 substation site would be low because of minimal future development and potential viewers (see Exhibit A and E).

The City of Goodyear is in the process of updating its general plan. The Draft General Plan Update 2002-2012 proposes future residential development in Sections 22 and part of Section 23. Public review of the Draft General Plan Update 2002-2012 began in January 2003 when the Draft General Plan Update 2002-2012 was released for a 60-day public comment period. During the comment period, APS provided input and a map showing potential transmission line alignments and substation sites identified by APS through a public planning process. Subsequently, APS conducted further discussions with LAFB and updated technical analyses, which resulted in the Proposed system option. A revised map showing the Proposed system option was provided to the City of Goodyear in early May 2003 for inclusion of electrical facilities in the Draft General Plan Update 2002-2012. Based on discussions with the City of Goodyear representatives, APS anticipates that the City of Goodyear will incorporate the Proposed system option in the Draft General Plan Update 2002-2012.

Assuming that Goodyear voters adopt the Draft General Plan Update 2002-2012 in November 2003, the potential impacts from the Proposed system option on future land use and visual resources in Sections 22 and 23 would increase from low to moderate because additional residences would be located along the Proposed system option (see Exhibits A and E). Although impacts on views from future residences would be moderate, this system option would still be preferred environmentally and publicly when compared with Alternative system option, which includes route segments along Indian School Road and Camelback Road where there are existing residences.

APS has committed to continue to work with the City of Goodyear throughout the Draft General Plan Update 2002-2012 and on final design of the WVS Project.

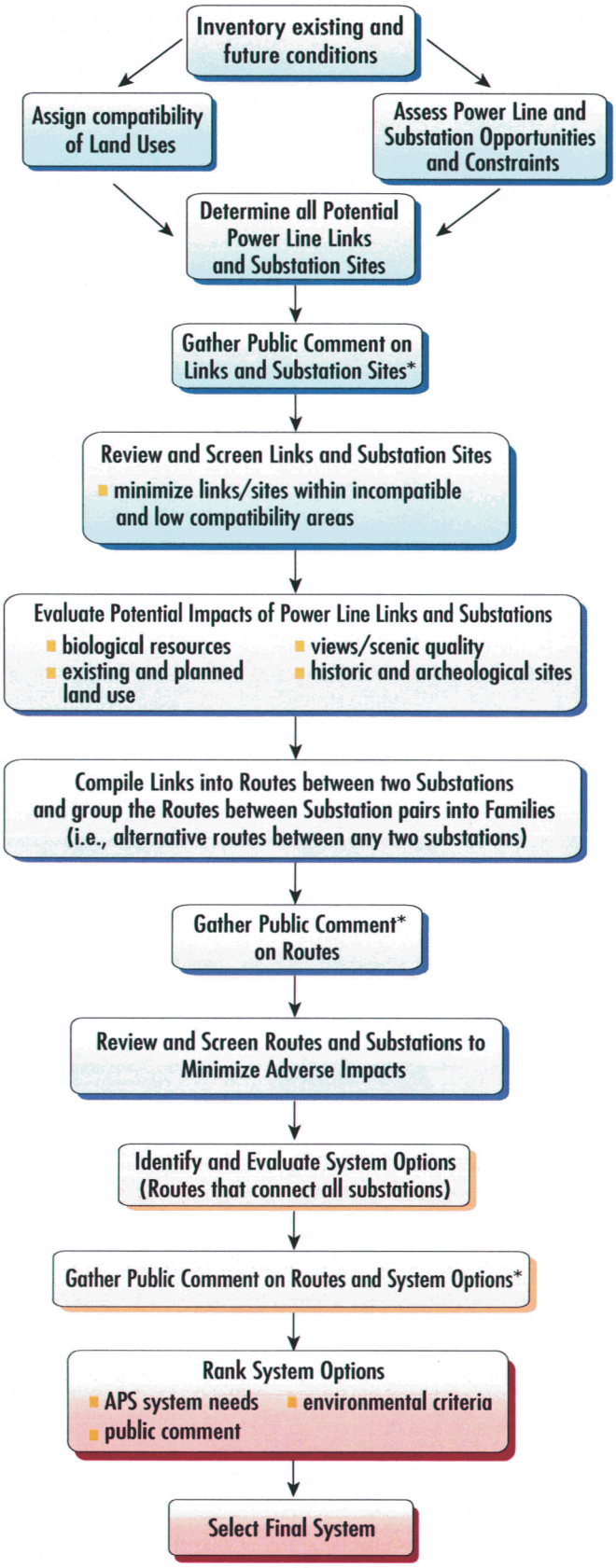
Additional Approved Developments

After reviewing updated aerial photography, including the Landiscor Phoenix Real Estate Photo Book (4th Quarter 2002) and consulting with Maricopa County, an additional residential development was identified as approved by Maricopa County. This additional development, White Tank Foothills, will be located south of Olive Avenue and east of Perryville Road (see Exhibit H-1). A previously identified approved development, White Tank Mountain Ranch, will be located east of Perryville Road and north of Olive Avenue, just north of the White Tank Foothills development. Locating the Proposed system option along Olive Avenue ultimately would impact one of the approved developments depending on the side of road that is selected for the transmission line. Exhibits A and H provide further information about impacts on planned developments.

CONCLUSION

APS has continued public and agency communication efforts beyond the initial siting study and during the CEC application preparation process. The new information that was collected resulted in slight modifications to the original system options and updates to the environmental analyses. These modifications and updates occurred from December 2002 until May 2003. These modifications to the Proposed and Alternative system options were not substantial and did not result in impacts on the environment or public that would be appreciably different from the original system options. After review of the new information collected and analyzed, it was concluded that the Proposed system option presented in this CEC application would result in minimal environmental impacts and would be supported by the public and agencies, while meeting APS' electrical system needs.

Siting Process



SEPTEMBER 2001 – MARCH 2002

MARCH 2002 – MAY 2002

MAY 2002 – NOVEMBER 2002

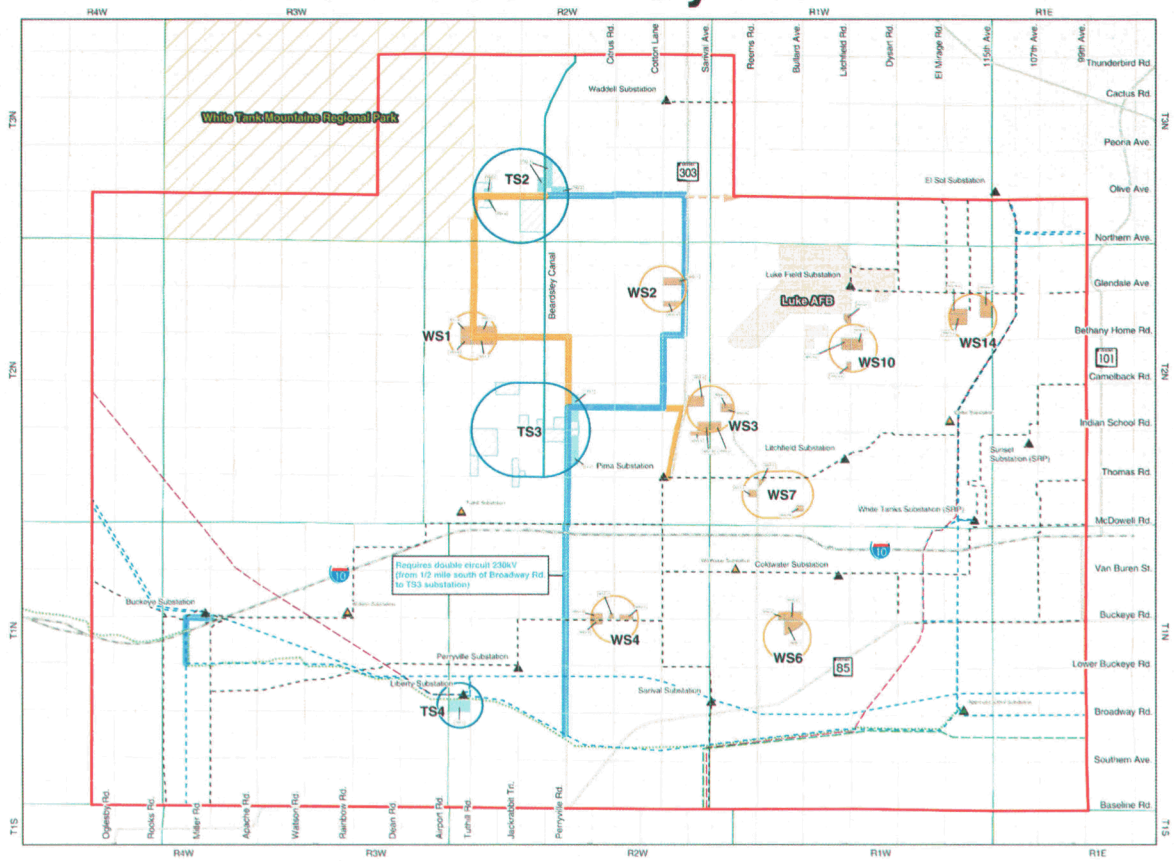
WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

*Public involvement will continue throughout the siting process.

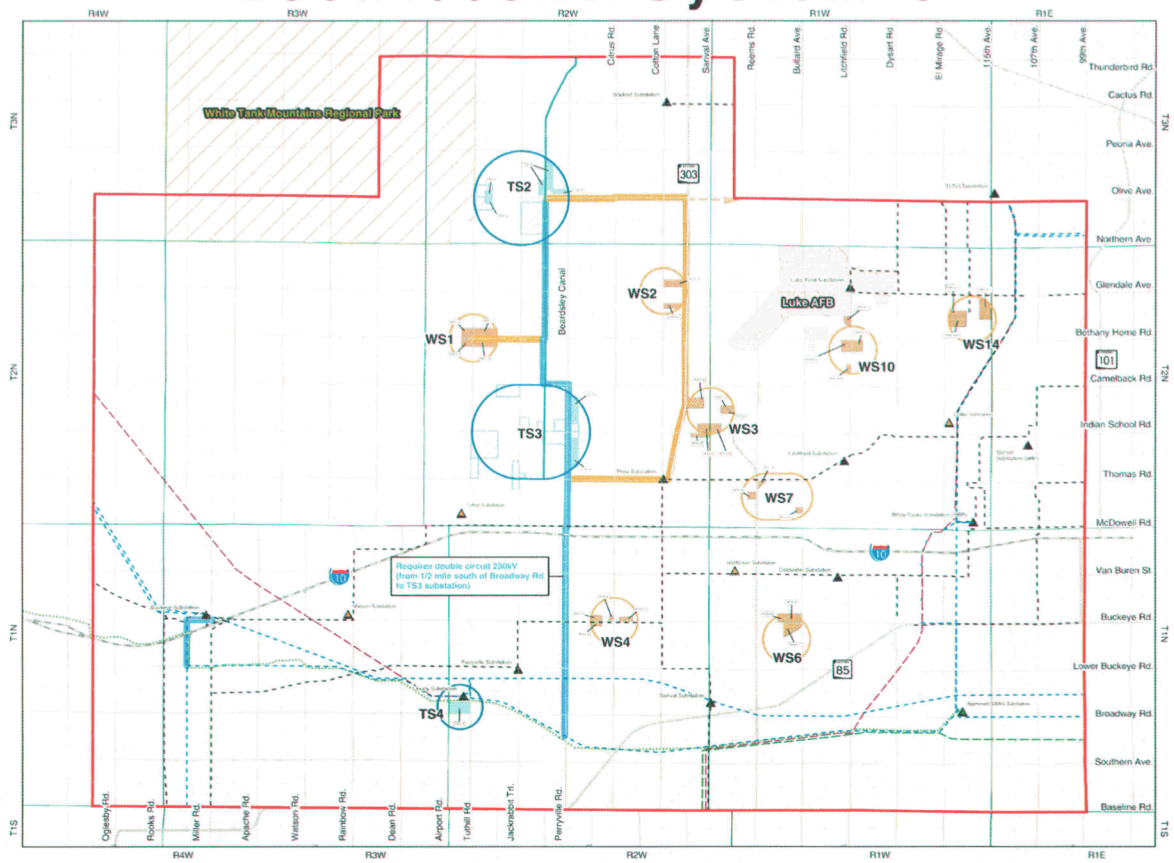
Exhibit B-1

APS

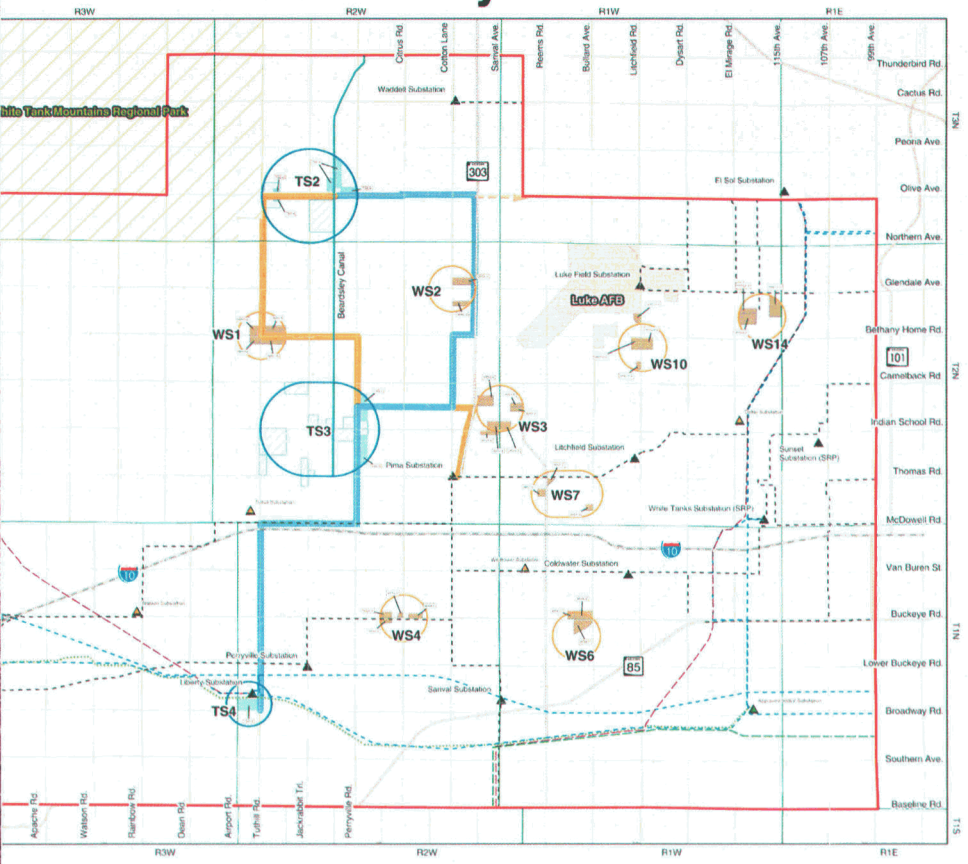
230kV/69kV System A



230kV/69kV System C



230kV/69kV System B



230kV/69kV System D

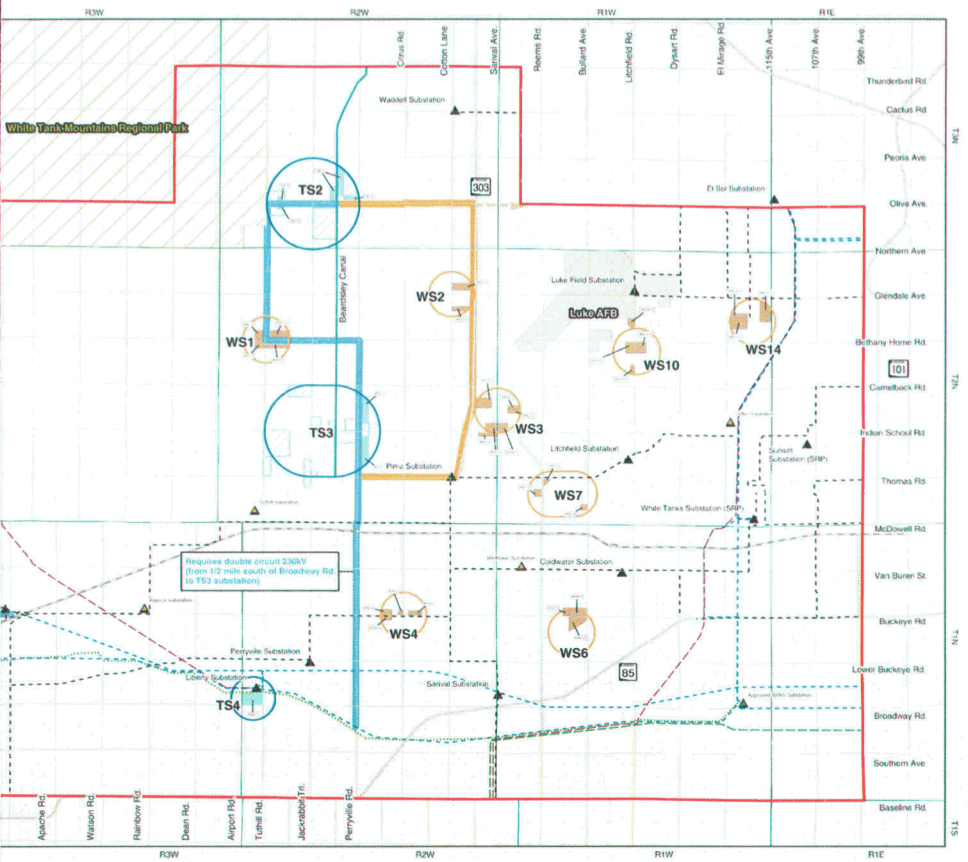


Exhibit B–2
230kV and 69kV System Option Connections

Map Produced 05/28/03

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Potential 230kV Transmission Line
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation Site*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 — Section Lines and Numbers
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Transmission Line Corridor for future study**

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

**The West Valley-North Project will evaluate alternative 230kV connections between TS2 and the existing El Sol Substation.

0 2 4 8

Scale in Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

APS

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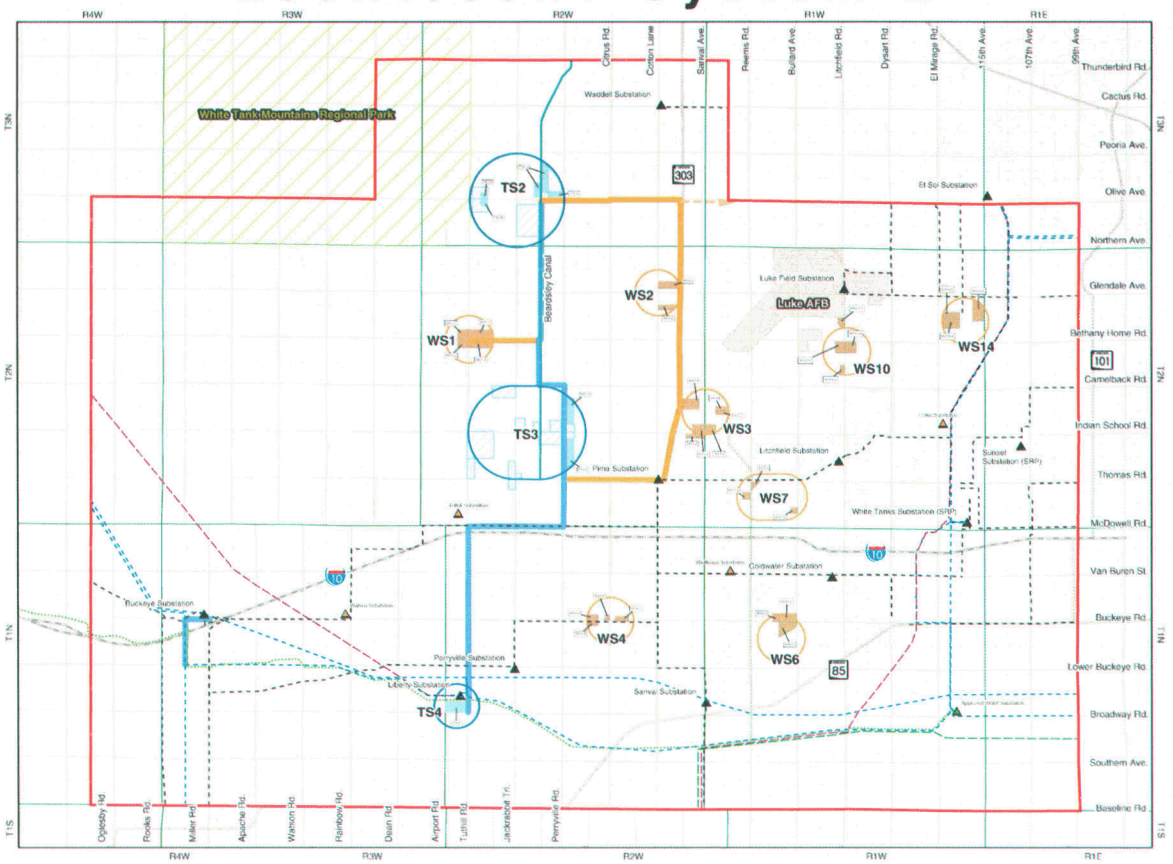
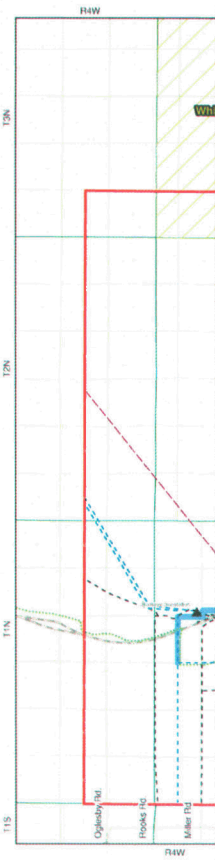
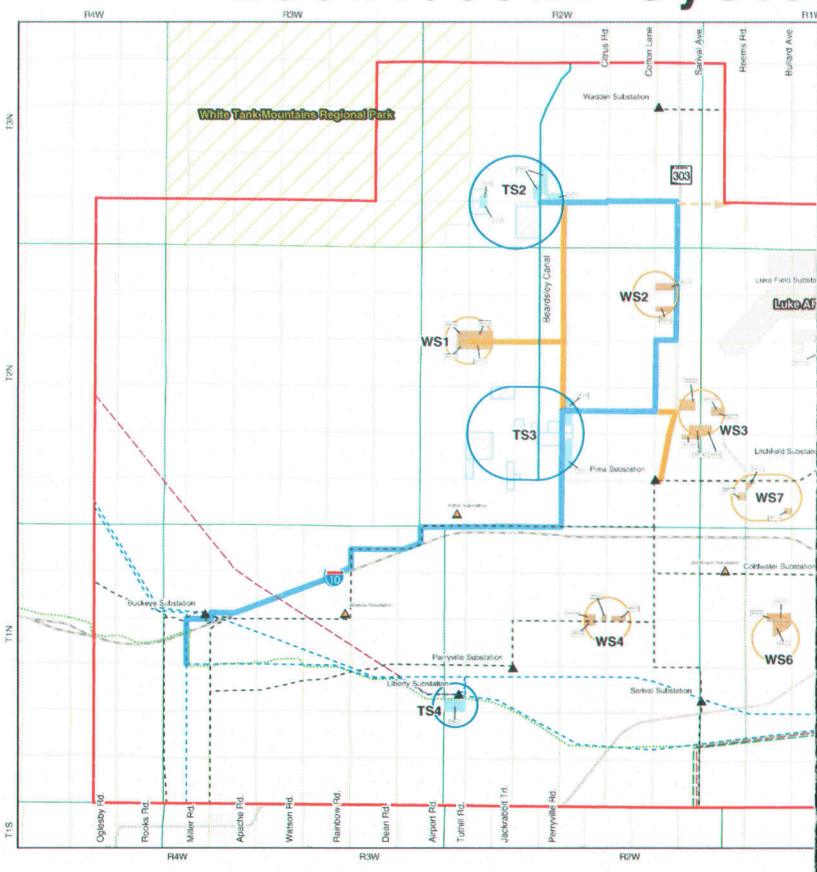
230kV/69kV System E

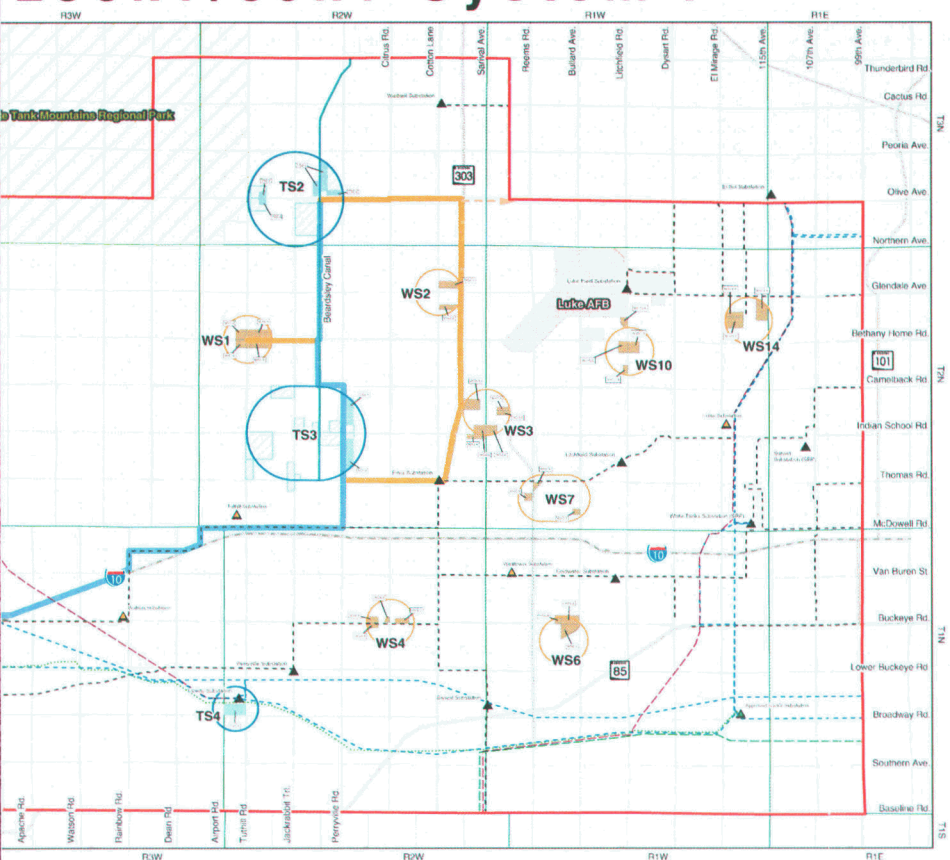




230kV/69kV Syste



230kV/69kV System F



m G

Exhibit B–3
230kV and 69kV System Option Connections

Map Produced 05/28/03

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Potential 230kV Transmission Line
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation Site*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 — Section Lines and Numbers
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Transmission Line Corridor for future study**

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

**The West Valley-North Project will evaluate alternative 230kV connections between TS2 and the existing El Sol Substation.

0 2 4 8

Scale in Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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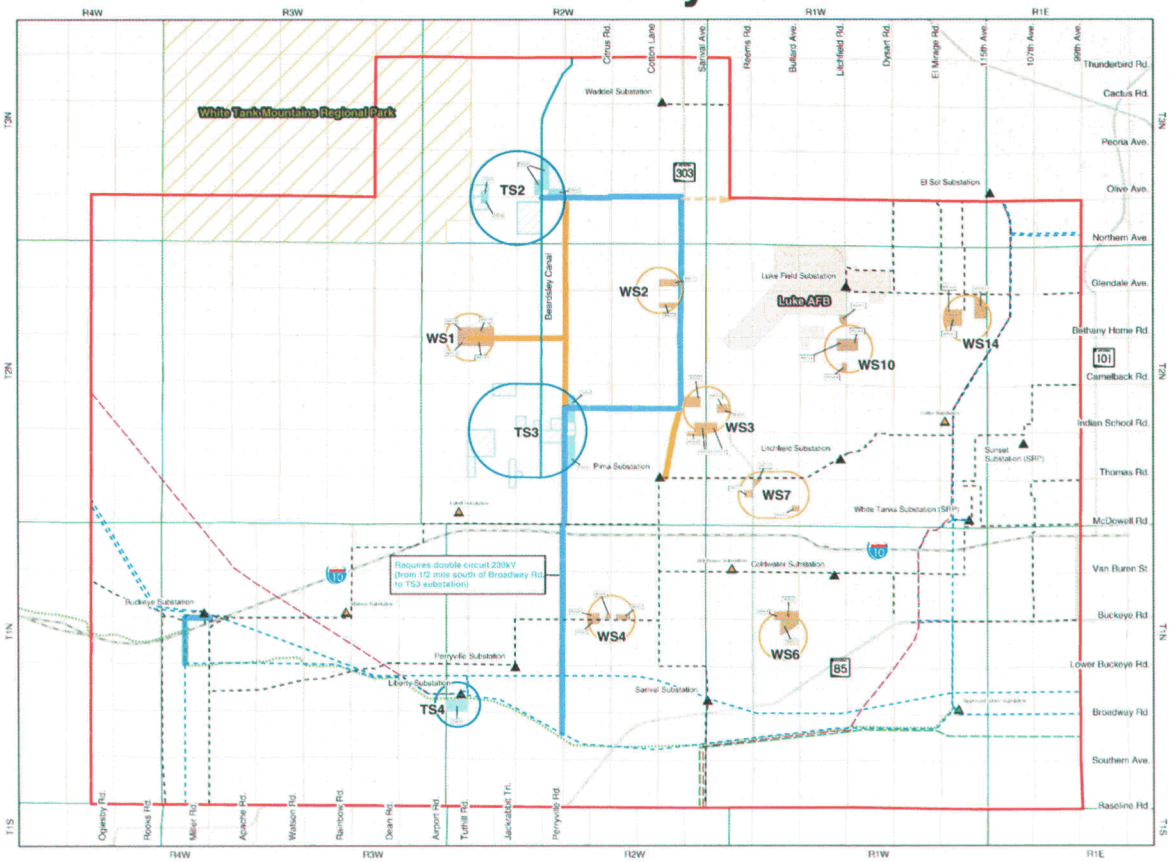
230kV/69kV System H



230kV/69kV System I

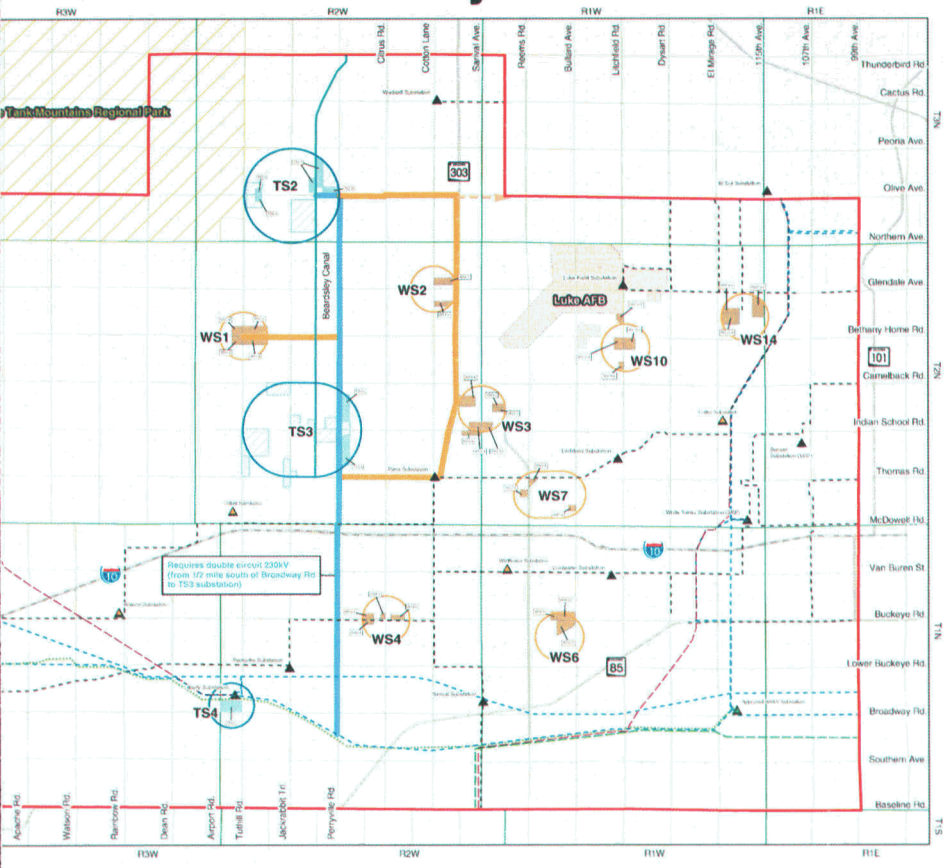


Exhibit B–4
230kV and 69kV System Option Connections

Map Produced 05/28/03

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Potential 230kV Transmission Line
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation Site*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 — Section Lines and Numbers
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Transmission Line Corridor for future study**

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

**The West Valley-North Project will evaluate alternative 230kV connections between TS2 and the existing El Sol Substation.

0 2 4 8

Scale in Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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EXHIBIT B-5
230/69kV SYSTEM OPTION RANKINGS BASED ON ENVIRONMENTAL DATA (SEPTEMBER 13, 2002)

System Option	Approximate Length of Power Line (Miles)		Length of Parallel or Rebuild of Existing Power Line Greater than 12kV (Miles)	Environmental Ranking	Notes
	230kV	69kV			
A	18.5	10.0	1.5	3	• High visual impacts on a small number of existing residences along Olive Avenue and southeast corner of Clearwater Farms • Moderate indirect impacts on views from White Tank Mountain Regional Park and future (developing) development • Moderate impacts on future residences along Olive Avenue and Perryville and Tuthill roads • Moderate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., underground 12kV)
B	20.0	10.0	4.0	5	• High visual impacts on a small number of existing residences along Olive Avenue and southeast corner of Clearwater Farms • Moderate indirect impacts on views from White Tank Mountain Regional Park and future (developing) development • Moderate impacts on land use and views from future residences along Olive Avenue and Perryville and Tuthill roads • Moderate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., underground 12kV) • Moderate-to-high impacts on existing commercial and residential land uses along Tuthill and McDowell roads
C	13.5	12.5	1.5	1	• Minimizes impacts on existing residences and recreation in most areas • High impacts on views from a few residences along Beardsley Canal north of Northern Avenue • Moderate impacts on land use and views from future residential development including Maricopa Water District (MWD) • Potential opportunity to work with Flood Control District of

EXHIBIT B-5
230/69kV SYSTEM OPTION RANKINGS BASED ON ENVIRONMENTAL DATA (SEPTEMBER 13, 2002)

System Option	Approximate Length of Power Line (Miles)		Length of Parallel or Rebuild of Existing Power Line Greater than 12kV (Miles)	Environmental Ranking	Notes
	230kV	69kV			
					Maricopa County and MWD on development plans to incorporate power line • No impacts on White Tank Mountain Regional Park or future (developing) development • Minimizes impacts along Loop 303 and Olive Avenue • Moderate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., underground 12kV) • Moderate-to-high impacts on cultural resources along Beardsley Canal; minimal impacts with effective mitigation (e.g., survey and documentat
D	16.5	11.0	1.5	6	• High visual impacts on a few residences at southwest corner of Clearwater Farms and along Beardsley Canal north of Northern Avenue, and along Tuthill Road south of Bethany Home Road • High indirect visual impacts on White Tank Mountain Regional Park (alternative is outside the park boundary, but at park entry) • Moderate impacts on land use's and views from future residences along Perryville and Tuthill roads (developing development) • Minimizes impacts on existing residential and commercial land uses along Loop 303 and Olive Avenue • Moderate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., underground 12kV)

EXHIBIT B-5
230/69kV SYSTEM OPTION RANKINGS BASED ON ENVIRONMENTAL DATA (SEPTEMBER 13, 2002)

System Option	Approximate Length of Power Line (Miles)		Length of Parallel or Rebuild of Existing Power Line Greater than 12kV (Miles)	Environmental Ranking	Notes
	230kV	69kV			
E	15.0	12.5	3.5	4	• Moderate-to-high visual impacts on existing commercial and residential land uses along Tuthill and McDowell roads • Moderate visual impacts on residences along Loop 303 and Olive Avenue • High visual impacts on a few future (developing) residences along Beardsley Canal north of Northern Avenue • Moderate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., underground 12kV) • Moderate-to-high impacts on cultural resources along Beardsley Canal; minimal impacts with effective mitigation (e.g., survey and documentation)
F	17.5	12.5	9.5	2	• Follows existing linear facilities including I-10, 230/69kV power line, and Beardsley Canal for majority length of alternative • Moderate visual impacts on residences along McDowell Road and to views of White Tank Mountains from I-10 • High impacts on few residences along Beardsley Canal north of Northern Avenue • Moderate-to-high visual impacts on future (developing) development where 69kV lines are being buried • Minimizes impacts along Loop 303 and Olive Avenue and White Tank Mountain Regional Park • Moderate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., underground 12kV) • Gateway to Town of Buckeye along I-10 resulting in moderate visual impacts (no guidelines for aesthetics along I-10) • Moderate-to-high impacts on cultural resources along Beardsley Canal; minimal impacts with effective mitigation (e.g., survey and documentation)

EXHIBIT B-5
230/69kV SYSTEM OPTION RANKINGS BASED ON ENVIRONMENTAL DATA (SEPTEMBER 13, 2002)

System Option	Approximate Length of Power Line (Miles)		Length of Parallel or Rebuild of Existing Power Line Greater than 12kV (Miles)	Environmental Ranking	Notes
	230kV	69kV			
G	22.5	8.5	9.5	7	• Moderate/high visual impacts on residences along Perryville Road (Clearwater Farms) • High impacts on residences at southeast corner of Clearwater Farms and along Olive Avenue • Moderate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., underground 12kV)
H	18.5	8.0	1.5	8	• High visual impacts on residences along Perryville Road (Clearwater Farms) • Moderate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., underground 12kV)
I	13.5	12.5	1.5	9	• High visual impacts on residences along Perryville Road (Clearwater Farms) • Moderate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., underground 12kV)

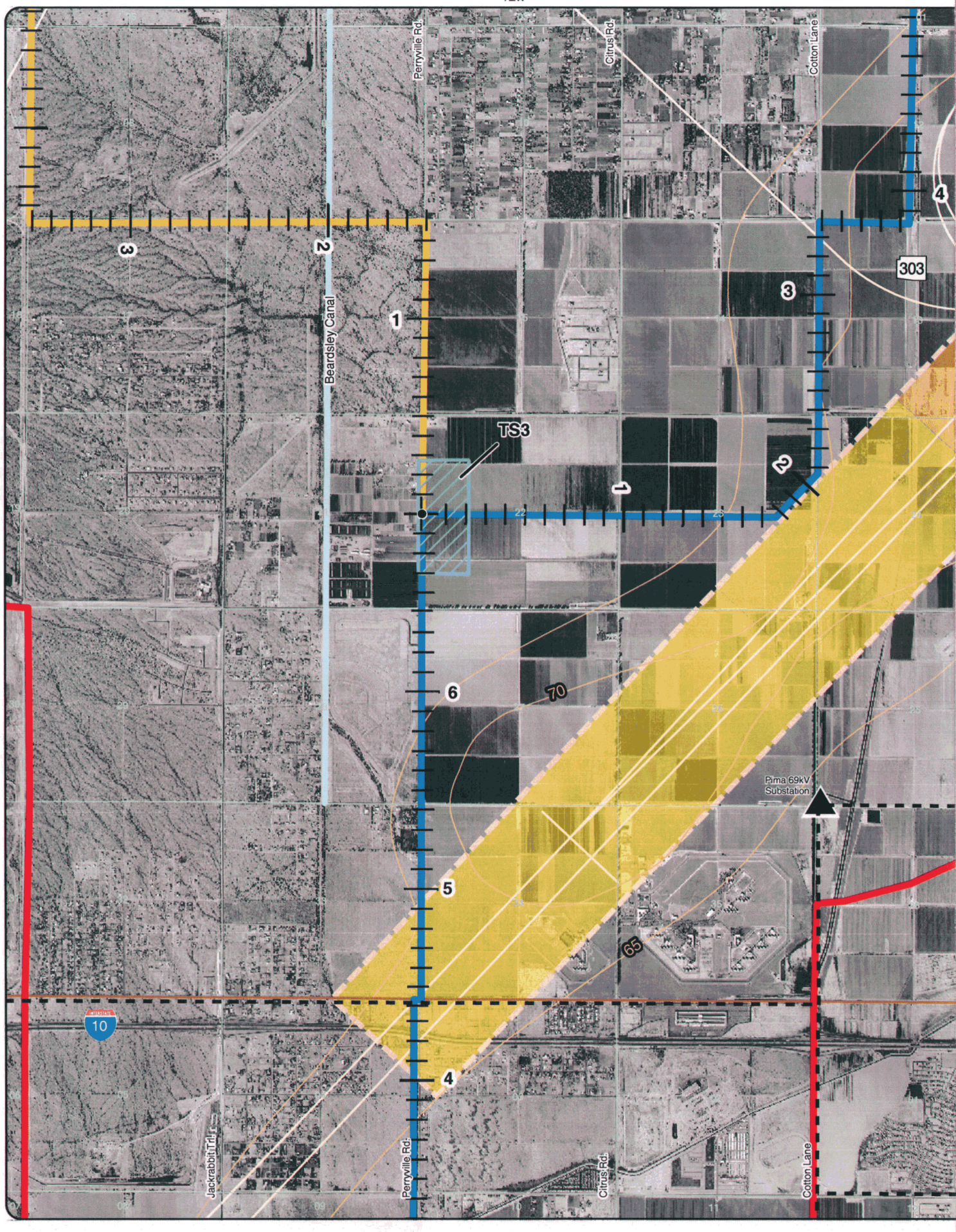
R2W
Perryville Rd
Citrus Rd
Cotton Lane
303
Beardsley Canal
TS3
T2N
T1N
Pima 69kV
Substation
Jackrabbit Trl
10
R2W

Exhibit B-6
Luke Air Force Base Flight Paths, Accident Potential Zones and Noise Contours

June 2003

Legend

- Study Area Boundary
- Existing 69kV Transmission Line
- Proposed 230kV Transmission Line Alignment
- Alternative 230kV Transmission Line Alignment
- Existing Substation
- Proposed 230kV Substation
- Township and Range Line
- Section Line and Number

Accident Potential Zones

- Clear Zone
- Accident Potential Zone 1
- Accident Potential Zone 2
- 30k Departure
- 21 Arrivals
- Noise Contours

Source:
Maricopa County Department of Transportation, 1997.

Aerials Express Inc., 2002.

Luke AFB, 2003.

N
W E
S

0 0.25 0.5 1

Scale In Miles (1:40,000)

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

APS

P:\Arizona_Public_Service\23442874\GIS\mxds\Photo\Exhibit_B-6.mxd

EXHIBIT C – AREAS OF BIOLOGICAL WEALTH

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

"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 the effects, if any, the proposed facilities will have thereon."

OVERVIEW

To address ACC regulatory requirements, and as an element of the comprehensive environmental planning undertaken for the proposed transmission line and substations, sensitive biological resources within the study area were considered in evaluating alternative 230kV facilities.

INVENTORY METHODS

A field reconnaissance of the study area was conducted in May 2002 to collect the following data: (1) opportunistic wildlife observations; (2) a list of common plant species; and (3) a description of major vegetation associations, topographic features (e.g., drainages), and natural and anthropomorphic landscape features (e.g., rock outcrops, caves, mine adits, buildings, and stock tanks) that might affect the occurrence of special status species. Special consideration also was directed toward locating any riparian or wetland features that might occur in the study area. Prior to field reconnaissance, literature was compiled on special status species with the potential of occurring in the study area. In addition, URS gathered information from the U.S. Fish and Wildlife Service (USFWS) and Arizona Game and Fish Department (AGFD) to develop a list of special status species listed for Maricopa County that might occur within the study area. Aerial photographs of the study area were reviewed to determine the locations of potentially biologically sensitive areas.

INVENTORY RESULTS

The inventory identified 26 species that potentially could occur within the study area (Table C-1). Based on the habitat needs of these species and the conditions of biological resources within the study area, two areas of biological wealth were identified—the Gila River and the White Tank Mountains and surrounding foothill and upland desert areas (this includes a portion of the White Tank Mountain Regional Park). These species and areas of biological wealth are discussed below.

Areas of Biological Wealth

Gila River

The Gila River crosses approximately 2 miles of the southernmost portion of the study area. This reach of the river has intermittent flow and scattered areas of dense vegetation. Highly scoured areas of the stream channel consist of low shrub species such as desert broom and burro bush in low to moderate density. In stretches of the stream channel where water flow is slowed, dense areas of cattail, bulrush, and other emergents are established. Salt cedar, seep willow, and coyote willow of moderate to high density occur in a narrow strip in areas adjacent to the stream channel. Farther from the stream channel are areas of mesquite, salt cedar, Goodding's willow, and cottonwood that occur in low to high density.

Other portions of the river have been degraded by past land uses such as fire, logging, grazing activities, agriculture, and other human disturbance. Three existing transmission lines cross the Gila River at

approximately Township 1 North, Range 2 West, Sections 25 and 36 (near Estrella Mountain Park), just east of the southern portion of the study area.

The Gila River contains habitat potentially suitable for cactus ferruginous pygmy-owl, American peregrine falcon, lowland leopard frog, southwestern willow flycatcher, western least bittern, yellow-billed cuckoo, and Yuma clapper rail.

White Tank Mountains and Surrounding Foothills

The White Tank Mountains are located northwest of the study area. The White Tank Mountains are a freestanding range separating the Phoenix Basin of the Salt River Valley from the Hassayampa Plain. Elevations range from 1,400 feet above mean sea level at the base of the mountains to more than 4,000 feet at some of the taller peaks. The base and upper levels of the mountains are deeply serrated with ridges and deep canyons. The mountains are covered with palo verde/saguaro desertscrub. Common species include palo verde, saguaro, mesquite, triangle leaf bursage, cholla cactus, and barrel cactus. This vegetation community (Arizona upland) is described more completely in Exhibit D.

The White Tank Mountain Regional Park occupies 29,217 acres, with several square miles within the northwestern corner of the study area.

This portion of the study area contains habitat potentially suitable for the cactus ferruginous pygmy-owl and Sonoran desert tortoise. However, the White Tank Mountains and surrounding foothill and upland desert areas are located outside the boundaries of the survey zones for the cactus ferruginous pygmy-owl established by USFWS.

Special Status Species

The list of special status species considered in this analysis was developed from the following sources: (1) federally listed, proposed, and candidate species for Maricopa County provided by USFWS; (2) a list of Arizona wildlife of concern provided by the AGFD Heritage Data Management System; and (3) the Native Plant Law (enforced by the Arizona Department of Agriculture).

The potential for occurrence of special status species in the study area was evaluated based on (1) existing information; (2) qualitative comparisons between the known habitat requirements of each species and biotic and abiotic conditions found in the study area, and (3) the experience from similar evaluations conducted by URS biologists.

Twenty-six special status species were reviewed for this study (Table C-1). These include federally listed endangered, threatened, and candidate species, Arizona wildlife of concern, and plants restricted from salvage by the Arizona Department of Agriculture. AGFD identified four species with records of occurrence within the study area or its immediate vicinity including the (1) western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), (2) Sonoran desert tortoise (*Gopherus agassizii* [Sonoran population]), (3) western least bittern (*Ixobrychus exilis hesperis*), and (4) Yuma clapper rail (*Rallus longirostris yumanensis*). In addition to these four species, four others (lowland leopard frog [*Rana yavapaiensis*], southwestern willow flycatcher [*Empidonax traillii extimus*], American peregrine falcon [*Falco peregrinus anatum*], and cactus ferruginous pygmy-owl [*Glaucidium brasilianum cactorum*]) have potential habitat within the study area.

TABLE C-1 SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES			
Species **Common Name** ***Scientific Name***	**Status**	**Habitat Requirements**	**Potential Habitat Present**
Amphibians			
Lowland leopard frog *Rana yavapaiensis*	WC	Lowland leopard frogs inhabit aquatic systems found in desert grassland to piñon-juniper. They are habitat generalists and breed in a variety of natural and manmade aquatic systems. Natural systems include rivers, permanent streams, permanent pools in intermittent streams, beaver ponds, cienegas, and springs. Manmade systems include earthen cattle tanks, livestock drinkers, canals, irrigation sloughs, wells, mine adits, abandoned swimming pools, and ornamental backyard ponds. In semi-permanent aquatic systems, lowland leopard frogs may survive the loss of surface water by retreating into deep mud cracks, mammal burrows, or rock fissures (AGFD 2001).	Yes. The study area is within the known range of the lowland leopard frog. Within the study area this species may be found in small springs, stock ponds, irrigation canals, and larger rivers such as the Gila River.
Birds			
American peregrine falcon *Falco peregrinus anatum*	WC	Found in Arizona near cliffs where sufficient prey exists. Optimum peregrine habitat generally is considered to be areas of steep, sheer cliffs overlooking woodlands, riparian areas, or other habitat supporting avian prey species in abundance (AGFD 1998). As Arizona's human population grows, peregrines seem to be breeding in less optimal habitat -- either small broken cliffs in ponderosa pine forests or large, sheer cliffs in very xeric areas (AGFD 1998), and sometimes on manmade structures such as office towers and bridge abutments (USFWS 2001). The presence of an open expanse is critical to the peregrine falcon (AGFD 1998). There are more than 200 known peregrines in Arizona. Breeding pairs are well distributed throughout suitable habitat statewide, except for the low elevation deserts of the southwest quarter of the state where only one nesting territory is currently known. Breeding pairs appear to be year-round residents. Migrants also occur throughout the state as transients and wintering individuals (USFWS 2001).	Yes. The study area is within the known range of the American peregrine falcon. This species may forage in the study area; however, the study area does not contain suitable breeding habitat.

TABLE C-1 SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES			
Species **Common Name** ***Scientific Name***	**Status**	**Habitat Requirements**	**Potential Habitat Present**
Bald eagle *Haliaeetus leucocephalus*	LT WC	Usually found along seacoasts, lakes, and rivers. Nesting sites usually are isolated high in trees, on cliffs, or on pinnacles, with a commanding view of the area and in close proximity to water. A small resident population of approximately 40 pairs nest along the Salt, Verde, Gila, Bill Williams, Agua Fria, San Pedro, and San Francisco rivers and along Tonto and Canyon creeks. Bald eagles winter throughout the state of Arizona, with at least 200 to 300 found each year. The greatest numbers of wintering eagles are found along the Mogollon Rim and east through the White Mountains (USFWS 2001).	No. Vegetation and landform features within the study area do not resemble those known to support this species. There is no critical habitat designated for this species.
Cactus ferruginous pygmy-owl *Glaucidium brasilianum cactorum*	LE WC	Usually found in river bottom woodlands and palo verde-cacti-mixed scrub associations of the upland areas of the Sonoran desert. In central and southern Arizona, the pygmy-owl currently is found primarily in Sonoran desertscrub vegetation with some locations in riparian habitat and desert grassland habitat. The cactus ferruginous pygmy-owl primarily nests within cavities of saguaro cacti, but also will use tree cavities. They are found below 4,000 feet (1,219 meters) in elevation (USFWS 2001). Cactus ferruginous pygmy-owls formerly were common in mesquite bosques throughout central and southern Arizona (AGFD 2001). They historically have been found south and west of the Tortolita Mountains, and in the vicinity of the Rincon, Pajarito, Puerto Blanco, Ajo, Santa Catalina and Santa Rita mountains. Other areas of occurrence include the Tucson area, Gila River near Bonita Creek, San Francisco River, San Pedro River near Dudleyville, and Sonoita Creek. The only recent records are from Organ Pipe Cactus National Monument, near Ajo, and suburban northwest Tucson (AGFD 2001).	Yes. The study area is within the species' historical range and contains suitable upland habitat; however, known populations of cactus ferruginous pygmy-owls are restricted to Pima and southern Pinal counties. Likely habitat for the pygmy-owl in the White Tank Mountains is several miles north of Survey Zone 3 as designated by USFWS. Survey Zone 3 recommends surveys for pygmy-owl for projects that include a federal review process. There is no critical habitat for the cactus ferruginous pygmy-owl within the study area.

TABLE C-1 SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES			
Species **Common Name** ***Scientific Name***	**Status**	**Habitat Requirements**	**Potential Habitat Present**
Mexican spotted owl *Strix occidentalis lucida*	LT WC	Occurs in varied habitat, consisting of mature montane forest and woodland, shady wooded canyons, and steep canyons. In forested habitat, uneven-aged stands with a high canopy closure, high tree density, and sloped terrain appear to be key habitat components (USFWS 2002). The Mexican spotted owl can be found in mixed conifer and pine oak vegetation types. Elevation ranges from 4,100 to 9,000 feet (1,249 to 2,743 meters). Populations in Arizona are scattered but occur in all areas except the arid southwestern portion of the state and much of the lowland riparian zones (USFWS 2002).	No. The study area is below the known elevational range of the Mexican spotted owl and vegetation communities within the study area do not resemble those known to support this species. There is no critical habitat for the Mexican spotted owl in the study area.
Southwestern willow flycatcher *Empidonax traillii extimus*	LE WC	Occurs in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, box elder, tamarisk, Russian olive, buttonbush, and arrow weed are present. Elevation of habitat is less than 8,500 feet (2,590 meters) (USFWS 2001). In Arizona, the southwestern willow flycatcher breeds locally along the Colorado River, Alamo Lake, headwaters of the Little Colorado and San Francisco rivers, portions of the Verde River, Roosevelt Lake, and the Gila and the San Pedro rivers (AGFD 2002).	Yes. The study area is within the geographic range of the species. Vegetation communities within the Gila River portion of the study area are similar to that known to support the southwestern willow flycatcher (i.e., even-aged stands of willow and cottonwood or salt cedar). There is no critical habitat for the southwestern willow flycatcher in the study area.
Western least bittern *Ixobrychus exilis hesperis*	WC	Least bitterns breed in dense cattail marshes along the lower Colorado River and in some locations along the Salt and Gila rivers, Picacho Reservoir, and Dankworth Ponds south of Safford (AGFD 1988).	Yes. The study area is within the range of the western least bittern. Riparian habitat along the Gila River resembles that known to support this species.
Yellow-billed cuckoo *Coccyzus americanus occidentalis*	C WC	Suitable habitat is limited to narrow, and often widely separated, riparian cottonwood-willow galleries (salt cedar is also used by the cuckoo) (USFWS 2001). The species is rarely observed as transient in xeric desert or urban settings (AGFD 2001).	Yes. The study area is within the range of the yellow-billed cuckoo. Riparian habitat along the Gila River resembles that known to support this species.

TABLE C-1 SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES			
Species **Common Name** ***Scientific Name***	**Status**	**Habitat Requirements**	**Potential Habitat Present**
Yuma clapper rail *Rallus longirostris yumanensis*	LE WC	Inhabits freshwater or brackish streamsides and marshlands under 4,500 feet (1,372 meters) in elevation. The Yuma clapper rail is associated with dense riparian and marsh vegetation. It requires a wet substrate, such as a mudflat, sandbar, or slough bottom that supports cattail and bulrush stands of moderate to high density adjacent to shorelines (USFWS 2002). The Yuma clapper rail occurs along the Bill Williams River drainage, Lower Gila River from near Phoenix to the Colorado River, lower Salt and Verde rivers, and Picacho Reservoir (AGFD 2001). The species also occurs along the Tonto Creek arm of Roosevelt Lake, and may be expanding into other suitable marsh habitats in western and central Arizona (USFWS 2002).	Yes. The study area is within the range of the Yuma clapper rail. Riparian habitat along the Gila River resembles that known to support this species. Critical habitat has not been designated for the Yuma clapper rail.
Fish			
Bonytail chub *Gila elegans*	LE WC	Found in slower water habitats such as eddies, pools, side channels, and coves. Bonytail chubs are found in streams below 4,000 feet (1,219 meters) in elevation. A small population exists in Lake Mohave with possible individuals down river as far as Parker Dam (AGFD 2001). Hatchery-produced and cove-reared bonytails have been stocked into Lakes Havasu and Mohave. Both sites have ongoing reintroduction programs (USFWS 2001).	No. There are no suitable aquatic sites in the study area to support the Bonytail chub. There is no critical habitat for the bonytail chub in the study area.
Desert pupfish *Cyprinodon macularius*	LE WC	Found in shallow water of desert springs, small streams, and marshes below 5,000 feet (1,515 meters) in elevation. The species tolerates high salinities and water temperatures (USFWS 2000). There are no natural populations of this subspecies remaining in Arizona. Reintroduced populations exist at Cold Springs in Graham County, AD Wash in Maricopa County, and Finley Tank in Santa Cruz County. There are also approximately nine populations in private ponds and aquariums (AGFD 2001).	No. There are no suitable aquatic sites in the study area to support the desert pupfish. There is no critical habitat for the desert pupfish in the study area.

TABLE C-1
SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES

Species **Common Name** ***Scientific Name***	**Status**	**Habitat Requirements**	**Potential Habitat Present**
Gila chub *Gila intermedia*	PE	Gila chub commonly inhabit pools in smaller streams, cienegas, and artificial impoundments ranging in elevation from 2,000 to 3,500 feet (609 to 1,069 meters). Gila chub prefer quiet deeper waters, especially pools, or remaining near cover including terrestrial vegetation, boulders, and fallen logs. This species currently is known from the following drainages: Santa Cruz River (Cienega Creek, Sabino Canyon, Sheehy Spring); Middle Gila River (Eagle, Bonita and Harden Cienega creeks and San Carlos and Blue rivers); San Pedro River (Bass, O'Donnell and Redfield canyons, Babocomari River and Turkey Creek); Agua Fria River (Silver and Sycamore [rare] creeks), and Verde River (Spring and Walker creeks).	No. There are no suitable aquatic sites in the study area to support the Gila chub.
Gila topminnow *Poeciliopsis occidentalis occidentalis*	LE WC	Occurs in small streams, springs, and cienegas below 4,500 feet (1,350 meters) in elevation, primarily in shallow areas with aquatic vegetation and debris for cover (USFWS 2001). Currently, disjunct populations exist in nine to 11 natural locations, 22 to 24 re-introduced locations within the Gila River drainage, and one location in the Bill Williams River drainage (AGFD 2001).	No. There are no suitable aquatic sites in the study area to support the Gila topminnow. Critical habitat has not been designated for this species.
Razorback sucker *Xyrauchen texanus*	LE WC	Found in backwaters, flooded bottomlands, pools, side channels, and other slow moving habitats under 6,000 feet (1,829 meters) in elevation. Historically, they were recorded in areas near strong currents (USFWS 2001). Presently, adult populations exist in Lake Mohave, Lake Mead, and Lake Havasu (AGFD 2001). Small remnant populations are found in the Green, Yampa, and mainstream Colorado rivers (USFWS 2001).	No. There are no suitable aquatic sites in the study area to support the razorback sucker. There is no critical habitat for the razorback sucker in the study area.

TABLE C-1 SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES			
Species **Common Name** ***Scientific Name***	**Status**	**Habitat Requirements**	**Potential Habitat Present**
Roundtail chub *Gila robusta*	WC	Roundtail chub occupy cool to warm water, mid-elevation streams, and rivers where typical adult microhabitat consists of pools up to 6.6 feet (2.0 meters) deep adjacent to swifter riffles and runs. Cover is usually present and consists of large boulders, tree root wads, submerged large trees and branches, undercut cliff walls, or deep water. The species occurs in the mainstream tributaries of the Verde and Salt rivers, as well as canals in metropolitan Phoenix (AGFD 2001).	No. There are no suitable aquatic sites in the study area to support the roundtail chub.
Mammals			
California leaf-nosed bat *Macrotus californicus*	WC	Mostly found in Sonoran desertscrub vegetation. The primary summer and winter ranges of the California leaf-nosed bat are essentially the same. The species roosts in mines, caves, and rock shelters from 160 to 3,980 feet (49 to 1,214 meters) in elevation. They occur primarily south of Mogollon Plateau (AGFD 2001).	No. The study area is outside the current known range of the California leaf-nosed bat. There area no roosting or breeding locations in the study area.
Lesser long-nosed bat *Leptonycteris curasoae yerbabuenae*	LE WC	Found mainly in desertscrub habitat in the United States portion of its range. This species roosts in caves, abandoned mines, and unoccupied buildings at the base of mountains where agave, saguaro, and organ pipe cacti are present. Forages at night on nectar, pollen, and fruit of paniculate agaves and columnar cacti (USFWS 2001). The species ranges in southern Arizona from the Picacho Mountains southwesterly to the Agua Dulce Mountains; southeasterly to the Galiuro and Chiricahua mountains; and then southerly into Mexico and beyond. Limited records are available from the Phoenix area. The lesser long-nosed bat is not present in Arizona in winter (AGFD 1998).	No. The study area is outside the current known range of the lesser long-nosed bat. There area no roosting or breeding locations in the study area. No critical habitat has been designated for this species.
Sonoran pronghorn *Antilocapra americana sonoriensis*	LE WC	Inhabits wide alluvial basins with desert grassland vegetation in the Sonoran Desert climactic zone. A small remnant population persists in the extremely arid flatlands in portions of Maricopa, Pima and Yuma counties (USFWS 2002).	No. The study area is outside the current known range of the Sonoran pronghorn. The study area does not contain habitat known to support this species. Critical habitat has not been designated for this species.

TABLE C-1 SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES			
Species **Common Name** ***Scientific Name***	**Status**	**Habitat Requirements**	**Potential Habitat Present**
Plants			
Arizona agave *Agave arizonica*	LE HS	Arizona agave occurs in the transition zone between oak-juniper woodland and mountain mahogany-oak scrub at 3,000 to 6,000 feet (915 to 1,830 meters) in elevation. Steep rocky slopes characterize known habitat; however, Arizona agave can occur on drainage bottoms or relatively gentle slopes or saddles (USFWS 2000). Scattered clones of Arizona agave are known to inhabit areas extending from the New River Mountains (Maricopa and Yavapai counties) to southeast of Payson and the Sierra Ancha Mountains (Gila County) in Arizona (AGFD 1997).	No. The study area is outside the current known range of the Arizona agave and does not contain habitat for this species. Critical habitat has not been designated for this species.
Arizona cliffrose *Purshia subintegra*	LE HS	Occurs on rolling, rocky, limestone hills and slopes within Sonoran desertscrub from 2,120 to 4,000 feet (647 to 1,220 meters) in elevation. The species occurs where the winters are mild, summers are hot, and annual rainfall (9 to 34 inches [22.9 to 86 centimeters]) is evenly distributed between summer and winter rainfall periods (AGFD 2001). All four localities of Arizona cliffrose are in central Arizona below the Mogollon Rim. These known sites include the Burro Creek drainage in Mohave County, Horseshoe Lake in Maricopa County, Verde Valley in Yavapai County, and the San Carlos Indian Reservation in Graham County (USFWS 2000).	No. The study area is outside the current known range of the Arizona cliffrose and does not contain habitat for this species. Critical habitat has not been designated for this species.

TABLE C-1 SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES			
Species **Common Name** ***Scientific Name***	**Status**	**Habitat Requirements**	**Potential Habitat Present**
Hohokam agave *Agave murpheyi*	HS	In central Arizona, the Hohokam agave usually is found on benches or terraces on gentle bajada slopes (not steep slopes or drainage bottoms) above major drainages associated with prehistoric habitations and/or agricultural sites at elevations from 1,300 to 3,200 feet (397 to 976 meters). The Hohokam agave also is found near rock piles, which discourage rodents and help accumulate nutrients and water. The species' range in Arizona includes Paradise Valley (Phoenix Basin) and the New River Mountains in Maricopa County; South Bradshaw Mountains, Castle Creek, and Agua Fria rivers in Yavapai County; Roosevelt Lake and Tonto Basin in Gila County; and Queen Creek near Superior in Pinal County (AGFD 1997).	No. The study area is outside the current known range of the Hohokam agave and does not contain habitat for this species.
Tonto basin agave *Agave delamateri*	HS	Usually found atop benches (often high benches), at edges of slopes, and on gentle slopes overlooking major drainages and perennial streams from 2,190 to 5,100 feet (668 to 1,556 meters) in elevation. Found in direct or indirect association with archaeological features, including multi-room foundations and also above check dams and linear alignments. Approximately 90 clones are known to occur from Young, Arizona to San Carlos Reservoir; in the foothills of Mazatzal and Sierra Ancha mountains in Gila County; Sunflower area in Maricopa County; and in the Verde Valley area in Yavapai County (AGFD 1997).	No. The study area is outside the current known range of the Tonto basin agave and does not contain habitat for this species.
Tumamoc globeberry *Tumamoca macdougalii*	SR	Found along arroyos and sandy washes, below 3,000 feet (915 meters) in elevation, in desert grassland, Sinaloan thornscrub, Sonoran Desert, and upland Sonoran Desert (Arizona Rare Plant Committee [ARPC] 2002). Occurs in the Tucson Mountains, Avra Valley, Puerto Blanco Mountains, Santa Catalina Mountains, Santa Cruz Valley, Vekol Valley, Santa Rosa Valley, Santa Rita Mountains, and Silverbell Mountains (ARPC 2002).	No. The study area is outside the current known range of the Tumamoc globeberry.

TABLE C-1 SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES			
Species **Common Name** ***Scientific Name***	**Status**	**Habitat Requirements**	**Potential Habitat Present**
Reptiles			
Arizona skink *Eumeces gilberti arizonensis*	WC	Distribution is largely uncertain, but currently the species is documented only in riparian habitats along the perennial reaches of the Hassayampa River and its tributaries (AGFD 1988).	No. The study area is outside the current known range of the Arizona skink. Riparian areas in the study area do not resemble those known to support this species.
Mexican garter snake *Thamnophis eques megalops*	WC	In Arizona, these snakes are most abundant in densely vegetated habitat surrounding cienegas, cienega-streams, and stock tanks. They are found in or near water along streams in valley floors and generally open areas, but not in steep mountain canyon stream habitat. The species usually ranges at elevations between 3,000 and 5,000 feet (914 to 1,525 meters), but may reach elevations of 8,500 feet (2,593 meters). It occurs in the southeast corner of state from the Santa Cruz Valley east to generally south of the Gila River. It is also known to occur near the Agua Fria River, Oak Creek, Verde River, and several upper Salt/Black River sites, including smaller tributaries (AGFD 2001).	No. The study area is outside the current known geographic and elevational range of the Mexican garter snake. This species occurs south and north of the study area. In addition, stream habitat in the study area occurs below 3,000 feet.
Sonoran desert tortoise *Gopherus agassizii* (Sonoran population)	WC	The Sonoran population includes those tortoises south and east of the Colorado River from locations near Pearce Ferry in Mojave County to the south beyond the International Boundary, and at many scattered locations in between. The northeastern-most tortoise records in Arizona occur along the Salt River near Roosevelt Lake in Gila County, although populations here have not been confirmed with recent observations. The Sonoran population of the desert tortoise occurs primarily on rocky slopes and bajadas of Mojave and Sonoran desertscrub. Caliche caves in incised cut banks of washes (arroyos) are also used for shelter sites, especially in the Lower Colorado River Valley subdivision. Shelter sites are rarely found in shallow soils (AGFD 2001).	Yes. The study area is within the current known range of the Sonoran desert tortoise (Sonoran population). Vegetation and topography of the White Tank Mountains within the study area resemble those known to support this species.

TABLE C-1
SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES

Species **Common Name** ***Scientific Name***	**Status**	**Habitat Requirements**	**Potential Habitat Present**

Status Definitions

LE	Listed Endangered (USFWS)
LT	Listed Threatened (USFWS)
PE	Proposed Endangered (USFWS)
C	Candidate (USFWS)
HS	Highly Safeguarded (Arizona Department of Agriculture)
SR	Salvage Restricted (Arizona Department of Agriculture)
WC	Wildlife of Special Concern in Arizona (AGFD)

IMPACT ASSESSMENT METHODOLOGY

The impact assessment was conducted to determine the effects of each system option and substation on the eight special status species with the potential to occur within the study area and areas of biological wealth (Table C-1). Site-specific factors considered included the extent of the potential losses in vegetation and associated species habitat that would result from construction and operation of the transmission line.

An assessment was completed for the cactus ferruginous pygmy-owl, American peregrine falcon, and Sonoran desert tortoise for each system option and substation. An assessment also was completed for the Yuma clapper rail, southwestern willow flycatcher, least bittern, yellow-billed cuckoo, and lowland leopard frog for the Gila River biological wealth area. Impacts were identified for every 0.1 mile along the Proposed and Alternative system options. The Proposed and Alternative system options are separated by nodes, which occur where the alternatives intersect each other (refer to Exhibits A-2 through A-5). At each node, the mile markers representing the length of each segment begin at zero and advance until the alternative segment meets another alternative segment or a proposed substation site. The segments between the nodes were separated into 0.1-mile sections, which were studied in detail. The following general impact assessment is based on the mile markers and/or geographic location along each alternative system option.

IMPACT ASSESSMENT RESULTS

Potential impacts and effects on special status species and areas of biological wealth are discussed in the following sections.

Proposed System Option

Areas of Biological Wealth

Gila River

The Gila River contains potentially suitable habitat for the lowland leopard frog, southwestern willow flycatcher, western least bittern, yellow-billed cuckoo, Yuma clapper rail, peregrine falcon, and cactus ferruginous pygmy-owl. Although the Gila River crosses approximately 2 miles of the southernmost portion of the study area, the southern terminus of the Proposed system option on Perryville Road would be 1 mile north of the Gila River. Construction of the Proposed system option would not result in the direct or indirect loss of habitat within the Gila River corridor. Therefore, the Proposed system option would not affect the southwestern willow flycatcher, Yuma clapper rail, cactus ferruginous pygmy-owl, or their habitat. In addition, the Proposed system option would not impact the lowland leopard frog, western least bittern, peregrine falcon, yellow-billed cuckoo, or their habitat.

White Tank Mountains and Surrounding Foothills

The White Tank Mountains and surrounding foothill and desert upland areas provide suitable habitat for the cactus ferruginous pygmy-owl, American peregrine falcon, and Sonoran desert tortoise. The Proposed system option may impact areas of species habitat near the White Tank Mountains. A majority of the impacts on the White Tank Mountains could be avoided or minimized by placing utility poles and substation structures outside (east) of the mountain and foothill areas, with the exception of a short segment north of Olive Avenue, which would cross native Arizona upland vegetation. The proposed transmission line and substation site located within the foothills may affect the cactus ferruginous pygmy-owl, but is not likely to adversely affect the pygmy-owl or its habitat. In this foothill area, the Proposed

system option may impact individuals of Sonoran desert tortoise, but is not likely to result in a trend toward federal listing or loss of the population's viability. Though potential foraging habitat for the peregrine falcon is present in this area, it would not be impacted.

Special Status Species

The portion of the Proposed system option from its beginning south of Broadway Road to Olive Avenue would cross agricultural and residential areas. Vegetation consists of planted crops and landscape vegetation. Habitat is generally low quality to nonexistent due to the lack of native vegetation and regular disturbance from activities associated with agricultural and residential areas. Agricultural fields and residential areas do not resemble habitat known to support endangered, threatened, or other special status species.

The Proposed system option along Olive Avenue from Loop 303 to the proposed TS2 substation site contains two distinct habitat types. Agricultural fields occur along Olive Avenue from Loop 303 to approximately 1 mile to the west. From this point to the proposed TS2 substation site contains Sonoran desertscrub habitat dominated with palo verde, mesquite, and saguaros. Vegetation within this section contains the necessary elements to provide potentially suitable foraging, nesting, and movement habitat for the cactus ferruginous pygmy-owl, suitable foraging and denning habitat for the Sonoran desert tortoise, and potential foraging habitat for the peregrine falcon.

Cactus Ferruginous Pygmy-Owl

Habitat Evaluation and Suitability

The study area is within the historic range of the cactus ferruginous pygmy-owl and contains suitable nesting, foraging, and movement habitat in the form of riparian vegetation along the Gila River and Sonoran desertscrub vegetation within the White Tank Mountains and surrounding foothill and desert upland areas. Vegetation within this area of the Proposed system option alignment contains mature palo verde and mesquite trees, and saguaros. The study area does not contain proposed critical habitat for the pygmy-owl. The closest known populations of cactus ferruginous pygmy-owl to the study area are located in Avra Valley and northwest Tucson, both in Pima County. These populations are more than 100 miles south of the study area. In addition, suitable habitat for the pygmy-owl in the White Tank Mountains is several miles north of Survey Zone 3 as designated by USFWS. In Survey Zone 3, USFWS recommends pygmy-owl surveys for projects that include a federal review process.

USFWS defines suitable pygmy-owl habitat as including areas below 4,000 feet (1,220 meters) in elevation containing one or more of the following vegetation communities:

- **Riparian vegetation**: Broadleaf, riparian gallery forests of cottonwoods, willows, mesquites, ash, or other trees growing along watercourses and associated species.

- **Sonoran desertscrub**: Characterized by braided wash systems and vegetation that is dense and well structured. Key species include mesquite, foothill and blue palo verde, ironwood, saguaro, organ pipe cactus, and various other shrubs and cacti.

- **Semidesert grasslands**: Containing wooded drainages with mesquite, hackberry, ash, and a limited number of saguaros.

Analysis and Determination of Effects

Construction of the Proposed system option would not result in the direct or indirect loss of suitable habitat within the Gila River corridor. Therefore, there would be no effects on the cactus ferruginous pygmy-owl.

Permanent effects on pygmy-owl would include loss of vegetation within suitable habitat where poles are to be placed along or north of Olive Avenue. However, using Olive Avenue to access the construction site would minimize vegetation loss. Pole structures and transmission lines do not present a hindrance to movement and the height of the transmission lines are generally above the height of trees. This would place the transmission lines above the documented flight pattern of the pygmy-owl. Temporary effects on the pygmy-owl, if any were present, would include the presence of construction equipment and personnel, and noise from construction activities. These effects could temporarily disperse pygmy-owl from the area during construction activities. However, construction activities would take place along Olive Avenue where disturbances from vehicle traffic already occur. Therefore, construction of the transmission line along Olive Avenue and within the Sonoran desertscrub could result in a "may affect" determination by the USFSW for the cactus ferruginous pygmy-owl, but the Proposed system option is not likely to adversely affect the pygmy-owl or its habitat. Surveys for the cactus ferruginous pygmy-owl, if recommended by USFWS, would be conducted two years prior to construction to determine whether the species is present and provide further analysis on the potential effects on this species.

American Peregrine Falcon

Habitat Evaluation and Suitability

The study area is within the current range of the American peregrine falcon and contains potential foraging habitat for this species. Peregrine falcon is well distributed throughout suitable habitat statewide, except the low elevation deserts of the southwestern quarter of the state. Suitable habitat includes areas with rocky, steep cliffs, primarily near water, where prey (primarily shorebirds, songbirds, and waterfowl) concentrations are high. Also, this species is known to use manmade structures such as office towers and utility poles. This species is not listed endangered under the Endangered Species Act (ESA) and therefore no critical habitat has been designated.

Analysis and Determination of Effects

Raptors are drawn to poles associated with transmission lines because they offer high places to perch, roost, nest, hunt, and can provide shade. The large wingspan of raptors makes them vulnerable to injury (or death) from the transmission lines. Though there is a slight potential for raptor injury or mortality from collision, the typical design of a 230kV transmission line provides sufficient distance between electrified and grounded parts to prevent electrocution. Therefore, the anticipated impacts on raptors resulting from the transmission line would be low for each of the system options.

Construction of the Proposed system option would not result in the direct or indirect loss of potential habitat within the study area. Though potential foraging habitat would not be impacted, there is potential for injury to or mortality of individual peregrine falcons from the transmission line, as described above.

Sonoran Desert Tortoise

Habitat Evaluation and Suitability

Within the study area, suitable habitat for the Sonoran desert tortoise occurs primarily on rocky slopes in the White Tank Mountains and surrounding foothills. Caliche caves in incised, cut banks of washes (arroyos) also are used for shelter sites. Shelter sites are rarely found in shallow soils. The Sonoran desert tortoise is not listed endangered under the ESA and therefore no critical habitat has been designated. The Proposed system option contains suitable habitat from the TS2 substation site, east along Olive Avenue to the intersection with Citrus Road. Washes in this area may provide shelter sites for the Sonoran desert tortoise.

Analysis and Determination of Effects

Individual Sonoran desert tortoise could be impacted by vehicle collision or from compaction of burrows during land excavation activities. Where possible, existing roads would be used to access the construction areas and minimize impacts on undisturbed desert areas. Permanent effects on Sonoran desert tortoise would include loss forage vegetation and shelter sites within suitable habitat. Pole structures and utility lines would have no impact on Sonoran desert tortoise following construction. Therefore, the Proposed system option may impact individuals of the Sonoran desert tortoise, but is not likely to result in a trend toward federal listing or loss of viability.

APS would mitigate impacts on the Sonoran desert tortoise by either (1) ensuring a qualified biologist conducts surveys for burrows prior to construction or is present during construction activities within tortoise habitat, or (2) ensuring that if a tortoise were encountered, AGFD is contacted for assistance prior to continuing construction.

Alternative System Option

Areas of Biological Wealth

Gila River

The Gila River contains potentially suitable habitat for the lowland leopard frog, southwestern willow flycatcher, western least bittern, yellow-billed cuckoo, Yuma clapper rail, American peregrine falcon, and cactus ferruginous pygmy-owl. Although the Gila River crosses approximately 2 miles of the southernmost portion of the study area, the southern terminus of the Alternative system option on Perryville Road would be 1 mile north of the Gila River. Construction of the Alternative system option would not result in the direct or indirect loss of habitat within the Gila River corridor. Therefore, the Alternative system option would not affect the southwestern willow flycatcher, Yuma clapper rail, cactus ferruginous pygmy-owl or their habitat. The Alternative system option would not impact the lowland leopard frog, western least bittern, American peregrine falcon, and the yellow-billed cuckoo or their habitat.

White Tank Mountains and Surrounding Foothills

The Alternative system option may impact areas of the White Tank Mountains and surrounding foothill and desert upland areas, which provide suitable habitat for cactus ferruginous pygmy-owl, American peregrine falcon, and the Sonoran desert tortoise. The Alternative system option would cross the desert upland areas near the White Tank Mountains along the Tuthill Road alignment and along the north side of Olive Avenue. Construction activities would result in the loss of suitable habitat for the cactus

ferruginous pygmy-owl and the Sonoran desert tortoise. Noise from construction equipment may temporarily drive away special status species within territories adjacent to the construction zone. It is expected that special status species would return to territories following completion of construction. Impacts also would result from clearing vegetation, soil removal and disturbance, and the construction of access roads and permanent structures (i.e., utility poles, substation facilities). The Alternative system option and substation located within the White Tank Mountains and surrounding foothills could result in a "may affect" determination by the USFSW for the cactus ferruginous pygmy-owl, but the Alternative system option is not likely to adversely affect the pygmy-owl or its habitat. The proposed action may impact individuals of Sonoran desert tortoise, but is not likely to result in a trend toward federal listing or loss of viability. Though potential foraging habitat for the American peregrine falcon is present in this area, it would not be impacted.

Special Status Species

The Alternative system option would tie into an existing APS 230kV line 0.5 miles south of Broadway Road and extend north (8.5 miles) along Perryville Road to Bethany Road. This portion of the Proposed system option crosses agricultural and residential areas. Vegetation consists of planted crops and landscape vegetation. Habitat is generally low quality to nonexistent due to the lack of native vegetation and regular disturbance from activities associated with agricultural and residential areas. Agricultural fields and residential areas do not resemble habitat known to support endangered, threatened, or other special status species.

The Alternative system option along Bethany Home Road from Perryville Road west (2.0 miles) to Tuthill Road, Tuthill Road north (3.0 miles) to Olive Avenue, Olive Avenue east (1.5 miles) to the proposed TS2 substation site. This portion of the Alternative system option would cross partially disturbed areas of mixed creosote and palo verde/saguaro vegetation and undisturbed palo verde/saguaro desert areas. Both disturbed mixed creosote bush and palo verde/saguaro areas, and undisturbed palo verde/saguaro desert areas resemble habitat known to support the cactus ferruginous pygmy-owl, Sonoran desert tortoise, and American peregrine falcon.

Cactus Ferruginous Pygmy-Owl

Habitat Evaluation and Suitability

The study area is within the historic range of the cactus ferruginous pygmy-owl and contains suitable nesting, foraging, and movement habitat in the form of Sonoran desertscrub vegetation within the White Tank Mountains and surrounding foothills. Vegetation within this area of the Alternative system option alignment contains mature palo verde and mesquite trees, and saguaros. The study area does not contain proposed critical habitat for the pygmy-owl. The closest known populations of cactus ferruginous pygmy-owl to the study area are located in Avra Valley and northwest Tucson, both in Pima County. These populations are more than 100 miles south of the study area. In addition, suitable habitat for the pygmy-owl in the White Tank Mountains is several miles north of Survey Zone 3 as designated by USFWS. In Survey Zone 3, USFWS recommends pygmy-owl surveys for projects that include a federal review process.

Analysis and Determination of Effects

Construction of the Alternative system option from 0.5 mile south of Broadway Road north (8.5 miles) along Perryville Road to Bethany Home Road would not result in the direct or indirect loss of suitable habitat within the Gila River corridor. Therefore, there would be no effects on the cactus ferruginous pygmy-owl.

Construction of the Alternative system option along Bethany Home Road from Perryville Road west (2.0 miles) to Tuthill Road, Tuthill Road north (3.0 miles) to Olive Avenue, and Olive Avenue east (1.5 miles) to the proposed TS2 substation site would include the loss of vegetation within suitable habitat where poles would be placed. The use of a dirt road along an existing transmission line to access the construction site would minimize vegetation loss. Pole structures and transmission lines do not present a hindrance to movement and the height of the utility lines are generally above the height of trees. This would place the transmission lines above the documented flight pattern of the pygmy-owl. Temporary effects on the pygmy-owl, if any were present, would include the presence of construction equipment and personnel, and noise from construction activities. These effects could temporarily disperse pygmy-owl from the area during construction activities. However, a portion of the construction activities would take place along Olive Avenue where disturbances from vehicle traffic already occur. Therefore, the Alternative system option could result in a "may affect" determination by the USFSW for the cactus ferruginous pygmy-owl, but the Alternative system option is not likely to adversely affect the pygmy-owl or its habitat. Surveys for the cactus ferruginous pygmy-owl, if recommended by USFWS, would be conducted two years prior to construction to determine whether the species is present and provide further analysis on the potential effects on this species.

American Peregrine Falcon

Habitat Evaluation and Suitability

The study area is within the current range of the American peregrine falcon and contains potential foraging habitat for this species. Peregrine falcon is well distributed throughout suitable habitat statewide, except the low elevation deserts of the southwest quarter of the state. Suitable habitat includes areas with rocky, steep cliffs, primarily near water, where prey (primarily shorebirds, songbirds, and waterfowl) concentrations are high. Also, this species is known to use manmade structures such as office towers and utility poles. This species is not listed endangered under the ESA and therefore no critical habitat has been designated.

Analysis and Determination of Effects

Raptors are drawn to poles associated with transmission lines because they offer high places to perch, roost, nest, hunt, and can provide shade. The large wingspan of raptors makes them vulnerable to injury (or death) from the transmission lines. Though there is a slight potential for raptor injury or mortality from collision, the typical design of a 230kV transmission line provides sufficient distance between electrified and grounded parts to prevent electrocution. Therefore, the anticipated impacts on raptors resulting from the transmission line would be low for each of the system options.

Construction of the Alternative system option would not result in the direct or indirect loss of potential foraging habitat within the study area. Though potential foraging habitat would not be impacted, there is potential for injury to or mortality of American peregrine falcons from the transmission line, as described above.

Sonoran Desert Tortoise

Habitat Evaluation and Suitability

Within the study area, suitable habitat for the Sonoran desert tortoise occurs primarily on rocky slopes in the White Tank Mountains and surrounding foothill and upland desert areas. Caliche caves in incised, cut banks of washes (arroyos) are also used for shelter sites. Shelter sites are rarely found in shallow soils.

The Sonoran desert tortoise is not listed endangered under the ESA and therefore no critical habitat has been designated.

The Alternative system option contains suitable habitat within Sonoran desertscrub vegetation and desert washes along Bethany Home Road from Perryville Road, west to Tuthill Road; along Tuthill Road from Bethany Home Road, north to Olive Avenue; and along Olive Avenue east to the TS2 substation site.

Analysis and Determination of Effects

Individual Sonoran desert tortoise could be impacted by vehicle collision or from compaction of burrows during land excavation activities. Where possible, existing roads would be used to access the construction zone and minimize impacts on undisturbed desert areas. Permanent effects on Sonoran desert tortoise would include loss forage vegetation and shelter sites within suitable habitat. Pole structures and utility lines should have no impact on Sonoran desert tortoise. Therefore, the Alternative system option may impact individuals of the Sonoran desert tortoise, but is not likely to result in a trend toward federal listing or loss of viability.

APS would mitigate impacts on the Sonoran desert tortoise by either (1) ensuring a qualified biologist conducts surveys for burrows prior to construction or is present during construction activities within tortoise habitat, or (2) ensuring that if a tortoise were encountered, AGFD is contacted for assistance prior to continuing construction.

TS2 Substation

Areas of Biological Wealth

Gila River

The TS2 substation would have no impact on the Gila River because the substation site is located approximately 12.5 miles north of the Gila River.

White Tank Mountains and Surrounding Foothills

Impacts may occur at the TS2 substation site in the Arizona upland vegetation associated with the White Tank Mountain foothill and upland desert areas. Construction activity would include clearing of vegetation, soil removal and disturbance, and the construction of permanent structures (i.e., utility poles, substation facilities) in an area with suitable habitat for cactus ferruginous pygmy-owl, Sonoran desert tortoise, and American peregrine falcon.

Special Status Species

Cactus Ferruginous Pygmy-Owl

Habitat Evaluation and Suitability

The study area is within the historic range of the cactus ferruginous pygmy-owl and contains suitable habitat in the form of Sonoran desertscrub vegetation within the White Tank Mountains, surrounding foothills and upland desert areas. The study area does not contain proposed critical habitat. The closest known populations of cactus ferruginous pygmy-owl to the study area are located in Avra Valley and northwest Tucson, both in Pima County. These populations are more than 100 miles south of the study area. In addition, suitable habitat for the pygmy-owl in the White Tank Mountains is several miles north

of Survey Zone 3 as designated by USFWS. In Survey Zone 3, USFWS recommends pygmy-owl surveys for projects that include a federal review process. The proposed TS2 substation could be placed within a creosote flat and between two large drainages. The drainages contain xeroriparian habitat and would provide suitable foraging, nesting, and movement habitat for the pygmy-owl. The creosote flat only contains creosote bush, several mesquite trees and no ground cover. There is a possibility that the pygmy-owl would venture into this type of habitat to forage, but this creosote flat is less suitable habitat than what exists in the washes.

Analysis and Determination of Effects

The TS2 substation would be located within the Arizona upland association, which contains suitable habitat elements for the cactus ferruginous pygmy-owl. Temporary effects on the pygmy-owl would include the presence of construction equipment and personnel, and noise from construction activities. These effects could temporarily disperse pygmy-owl from the area during construction activities. Direct effects on pygmy-owl would include the loss of up to 10 acres of vegetation within suitable habitat. It is anticipated that the majority of construction would take place within the moderately disturbed creosote bush flats, which would minimize vegetation loss. However, there is the possibility that construction of the substation could impact either of the two drainages that could be used as a movement corridor. Therefore, construction of the TS2 substation could result in a "may affect" determination by the USFSW for the cactus ferruginous pygmy-owl, but the TS2 substation is not likely to adversely affect the pygmy-owl or its habitat. Surveys for the cactus ferruginous pygmy-owl, if recommended by USFWS, would be conducted two years prior to construction to determine whether the species is present and provide further analysis on the potential effects on this species.

American Peregrine Falcon

Habitat Evaluation and Suitability

The study area is within the current range of the American peregrine falcon and contains potential foraging habitat for this species. Peregrine falcon is well distributed throughout suitable habitat statewide, except the low elevation deserts of the southwest quarter of the state. Suitable habitat includes areas with rocky, steep cliffs, primarily near water, where prey (primarily shorebirds, songbirds, and waterfowl) concentrations are high. Also, this species is known to use manmade structures such as office towers and utility poles. This species is not listed endangered under the ESA and therefore no critical habitat has been designated.

Analysis and Determination of Effects

Raptors are drawn to poles associated with transmission lines because they offer high places to perch, roost, nest, hunt, and can provide shade. The large wingspan of raptors makes them vulnerable to injury (or death) from the transmission lines. Though there is a slight potential for raptor injury or mortality from collision, the typical design of a 230kV transmission line provides sufficient distance between electrified and grounded parts to prevent electrocution. Therefore, the anticipated impacts on raptors resulting from the transmission line would be low for each of the system options.

Construction of the substation would not result in the direct or indirect loss of suitable habitat within the study area because the substation likely would be located between two large drainages in a creosote flat area, which provides low diversity and abundance of prey species for the American peregrine falcon. However, the transmission lines and substation facilities could result in injury to or mortality of peregrine falcons, as described above.

Sonoran Desert Tortoise

Habitat Evaluation and Suitability

The TS2 substation site contains suitable habitat in the form of desert washes that may provide shelter sites for Sonoran desert tortoise. The desert washes in this area are interspersed with areas of moderately disturbed creosote bush flats and bare ground that have been used in part for wildcat dumping of trash and off-road vehicle traffic.

Individual Sonoran desert tortoise could be impacted by vehicle collision or from compaction of burrows during land excavation activities. Where possible, existing roads will be used to access the construction areas and minimize impacts on undisturbed desert areas. Permanent effects on Sonoran desert tortoise include loss forage vegetation and shelter sites within suitable habitat. Pole structures and utility lines would have no impact on Sonoran desert tortoise following construction. It is anticipated that the majority of construction would take place within the moderately disturbed creosote bush flats, which would minimize habitat loss. Therefore, the TS2 substation may impact individuals of the Sonoran desert tortoise, but is not likely to result in a trend toward federal listing or loss of viability.

TS3 Substation

Areas of Biological Wealth

Gila River

The TS3 substation would have no impact on the Gila River because the substation site is located approximately 7.5 miles north of the Gila River.

White Tank Mountains and Surrounding Foothills

The TS3 substation option would have no impact on White Tank Mountains or the surrounding foothills because the site is located approximately 4.0 miles east of the mountains.

Special Status Species

The proposed TS3 substation would not affect the cactus ferruginous pygmy-owl, southwestern willow flycatcher, Yuma clapper rail, or their habitat because the area consists of agricultural land. In addition, the proposed TS3 substation would not impact the lowland leopard frog, western least bittern, Sonoran desert tortoise, and the yellow-billed cuckoo or their habitat. Vegetation consists of planted crops and landscape vegetation. Impacts on special status species would be negligible because much of the area lacks any native vegetation. Special status species habitat is generally low quality to nonexistent due to the lack of native vegetation and regular disturbance from activities associated with agricultural areas. Agricultural fields areas do not resemble habitat known to support endangered, threatened, or other special status species.

TS4 Substation

Areas of Biological Wealth

Gila River

The TS4 substation would have no impact on the Gila River because the site is located approximately 2.0 miles northwest of the Gila River.

White Tank Mountains and Surrounding Foothills

The TS4 substation option would have no impact on White Tank Mountains or the surrounding foothills because the site is located approximately 10.0 miles southeast of these mountains.

Special Status Species

The proposed TS4 substation would not affect the cactus ferruginous pygmy-owl, southwestern willow flycatcher, Yuma clapper rail, or their habitat because the area consists of agricultural land. In addition, the proposed TS4 substation would not impact the lowland leopard frog, western least bittern, Sonoran desert tortoise, and the yellow-billed cuckoo or their habitat. Vegetation consists of planted crops and landscape vegetation. Impacts on special status species would be negligible because much of the area lacks any native vegetation. Special status species habitat is generally low quality due to the lack of native vegetation and regular disturbance from activities associated with agricultural areas. Agricultural fields areas do not resemble habitat known to support endangered, threatened, or other special status species.

CONCLUSION

The majority of each system option would cross areas where construction and operation of the 230kV transmission line would result in no impacts on special status species (federally listed or state wildlife of concern). However, impacts would result in specific areas along each of the 230kV transmission line alignments evaluated. The Proposed system option could result in a "may affect" determination by the USFWS for the cactus ferruginous pygmy-owl along Olive Avenue west of Perryville Road and would have some impact on the Sonoran desert tortoise. The Proposed system option would result in no effects on the southwestern willow flycatcher, Yuma clapper rail, or their habitat and no impacts on the lowland leopard frog, western least bittern, yellow-billed cuckoo, or their habitat. The Alternative system option could result in a "may affect" determination by the USFWS for its potential effects on the cactus ferruginous pygmy-owl, and would have some impact on the Sonoran desert tortoise within the White Tank Mountains and surrounding foothill and desert upland areas. The Alternative system option would result in no effects on the southwestern willow flycatcher, Yuma clapper rail, or their habitat and no impacts on the lowland leopard frog, western least bittern, yellow-billed cuckoo, or their habitat. Impacts would occur in areas disturbed for placement of transmission line poles, as well as for establishing access necessary to install the transmission line for each alternative. The TS2 substation also could result in a "may affect" determination by the USFSW for the cactus ferruginous pygmy-owl and would have some impact on the Sonoran desert tortoise through the loss of suitable habitat. The TS3 and TS4 substations would result in no impacts on any of the eight special status species with habitat in the study area. In conclusion, the Alternative system option does not offer any advantages, with respect to special status species or areas of biological wealth, over the Proposed system option.

APS intends to have a qualified biologist reevaluate potential impacts on biological resources two years prior to construction. This reevaluation would include a pedestrian field review of the transmission line alignment and substation site prior to initiating construction activities to identify any areas as sensitive for

special status species, so that disturbance to these areas can be avoided. Surveys for the cactus ferruginous pygmy-owl, if recommended by USFWS, would be conducted two years prior to construction to determine whether the species is present and provide further analysis on the potential effects on this species. This review also would ensure that resource conditions have not changed such that impacts would differ substantially beyond those described in this exhibit (e.g., listing of a new species by USFWS). It is likely that the area along any of the alternative alignments would be developed (built-out) beyond current conditions, resulting in potentially lower quality habitat for special status species and less potential for encountering special status species. Therefore, impacts on special status species may be reduced further by the time the transmission line is constructed.

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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 associated with the vicinity of the proposed sites or route and describe the effects, if any, other proposed facilities will have thereon."

OVERVIEW

To address these regulatory requirements, and as an element of the comprehensive environmental planning undertaken for the project, sensitive biological resources within the study area were considered in evaluating alternative 230kV facilities.

INVENTORY METHODS

A field reconnaissance of the study area was conducted in May 2002 to collect the following data: (1) opportunistic wildlife observations; (2) a list of common plant species; and (3) a description of major vegetation associations, topographic features (e.g., drainages), and natural and anthropomorphic landscape features (e.g., rock outcrops, caves, mine adits, buildings, and stock tanks) that might affect the occurrence of special status species. Special consideration also was directed toward locating any riparian or wetland features that might occur in the study area. Prior to field reconnaissance, literature was compiled on special status species with the potential of occurring in the study area. In addition, URS gathered information from the U.S. Fish and Wildlife Service (USFWS) and Arizona Game and Fish Department (AGFD) to develop a list of special status species listed for Maricopa County that might occur within the study area. Aerial photographs of the study area also were reviewed to determine the locations of potentially biologically sensitive areas.

INVENTORY RESULTS

The study area is located within the Basin and Range physiographic province (McNab and Avers 1994) and is characterized by a desert plain bounded by short mountain ranges (White Tank Mountains to the west and Sierra Estrella Mountains to the south). Soil taxa generally include granite rock in the mountains and alluvial deposits in the valleys. Elevation ranges from 1,000 to 4,100 feet above mean sea level. The valley is a productive agricultural area that supports the urban areas of Phoenix as well as smaller communities.

Annual precipitation ranges from 3 to 8 inches. Precipitation occurs as both winter rain and high-intensity summer thunderstorms. More than half the annual precipitation falls during the winter. Average daytime temperatures in the study area range from 100 degrees Fahrenheit in the summer to the mid-60s in the winter. The growing season lasts 250 to 350 days.

In terms of biotic communities, the study area is located within the Lower Colorado River Valley subdivision and Arizona Upland subdivision of the Sonoran Desertscrub vegetation biome (Brown 1994). Vegetation in the study area is dominated by human-altered landscapes, while areas of natural vegetation are composed of creosote bush communities in the valleys and palo verde/mixed cacti communities in the foothill and mountain areas.

Vegetation Communities and Wildlife Habitat

The natural vegetation in the study area is characteristic of the Lower Colorado River Valley subdivision and Arizona Upland subdivision of the Sonoran Desertscrub biome (Brown 1994). The Lower Colorado

River Valley subdivision occurs predominantly in the valleys and is characterized by creosote bush flats. The mountain areas are characteristic of Arizona Upland subdivision and are covered mostly with palo verde/mixed cacti vegetation.

Riparian areas generally include Riparian Desertscrub. Portions of the Gila River are characteristic of Riparian Woodland vegetation association. Human-altered vegetation associations include active agricultural fields, disturbed areas such as abandoned agricultural fields, and landscaped vegetation associated with residential, commercial, and industrial land uses. Among all of the vegetative communities present, at least 200 species of vascular plants are expected to occur within the study area (Brown 1994). Below is a brief description of each vegetation subdivision/association.

Lower Colorado River Valley Subdivision – occurs throughout the valley portions of the study area. Dominant plant species include creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). Major associates include ocotillo (*Fouquieria splendens*), brittlebush (*Encelia farinosa*), foothill palo verde (*Cercidium microphyllum*), saguaro (*Carnegiea gigantea*), and ironwood (*Olneya tesota*). This vegetation association provides low structural diversity, and vegetation density is low with large areas of bare ground between plants.

Arizona Upland Subdivision – occurs in the higher elevation mountain ranges found along the western and southern portions of the study area. Foothill palo verde and saguaro are the dominant plant species in this association. Major shrub and ground cover species include acacia (*Acacia* spp.), cholla cacti (*Opuntia* spp.), prickly pear cactus (*O. engelmannii*), and desert zinnia (*Zinnia acerosa*). Vegetation structural diversity and vegetation density varies from low to moderate. In general, north-facing slopes have the lowest vegetation density and structural diversity, while riparian areas have the highest.

Xeroriparian Association – occurs throughout the study area in ephemeral and intermittent washes. Common plant species include, but are not limited to, mesquite (*Prosopis* spp.), foothill palo verde, acacia, hackberry (*Celtis* spp.), and ironwood.

Riparian Scrubland Association – occurs along the Gila River. This area is dominated by velvet mesquite and salt cedar (*Tamarix ramosissima*). Where the vegetation has not been modified for human use, mesquite, and salt cedar extend throughout the floodplain of the Gila River. Vegetation density and structural diversity are high.

Agricultural Field Association – occurs in the study area where uplands, valleys, and river floodplain have been modified for agricultural or residential use.

Disturbed Areas – occur as mostly abandoned agricultural fields and industrial sites. These areas are dominated by large areas of bare ground with patches of weedy shrub such as desert broom (*Baccharis sarothroides*) and tumbleweed (*Salsola kalii*).

Wildlife

Tables D-1 list species of mammals, birds, and reptiles and amphibians that typically are found in the vegetation associations described above. These species, as well as others not listed, may occur in the study area. No open or perennial water features are present in the study area; therefore, fish species are not present.

TABLE D-1 COMMON WILDLIFE SPECIES	
Scientific Name	**Common Name**
Mammals	
Ammospermophilus harrisii	Harris' Ground Squirrel
A. leucurus	White-tailed Antelope Ground Squirrel
Bassariscus astutus	Ring-tailed Cat
Canis latrans	Coyote
Dipodomys deserti	Desert Kangaroo Rat
D. merriami	Merriam's Kangaroo Rat
Lepus californicus	Black-tailed Jackrabbit
Macrotis californicus	California Leaf-nosed bat
Myotis californicus	California Myotis
Neotoma albigula	White-throated Woodrat
Odocoileus hemionus crooki	Desert Mule Deer
Perognathus amplus	Arizona Pocket Mouse
P. baileyi	Bailey's Pocket Mouse
P. formosus	Long-tailed Pocket Mouse
P. penicillatus	Desert Pocket Mouse
Peromyscus eremicus	Cactus Mouse
Spermophilus tereticaudus	Round-tailed Ground Squirrel
Sylvilagus auduboni	Desert Cottontail
Tayassu tajacu	Collared Peccary (Javelina)
Ulrocyon cinereoargenteus	Gray Fox
Vulpes macrotus	Kit Fox
Birds	
Amphispiza bilineata	Black-chinned Sparrow
Athene cunicularia	Burrowing Owl
Auriparus flaviceps	Verdin
Calypte anna	Anna's Hummingbird
Campylorhynchus brunneicapillus	Cactus Wren
Cardinalis sinuatus	Pyrrhuloxia
Chordeiles acutipennis	Lesser Nighthawk
Colaptes auratus	Northern Flicker
Geococcyx californianus	Roadrunner
Lophortyx gambelii	Gambel Quail
Melanerpes uropygialis	Gila Woodpecker
Micrathene whitneyi	Elf Owl
Parabuteo unicintus	Harris' Hawk
Phainopepla	Phainopepla
Polioptila melanura	Ladder-backed Woodpecker
Scardafella inca	Inca Dove
Toxostoma curvirostra	Curve-billed Thrasher
Zenaida macroura	Mourning Dove
Z. asiatica	White-winged Dove
Amphibians and Reptiles	
Arizona elegans	Glossy Snake
Bufo retiformis	Sonoran Green Toad
Callisaurus draconoides	Zebratail Lizard
Chionactis occipitalis	Banded Sand Snake
Cnemidophorus hyperythrus	Western Whiptail
Coleonyx variegates	Banded Gecko
Crotalus atrox	Western Diamondback Rattlesnake

TABLE D-1 COMMON WILDLIFE SPECIES	
Scientific Name	**Common Name**
C. cerastes	Sidewinder
Dipsosaurus dorsalis	Desert Iguana
Gopherus agassizii	Desert Tortoise
Heloderma suspectum	Gila Monster
Phrynosoma platyrhinos	Desert Horned Lizard
P. solare	Regal Horned Lizard
Sauromalus obesus	Chuckwalla
Sceloporus magister	Desert Spiny Lizard
Uma notata	Fringe-toed Lizard
Urosaurus ornatus	Tree Lizard

IMPACT ASSESSMENT METHODOLOGY

Potential impacts on vegetation communities, wildlife habitat, and wildlife are discussed in the following sections. A detailed impact assessment has been completed for the Proposed system option, Alternative system option, and each substation site. Impacts were identified for every 0.1-mile segment along the Proposed and Alternative system options. As shown on Exhibits A-2 through A-5, the Proposed and Alternative system options are separated by nodes, which occur where each of the alternatives intersect one another. Each Exhibit displays the alternatives by color to represent the location of alternative segments. At each node, the mile markers representing the length of each segment begin at zero and advance until the alternative segment meets another segment or a proposed substation site. The segments between the nodes were separated into 0.1-mile sections, which were studied in further detail. The following sections summarize the impact assessment by mile markers and/or geographic location.

The impact assessment was conducted to determine the effect of each system option and substation on biological resources, including vegetation and wildlife. Site-specific factors were considered including the nature of the potential losses in vegetation and associated species habitat that would result from construction and operation of the transmission line. The impact assessment for each alternative system option and substation site was based on the criteria described below (Table D-2).

TABLE D-2 BIOLOGICAL RESOURCES IMPACT ASSESSMENT CRITERIA	
Impact Rating	**Criteria**
Low	• Native vegetation removal limited to areas immediately surrounding pole locations and substation; existing access to substation(s) or along route available for construction • Construction and operation occur primarily in a developed and previously disturbed environmental setting • Temporary disturbance to or displacement of wildlife during construction • Permanent loss of individuals or habitat negligible
Moderate	• Native vegetation removal required around pole locations, substation, and access roads; partial access may be available for construction • Construction and operation occur primarily in a partially developed and previously disturbed environmental setting or in common habitat/vegetation types in the region • Temporary disturbance to or displacement of wildlife during construction • Permanent loss of individuals or habitat measurable, but minor

TABLE D-2 BIOLOGICAL RESOURCES IMPACT ASSESSMENT CRITERIA	
Impact Rating	**Criteria**
High	• Native vegetation removal required around pole locations, substation, and access roads; no access available for construction • Construction and operation occur in pristine/undeveloped areas with unique or high-quality habitat/vegetation types in the region • Construction and operation cause permanent disturbance to or displacement of wildlife (resulting from vegetation removal)

IMPACT ASSESSMENT RESULTS

Impacts Common to All Facilities

Raptors are drawn to poles associated with transmission lines because they offer high places to perch, roost, nest, hunt, and can provide shade. The large wingspan of raptors makes them vulnerable to injury (or death) from the transmission lines. Though there is a slight potential for raptor injury or mortality from collision, the typical design of a 230kV transmission line provides sufficient distance between electrified and grounded parts to prevent electrocution. Therefore, the anticipated impacts on raptors resulting from the transmission line would be low for each of the system options. In addition, for any option, APS would have a qualified biologist reevaluate the potential impacts on biological resources within two years prior to construction. This reevaluation would include a pedestrian field review of the transmission line alignment and substation site prior to initiating construction activities to evaluate specific areas for the presence of nesting birds, including raptors. This review also would ensure that biological resource conditions have not changed such that impacts would increase beyond those described below.

Proposed System Option

The Proposed system option would result in low to moderate impacts on vegetation, wildlife, and wildlife habitat at various locations along the alignment. Impacts for general areas are described below.

Low impacts on vegetation and wildlife would occur along Perryville Road beginning 0.5 mile south of Broadway Road and north (6.5 miles) to 1.5 miles north of Indian School Road, east (2.0 miles) to Cotton Lane, Cotton Lane north (1.5 miles) to Bethany Home Road, Bethany Home Road east (0.5 mile) to Loop 303, and Loop 303 north (3.0 miles) to Olive Road. This portion of the Proposed system option would cross agricultural and residential areas. Vegetation consists of planted crops and landscape vegetation. Impacts on vegetation resources would be minimal because much of the area lacks any native vegetation. Wildlife habitat is generally low quality due to the lack of native vegetation and regular disturbance from activities associated with agricultural and residential areas. Agricultural fields may provide foraging habitat for a limited number of native or migratory wildlife species for a limited time during the year. Irrigation ditches also may provide temporary shelter and foraging habitat. Residential areas may provide habitat for several native wildlife species. However, a lack of native vegetation, low vegetation density and structural diversity, and high levels of disturbance limits the type and number of native wildlife species using residential areas.

Low to moderate impacts would result along Olive Road (3.5 miles) from Loop 303 to the proposed TS2 substation site. Low impacts would occur in agricultural fields and creosote bush desert areas. Vegetation in agricultural areas consists of planted crops and landscape vegetation; impacts on vegetation would be low because much of the area lacks any native vegetation. Wildlife habitat is generally low quality due to

the lack of native vegetation and regular disturbance from activities associated with agricultural areas. Agricultural fields may provide foraging habitat for a limited number of native or migratory wildlife species for a limited time during the year. Irrigation ditches also may provide temporary shelter and foraging habitat. In creosote bush desert, undisturbed areas may provide habitat for native wildlife. However, low vegetation density and structural diversity limits the type and number of native wildlife species using creosote bush areas; disturbance in these areas would generate low impacts. Moderate impacts would result in palo verde/saguaro desert areas from the removal of desertscrub vegetation such as palo verde, saguaro, mesquite, and other upland desert vegetation. The palo verde/saguaro upland areas primarily are undisturbed, and native wildlife species are known to occur in this area. Measurable habitat loss, as well as loss of individuals (chiefly small mammals), could occur during construction. Some larger mammals, such as coyote, fox, and skunk, may be temporarily disturbed by construction; however, these species have a greater capacity to flee and likely would leave the area once activities start. The primary project disturbances (i.e., construction activities), although locally intense, are temporary and should be completed in the area within a few months.

Alternative System Option

The Alternative system option would result in low to moderate impacts on vegetation, wildlife, and wildlife habitat at various locations along the alignment. Impacts for general areas are described below.

Low impacts on vegetation and wildlife resources would result along Perryville Road beginning at 0.5 mile north of Broadway Road north (8.0 miles) to Bethany Home Road. This portion of the Alternative system option would cross agricultural and residential areas. Vegetation consists of planted crops and landscape vegetation. Impacts on vegetation resources would be minimal because much of the area lacks any native vegetation. Wildlife habitat is generally low quality due to the lack of native vegetation and regular disturbance from activities associated with agricultural and residential areas. Agricultural fields may provide foraging habitat for a limited number of native or migratory wildlife species for a limited time during the year. Irrigation ditches also may provide temporary shelter and foraging habitat. Residential areas may provide habitat for native wildlife species. However, a lack of native vegetation, low vegetation density and structural diversity, and high levels of disturbance limits the type and number of native wildlife species using residential areas; disturbance in these areas would generate low impacts. Negligible habitat loss, as well as loss of individuals (chiefly small mammals), would occur during construction. Some larger mammals, such as coyote, fox, and skunk, may be temporarily disturbed by construction; however, these species have a greater capacity to flee and likely would leave the area once activities start. The primary project disturbances (i.e., construction activities), although locally intense, are temporary and should be completed within a few months.

Low to moderate impacts on vegetation and wildlife resources would result along Bethany Home Road from Perryville Road west (2.0 miles) to Tuthill Road, Tuthill Road north (3.0 miles) to Olive Road, Olive Road east (1.5 miles) to the proposed TS2 substation site. Low to moderate impacts on vegetation and wildlife resources would result in partially disturbed mixed creosote and palo verde/saguaro vegetation. Moderate impacts on vegetation and wildlife resources would result in undisturbed palo verde/saguaro desert areas. Both disturbed mixed creosote bush and palo verde/saguaro areas, and undisturbed palo verde/saguaro desert areas are known to support native wildlife species. Disturbance to mixed creosote bush and palo verde/saguaro areas would constitute low impacts because disturbed areas within this vegetation would be less desirable or available for wildlife species to occupy and less vegetation would be impacted in disturbed area. Moderate impacts would occur on undisturbed palo verde/saguaro desert areas and associated wildlife from vegetation removal and construction activities, respectively. Measurable habitat loss, as well as loss of individuals (chiefly small mammals), would occur during construction. These moderate impacts would occur across a larger area for the Alternative system option, as compared to the Proposed system option. Some larger mammals, such as coyote, fox, and

skunk, may be temporarily disturbed by construction; however, these species have a greater capacity to flee and likely would leave the area once activities start. The primary project disturbances (i.e., construction activities), although locally intense, are temporary and should be completed within a few months.

TS2 Substation

The TS2 substation would result in moderate to high impacts on vegetation and wildlife resources. The impacts to wildlife as a result of the TS2 substation would depend on the final location. However, impacts would be minimized if the substation is located within a creosote bush flat. Impacts are described below.

Moderate impacts would result if the substation site were located in an undisturbed habitat dominated by creosote bush. Impacts on vegetation in this area would include the removal of desertscrub vegetation such as creosote bush, palo verde, mesquite, and other upland desert vegetation. Native wildlife species are known to occur in this area. Approximately 10 acres of habitat would be lost, as well as loss of individuals (chiefly small mammals) would occur during construction. Some larger mammals, such as coyote, fox, and skunk, would be displaced from construction of the TS2 substation.

High impacts would result if the substation were located within washes that contain undisturbed xeroriparian habitat. Impacts on vegetation in this area would include the removal of Sonoran desertscrub vegetation such as palo verde, mesquite, hackberry, and other upland desert vegetation. Approximately 10 acres of habitat would be lost, as well as loss of individuals and a movement corridor for wildlife would occur during construction. In addition, construction of the substation would permanently displace a number of wildlife dependent on this type of habitat.

TS3 Substation

The TS3 substation would result in low impacts on vegetation and wildlife resources. Impacts are described below.

Low impacts on vegetation and wildlife species would result within the TS3 substation site because the area consists of agricultural areas. Vegetation consists of planted crops and landscape vegetation. Impacts on vegetation and wildlife resources would be minimal because much of the area lacks any native vegetation. Wildlife habitat is low quality due to the lack of native vegetation and regular disturbance from activities associated with agricultural areas. Although 10 acres of land would be lost, negligible suitable habitat loss, as well as loss of individuals (chiefly small mammals), would occur during construction due to the low quality of the habitat present.

TS4 Substation

The TS4 substation would result in low impacts on vegetation and wildlife resources. Impacts are described below.

Low impacts on vegetation and wildlife species would result within the TS4 substation site because the area consists of agricultural areas. Vegetation consists of planted crops and landscape vegetation. Impacts on vegetation and wildlife resources would be minimal because much of the area lacks any native vegetation. Wildlife habitat is generally low quality due to the lack of native vegetation and regular disturbance from activities associated with agricultural areas. Although 10 acres of land would be lost, negligible suitable habitat loss, as well as loss of individuals (chiefly small mammals), would occur during construction due to the low quality of the habitat present.

CONCLUSION

The majority of each system option would cross areas where construction and operation of the 230kV transmission line would result in low impacts on biological resources. However, under the Proposed system option, installation of the 230kV transmission line along the north side of Olive Avenue would result in potentially moderate impacts on biological resources in areas of primarily native vegetation. These potentially moderate impacts would occur in areas disturbed for placement of utility poles along a length of up to 2.8 miles. In contrast, installation of the 230kV transmission line along the Alternative system option would result in potentially moderate impacts on biological resources in areas of primarily native vegetation west of Perryville Road along the Bethany Home Road, Tuthill Road, and Olive Avenue alignments. These potentially moderate impacts would occur in areas that would be disturbed for placement of utility poles, as well as for establishing access, along a length of up to 7.0 miles. Therefore, the Alternative system option does not offer any advantages, with respect to biological resources, over the Proposed system option.

As stated previously, APS intends to have a qualified biologist reevaluate potential impacts on biological resources within two years prior to construction. This reevaluation would include a pedestrian field review of the transmission line alignment and substation site prior to initiating construction activities to evaluate specific areas for the presence of nesting birds, including raptors. This review also would ensure that biological resource conditions have not changed such that impacts would differ substantially beyond those described in this exhibit. It is likely that the area along the permitted alignment would be developed (built-out) beyond current conditions, resulting in less native vegetation and potentially lower quality habitat for wildlife species. Therefore, impacts on biological resources likely would be reduced by the time the transmission line is constructed.

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

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

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

VISUAL RESOURCES

Scenic Areas/Visual Resource Overview

Landscapes in the region are characteristic of the Basin and Range physiographic province, which is distinguished by isolated, roughly parallel, north-south trending mountain ranges. Additionally, the study area includes residential communities, commercial retail and office parks, roadways, airports, dispersed agricultural lands and associated facilities, irrigation canals, transmission lines, and pipelines, among other uses. Landscapes vary from developed areas and areas of relatively homogenous Southwestern desertscrub vegetation offering limited visual diversity to areas adjacent to the White Tank Mountains including the foothills, which exhibit unique topographic characteristics and more diverse vegetation types. Although there currently are many open, distant, panoramic views throughout the study area, many of these views may be disrupted by future development.

Inventory Methods

The methodology for the inventory and assessment was derived from the Bureau of Land Management (BLM) Visual Resource Inventory and Contrast Rating System (8400 Series Manual-BLM, January 1986), as well as experience with past visual resource studies conducted for similar projects in the region.

Inventory Results

Visual Sphere of Influence

The study area in which the proposed facilities may result in adverse impacts on landscape scenic quality and/or sensitive viewers is defined as the Visual Sphere of Influence (VSOI). The information provided in this application for a Certificate of Environmental Compatibility (CEC) focuses on an area within 2 miles of the proposed facilities. However, the larger regional visual analysis conducted for this project defined the VSOI as an area within 3 miles of either side of the proposed centerline of the alternatives considered, as well as 3 miles from the proposed substation locations. In special cases, such as locations within the northern end of the White Tank Mountain Regional Park, the VSOI was expanded up to 5 miles.

Landscape Character

The study area is located on the western side of the Phoenix metropolitan area in Maricopa County, Arizona. The majority of the natural landscape setting can be characterized as relatively flat, open desert plains dissected by ephemeral drainages. Major watercourses within the study area include the Gila River, which crosses the southeastern section of the study area. The flat desert basins allow for expansive views of the adjacent mountain ranges within and outside of the study area. These ranges include the White Tank Mountains, displaying a north-south alignment, and the Sierra Estrella Mountains, which run east to west along the south side of the Gila River. These ranges enhance the visual diversity and interest by adding distinctive form, line, color, and texture features within the generally flat landscape setting. Other

landscape features within the foothills of the White Tank Mountains include dissecting washes where a higher density and diversity of vegetation occur. Agricultural land is interspersed throughout the study area, which further enhances the open panoramic nature of the landscape.

Native vegetation within the study area is characteristic of typical Sonoran Desert native vegetation. The prominent vegetation community can be characterized as southwestern desertscrub. The vegetative palette is composed of numerous species of trees (e.g., foothill palo verde, ironwood, mesquite), cacti (e.g., saguaro, barrel, cholla, prickly pear), creosotebush, brittlebush, and scrubgrasses, with some riparian areas containing denser and more diverse vegetation. The crops associated with the agricultural lands also enhance the setting by adding color and texture patterns. Crops include small grains, cotton, flowers, alfalfa, and produce.

Existing manmade modifications in the study area include, but are not limited to, residential communities (e.g., Clearwater Farms, Litchfield Farms, Palm Valley, Pebble Creek, Canyon Trails, Sundance), commercial retail and office parks, roadways (e.g., Interstate 10 [I-10], Loop 303, and State Route 85), airports (e.g., Goodyear, Glendale, and Luke Air Force Base [LAFB]), dispersed agricultural facilities (e.g., farm buildings and equipment), irrigation canals, and pipelines. The majority of the overhead infrastructure in the area consists of transmission lines, and aboveground communication towers and buildings.

Agency consultation and review of applicable comprehensive and approved future plans indicate that much of remaining open desert and agricultural land could be developed in the future. This would result in a substantial change in the existing open landscape to a more densely developed "built" urban environment. It would consist of more uniform residential, commercial, parks, and landscaped open space areas interspersed with required infrastructure such as roads, transmission lines, street signs/lights, and flood control features. Therefore, the existing landscape setting likely would be modified substantially prior to the addition of some of the proposed facilities into the landscape.

Landscape Scenic Quality

The inventory of the existing scenic quality began by classifying the landscape character and inherent scenic attributes of landscapes within the VSOI. Scenic quality is determined by rating the uniqueness and diversity of interest of a particular landscape in terms of landform, vegetation, water, cultural features, and the effects of adjacent scenery. Additionally, landscape scenic quality can be affected by the presence of manmade modifications (e.g., transmission lines and industrial facilities) in the visual setting.

Based on the following criteria, the study area was separated into four scenic quality classes (A through D) to identify the relative scenic value of landscapes within the study area. Generally, the landscapes representative of Class A are those areas containing the greatest amount of scenic diversity and visual interest, Class B landscapes are considered to be of above average to average scenic diversity and visual interest, and Class C landscapes include areas with the least diversity and visual interest. Developed areas are considered a separate class where no valuation has been placed on the scenic quality of the area due to the variety of architecture styles, development patterns, and user attitudes, which define the setting. Scenic quality classes are defined as follows:

- Class A – Areas of outstanding diversity or interest; characteristic features of landform, rock, water, and vegetation are rare, distinctive, or unique in relation to the surrounding region. These areas contain considerable variety in form, line, color, and texture. Typically, public concern for preserving this landscape type is high.

- Class B – Areas of above-average to average diversity or interest providing some variety in form, line, color, and texture. The features are not considered rare in the surrounding region, but provide adequate visual diversity to be considered somewhat unique. Typically, public concern for preserving this landscape type is moderate, but also may be high.

- Class C – Areas of minimal diversity or interest where representative features have limited variation in form, line, color, or texture in the context of the surrounding region. Cultural modifications (e.g., transmission lines and communication facilities) are highly noticeable given the relative flatness of the surrounding terrain. Typically, public concern for preserving this landscape type is low, but may be moderate.

- Developed – Areas composed primarily of residential, commercial, and industrial facilities or a mix of these development types. These areas generally do not contain substantial amounts of open space, with the exception of developed parks or recreation sites. Typically, public concern for preserving this landscape is varied based on the type of development and ranges from high in residential areas to low in industrial settings.

Photographs 1 through 6 illustrated on Exhibit E-1 show the typical landscapes that have been identified within the VSOI. Photograph 1 represents a Class A landscape; Photographs 2 and 3 represent Class B landscapes; Photograph 4 represents a Class C landscape; and Photographs 5 and 6 illustrate developed lands. Exhibit E-2 illustrates the distribution of landscape scenic quality throughout the study area.

A large portion of land within the VSOI is currently used for agricultural purposes and is considered to be of Class B landscape scenic quality. Agricultural parcels occur in a checkerboard pattern, supporting a variety of crops and flowers add to the distinctiveness of the setting and create unique elements of color and texture within the natural desert landscape. When in production, agricultural lands display brown, tan, and green colors in addition to the vibrant array of colors displayed by fields of blooming roses and other ripe crops. At times when the agricultural lands are fallow, they offer minimal variation in color from the surrounding desert landscape.

In contrast, the typical vegetation of those areas not used for agricultural purposes is relatively homogeneous, with typical southwestern desertscrub vegetation offering average visual diversity. The majority of these landscapes can be characterized as Class B interspersed with disturbed landscapes characterized as Class C landscapes, as a result of their limited visual appeal within the general area. However, certain sections of land adjacent to the White Tank Mountains including the foothills exhibit unique topographic characteristics and diverse vegetation types (e.g., saguaro, palo verde, mesquite, and ironwood). Therefore, these areas are classified as Class A landscapes.

Developed areas are common within the study area, occurring throughout a significant portion of the land inventoried. In addition to the large communities of over 160 acres located within the VSOI (e.g., Clearwater Farms, Canyon Trails, Pebble Creek, Verrado, Sundance, Pasqualetti Mountain Ranch, Beautiful Arizona Estates, Sonoran Ridge Estates, White Tank Mountain Ranch, White Tank Foothills, Vista de Montaña, and Blue Horizons, see Exhibit H), there are numerous residential clusters (i.e., mobile home parks and subdivisions) and scattered residences found most commonly associated with agricultural operations.

Typical Scenic Quality Classes and Development within the Visual Sphere of Influence

Photograph 1: Scenic Quality Class A

Photograph 2: Scenic Quality Class B

Photograph 3: Scenic Quality Class B

Photograph 4: Scenic Quality Class C

Photograph 5: Residential Development

Photograph 6: Utility Corridor

Viewpoints and Viewer Sensitivity

Sensitive viewpoints are those locations where viewers would be the most susceptible to visual impacts resulting from the introduction of the proposed facilities into their viewshed, based on their level of sensitivity. Viewer sensitivity is a measure of the degree of concern viewers would have regarding change occurring in their viewshed. Levels of sensitivity were determined by evaluating the compatibility of land uses, in relative terms of being more or less accepting of change within their viewshed. For example, views from a residence or park would be assigned a higher level of sensitivity than views from a commercial or industrial area.

Sensitive viewpoints were identified based on review of available land data, data gathered during field reviews, public and agency input, and previous environmental studies conducted for similar projects in similar settings. In addition, future sensitive viewpoints were identified through agency consultation, as well as review of current comprehensive approved plans for those jurisdictions located within the VSOI.

Generally, the viewpoints assigned a high sensitivity level include residential areas (e.g., Clearwater Farms, Canyon Trails, Sonoran Ridge), recreational areas (e.g., White Tank Mountain Regional Park including picnic areas and trails), educational facilities, and significant cultural areas. However, the presence of intrusive modifications in a high sensitivity area may cause the area to be characterized as having lower viewer sensitivity regardless of the type of use. Moderately sensitive viewpoints commonly include commercial areas and major travel routes (e.g., I-10, Loop 303, and State Route 85) without special scenic designations and active use recreational areas (e.g., golf courses and recreation complexes). Views from industrial areas are considered low sensitivity. Although future land uses would have similar sensitivity levels, it is assumed that these levels are slightly lower since a future use could more readily absorb the transmission line or substation into the development through effective mitigation (e.g., landscape buffers).

Table E-1 includes examples of sensitive viewpoints located within the VSOI, including viewer sensitivity levels based on land uses.

TABLE E-1
SENSITIVE VIEWPOINTS WITHIN THE VISUAL SPHERE OF INFLUENCE

Viewpoint Category	Sensitivity Level of Each Existing Land Use
Residences/Facilities	
Single Family Residences	High
Master Planned Communities	High
Mobile Home/RV Parks	High
Schools/Educational Facilities	High
Commercial	
Office Park	Moderate
Retail	Moderate
Parks and Recreation Areas	
White Tank Mountain Regional Park	High
Municipal Parks	High
Scenic Management Areas	High
Off-highway Vehicle - Recreational Race Track	Moderate
Trails/Trail Heads	High
Interpretive/Cultural Sites	High

TABLE E-1 SENSITIVE VIEWPOINTS WITHIN THE VISUAL SPHERE OF INFLUENCE	
Viewpoint Category	**Sensitivity Level of Each Existing Land Use**
Golf Course/Active Use Areas	Moderate
Cemeteries	High
Campground/Day Use Picnic Areas	High
Travel Routes	
I-10, Loop 303, and SR 85	Moderate
Arterial Roads (e.g., Perryville Road, Tuthill Road, Olive Avenue, Camelback Road)	Moderate
Community Gateways/Parkways (e.g., Estrella Mountain Parkway)	High
Recreational Trails/Roads	High
Industrial	
Utilities	Low
Mining/Sand and Gravel	Low
Warehouses	Low

General views within the study area feature residential neighborhoods, agricultural lands, the White Tank Mountains, LAFB, and construction of future developments. Linear features such as transmission lines, canals, major arterial roads (e.g., Loop 303 and I-10) are visible, while distant mountains provide a scenic background to views throughout the area.

Agricultural lands provide open views across vast amounts of terrain; however, dispersed developments occasionally disrupt distant views. Various types of agricultural fields create scenic diversity between fallow and cultivated crop production and colors of rose fields.

The White Tank Mountain Regional Park is a major feature in the study area where recreational activities occur. Developments surrounding the White Tank Mountains generally orient views toward the scenic park and adjacent rolling terrain.

LAFB, located in the northeast portion of the study area, is a dominant feature with surrounding agricultural fields to the north and residential lands to the south. LAFB provides unique opportunities to view military aircraft conducting flight operations from several surrounding areas.

Much of the undeveloped lands (e.g., agricultural and vacant flood control features) are approved or identified for future development in general plans. Because of this growth trend, viewers in the study area continually observe existing agricultural lands turning into construction areas and ultimately new developments. Many of the distant panoramic open views are being disrupted by increasing development throughout the study area.

Impact Assessment Methodology

Impacts on landscape scenic quality and sensitive viewers were determined by evaluating the degree of contrast the proposed facilities would have in the VSOI. The magnitude of impacts is determined by comparing the level of project contrast (perceptible change) for each landscape and viewshed.

Project Contrast

Project contrast is defined as a measure of the degree of perceptible change that would occur to the scenic quality or sensitive views within the VSOI. Project contrast is determined by evaluating three variables: (1) physical landform changes, (2) removal of vegetation, and (3) the addition of structural changes in the landscape.

Landform and vegetation contrast were not evaluated in detail for this study, because the transmission line and substation sites would not require substantial grading/landform manipulation, primarily because the area is relatively flat and accessible. The proposed facilities also would not require vegetation removal because the system options are located in areas that are modified/disturbed or likely would be developed during or before the transmission line and substations are built. Therefore, the primary component in the evaluation of project contrast was the relationship between existing and proposed transmission line structures and substation sites within the context of the surrounding environment as well as the future "built" environment.

The introduction of new or modified structures into the existing landscape would create noticeable visual changes in the VSOI. However, these impacts would not be as noticeable when adding a transmission line to an existing corridor versus a previously unmodified setting. Constructing the proposed transmission line next to an existing transmission line with the same or similar structures would result in the lowest impact on scenic quality and sensitive viewers. Alternatively, the most substantial impacts would result from the introduction of a transmission line into an area that does not have existing overhead lines. Additional factors that would affect the degree of contrast include the type of adjacent development. For example, transmission lines typically are less noticeable in industrial settings or in areas where other vertical features such as large buildings, signs, lights, buildings, roadway intersections/interchanges, and trees dominate the setting. These variables also were included in the evaluation of project contrast.

Landscape Scenic Quality Impact Methods

Impacts on scenic quality are determined by evaluating the level of change to the aesthetic qualities of landscapes within the VSOI as a result of the implementation of the proposed facilities. Impacts on landscape scenic quality considered existing conditions, as well as the planned future conditions of the VSOI. The potential for impacts on scenic quality was driven by changes in the built environment as much as by the addition of the proposed facilities. The need for the proposed transmission lines is driven by future development, which typically occurs before or during the construction of the transmission lines.

While the existing scenic quality of the landscapes within the VSOI was inventoried, the primary element driving the evaluation of impacts was the likely future condition (including incorporation of existing land uses) of the landscapes established by the review of comprehensive plans and approved plans relevant to the study area. It is anticipated that the majority of land that is currently open space or used for agricultural purposes, from the White Tank Mountains east, likely will be developing into urban neighborhoods consisting of a mix of residential and commercial uses. Open space will consist primarily of developed parks and recreational areas, as well as vegetated drainage corridors interspersed throughout these urban areas.

Impacts from the proposed facilities on scenic quality would be highest in Class A landscapes and parks, as well as residential areas. Impacts would be lowest when the proposed facilities are located in existing transmission line corridors or industrial areas. It is anticipated that the majority of the impacts on landscape scenic quality would be moderate to low due primarily to avoidance of highly scenic areas and/or locating the proposed facilities in areas where there are no specific existing plans for development or where future plans can be developed to accommodate the transmission line and substations. The scenic

quality impacts resulting from the proposed facilities were established using the general criteria in Table E-2.

Viewer Impact Methods

Impacts on sensitive viewers are directly attributable to the visibility potential or how the project would be seen from a particular viewing area. The impact assessment considered three components in establishing the degree of impact on sensitive viewers resulting from the introduction of the proposed facilities into the VSOI. These components included viewing distance (i.e., relationship of the viewer to the transmission line or substation), screening and backdropping (i.e., adjacent vegetation, terrain, and development), and the degree of project contrast discussed previously.

The noticeable visual change to the landscape resulting from the introduction of transmission lines and substations depends largely on the distance of the facilities from the viewer. The contrast of transmission lines and substations within the landscape typically decreases with increased viewing distance because the details and scale/dominance of the transmission lines and substations are reduced. Conversely, when viewed in close proximity (e.g., within 300 feet) the details and scale/dominance of the transmission lines and substations are prominent. Although each project is unique due to a number of viewing variables, potential impacts on sensitive viewers were evaluated within the VSOI at the following distance zones:

Immediate foreground	0 feet to 300 feet
Foreground	300 feet to 1,320 feet (0.25 mile)
Middleground I	0.25 mile to 1 mile
Middleground II	1 mile to 2 miles
Background	2 to 3 miles and beyond

Existing screening and backdropping also were considered in the assignment of impact levels. Two types of screening were identified within the study area, including vegetative screening (e.g., 80-foot-tall eucalyptus trees along Perryville Road and native desert vegetation including palo verde and mesquite trees) and development screening (e.g., adjacent residential, commercial, and industrial areas). Topographic screening was not considered in this study due to the relatively flat terrain throughout the VSOI. The presence of vegetative or development screening could effectively lower levels of impact assigned to views from surrounding areas since visibility of the proposed facilities may be substantially reduced or blocked. Another variable considered when evaluating impact levels is consideration of backdropping from terrain (e.g., White Tank Mountains) or development. The proposed facilities are absorbed to varying degrees when viewed against background terrain or development. The visual absorption capability is determined by the degree or complexity of elements and similarity in colors and textures that make up the background.

As previously described, sensitive viewers are those most susceptible to visual impacts resulting from the introduction of the proposed facilities into their viewshed. The potential impact on viewers is based on the level of viewer sensitivity combined with project visibility and contrast relative to the view. The viewer impacts resulting from the proposed facilities were established using the general criteria described in Table E-2.

The production of visual simulations was a key component of the visual analysis conducted for the project. The visual simulations were used to verify impact levels as well as provide the public and agencies an opportunity to review the magnitude of change associated with the proposed project facilities in the VSOI. Visual simulations were completed from five viewpoints (illustrating seven possible viewing conditions) to assist with the analysis of the visual impacts.

TABLE E-2 VISUAL RESOURCES IMPACT ASSESSMENT CRITERIA	
Impact Rating	**Criteria**
Low	• Minimal potential conflicts with existing scenic quality or views, as well as views from planned land uses • Scenic quality Class C landscapes or Class B landscapes with adjacent existing transmission lines or industrial development, as well as industrial and commercial retail areas • Non-residential areas with open views to existing transmission lines, industrial areas, areas with good construction and maintenance access (e.g., roads), and previously disturbed areas such as sand and gravel mining • Views (moderate sensitivity) typically would be in the background or middleground II distance zones, or the middleground I distance zone where there are existing transmission lines • Routes would comply with visual resource planning guidelines and scenic management policies
Moderate	• Some conflicts with existing and planned visual resources • Scenic quality Class B landscapes with no existing transmission lines or Class A landscapes with existing transmission lines or adjacent industrial development, as well as commercial office park areas and active use recreation areas • Mitigation efforts can reduce visual impacts to low levels • Commercial areas, primary and secondary roads with no existing transmission lines, residential areas with existing transmission lines, agricultural and/or ranching uses, and undisturbed areas with minimal value in terms of scenic quality or views and that are planned for development • Views (high or moderate sensitivity) typically would be in the middleground I distance zone or immediate foreground and foreground distance zones where there are existing transmission lines
High	• Routes conflict with existing scenic quality or high sensitivity views, as well as likely views from high sensitivity future land uses • Scenic resources may be protected by agency planning guidelines • Scenic quality Class A landscapes as well as residential and regional park/preserve areas • Mitigation efforts may reduce impacts, but not to low levels • Existing nearby residential or recreation areas (parks, trails, opens space) without transmission lines, planned recreation or scenic areas, areas without existing access that would require substantial soil and vegetation disturbance, and areas with utilities recently placed underground • Views (high sensitivity) typically would be in the immediate foreground or foreground distance zones where there are no existing transmission lines

Mitigation

The impact assessment considered a number of mitigation measures that APS will include in the final project design to reduce overall project contrast and minimize potential impacts on landscape scenic quality and sensitive viewers. The effectiveness of a mitigation measure is determined by the degree to which it diminishes the visual contrast of the proposed facilities in a given setting.

Table E-3 lists the mitigation measures that would be implemented to reduce visual contrast resulting from the proposed facilities.

TABLE E-3
MITIGATION MEASURES TO REDUCE VISUAL IMPACTS

1.	To avoid disturbance to sensitive features (e.g., residences and recreation areas), access roads will not be constructed in those areas unless absolutely necessary. Instead, construction and maintenance traffic will use existing roads or cross-country access routes (including right-of-way) where suitable access exists. If access roads are required, APS will return the affected areas as near to their original condition as possible.
2.	To minimize ground disturbance, operational conflicts, and/or visual contrast, the transmission line structure design will be a single-steel pole with a galvanized or dulled finish to reduce surface reflection.
3.	To reduce visual contrast and/or potential operational conflicts, standard tower design will be modified to correspond with spacing of existing transmission line structures where practicable and within limits of standard structure design. The normal span will be modified to correspond with existing structures, when possible.
4.	To reduce visual impacts, potential impacts on recreation values, and safety at highway, wash, and trail crossings, structures are to be placed at the maximum viable distance from the crossing within limits of standard structure design.
5.	Non-reflective (non-specular) conductors will be used for the entire length of the transmission line route[1].
6.	Landscape walls matching the local architectural styles and vegetation will be incorporated around substation sites to minimize visibility and visual contrast, in conformance with codes and conditions required by local jurisdictions and agencies.
7.	Low profile designs will be used when feasible for all electrical equipment within the substation walls to minimize visibility and visual contrast when possible.

[1] A static fiber optic line will be placed on the structures above the transmission line. The static line would be specular (i.e., not galvanized or dull finished) unlike other components of the structure.

Impact Assessment Results

Potential impacts of the proposed facilities on visual resources within the study area could result from a variety of project activities occurring both during construction (e.g., erection of poles, stringing conductors, clearing of substation sites) and operation (e.g., presence of poles, conductors, and substations). This section discusses the results of the impact analysis. Potential visual impacts resulting from the proposed facilities would be highest in areas where substantial changes would occur in the visual setting and lowest in areas where change would be least evident.

The following sections provide a description of the potential impacts on landscape scenic quality and sensitive viewers from the Proposed and Alternative system options, as well as substation siting areas. The potential impacts consider the existing and future visual conditions. Impacts on future landscape settings typically would be lower than for existing landscapes because future plans can be more readily adapted to account for the presence of the transmission lines and/or substations. More specifically, impacts on the landscape setting for approved plans typically are higher than those associated with general planned areas because approved plans may need to be changed to accommodate the transmission lines and/or substations.

Potential impacts on landscape scenic quality and sensitive views from the proposed 230kV transmission lines and substations would range from high to low. Areas of high impact were minimized by identifying routes that avoided the majority of high sensitivity landscapes and viewers.

The proposed system options and substations would not conflict with any jurisdictional or agency visual management objectives since there are no formally adopted plans in place with the exception of the White Tank Mountain Regional Park (there are no routes proposed for consideration within the park boundaries). However, a number of communities such as Buckeye and Goodyear expressed general concern for aesthetic values within the landscape.

Impacts on Existing Visual Conditions

The impacts described below are based upon existing landscape settings and sensitive views, as well as those that are partially developed and currently under construction.

Proposed System Option

The Proposed system option generally would result in low and moderate impacts on scenic quality and sensitive viewers. However, there are areas where high impacts would occur on immediate foreground and foreground views from residences.

Low impacts would occur on Class B agricultural lands where the transmission line would interconnect with an existing 230kV transmission line along Perryville Road south of Broadway Road. Moderate impacts would occur on Class B agricultural and undisturbed desert landscapes along the majority of this option. Additionally, there would be moderate impacts on developed residential landscapes along Perryville Road south of I-10.

No to low impacts would result along the majority of the alignment including areas along Perryville Road, Loop 303, and Olive Avenue because of existing agricultural land uses and lack of sensitive viewers. Low and moderate impacts would occur along Perryville Road, Loop 303, and Olive Avenue where existing residences would view the line in the background and middleground distance zones. Moderate impacts would result on views from Scott Libby Elementary School. Low and moderate indirect impacts would occur on recreational viewers within the White Tank Mountain Regional Park in middleground and background distance zones (it should be noted that most views within the park are not oriented to the east or south towards the proposed transmission line). Low and moderate impacts would occur on travelers along Perryville Road, Loop 303, Olive Avenue, and I-10 where the project would be viewed in the immediate foreground and foreground distance zones. High impacts would occur on residences along Perryville Road and Olive Avenue where the line would be located in the immediate foreground and foreground distance zones. Impacts on existing viewers likely would diminish slightly as the area develops and the proposed transmission line would be absorbed into the future landscape setting.

Alternative System Option

Impacts from the Alternative system option would be the same as for the Proposed system option along Perryville Road from south of Broadway Road to 0.5 mile north of Indian School Road.

Along the Alternative system option from Perryville Road 0.5 mile north of Indian School Road to the proposed TS2 substation site, low to no impacts would result along the majority of this system option including areas along Perryville Road and Olive Avenue because of existing agricultural land uses and desert open space, respectively. Low and moderate impacts would occur along Perryville Road and Olive Avenue where existing residences would view the line in the background and middleground distance zones. Moderate impacts also would occur along the Bethany Home Road alignment where residences to the south would view the project in the middleground and background distance zones. Indirect moderate impacts would occur to recreational viewers within the White Tank Mountain Regional Park viewing the

transmission line in the immediate foreground, foreground, and middleground distance zones (it should be noted that a majority of the views within the park are not oriented to the east or south towards the proposed transmission line). Low and moderate impacts would occur on travelers along Perryville Road, Olive Avenue (near the entrance/exit to the White Tank Mountain Regional Park), and I-10 where the transmission line would be viewed in the immediate foreground and foreground distance zones. High impacts would occur on views from residences (i.e., Cottonwood Estates and Sonoran Ridge Estates, currently under construction) along Perryville Road between Thomas and Bethany Home roads and Olive Avenue west of the Beardsley Canal where the line would be located in the immediate foreground and foreground distance zones. Impacts on existing viewers likely would be lowered as the area continues to develop and the transmission line would tend to be absorbed into the landscape setting.

TS2 Substation

The TS2 substation would result in moderate impacts on Class B desert landscapes (partially disturbed due to vehicular traffic) located west of the Beardsley Canal and north of Olive Avenue.

The TS2 substation would result in low and moderate impacts on surrounding views. Low to moderate impacts would result on middleground views from the White Tank Mountain Regional Park located approximately 1.5 miles west of the proposed TS2 substation. Low and moderate impacts would result on middleground views from the Clearwater Farms residential development located approximately 1.25 miles southeast of the proposed TS2 substation. Moderate impacts would result on foreground and middleground views from a residential development (i.e., Sonoran Ridge Estates) south of Olive Avenue and west of the Beardsley Canal.

TS3 Substation

The TS3 substation would result in moderate impacts on Class B agricultural landscapes located east of Perryville Road and North of Indian School Road.

The TS3 substation would result in low and moderate impacts on surrounding views. Low and moderate impacts would result on middleground views from the Russell Ranch residential development located approximately 1.5 miles northeast of the proposed TS3 substation. Moderate impacts would result on immediate foreground and foreground views from existing residences located west of Perryville Road; however, tall old growth trees located on the west side of Perryville Road screen views east of Perryville Road, minimizing impacts on existing residences. Low and moderate impacts would result on middleground views from the Litchfield Farms residential development located west of Perryville Road and south of Indian School Road.

TS4 Substation

The TS4 substation would result in moderate impacts on Class B agricultural landscapes located south of the Liberty Substation. This landscape is heavily influenced by the appearance and dominance of the adjacent substation and several transmission lines.

The TS4 substation would result in low impacts on viewers because of the presence of similar facilities (existing Liberty Substation and associated transmission lines) located adjacent to the proposed TS4 substation. Low impacts would result on foreground and middleground residential views located to the south and southeast of Broadway Road.

Impacts on Future Visual Conditions

The impacts described below are based on all future approved or general planned landscape settings and sensitive views that were not considered in the impacts described previously for the existing conditions. It is anticipated that impacts on future uses can be lowered by developing appropriate mitigation (e.g., landscape buffers/screening), as plans are developed and implemented.

Proposed System Option

The majority of future land uses along the Proposed system option are considered general plan (i.e., detailed plans have not been submitted or approved for development) by the respective jurisdiction (i.e., Town of Buckeye, City of Goodyear, and Maricopa County), thus resulting in lower impacts on the landscape setting. Generally, impacts on future residential landscapes (e.g., south of I-10 and along Olive Avenue) would be moderate, while impacts on commercial, mixed use, and industrial landscapes (e.g., along Loop 303) would be low.

Impacts on future viewers along the Proposed system option would be low and moderate. Future approved residential developments (e.g., Parkman Ranch and Vista de Montaña) within the immediate foreground and foreground distance zones along Perryville Road south of I-10 would experience moderate impacts on views. Future approved residential developments (e.g., Camelback Garden Farms and Savannah) within the middleground distance zone along Perryville Road and Camelback Road would experience low impacts on views. Future approved residential developments within immediate foreground and foreground distance zones along Olive Avenue would experience moderate impacts on views (e.g., White Tank Mountain Ranch and White Tank Foothills).

There is the potential for Sections 22 and 23 located north of Indian School Road between Perryville Road and Cotton Lane to be designated for future residential development, pending approval of the Goodyear General Plan Update 2002-2012 in November 2003. If this designation occurs, impacts on immediate foreground and foreground views from future residences would be moderate.

Impacts on future middleground views from the White Tank Mountain Regional Park would be low, since the transmission line would be largely screened due to the future residential development adjacent to the park boundary.

Immediate foreground and foreground views from commercial, mixed use, and industrial areas along Loop 303 have low viewer sensitivity; therefore, they would experience low impacts.

Impacts on views for travelers along Perryville Road, Loop 303, and Olive Avenue would range from low in areas where the transmission line is absorbed into the landscape setting, such as light industrial and commercial development (e.g., along Loop 303), and moderate in areas where there is residential or open space (e.g., along Perryville Road and Olive Avenue).

The approved developments undergoing final design and those that have not initiated construction would have the flexibility to modify their plans to incorporate the proposed transmission lines and minimize visual impacts with the use of mitigation measures (e.g., landscape buffers and screening).

Alternative System Option

Impacts of the Alternative system option would be the same as for the Proposed system option along Perryville Road from south of Broadway Road to 0.5 mile north of Indian School Road.

The majority of future land uses along the Alternative system option are considered general plan (i.e., no detailed plans have been submitted or approved for development) by the respective jurisdiction (i.e., Town of Buckeye, City of Goodyear, and Maricopa County), thus resulting in lower impacts on the landscape setting. Generally, impacts on future approved residential landscapes (e.g., south of I-10, Olive Avenue, and the future Tuthill Road alignment) would be moderate.

Along the Alternative system option from Perryville Road 0.5 mile north of Indian School Road to the proposed TS2 substation site, moderate impacts would occur on views from future approved residential developments (e.g., Camelback Garden Farms and Savannah) within the immediate foreground and foreground distance zones along Perryville Road and Camelback Road. Moderate impacts on immediate foreground and foreground views would occur at future approved residences (e.g., Verrado and Sonoran Ridge Estates) near the Tuthill and Bethany Home Road alignments and near Olive Avenue and the Beardsley Canal. Future approved residential developments within middleground distance zones along Olive Avenue east of the Beardsley Canal (e.g., White Tank Mountain Ranch and White Tank Foothills) would experience moderate impacts on views.

There is the potential for Section 22 located adjacent to Perryville Road between Indian School Road and Camelback Road to be designated for future residential development, pending approval of the Goodyear General Plan Update 2002-2012 in November 2003. If this designation occurs, impacts on immediate foreground and foreground views from future residences would be moderate.

Impacts on future foreground and immediate foreground views from the White Tank Mountain Regional Park would be low and moderate. This is primarily due to the potential for the transmission line to be absorbed into the likely commercial and residential development adjacent to the park. The future White Tanks Flood Retarding Structure #3 conceptual multi-use recreational area may be developed by the Maricopa County Flood Control District west of the Beardsley Canal and north of the Bethany Home Road alignment and would result in moderate impacts on foreground and middleground views.

Impacts on views for travelers along Perryville Road, Bethany Home Road, Tuthill Road, and Olive Avenue would be low in areas where the transmission line could be absorbed into the landscape setting, planned to include light industrial and commercial development (e.g., near the intersection of I-10 and Perryville Road and the future Tuthill Road alignment and Northern Avenue). Impacts would be moderate in areas where there is residential or open space (e.g., along Perryville Road, Olive Avenue, and the future Bethany Home Road and Tuthill Road alignments).

The approved developments undergoing final design and those that have not initiated construction would have the flexibility to modify plans to incorporate the proposed transmission lines and minimize visual impacts with the use of mitigation measures (e.g., landscape buffers and screening).

TS2 Substation

The TS2 substation would result in moderate impacts on future residential landscapes located west of the Beardsley Canal and north of Olive Avenue.

The TS2 substation generally would result in moderate impacts on surrounding future views. Future residential viewers (e.g., White Tank Mountain Ranch and White Tank Foothills) within the immediate foreground and foreground distance zones would experience moderate impacts. Middleground views from future recreation areas in the White Tank Mountain Regional Park located approximately 1.5 miles west of the proposed TS2 substation would experience low impacts due to the likely screening from and/or absorption of the substation from the residential development adjacent to the park boundary.

It is anticipated that future plans would have the flexibility to incorporate the proposed substation and minimize visual impacts with the use of mitigation measures (e.g., block walls, landscape buffers, and screening).

TS3 Substation

The TS3 substation would result in moderate impacts on Class B agricultural landscapes located east of Perryville Road and north of Indian School Road. Currently, the City of Goodyear general plan does not identify any specific land use for this area; therefore, future use would default to its current land use. However, there is the potential for Section 22 located north of Indian School Road and west of Perryville Road to be designated for future residential development, pending approval of the Goodyear General Plan Update 2002-2012 in November 2003. If this designation occurs, impacts on future residential landscapes would be moderate.

Future viewers within the immediate foreground distance zone would experience low and moderate impacts associated with future residential development (i.e., Camelback Gardens along the west side of Perryville Road). If Section 22 becomes designated for future residential use, impacts on immediate foreground and foreground views would be moderate.

It is anticipated that future plans would have the flexibility to incorporate the proposed substation and minimize visual impacts with the use of mitigation measures (e.g., block walls, landscape buffers, and screening).

TS4 Substation

The TS4 substation would result in low impacts on future commercial landscapes located south of the Liberty Substation. This landscape is heavily influenced by the appearance and dominance of the adjacent substation and several transmission lines.

The TS4 substation generally would result in low impacts on future viewers because of the presence of similar facilities (existing Western Area Power Administration [WAPA Liberty Substation and associated transmission lines) located adjacent to the proposed TS4 substation. Low impacts would result on foreground and middleground residential views located to the west. Foreground and middleground views from future commercial and mixed use areas would experience low impacts.

It is anticipated that future plans would have the flexibility to incorporate the proposed substation and minimize visual impacts with the use of mitigation measures (e.g., block walls, landscape buffers, and screening).

Summary

Table E-4 summarizes the level of impacts respective to the Proposed and Alternative system options, allowing for the comparison of the Proposed and Alternative system options.

TABLE E-4
VISUAL IMPACTS ASSOCIATED WITH EACH PROPOSED SYSTEM OPTION

	Level of Environmental Impact			
System Option	**High Impacts**	**Moderate Impacts**	**Low Impacts**	**Comments**
Proposed	Yes • Existing residences in the immediate foreground and foreground distance zone from residences along Perryville Road and along Olive Avenue	Yes • Class B agricultural lands and undisturbed desert landscapes • Views from Scott Libby Elementary School • Future views from approved residential developments along Perryville Road south of I-10 and north of Olive Avenue	Yes • Viewers along existing transmission line facilities • Views from existing residences within background and middleground distance zones • Indirect middleground and background views from the White Tank Mountain Regional Park • Viewers along major arterial roads	• The Proposed system option would visually impact existing residences along Perryville Road and Olive Avenue. • The majority of future impacts are associated with general plan land uses; therefore impacting fewer known future viewers. • Locating the Proposed system option along major arterials impacts fewer sensitive viewers. • A potential future development along 0.5 mile north of Indian School Road would be moderately impacted if the development is approved.
Alternative	Yes • Existing residences in the immediate foreground and foreground distance zone from residences along Perryville Road and along Olive Avenue	Yes • Class B agricultural lands and undisturbed desert landscapes • Views from Scott Libby Elementary School • Indirect immediate foreground and foreground views from entrance of White Tank Mountain Regional Park	Yes • Views from existing residences within middleground and background distance zones • Viewers along major arterial roads	• The Alternative system option would visually impact residences along Perryville Road and Olive Avenue. • Moderate indirect visual impacts would occur from viewers within the White Tank Mountain Regional Park. • The majority of future visual impacts would be associated with future approved residential developments. The Alternative system option located near the White Tank Mountain Park would slightly impact existing residential views of the Mountains within middleground to background distance zones.

Conclusion

A majority of existing and future visual impacts on scenic quality and sensitive viewers associated with the Proposed and Alternative system options would be low and moderate.

The Proposed system option would impact fewer sensitive viewers within the immediate foreground by locating the system option along linear features (e.g., roads, section lines, half-section lines, property boundaries) and on lands designated for future commercial or mixed use development. The Alternative system option would result in indirect impacts to the White Tank Mountain Regional Park since it would be located near the park entrance and property boundary.

There are areas where high impacts would occur to residential views in immediate foreground and foreground distance zones for both alternatives.

HISTORIC SITES AND STRUCTURES AND ARCHAEOLOGICAL SITES

Methods

Historical and archaeological resources were among the many factors considered during the initial siting studies for the proposed transmission line and substations. That consideration was based on the results of prior studies and information about previously recorded historical and archaeological resources. The primary information source was the AZSITE Cultural Resource Inventory, a computerized database compiled by the AZSITE Consortium, which includes the State Historic Preservation Office (SHPO), Arizona State Museum (ASM), Arizona State University, and Museum of Northern Arizona. This database was supplemented with additional review of records at the SHPO and ASM and reports of prior studies. In addition, historic General Land Office plats on file at the BLM were reviewed for information about possible unrecorded historic resources.

Once the Proposed system option was selected, intensive field survey was initiated along those portions of the selected corridor that had not been adequately inventoried by prior studies. The survey area was defined to include options on both sides of a street or property boundary. All parcels currently available for pedestrian survey have been inspected and constitute a sample of approximately 55 to 65 percent of the Proposed system option depending which sides of the street or property boundaries are selected for construction. Other areas were not surveyed because the crops on the agricultural land prevented inspection, they had been so highly modified by prior development and landscaping, or right-of-entry had not been obtained.

This exhibit summarizes the results of the records review and field survey. This documentation and the survey report that were submitted to SHPO are intended to support the Arizona Corporation Commission in complying with the State Historic Preservation Act as it reviews the application for a CEC for the proposed project.

Findings

AZSITE data were acquired for an approximately 300-square-mile study area that encompassed the system options and substation locations that were considered for the West Valley-South (WVS) Power Line and Substation Project (Project). The AZSITE database includes information about 155 cultural resource studies that had been conducted previously within this area. The majority of these studies were conducted to assess the potential impacts of roads, utilities, residential developments, sand and gravel pits, and flood control facilities. These studies had inventoried approximately 37 square miles, or 12 percent, of the entire Project area. The studies were relatively evenly distributed throughout the study area

and represent samples of a variety of environmental zones, including river terraces, farmland on the valley floor, and alluvial fans on the east side of the White Tank Mountains.

The AZSITE database includes information about 143 previously recorded archaeological and historical resources. However, only 11 of these were located in areas that potentially could be affected by the various transmission line and substation locations considered during the system selection study.

An intensive survey of the Proposed system option was initiated after the corridor was selected. Two previously unrecorded historic-era archaeological sites were discovered during this survey. The only survey coverage of the Alternative system option is along the segment in common with the Proposed system option between Indian School Road and Broadway Road. Survey coverage of those routes is estimated to range from 20 to 65 percent, depending on which side of the streets or property boundaries are used. All of the substation options have been intensively surveyed. Table E-5 summarizes information about the archaeological and historical resources along the Proposed system option in comparison to resources along the Alternative system option. No archaeological or historical resources were found within any of the proposed substation sites.

Proposed System Option

Seven archaeological and historical resources have been recorded along the Proposed system option. The project is not expected to substantially affect any significant historic values of these resources.

The alignment of a buried Hohokam canal known as the Van Liere Branch of Canal Liberty is plotted just off the southern end of the Proposed system option. There is no surface evidence of the canal and the alignment was plotted decades ago and the map is subject to considerable error. Even if the canal is present and intact, disturbance from installation of a transmission line structure is unlikely to adversely affect the potential of such a buried canal to yield important information. Because the extent of disturbance would be minimal and because of the ambiguity regarding the location of the buried canal, no further efforts to identify the canal are proposed.

The Phoenix Mainline of the Southern Pacific Railroad was built between 1924 and 1926. Most of the rails, trestles, culverts, and signals have been replaced, but much of the original route and ballast remain intact and the railroad is considered eligible for the State and National Register of Historic Places because of its relationship with development of rail transportation. The Proposed system option would span the railroad and not directly affect it. The crossing would be adjacent to Perryville Road in the vicinity of two existing transmission lines and alteration of the landscape is not expected to result in adverse visual effects on the railroad.

The Roosevelt Irrigation District Canal was built in 1928 to irrigate approximately 37,000 acres. The canal, which is approximately 28 miles long, is supplied primarily by water pumped from wells and remains in use. Two historic bridges across the canal have been identified. The closest is 6 miles east of where the Proposed system option would cross the canal. Two major reroutes of the canal were constructed in the 1980s near 83rd and 91st avenues. Concrete lining of the canal was replaced in 1984-1985. The original recorders characterized the canal as a modern irrigation facility that retained insufficient historic integrity to be eligible for listing in the State or National Registers. However, four subsequent projects that involved survey or monitoring along segments of the canal recommended it be considered eligible. The canal retains little historic integrity other than its location at the crossing of the Proposed system option. The canal would not be directly affected and alteration of the landscape is not expected to result in adverse visual effects on the canal.

Site AZ T:11:160 (ASM) is an extensive trash dump that includes artifacts that date from approximately the 1920s to 1950s. This may be the informal dump used by the community of Perryville, which was founded in the 1920s about 2 miles to the south. Until further research is conducted to investigate the origin of the trash, the site is considered potentially significant and eligible for the State and National Registers. If the line is built along the west side of Perryville Road in the site vicinity, one or more transmission line structures might be installed within the eastern margin of the site but would not affect either of the two main artifact concentrations noted at the site. This limited disturbance may warrant additional evaluation and perhaps excavations but is unlikely to substantially affect any potential the site may have for yielding important information.

Site AZ T:11:161 (ASM) is a small concrete slab and box marked "WPA," and therefore appears to have been built during the Great Depression by the Works Progress Administration. The function of the structure is unknown. A small, disturbed scatter of historic artifacts surrounds the structure but probably is not directly related to the concrete structure. The site is evaluated as lacking important historic value and not eligible for the State or National Register.

The Proposed system option parallels the alignment of an abandoned spur of the Atchison, Topeka & Santa Fe Railroad for approximately 1.5 miles south of Bethany Home Road, and another 0.5 mile still in use along Olive Avenue. These spurs were built in the 1920s or later and are evaluated as lacking historical significance.

The Proposed system option also crosses the Beardsley Canal. Although construction of the upper reaches of this canal near Waddell Dam began in the 1890s, the canal was not completed until 1928. The canal has been concrete lined and upgraded over the years but is considered eligible for the State and National Register for its association with agricultural development in the Phoenix Basin. The Proposed system option crosses the canal along Olive Avenue and the substation at the northern terminus would be adjacent to the canal. The main canal and laterals would not be directly affected. Although the transmission line and substation would alter the setting of the canal, the lands in the vicinity of the canal are being converted to residential and commercial uses and the landscape modifications are not expected to pose an adverse effect on the canal.

Alternative System Option

The Alternative system option would affect, in a similar manner, all of the resources affected by the Proposed system option, except for the Atchison, Topeka & Santa Fe Railroad spur. That spur is evaluated as lacking important historic values. Only 20 to 30 percent of the Alternative system option has been intensively surveyed and other undiscovered archaeological and historical sites could be located along the route. Additional survey is recommended if this route were to be constructed.

Summary

Table E-5 summarizes the level of impacts respective to the Proposed and Alternative system options, allowing for the comparison of the Proposed and Alternative system options.

TABLE E-5
CULTURAL RESOURCE IMPACTS ASSOCIATED WITH EACH SYSTEM OPTION

System Option	High Impacts	Moderate Impacts	Low Impacts	Comments
Proposed[a]			Yes • Van Liere Branch • Canal Liberty (buried Hohokam canal)	• Location and integrity of canal undocumented • Potential for minor disturbance if present and intact
			Yes • Phoenix Main Line of Southern Pacific Railroad [AZ T:10:84 (ASM)]	• Would be spanned along major street and in vicinity of two existing transmission lines
			Yes • Roosevelt Canal [AZ T:10:83 (ASM)]	• Would be spanned along major street
		Yes • Historic trash [AZ T:11:160 (ASM)]	Yes • Historic trash [AZ T:11:160 (ASM)]	• Would be avoided by east side option • Would be mostly spanned by west side option resulting in limited disturbance along site margin
			Yes • WPA structure AZ T:11:161 (ASM)	• Evaluated as insignificant • Would be avoided by west side option • Probably would be spanned by east side option
			Yes • Atchison, Topeka & Santa Fe Railroad spur	• Evaluated as insignificant • Tracks would be paralleled for 0.5 mile
			Yes • Beardsley Canal [AZ T:3:55 (ASM)]	• Would be spanned • Adjacent to substation
Alternative[b]			Yes • Van Liere Branch Canal Liberty (buried Hohokam canal)	• Location and integrity of canal undocumented • Potential for minor disturbance if present and intact
			Yes • Phoenix Main Line of Southern Pacific Railroad [AZ T:10:84 (ASM)]	• Would be spanned along major street and in vicinity of two existing transmission lines
			Yes • Roosevelt Canal [AZ T:10:83 (ASM)]	• Would be spanned along major street
		Yes • Historic trash [AZ T:11:160 (ASM)]	Yes • Historic trash [AZ T:11:160 (ASM)]	• Would be avoided by east side option • Would be mostly spanned by west side option resulting in limited disturbance along site margin

TABLE E-5
CULTURAL RESOURCE IMPACTS ASSOCIATED WITH EACH SYSTEM OPTION

System Option	High Impacts	Moderate Impacts	Low Impacts	Comments
			Yes • WPA structure AZ T:11:161 (ASM)	• Evaluated as insignificant • Would be avoided by west side option • Probably would be spanned by east side option
			Yes • Beardsley Canal [AZ T:3:55 (ASM)]	• Would be spanned • Adjacent to substation

[a] Approximately 55 to 65 percent of the corridor has been intensively surveyed.
[b] Approximately 20 to 30 percent of the corridor has been intensively surveyed.

Conclusion

A few important archaeological and historical properties are located along the Proposed and Alternative system options within the study area. However, it appears that the Proposed system option would not result in any substantial impacts on any known archaeological or historical resources eligible for the State or National Registers. From a cultural resource perspective, the Alternative system option does not offer any advantages over the Proposed system option.

As final designs are developed and the exact right-of-way is defined, APS would consult further with SHPO about potential effects and any need for additional field inventory and site evaluation.

OVERSIZED MAP

-Exhibit E-2
Scenic Quality

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
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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 line corridor passes through the affected incorporated communities, unincorporated Maricopa County, and Arizona State Trust land, APS shall offer to work with these communities and agencies to assist in establishing future recreation plans.

EXHIBIT G – CONCEPTUAL DRAWINGS OF TRANSMISSION 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."

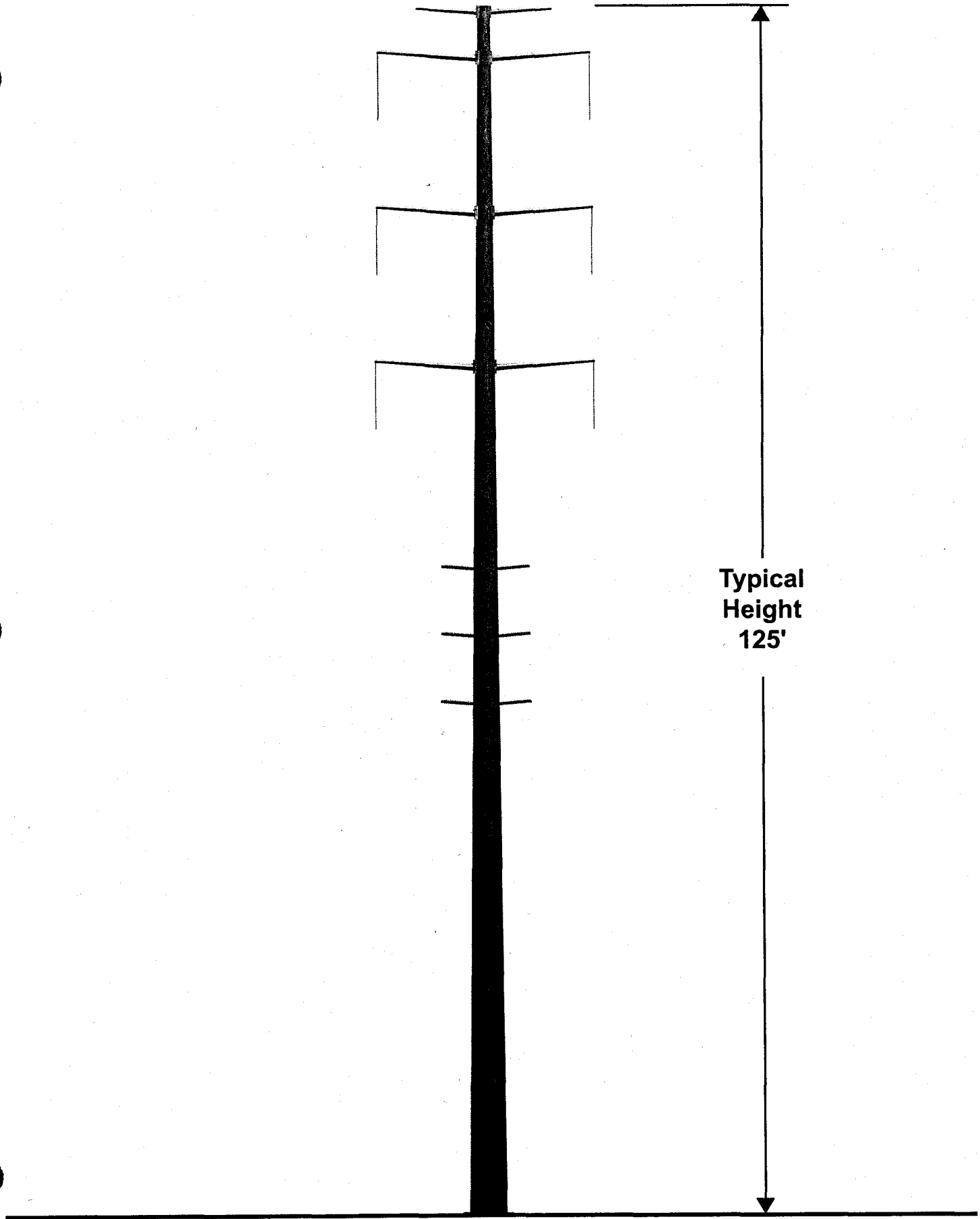

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EXHIBIT G-1

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

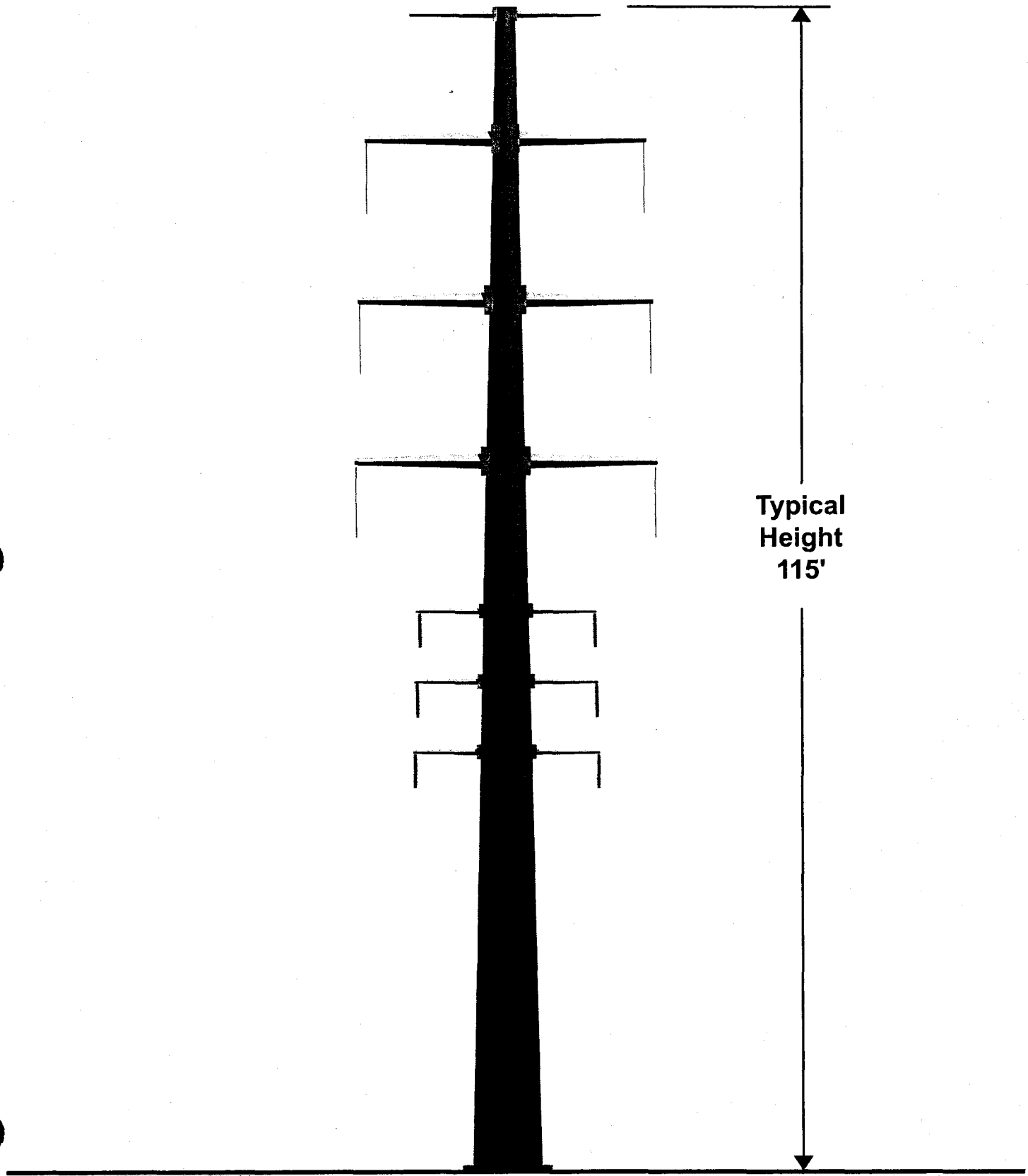

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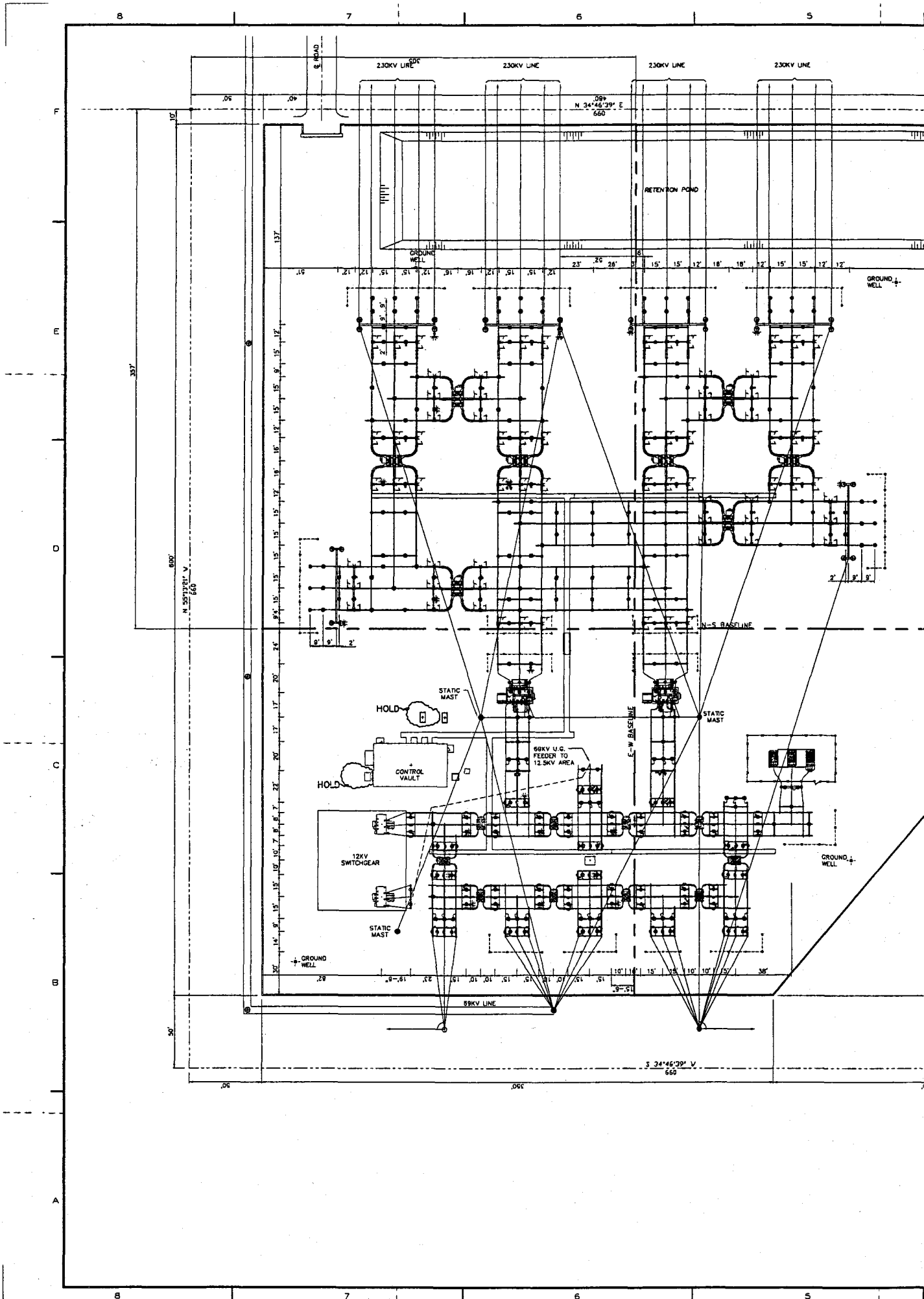
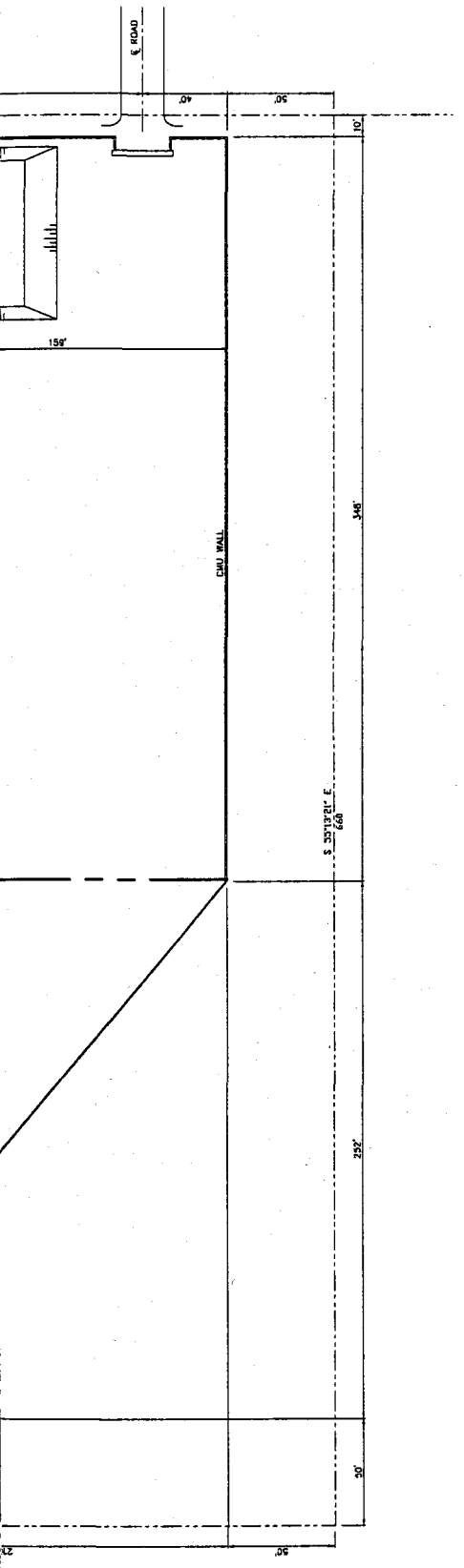
EXHIBIT G-2

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


230KV LINE
230KV LINE
230KV LINE
230KV LINE
RETENTION POND
GROUND WELL
GROUND WELL
GROUND WELL
GROUND WELL
N-S BASELINE
E-W BASELINE
STATIC MAST
STATIC MAST
STATIC MAST
HOLD
HOLD
CONTROL VAULT
69KV U.G. FEEDER TO 12.5KV AREA
12KV SWITCHGEAR
69KV LINE
N 34°46'39" E
660
S 34°46'39" W
660
N 55°13'21" W
660
600'
357'
137'
50'



30' 0 30' 60'

SCALE: 1" = 30'-0"

EXHIBIT G-3

NO.	DATE	REVISION	DWN	CHD	ENG	RVWD	W.A.

TYPICAL SUBSTATION
ULTIMATE PLOT PLAN
230/69/12.5KV

APS

SCALE AS NOTED DATE

DRAWN APPROVED

CHECKED ENGINEERING MANAGER

REVIEWED W.A.

DRAWING NO.
G-149630

SHEET 1 OF 1

This is an Autocad drawing, do not revise manually.

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 plans of the state, local government and private entities for other developments at or in the vicinity of the proposed site or route."

EXISTING PLANS OVERVIEW

As part of the land use study (discussed in Exhibit A), general and site-specific plans were obtained from the respective jurisdictions and private landowners and developers. Further, APS invited representatives from jurisdictional planning departments, local agencies, homeowners associations, and developers to community leader and jurisdictional planning meetings throughout the siting study. The purpose of these meetings was to ensure consistency with plans as well as to identify potential issues throughout the planning and system option selection process.

Throughout the transmission line siting study, APS met with representatives from the planning departments from the City of Goodyear, Town of Buckeye, and Maricopa County. Additionally, meetings were held with planning department representatives from the Arizona State Land Department, Maricopa County Parks and Recreation Department, Maricopa Water District, Roosevelt Irrigation District, Maricopa County Department of Transportation, and Flood Control District of Maricopa County. APS accommodated homeowners association representatives from existing communities who requested a meeting concerning the West Valley-South (WVS) Power Line and Substation Project (Project). In addition, APS held various public open house meetings held throughout the siting study process. Private developers (e.g., DMB, Suncor, Continental Homes, Beazer Homes, and Hancock Homes) associated with approved future developments (greater than 160 acres) within the Project area either were invited to community leader meetings or APS met with the developer individually. APS also met individually with other various private developers (e.g., Shea Homes) and land-owners associated with potential developments within the study area. APS also consulted Luke Air Force Base (LAFB) about plans surrounding the facility and its flight procedures and planning guidelines. Further information on public open house meetings and correspondence with cities, agencies, homeowners, developers, and LAFB is provided in Exhibit J.

Four types of documentation were considered to identify existing plans, including jurisdictional general plans, agency management plans, site plans from specific developers, and Landiscor Real Estate Photo Books (2001 and 2002). From these documents, two levels of planned development were identified: approved developments and general plan developments. General plan land uses (e.g., parks/preservation, residential, commercial, industrial, mixed use, and school or educational facilities, etc.) were incorporated in the impact analysis from respective planning jurisdictions. Approved developments are defined as developments that have been submitted to a jurisdiction and may be at various stages from preliminary to final design. The approved development boundaries and their associated names are mapped on Exhibit H-1.

Jurisdictional General Plans

General plan land uses are identified on Exhibit H-1 with a hatched pattern. Each of the plans reviewed is listed below:

- City of Goodyear, 1998
- City of Goodyear 2002-2012, Draft
- Town of Buckeye, 2001
- Maricopa County White Tank/Grand Avenue Area Plan, 1999

Agency General Plans

- Arizona State Land Department, Draft West Side State Lands Study, 2001
- Maricopa Water District, proposed land use map, 2002
- Luke Air Force Base, Clear Zone, Accident Potential Zones, and Noise Contour data, 2003

Developments Greater than 160 acres

The following developments were identified as approved within the study area. When possible, specific site plans were acquired and incorporated into the future land use database. Where specific site plans were not available, the area within an approved development was designated wholly residential. The developments listed below are shown on Exhibit H-1 as approved residential developments.

Development	Developer/Builder	Cross Streets
Blue Horizons	AMI L.L.C.	Tuthill Road and Van Buren Street
Canyon Trails	Continental	Buckeye Road and Sarival Avenue
Cotton Flower	Roston Companies	Yuma Road and Cotton Lane
Dreaming Summit	Multiple*	Dysart and Bethany Home roads
El Cidro Ranch	Citrus & Lower Buckeye C/O Recorp	Citrus and Lower Buckeye roads
Jackrabbit Estates	Camelback Jackrabbit	Jackrabbit Trail and Camelback Road
Litchfield Farms	Beazer Homes	Perryville and Indian School roads
Palm Valley and Pebble Creek	Suncor/Golden Heritage	Sarival Avenue and Thomas Road
Parkman Ranch	Three Continents #10	Perryville Road and Van Buren Street
Pasqualetti Mountain Ranch	Multiple*	Indian School Road and Jackrabbit Trail
Russell Ranch	Russell Ranch LLC	Camelback and Citrus roads
Savannah	Adobe Land & Cattle AZ LTD	Perryville and Camelback roads
Sonoran Ridge Estates	Sonoran Ridge	Jackrabbit Trail and Olive Avenue
Sundance	Multiple*	Rainbow and Buckeye roads
Verrado	DMB	West of Tuthill Road and north and south of I-10
Vista De Montaña	Columbia	Van Buren Street and Perryville Road
White Tank Foothills	*Not identified*	Olive Avenue and Perryville Road
White Tank Mountain Ranch	Bauza Holdings	Citrus and Perryville roads

* Multiple—Several different developers

Developments Less than 160 acres

Site plans were not requested for the approved developments listed below, which consist of less than 160 acres. These developments are shown on Exhibit H-1 as approved residential developments.

Development	Developer/Builder	Cross Streets
Briarwood Estates	Ben Fatto et al.	Camelback and Jackrabbit Trail
Camelback Garden Farms	Camelback Garden Farms, LLC	Perryville and Camelback roads
Cottonwood Estates	A&B Investments	Perryville and Bethany Home
Litchfield Heights	Multiple*	Camelback and Jackrabbit Trail

* Multiple—Several different developers

Landiscor Real Estate Photo Books

The Landiscor Real Estate Photo Books initially were used to identify developments. The developments were confirmed with the respective jurisdiction planners and then incorporated into the future land use database. These approved developments have been listed above, as appropriate, and are shown on Exhibit H-1. The following photo books were used:

- First quarter 2001, photos taken in September 2000
- First quarter 2002, photos taken in June 2001
- Fourth quarter 2002, photos taken in December 2002 and January 2003

APS 69kV Facility Plans

The WVS Project also included the initial siting process for 69kV facilities needed in the study area (see Exhibit B). To consolidate transmission line structures, the Proposed and Alternative system options would have 69kV facilities underbuilt on the 230kV structures. Additionally, separate 69kV transmission lines and substations are needed throughout the WVS Project area. The location of 69kV facilities was determined in the overall public siting process described in Exhibit B.

OVERSIZED MAP

-Exhibit H-1
Site-Specific Plans and Developments Under Construction

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EXHIBIT I – ANTICIPATED NOISE LEVELS, AND INTERFERENCE WITH COMMUNICATION SIGNALS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-2-219:

"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. These effects are produced by the electric and magnetic fields (EMF) of the transmission line with one of the primary effects being corona discharge. Corona effects are manifest as audible noise, radio interference, and television interference (TVI). These particular effects will be minimized by line location, line design, and construction practices.

CORONA

The electrical effects of the proposed transmission lines can be characterized as "corona effects." Corona is the electrical breakdown of air into charged particles; it is caused by the electric field at the surface of the conductors. Effects of corona are audible noise, radio and television interference, visible light, and photochemical oxidants. Corona can occur on the conductors, insulators, and hardware of an energized high-voltage transmission line. 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. During fair weather, the number of these sources is small and corona is insignificant. However, during wet weather, the number of these sources increases and corona effects are much greater.

For the transmission design configurations considered for this project, the calculated peak voltage gradient at the conductor surface was consistently 15.9 kVrms/cm. For comparison purposes, the breakdown strength of air is 21.1 kVrms/cm at 25 degrees Celsius (°C) and 76-millimeter (mm) barometric pressure.

The types of corona effects are described below.

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 occasionally reach 35.9 decibels (dB) measured on an "A" weighted scale at the edge of the right-of-way. These noise levels would occur during very heavy rain conditions, which would serve to mask the noise. During light rain, or wet conductor conditions, the expected audible noise is in the range of 19.8 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 6.9 dB(A).

Study work of transmission line noise has categorized noise levels by the probability of complaints being generated. A level of 52.5 dB(A) or lower at a distance of 100 feet from the centerline of a line has been found to generate no complaint. The noise generated by the Proposed (or Alternative) transmission line would be well below this value and no noise problems due to this line are expected.

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 constitute 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 impact 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 megahertz (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 21.4 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 (Institute of Electrical and Electronics Engineers 1980). During inclement weather, transmission line noise levels increase to levels in the range of 43 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.

After discussions with Luke Air Force Base (LAFB) technical staff, it was determined that the Proposed system option would not affect the safety of flight operations (see Exhibit J for Luke Air Force Base of April 15, 2003).

Television Interference

Traditional television broadcasts occur in the following three ranges:

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

Transmission line interference reduces with increasing frequency above 100 MHz. Consequently, TVI only affects the lower very high frequency (VHF) band (Channels 2 through 6) and no interference will be experienced in the upper VHF (Channels 7 through 13) and ultrahigh frequency (UHF) bands (Channels 14 through 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 TVI levels at the edge of the right-of-way show levels consistent with values calculated for other 230kV lines that traverse similar terrain (APS 1981). Calculated foul weather TVI at the edge of the right-of-way generated by a typical span of this line is calculated at 0.4 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 TVI has been found to be a problem, it generally is 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 TVI problems resulting from the operation of our 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

Both current and voltage are required to transmit electrical energy over a transmission line. The current, a flow of electrical charge measured in amperes (A), is the source of a magnetic field. The voltage, which represents the potential for an electrical charge to do work, is expressed in units of volts (V), or thousands of volts (kV) and is the source of an electric field.

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 in turn 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 that 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 transmission line would be designed to limit the value of short-circuit current from a conductive object to 5 milliamperes (mA) or below, which is the maximum design limit permitted by the National Electrical Safety Code.

The magnetic fields associated with transmission lines also can induce voltages and currents in conductive objects (e.g., fences, communication lines, railroads, pipelines), 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.

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 five-year study program completed in 1999, which was jointly coordinated by the National Institute of Environmental Health Sciences (NIEHS) and Department of Energy (DOE). In its May 1999 report to Congress, 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 five-year research program conducted by the National Research Council of the National Academy of Sciences in 1999 concluded that "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 Research Council, National Academy of Sciences 1999). A recent report from the International Agency for Research on Cancer (IARC) did not conclude that power frequency fields present a specific health risk, but did state that power frequency magnetic fields are "possibly carcinogenic to humans" based on limited human evidence and inadequate evidence in experimental animals (IARC 2002).

The actual EMF associated with these transmission lines would depend on the construction type, 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, EMF associated with these lines would be 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 would be used to minimize the resulting magnetic fields.

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

REFERENCES

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

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

International Agency for Research on Cancer (IARC). 2002. Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 80, Non-Ionizing Radiation, Part 1: Static and Extremely Low Frequency (ELF) Electric and Magnetic Fields: Lyon, France.

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

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.

EXHIBIT J – SPECIAL FACTORS

As stated in 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."

PUBLIC INVOLVEMENT

Overview

A comprehensive public involvement and communications program was conducted as part of the West Valley-South (WVS) Power Line and Substation Project (Project). APS initiated an extensive 14-month process from September 2001 through November 2002 to notify the public and community leaders of the need for new transmission and substation facilities in the West Valley and to discuss possible locations for 230kV transmission line routes and substations included in this CEC application. The outreach involved sending information to more than 72,000 residents in the West Valley four different times, meetings with hundreds of residents at public meetings and neighborhood groups, as well as briefing dozens of community leaders, jurisdictional planners, and the local press in the area. It also included paid advertisements in newspapers with circulations of more than 162,000. In addition, there was extensive use of electronic outreach to people in the area throughout the siting process through a project telephone information line and via the Internet.

The public involvement effort solicited very specific input from the community, starting with small power line segments, or "links," and then continuing to collect input as the links were combined to form alternative route alignments. Several hundred comments were received regarding these links and alternative routes, and the input was valuable to APS in determining its preferred route alignment.

Public input played an important role in selecting the Proposed system option. For instance, input from the Maricopa County Parks and Recreation Department, Town of Buckeye, and current residents in the north part of the study area resulted in a proposed transmission line route that would parallel the Loop 303, and this option continued to receive widespread support throughout the siting review. Input from Luke Air Force Base (LAFB) and City of Goodyear influenced the proposed transmission line route and substation location in the Cotton Lane area between Indian School and Camelback roads. Input from the Maricopa Water District and adjacent residents contributed to the elimination of a potential transmission line route option along the north part of Perryville Road or along the Beardsley Canal.

Many of the challenges that were raised by community leaders and the public focused on keeping the transmission lines away from existing residential development, avoiding any impacts to the views of the White Tank Mountains or the existing Maricopa County White Tank Mountain Regional Park, and avoiding possible impacts to LAFB. The final Proposed system option selected by APS reflects this support for a Loop 303 route, while avoiding any potential impacts to the flight patterns at LAFB.

Although the public and agency input was valuable, it was not possible to specifically address each concern given other engineering, environmental, and right-of-way acquisition aspects of the project. The

Proposed system option provides a balance between the public and agency input, while considering environmental and technical factors.

The goals of the public outreach efforts were to build facilities as the community grows and, with public input, select locations that make the most sense for a majority of the public.

Scope of the Communications Plan

A communications plan was developed at the beginning of the WVS Project to help guide the public involvement and community relations efforts. The plan was flexible and was adjusted periodically to respond to specific issues that occurred. The program had three primary goals:

1. Educate the public about the need for expanding facilities and services in the project area.
2. Inform the public about the benefits and effects of the project.
3. Provide the opportunity for meaningful public involvement in the transmission line route and substation site selection process.

Communication Activities

Community Leader Meetings

In order to gauge the level of public concern and identify potential issues, project team members held three meetings with a select group of key community leaders. At these meetings, project team members explained the need for additional electrical facilities, provided the most up-to-date project information, and asked for suggestions and opinions from community leaders. In return, the community leaders provided APS with their input on public concerns and how key stakeholders would like to be informed and involved in the project.

When/Where: February 22, 2002 at 2:00 p.m. (Wigwam Resort)
Invitees:

Dr. James Howard	Superintendent	Agua Fria School District
Dr. Catherine Stafford	Superintendent	Avondale School District
Mr. David Iwanski	Principal	Bookman-Edmonston
Ms. Connie Bailey	Director	Buckeye Chamber of Commerce
Dr. Henry Schmitt	Superintendent	Buckeye Union High School District
Ms. Lisa Atkins	Executive Assistant	Congressman Bob Stump's Office
Mr. John L. Bradley	Vice President	DMB Associates, Inc.
Ms. Kathleen Duncan	Owner	Duncan Family Farms
Mr. R.D. (DeWayne) Justice	Vice Chairman - Manager	Electrical District #7
Dr. Homero Lopez	President	Estrella Mountain Community Coll.
Ms. Mary Westwood	Neighborhood Contact	Estrella Mountain Ranch HOA
Ms. Anne Quilgey	Manager	Goodyear Airport
Mr. Mark Brown	Asst. Police Chief-Goodyear	Goodyear Estates Neighborhood Ass.
Mr. L. Thomas Heck	Superintendent	Litchfield Elementary School Dist.
Col. Robert Worley		Luke Air Force Base
Ms. Joy Rich	Planning Director	Maricopa County Planning/Dev.

Mr. Jim Sweeney	General Manager	Maricopa Water District
Ms. Debbie Wilden	President	Northwest Valley Chamber
Mr. Shannon Letcher	Director of Golf	Palm Valley Country Club
Mr. Jack Pernice	President	Palm Valley HOA #1
Ms. Sue Linney	City Goodyear Councilmember	Pebblecreek HOA
Ms. Sharolyn Hohman	President/CEO	Southwest Valley Chamber
Ms. Diane McCarthy	President	WESTMARC
Mr. Jay Ellingson	Vice President-SunCor	WESTMARC Executive Board
Ms. Kim Beneli		White Tanks Concerned Citizens
Ms. Christie Birdsell		Wildflower Ranch HOA

Attendees:

M/M Ron & Leeta Mackey		
Ms. Bear Shimmin		Sun City Grand Homeowners Assoc.
Dr. James Howard	Superintendent	Agua Fria School District
Dr. Henry Schmitt	Superintendent	Buckeye Union High School Dist.
Mr. Nathan Crane	Planning Manager	City of Avondale
Ms. Lisa Atkins	Executive Assistant	Congressman Bob Stump's Office
Mr. Dave Nilsen		DMB Associates, Inc
Mr. John L. Bradley	Vice President	DMB Associates, Inc.
Mr. R.D. (DeWayne) Justice	Vice Chairman - Manager	Electrical District #7
Mr. L. Thomas Heck	Superintendent	Litchfield Elementary School Dist.
Mr. Richard Zumbehl	Civic Engineer	Luke Air Force Base
Ms. Debbie Wilden	President	Northwest Valley Chamber
Ms. Donna Phillips		SunCor Development Company
Ms. Diane McCarthy	President	WESTMARC
Ms. Kim Beneli		White Tanks Concerned Citizens
Mr. James Truman		White Tanks Concerned Citizens

When/Where: May 13, 2002 at 1:00 p.m. (Wigwam Resort)

Invitees:

Dr. James Howard	Superintendent	Agua Fria School District
Dr. Catherine Stafford	Superintendent	Avondale School District
Mr. David Iwanski	Principal	Bookman-Edmonston
Ms. Connie Bailey	Director	Buckeye Chamber of Commerce
Dr. Henry Schmitt	Superintendent	Buckeye Union High School Dist.
Ms. Lisa Atkins	Executive Assistant	Congressman Bob Stump's Office
Mr. John L. Bradley	Vice President	DMB Associates, Inc.
Ms. Kathleen Duncan	Owner	Duncan Family Farms
Mr. R.D. (DeWayne) Justice	Vice Chairman - Manager	Electrical District #7
Dr. Homero Lopez	President	Estrella Mountain Community Coll.

Ms. Mary Westwood	Neighborhood Contact	Estrella Mountain Ranch HOA
Ms. Anne Quilgey	Manager	Goodyear Airport
Mr. Mark Brown	Asst. Police Chief-Goodyear	Goodyear Estates Neighborhood Ass.
Mr. L. Thomas Heck	Superintendent	Litchfield Elementary School Dist.
Col. Robert Worley		Luke Air Force Base
Ms. Joy Rich	Planning Director	Maricopa County Planning/Dev
Mr. Jim Sweeney	General Manager	Maricopa Water District
Ms. Debbie Wilden	President	Northwest Valley Chamber
Mr. Shannon Letcher	Director of Golf	Palm Valley Country Club
Mr. Jack Pernice	President	Palm Valley HOA #1
Ms. Sue Linney	City Goodyear Councilmember	Pebblecreek HOA
Ms. Sharolyn Hohman	President/CEO	Southwest Valley Chamber
Ms. Diane McCarthy	President	WESTMARC
Mr. Jay Ellingson	Vice President-SunCor	WESTMARC Executive Board
Ms. Kim Beneli		White Tanks Concerned Citizens
Ms. Christie Birdsell		Wildflower Ranch HOA
Mr. James Truman		White Tanks Concerned Citizens

Attendees:

M/M Ron & Leeta Mackey

M/M C.A. & L. Baron Shimmin

Mr. Glen Vortherms	District Engineer	Maricopa Water District
Mr. John Schmadeke	Director of Field Operations	Agua Fria Union High School Dist.
Mr. David Iwanski	Principal	Bookman-Edmonston
Mr. Udo Meyer		Clearwater Farms HOA
Mr. Dave Nilsen		DMB Associates, Inc
Ms. Sharolyn Hohman	President/CEO	Southwest Valley Chamber
Ms. Donna Phillips		SunCor Development Company
Mr. James Truman		White Tanks Concerned Citizens
Ms. Diane McCarthy	President	WESTMARC

When/Where: August 20, 2002 at 10:30 a.m. (Wigwam Resort)

Invitees:

Dr. James Howard	Superintendent	Agua Fria School District
Dr. Catherine Stafford	Superintendent	Avondale School District
Mr. David Iwanski	Principal	Bookman-Edmonston
Ms. Connie Bailey	Director	Buckeye Chamber of Commerce
Dr. Henry Schmitt	Superintendent	Buckeye Union High School Dist.
Ms. Lisa Atkins	Executive Assistant	Congressman Bob Stump's Office
Mr. John L. Bradley	Vice President	DMB Associates, Inc.
Ms. Kathleen Duncan	Owner	Duncan Family Farms

Mr. R.D. (DeWayne) Justice	Vice Chairman - Manager	Electrical District #7
Dr. Homero Lopez	President	Estrella Mountain Community Coll.
Ms. Mary Westwood	Neighborhood Contact	Estrella Mountain Ranch HOA
Ms. Anne Quilgey	Manager	Goodyear Airport
Mr. Mark Brown	Asst. Police Chief-Goodyear	Goodyear Estates Neighborhood Ass.
Mr. L. Thomas Heck	Superintendent	Litchfield Elementary School Dist.
Col. Robert Worley		Luke Air Force Base
Ms. Joy Rich	Planning Director	Maricopa County Planning/Dev
Mr. Jim Sweeney	General Manager	Maricopa Water District
Ms. Debbie Wilden	President	Northwest Valley Chamber
Mr. Shannon Letcher	Director of Golf	Palm Valley Country Club
Mr. Jack Pernice	President	Palm Valley HOA #1
Ms. Sue Linney	City of Goodyear-Councilmember	Pebblecreek HOA
Ms. Sharolyn Hohman	President/CEO	Southwest Valley Chamber
Ms. Diane McCarthy	President	WESTMARC
Mr. Jay Ellingson	Vice President-SunCor	WESTMARC Executive Board
Ms. Kim Beneli		White Tanks Concerned Citizens
Ms. Christie Birdsell		Wildflower Ranch HOA
Mr. James Truman		White Tanks Concerned Citizens

Attendees:

Mr. Richard Zumbehl	Civil Engineer	Luke Air Force Base
Mr. Doug Graham		
Mrs. Roberta Graham		
Mr. Ken Axford		Litchfield Elementary School
Mr. Glen Vortherms	District Engineer	Maricopa Water District
Mr. Jack Hein		
Mr. Dave Nilsen		
Mr. Doug Wilson		
Ms. Sharolyn Hohman	President/CEO	Southwest Valley Chamber
Mr. David Iwanski	Principal	Bookman-Edmonston

Jurisdictional Leader Meetings

Because this project crosses many jurisdictions, APS hosted three informal meetings with local planners and management staff from the relevant governments to discuss and resolve project issues and siting concerns. Members of this group were higher-ranking decision makers or representatives who report directly to decision makers.

The jurisdictional leaders were briefed on the purpose and need for the project and were asked their opinions and suggestions as the process continued. This group provided valuable feedback, as well as assisted with siting issues as APS worked through the various government approval processes.

When/Where: February 21, 2002 at 2:00 p.m. (Wigwam Resort)

Invitees:

Mr. Scott Schrader	City Manager	City of Avondale
Mr. David Fitzhugh	City Engineer/Interim Director Developmental	City of Avondale
Ms. Kristin Greene	Intergovernmental Affairs Officer	City of Avondale
Mr. Ed Beasley	City Manager	City of Glendale
Mr. Jim Colson	Economic Development Director	City of Glendale
Mr. Jon Froke	Planning Director	City of Glendale
Mr. Stephen S. Cleveland	City Manager	City of Goodyear
Mr. Harvey Krauss	Community Development Director	City of Goodyear
Mr. Horatio Skeete	City Manager	City of Litchfield Park
Mr. Gregory L. Jones	Regional Planning Manager	Flood Control District of Maricopa County (FCDMC)
Ms. Valerie A. Swick	Project Manager	FCDMC
Mr. Matthew Holm	Principal Planner	FCDMC
Mr. Wayne R. Butch	Transportation Improvement Prog./Policy Mgr.	Maricopa County Department of Transportation (MCDOT)
Mr. Bill Hahn	Project Manager	MCDOT
Mr. Leo E. Trinidad	Project Manager, Transportation Planning	MCDOT
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

Attendees:

Mr. David Fitzhugh	City Engineer/Interim Director Developmental	Town of Buckeye
Ms. Kristin Greene	Intergovernmental Affairs Officer	City of Avondale
Mr. Jon Froke	Planning Director	City of Glendale
Mr. Stephen S. Cleveland	City Manager	City of Goodyear
Mr. Harvey Krauss	Community Development Director	City of Goodyear
Mr. Luke Guitierrez	Public Works Director	City of Litchfield Park
Mr. Horatio Skeete	City Manager	City of Litchfield Park
Mr. Gregory L. Jones, P.E.	Regional Planning Manager	FCDMC
Mr. Valerie A. Swick	Project Manager	FCDMC
Mr. Bill Hahn	Project Manager	MCDOT
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

When/Where: May 13, 2002 at 3:00 p.m. (Wigwam Resort)

Invitees:

Mr. Scott Schrader	City Manager	City of Avondale
Mr. David Fitzhugh	City Engineer/Inter. Dtr. Developmental	City of Avondale
Ms. Kristin Greene	Intergovernmental Affairs Officer	City of Avondale
Mr. Ed Beasley	City Manager	City of Glendale
Mr. Jim Colson	Economic Development Director	City of Glendale

Mr. Jon Froke	Planning Director	City of Glendale
Mr. Stephen S. Cleveland	City Manager	City of Goodyear
Mr. Harvey Krauss	Community Development Director	City of Goodyear
Mr. Horatio Skeete	City Manager	City of Litchfield Park
Mr. Gregory L. Jones	Regional Planning Manager	FCDMC
Ms. Valerie A. Swick	Project Manager	FCDMC
Mr. Matthew Holm	Principal Planner	FCDMC
Mr. Wayne R. Butch	Transportation Improvement Prg./Policy Mgr.	MCDOT
Mr. Bill Hahn	Project Manager	MCDOT
Mr. Leo E. Trinidad	Project Manager, Transportation Planning	MCDOT
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

Attendees:

Ms. Kristin Greene	Intergover. Affairs Officer	City of Avondale
Mr. Harvey Krauss	Community Dev. Director	City of Goodyear
Mr. Kevin Kugler	Planning Manager	City of Goodyear
Mr. Horatio Skeete	City Manager	City of Litchfield
Ms. Valerie A. Swick	Project Manager	FCDMC
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

When/Where: August 20, 2002 at 1:30 p.m. (Wigwam Resort)

Invitees:

Mr. Steve Careccia	City Manager	City of Avondale
Mr. David Fitzhugh	City Engineer/Inter. Dtr. Developmental	City of Avondale
Ms. Kristin Greene	Intergovernmental Affairs Officer	City of Avondale
Mr. Ed Beasley	City Manager	City of Glendale
Mr. Jim Colson	Economic Development Director	City of Glendale
Mr. Jon Froke	Planning Director	City of Glendale
Mr. Stephen S. Cleveland	City Manager	City of Goodyear
Mr. Harvey Krauss	Community Development Director	City of Goodyear
Mr. Horatio Skeete	City Manager	City of Litchfield Park
Mr. Gregory L. Jones	Regional Planning Manager	FCDMC
Ms. Valerie A. Swick	Project Manager	FCDMC
Mr. Matthew Holm	Principal Planner	FCDMC
Mr. Wayne R. Butch	Transportation Improvement Prg./Policy Mgr.	MCDOT
Mr. Bill Hahn	Project Manager	MCDOT
Mr. Leo E. Trinidad	Project Manager, Transportation Planning	MCDOT
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

Attendees:

Mr. Steve Careccia		City of Avondale
Ms. Christina Montoya		City of Glendale
Mr. Kevin Kugler	Planning Manager	City of Goodyear
Mr. Russ Miracle	Director of Planning Division	FCDMC
Ms. Valerie A. Swick	Project Manager	FCDMC
Ms. Elaine Averitt		FCDMC
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

Meetings with the Press

APS met on a regular basis with local newspaper reporters to brief them on the latest project developments. Newspaper articles are attached.

Public Open Houses

The format for all community meetings was an open house arrangement that allowed for flexible attendance and one-on-one personal communication. The open houses consisted of several stations that covered details of the project, the siting activities, and visual materials depicting the criteria and process. There was no formal presentation and residents dropped by to talk over the project with company representatives. The meetings were conducted at facilities near the substation and transmission line sites. Hundreds of people attended the open houses held in the community.

Phase I
Date: March 12, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Wigwam Resort

Date: March 13, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Phoenix Destiny RV Resort

Date: March 14, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Duncan Family Farms

Phase II
Date: May 15, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Buckeye Community Center

Date: May 16, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Scott Libby Elementary School-Activity Center

Phase III
Date: August 21, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Scott Libby Elementary School-Activity Center

Display Ads

Display ads were placed in local newspapers to publicize the project and open house dates. All ads were quarter-page in size and are listed below with publication dates. The publications where display ads were placed have the following circulation numbers:

West Valley View – 43,704
Buckeye Valley New – 2,300
The Desert Sun – 12,000

A total of 162,012 people were reached via the display ads placed in the three community publications over the life of the project.

Phase I
Publication: West Valley View
Run-dates: February 27 and March 6

Publication: Buckeye Valley News
Run-dates: March 5 and 12

Phase II
Publication: West Valley View
Run-dates: May 1, 8 and 15

Publication: Desert Sun
Run-dates: May 1 and 8

Publication: Buckeye Valley News
Run-dates: May 7 and 14

Phase III
Publication: West Valley View
Run-dates: August 7, 14 and 21

Publication: Desert Sun
Run-dates: August 7 and 13

Publication: Buckeye Valley News
Run-dates: August 13 and 20

Sample ads are attached.

Newsletters

Four newsletters and one fact sheet were developed during the project to provide up-to-date information to the public. Each newsletter announced upcoming open houses and offered various means for the public to comment. The additional ways to comment listed in the newsletters were the information phone line and Web site address. The content of the newsletters was informative and addressed impending issues and timely decisions. **Each newsletter was mailed to more than 72,000 residents in the West Valley including numerous community leaders, elected officials and anyone who gave their address at the open houses, on the Web site or via the informational phone line.**

Phase I
Distribution: March 1, 2002

Phase II
Distribution: April 23, 2002

Phase III
Distribution: August 8, 2002

Phase IV
Distribution: November, 2002

Samples of each of the four newsletters are attached.

Various Meetings with Key Stakeholders and Leaders

APS Project Manager, Steve Goodman, attended all meetings listed below along with various other APS representatives.

2001:
- December 17 - Joe Blanton, Town Manager, Town of Buckeye
- December 20 - Ed Beasley, Manager, City of Glendale
- December 20 - Harvey Krauss, Community Development Director & Grant Anderson, Deputy Manager, City of Goodyear

2002:
- January 20 - Dick Schrader, City Manager, City of Avondale
- January 22 - Greg Jones, Project Manager, FCDMC and Dennis Holcomb
- January 22 - Matt Holm, Senior Planner, MC Planning Dept
- January 25 - Sharolyn Holman-Executive Director, Southwest Valley Chamber
- January 31 - Dave Iwanski, Agri-Business Council
- February 11 - Mary Rose Wilcox, Supervisor, Arizona Corporation Commission
- February 13 - Jim Adams, Deputy Commissioner, Arizona State Land Department
- February 25 - Greg Jones, Flood Control District, Maricopa County
- March 6 - Rusty Bowers, Arizona Rock Products
- March 8 - Scott Phillips, Senior Planner, City of Surprise
- March 14 - Ralph Veloz, City Manager, City of Tolleson
- March 19 - Betty Lynch, City Council Member, City of Avondale
- April 5 - Stuart Brackney, City Manager, City of El Mirage
- April 5 - Scott Phillips, Senior Planner, City of Surprise
- April 11 - Al Carroll, Council Member, City of Avondale
- April 15 - Presentation to Avondale City Council
- April 29 - Sue Linney, Council Member, City of Avondale
- April 30 -Harvey Krauss, Com. Development Director, City of Goodyear
- May 15 - Frank Cavalier, James Cavanaugh, Council Members, City of Goodyear
- May 17 - William Scalzo, Director, Maricopa County Parks
- May 23 - Terry Ellis, City Manager's Office, City of Peoria
- May 21 - Glen Vortherms, Engineer, Maricopa Water District
- May 31 - Terry Hansen, Airspace Manager, Luke Air Force Base
- May 28 - Charles Criss, Clearwater Farms, HOA member
- May 29 and June 14 - Jack Hein and neighbors, Clearwater Farms HOA members
- June 10 - Andy Kunasek and Max Wilson, Supervisors, Maricopa County

- June 17 - Clearwater Farms HOA & Jack Hein and Neighbors
- July 1 - Dr. Thomas Heck, Superintendent, Litchfield School District
- July 12 - Jim Sweeney, General Manager, Maricopa Water District
- August 6 - Greg Jones and staff, FCDMC
- August 12 - Todd Hileman, City Manager, City of Avondale
- August 26 - Stan Ashby, General Manager, Roosevelt Irrigation District
- December 3 - Max Wilson, Maricopa County Supervisor
- December 3 - Horatio Skeete, Town Manager, City of Litchfield Park
- December 3 - Joe Blanton, Town Manager, Town of Buckeye
- December 4 - Sharolyn Holman, Executive Director, Southwest Valley Chamber
- December 4 - Todd Hileman, City Manager, City of Avondale
- December 9 - Greg Jones and Staff, Maricopa County Flood Control District
- December 12 - Grant Anderson, Deputy Manager, City of Goodyear
- December 16 - Jim Adams, Deputy Commissioner, Arizona State Land Department

2003:

- February 13 - Sheldon Jones, Agri-Business Council
- February 21 - Terry Hansen, Airspace Manager, Luke Air Force Base
- March 5 - Tom Buick, Maricopa County
- March 25 - Terry Hansen, Airspace Manager, Luke Air Force Base
- May 13 - Joe Blanton, City Manager, Town of Buckeye
- March 3 - Dennis Harkins, Deputy Warden, Arizona State Prison, Perryville
- April 30 - Harvey Krauss, Com. Development Director, City of Goodyear
- March 5 - Wayne Butch, Maricopa County Department of Transportation (MCDOT)
- May 19 - Linda Beals, Gordon Taylor, Arizona State Land Department
- June 2 - Jim Sweeney, General Manager, Maricopa Water District

Selected key stakeholder letters are attached.

Web Site

Because more people are using the Internet as a primary source of information, a Web site was created for the WVS Project. The site was updated regularly and was easy to locate. The content of the site included project information, dates of upcoming public meetings, and visual representations of the project. The site was designed to solicit feedback from the public, and enabled people to request more information or to be contacted by an APS representative. The Web site address was: http://siting.apsc.com.

- Since the site went live in February, through September 2002, 809 people accessed the Web site excluding internal hits from APS employees. Of the 809 web site visits, 62 people asked to be put on the mailing list or gave comments.

- Here is the breakdown per month:

February	81
March	119
April	114
May	142
June	93
July	80
August	118

September..... 62
Total..... *809*

Informational Phone Line

A project information line was created to collect comments, project inquiries, and information requests. The information line also gave information on upcoming open houses and newsletters. The phone number used the West Valley's local area code (623) and was included on all outreach materials. The phone number was 623-932-6636.

Public Comment Summary

APS began initial outreach for the project in November 2001. The public had the opportunity to comment on the project from February 2002 through September 2002. During this time, there were numerous public comments expressed via open house comment forms, the web site, the informational phone line, faxes, and personal phone calls with Steve Goodman of APS.

Using various communication vehicles, APS reached thousands of people with information on this project and received over 1,200 comments from the public.

SAMPLE ADS

Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

West Valley View
Avondale, AZ
Weekly 40,000
February 27, 2002

WEST VALLEY-SOUTH

POWER LINE & SUBSTATION PROJECT

The West Valley Is Growing

To respond to the rapidly increasing demand for electricity in the West Valley, APS is planning new electrical facilities in this area. While the recently approved Southwest Valley 500kV project will add reliability and capacity to the local power grid, the smaller 230kV and 69kV power lines and substations will directly serve customer demand in the communities of Avondale, Buckeye, Glendale, Goodyear, Litchfield Park and Maricopa County.

Your Opinion Counts!

APS wants West Valley citizens involved in the planning of the power line routes and substation sites. Please join us at one of these locations for a public open house to discuss the project.

Tuesday, March 12 - 5:30 p.m. - 7:30 p.m.
Wigwam Resort–Arizona Room
300 E. Wigwam Blvd., Litchfield Park
(on Wigwam Blvd. between Litchfield Park and Dysart Roads)

Wednesday, March 13 - 5:30 p.m. - 7:30 p.m.
Destiny Phoenix West RV Park
416 N. Citrus Road, Buckeye
(on Citrus, north of Van Buren Street)

Thursday, March 14 - 5:30 p.m. - 7:30 p.m.
Duncan Family Farms
17203 W. Indian School Road, Goodyear
(on Indian School, east of Cotton Lane)

For more information,
visit the project Web site at http://siting.apsc.com or call the project information line at (623) 932-6636.

APS

Buckeye Valley News
Buckeye, AZ
Weekly 2,300
May 9, 2002

Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

WEST VALLEY-SOUTH

POWER LINE & SUBSTATION PROJECT

Your Opinon Counts On Powerline Placements

The West Valley-South Powerline and Substation Project is designed to respond to the rapidly increasing demand for electricity in the West Valley. The proposed facilities will maintain the reliability and capacity of the local power grid as well as meet the growing customer demand. The project will directly serve Avondale, Buckeye, Glendale, Goodyear, Litchfield Park and Maricopa County.

APS would like to thank the many West Valley residents who attended the first open houses in March. Valuable input was gathered at the meetings, as well as from those who responded on the Web site and information line. The public input and updated environmental compatibility research have been used to create several powerline alternatives.

Now, APS would like input from the West Valley on these alternatives. Please join us at one of these locations for a public open house. ***There will be no formal presentation. Stop by anytime between 5:30 p.m. and 7:30 p.m.***

Wednesday, May 15

Buckeye Community Center, 201 Centre Street, Buckeye
(south of Monroe and east of Miller)

Thursday, May 16

Scott Libby Elementary School-Activity Center
18701 W. Thomas Road, Litchfield Park
(corner of Perryville and Thomas roads)

For more information,

visit the project Web site at http://siting.apsc.com or call the project information line at (623) 932-6636.

APS

The Desert Sun
Buckeye, AZ
Weekly 12,000
August 14, 2002

Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

APS

WEST VALLEY-SOUTH

POWER LINE & SUBSTATION PROJECT

Public Input Needed

APS is responding to the tremendous West Valley growth with plans to build 69 kV and 230 kV powerlines and substations to accommodate this growth.

After eight months of public input and environmental analysis, APS has identified several system options within the West Valley-South Powerline and Substation Project study area.

Please attend our public open house to review these options and provide input on these facilities. There is no formal presentation.

Open House

Any time between 5:30 p.m. and 7:30 p.m.
Wednesday, August 21
Scott Libby Elementary School
18701 W. Thomas Road, Litchfield Park
(corner of Perryville and Thomas roads)

For more information, visit the project Web site at
http://siting.apsc.com or
call the project information line at (623) 932-6636.

LETTERS OF SUPPORT

Town of Buckeye

RECEIVED
MAY 29 2003
BY: A. Goodman

May 26, 2003

Mr. Steve Goodman, Project Manager
Transmission & Facility Siting Department
APS
PO Box 53933, MS 4030
Phoenix, AZ 85072-3933

Dear Mr. Goodman:

Thank you for taking the time to update me on May 13, 2003 regarding APS' West Valley – South Power Line and Substation Project.

First, I applaud the company for working in an all-inclusive manner to locate electrical facilities in the growing west side communities. We know that this is not an easy undertaking. Second, I also support your time and effort in working with Luke Air Force Base. We think that your willingness to compromise on your initial preferred route to satisfy Luke's concerns is clearly beneficial to all of us, as we support Luke's mission viability.

You may recall that Buckeye supported APS' initial preferred route. We believe that the modification of this route is minor, and more importantly, still allows APS to build a route that is the best of all routes considered. The Town of Buckeye supports the modified preferred route specifically because it has the least impacts to our town as we continue to plan for orderly growth.

We appreciate being included in the siting process and having a real opportunity to provide APS input on major electrical facilities in our town. If you should have any questions or require additional information, please do not hesitate to contact me.

Sincerely,
TOWN OF BUCKEYE

Joseph Blanton
Town Manager

Cc: Mayor and Town Council

100 North Apache• Buckeye, Arizona 85326 • (623) 386-4691 • FAX (623) 386-7832

Goodyear ARIZONA

April 28, 2003

RECEIVED
MAY 01 2003
BY:

Mr. Larry Krueger, Manager
Transmission & Facility Siting
Mail Station 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: LETTER OF SUPPORT – APS WEST VALLEY SOUTH PROJECT

Dear Mr. Krueger:

We are in receipt of the information you sent regarding the APS West Valley South Project and your proposed route. Thank you for providing updated information during our meeting on April 23, 2003, and throughout the process of this project.

The City of Goodyear supports the proposed route based on three key factors as stated to us by APS:

- Luke Air Force's letter dated April 15, 2003, stating that the base has no issues with APS' modified preferred route.
- That APS selected the proposed route to forward to the State Siting Committee and the Arizona Corporation Commission based on sound environmental analysis.
- That APS gathered extensive public input, and considered the input of various affected jurisdictions, especially the City of Goodyear, which will be most affected by this project.

We appreciate you working with Luke Air Force Base to reach a solution that will work well for our growing City. If you have any questions regarding this letter or if you need further assistance please do not hesitate to contact my office at (623) 882-7061.

Sincerely,

CITY OF GOODYEAR

Grant L. Anderson, P.E.
Deputy City Manager

GA:ga:letterofsupport-apsproject

cc: Stephen S. Cleveland, City Manager
Reading File

DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

15 APR 2003

Colonel Dennis A. Rea
Vice Commander, 56th Fighter Wing
14185 West Falcon Street
Luke AFB AZ 85309-1629

RECEIVED
APR 16 2003
BY:

Mr Steve Goodman, Project Manager
APS Transmission & Facility Siting Department
Mail Station 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

Re: Your Letter Dated 3 April 2003

Dear Mr Goodman

I am in receipt of your letter dated 3 April 2003 regarding the APS West Valley - South Powerline and Substation Project. I would like to thank the Arizona Public Service Company for removing from further consideration the powerline and poles from Accident Potential Zone 2, as illustrated in the map mailed to us with your most recent letter. I do not oppose construction of facilities as indicated in modified Alternative Route 1 due to its distance from the Clear Zone and Accident Potential Zone 1.

I look forward to continuing our working relationship with APS and thank you for being responsive to our concerns.

Sincerely

DENNIS A. REA, Colonel, USAF

Arizona Department of Corrections

1601 WEST JEFFERSON
PHOENIX, ARIZONA 85007
(602) 542-5536

Janet Napolitano
Governor

Charles L. Ryan
Acting Director

RECEIVED
MAR 27 2003
BY: SG

March 14, 2003

Mr. Steve Goodman
Project Manager
APS
P.O. Box 53933 Station 4030
Phoenix, AZ 85072-3933

Dear Mr. Goodman:

Thank you for your letter dated March 5, 2003 regarding the proposed West Valley South Transmission Line Project.

After our meeting and telephone conversations the decision has been made that we will not oppose placing a 230 kilovolt line along Perryville Road on the West side of Section 34. Please feel free to contact me with any further questions or concerns at 623-853-0304 ext. 6102.

Sincerely,

D.C. Harkins
Deputy Warden, Complex Operations

DH/cs

GOODYEAR ✦ LITCHFIELD PARK
AVONDALE ✦ TOLLESON
SOUTHWEST VALLEY
CHAMBER OF COMMERCE

March 11, 2003

Mr. Jan Bennett
Vice President, Customer Service
Arizona Public Service
P.O. Box 53999
Phoenix, Arizona 85072-3999

Dear Mr. Bennett:

On behalf of the Southwest Valley Chamber of Commerce, I would like to take this opportunity to commend APS on its extensive and inclusive public participation process that it initiated for the proposed West Valley South Transmission Line Project.

Like many other interested and impacted parties throughout the study area, the Chamber was approached early in the planning process, which enhanced our ability to provide meaningful and productive comments to the line siting team. Accordingly, the Chamber remains supportive of the overall project.

As we have expressed our support for previous projects pursued by APS, the tremendous amount of growth in the western region of Maricopa County has established an increased demand for reliable electricity. As the Chamber continues to support manageable growth in the region, we understand the importance of developing the infrastructure needed to support the corresponding development. In addition, as the Chamber continues its focus on preserving the mission viability of Luke Air Force Base, we further appreciate APS' ongoing effort to proactively work with base officials in order to protect the installation's ability to conduct its vital mission.

Again, the Chamber appreciates your willingness to have a significant dialogue on the related issues as we work together to ensure that this region has the capacity to meet the energy demands for the foreseeable future.

Sincerely,

Sharolyn

Sharolyn Hohman
President/CEO

RECEIVED
MAR 12 2003
JAN H. BENNETT

289 North Litchfield Road · Goodyear, Arizona · 85338 · 623.932.2260 · Fax 623.932.9057
www.southwestvalleychamber.org · info@southwestvalleychamber.org

PHILIP J HANSON
1700 WEST WASHINGTON, SUITE H
PHOENIX, ARIZONA 85007-2890
CAPITOL PHONE: (602) 542-3255
CAPITOL FAX: (602) 417-3009
TOLL FREE: 1-800-352-8404
phanson@azleg.state.az.us

DISTRICT 9

COMMITTEES:
CHAIRMAN, COMMERCE AND MILITARY AFFAIRS
PUBLIC INSTITUTIONS AND COUNTIES
HEALTH
NATURAL RESOURCES, AGRICULTURE, WATER AND NATIVE AMERICAN AFFAIRS

Arizona House of Representatives
Phoenix, Arizona 85007

January 6, 2003

Mr. Jan Bennett
Vice President, Customer Service
Arizona Public Service
P.O. Box 53999
Phoenix, Arizona 85072-3999

Dear Mr. Bennett:

On behalf of my constituents, I have continued to monitor the progress of the public participation process presently underway regarding the APS West Valley South Transmission Line Project.

While the siting of transmission lines is never an easy task, I understand that the need for the project is based on the existing energy demands and projected population growth of the West Valley. Certainly, reliable energy is critical to the region's ability to attract new employment centers as well as meet the electricity demands of current and future residents.

As I have received several updates on the project's status, I am aware that residents were given the opportunity to express their concerns on the proposed routes and corridors. It is my understanding that most residents who had this opportunity preferred the route ultimately selected. Accordingly, I appreciate that APS, when feasible, lessened the impacts on communities within the study area.

Therefore, based on APS' commitment to genuine public participation, I remain in support of the West Valley South Transmission Line Project.

Sincerely,

Phil Hanson

Phil Hanson
State Representative
District 9

ph/am

Maricopa County

Board of Supervisors

RECEIVED
JAN 06 2003
BY:.....

Max W. Wilson
District 4
301 W. Jefferson, 10th Floor
Phoenix, Arizona 85003-2148
Phone: (602) 506-7642
FAX: (602) 506-4989
TDD: (602) 506-2966
www.maricopa.gov

December 19, 2002

Mr. Steve Goodman
Arizona Public Service
Mail Station: 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: **West Valley-South Project**

Dear Mr. Goodman:

I have reviewed the information provided by you on the preferred system option of the 230kv transmission and the 230kv substation for the subject project. From our very first meeting, my main concerns were Loop 303 and the White Tank Mountain Regional Park. I realize that it is necessary to provide electrical service for the future growth in the vicinity. A lot of the growth is a result of the beautiful vistas and recreational opportunities available to residents in the areas around White Tank Mountain Regional Park. It is important that we do everything possible to preserve the existing attributes of the park.

I would encourage you to site the 230kv-transmission line and substation north of Olive Avenue and off the Loop 303. Olive Avenue is the main entrance access route into the park and would be severely impacted aesthetically by a major substation in close proximity. A Peoria Avenue alignment would be much preferred. I strongly disagree that Alternative 2 would be the preferred choice for this area.

Thank you for all your time on this matter.

Sincerely,

Max W. Wilson
Supervisor - District Four

cc: Corporation Commission
Bear Shimmin, Sun City Collation

Maricopa County

Parks and Recreation Department

411 N. Central Avenue
Suite 470
Phoenix, Arizona 85004
Phone: (602) 506-2930
Fax: (602) 506-4692
www.maricopa.gov/parks

RECEIVED
JAN 06 2003
BY:.....

December 17, 2002

Mr. Steve Goodman
Arizona Public Service
Mail Station: 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: **West Valley-South Project**

Dear Mr. Goodman:

We have reviewed the information provided by you on the preferred system option of the 230kv transmission and the 230kv substation for the subject project. We realize that it is necessary to provide electrical service for the future growth in the vicinity of White Tank Mountain Regional Park. A lot of the growth is a result of the beautiful vistas and recreational opportunities available to residents in the areas around White Tank Mountain Regional Park. It is important that we do everything possible to preserve the existing attributes of the park.

We would encourage you to site the 230kv transmission line and substation as far north of Olive Avenue as possible. Olive Avenue is the main entrance access route into the park and would be severely impacted aesthetically by a major substation in close proximity. A Peoria Avenue alignment would be much preferred. Alternative 2 would be our least preferred choice.

Thank you for your consideration in this matter.

Sincerely,

William C. Scalzo, Director

cc: Don Stapley, Chairman, Board of Supervisors, District 2
Fulton Brock, Board of Supervisors, District 1
Andrew Kunasek, Board of Supervisors, District 3
Max Wilson, Board of Supervisors, District 4
Mary Rose Wilcox, Board of Supervisors, District 5
Parks and Recreation Commission Members
Bill VanAusdal, Deputy Director, Parks and Recreation
Jennifer Lawrence-Harris, Westside Superintendent, Parks and Recreation
Ken Taylor, Park Supervisor, Parks and Recreation
Central Files and Chrono Files

WCS/KM/ng
S:\Natalie\Bill Scalzo\APS230KVSiting12-17-02.DOC

MWD

August 28, 2002

Mr. Steve Goodman
Arizona Public Service
Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933

Re: West Valley-South Project

Dear Mr. Goodman:

As requested in your letter of July 18, 2002, the Board of Directors of the Maricopa Water District discussed the line siting alternatives of the above referenced project at its meeting on August 13, 2002. Specifically, the four north-south alignments illustrated on the 5/14/2002 map that accompanied your letter were considered. Those four are 1.) Tuthill Road 2.) Beardsley Canal 3.) Perryville Road and 4.) Loop 303.

It is the consensus of the MWD Board that the Tuthill Road alignment offers the least invasive impact to the greatest number of people as well as the least costly alternative. MWD supports this alternative and urges its recommendation to the Arizona Corporation Commission.

The Beardsley Canal and the Perryville Road alignment are of serious concern to MWD.

Initially, the District is concerned that the Beardsley Canal alignment has been prominently featured in the various public input sessions conducted by APS with minimal consultation with its owner. The Beardsley Canal and its associated land rights are MWD's major revenue and water transportation corridor. In addition to water delivery, the corridor is utilized for several telecommunication facilities and will undoubtedly experience future expanded use in this regard.

The Beardsley corridor is a major component of regional water resource planning efforts being conducted in the West Salt River Valley by WESTCAPS (a coalition of 12-13 Central Arizona Project subcontractors) and the United States Bureau of Reclamation. There is a strong probability of construction, expansion, and modification of the canal as well as construction of other facilities such as pipelines within the canal

MARICOPA WATER DISTRICT
P.O. Box 900, Waddell, AZ 85355-0900 ◆ (623) 546-8266 ◆ FAX (623) 584-2536

right-of-way. The Arizona-American Water Company (formerly Citizens Water Resources) is currently planning construction of a regional water treatment plant on property adjacent to the canal which will treat many of the regional CAP water supplies transported through the canal. Clearly, construction of a 230/69 kV transmission line within or adjacent to the Beardsley Canal would jeopardize utilization of this facility for its highest and most productive use.

The Perryville Road alignment is only one-half mile from the Beardsley Canal and poses many of the same concerns. Additionally, it is adjacent to the existing and planned concentration of residential development within the Maricopa Water District. Use of this route would have serious negative economic and aesthetic impacts on these population concentrations. Several of the District's landowners that live in this area have expressed concern about the Perryville Road route to the MWD Board.

Thank you for the opportunity to comment on the proposed alternative routes of the APS power transmission facilities. MWD requests that it be kept fully informed of further development of the project, especially as it may impact the District's property and facilities.

Sincerely,

James R. Sweeney
General Manager

Cc: MWD Board of Directors

MARY HARTLEY
DISTRICT 20
STATE SENATOR
FORTY-FIFTH LEGISLATURE

COMMITTEES:
FAMILY SERVICES, Chairman
EDUCATION
HEALTH

CAPITOL COMPLEX, SENATE BUILDING
PHOENIX, ARIZONA 85007-2890

PHONE (602) 542-4485
TOLL FREE 1-800-352-8404, X4485
FAX (602) 542-3429

E-MAIL mhartley@azleg.state.az.us

Arizona State Senate

January 6, 2002

Mr. Jan Bennett
Vice President, Customer Service
Arizona Public Service
P.O. Box 53999
Phoenix, AZ 85072-3999

Dear Mr. Bennett:

Several times over the last few months I have received a one-on-one briefing on the proposed APS West Valley South Transmission Line project. It was most helpful to have these briefing since this project will impact the constituents in my legislative district.

Such transmission lines are important to the development of communities, but are never popular. I do understand that it is imperative that adequate transmission capacity exist to respond to the future energy needs of the area.

During the briefings I gained a better understanding of the public outreach efforts used and sincerely appreciate that APS worked diligently to develop a preferred route that can be supported by a majority of the individuals, jurisdictions and interested parties.

It is my sincere hope that APS will continue to work with neighborhoods and municipal governments to address any remaining issues in the manner that has been so effective thus far.

Sincerely yours,

MARY HARTLEY
State Senator

dh

NEWSPAPER ARTICLES

Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

ARIZONA REPUBLIC
PHOENIX, AZ
WEDNESDAY 498,234
DEC 18 2002

ARIZONA CLIPPING SERVICE
1600,RM

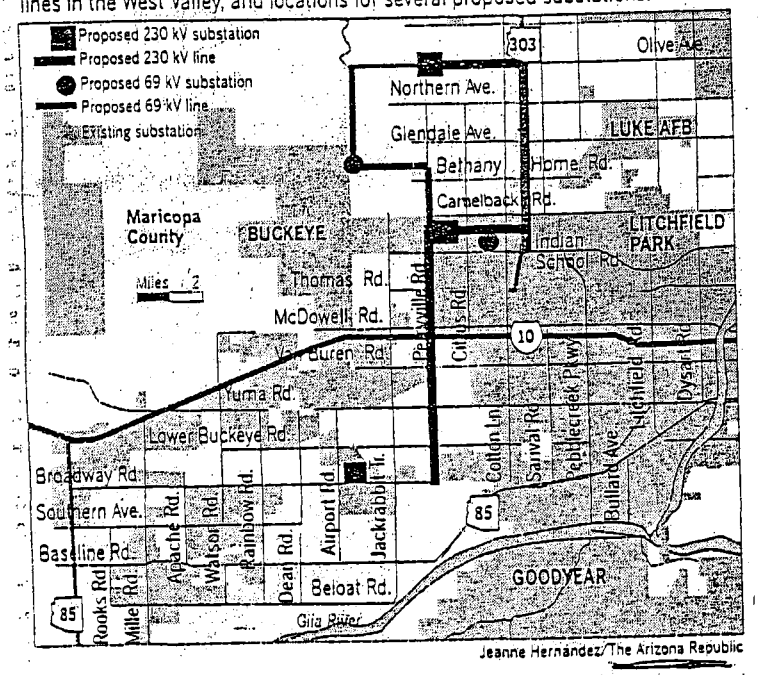
82 PL

CORRECTION

A map in Friday's Community sections showed the wrong preferred route for APS power lines in the West Valley. The correct map is shown here.

New power lines

APS has selected its preferred route for new 230- and 69-kilovolt power lines in the West Valley, and locations for several proposed substations.



Jeanne Hernández/The Arizona Republic

ARIZONA REPUBLIC
PHOENIX, AZ
FRIDAY 498,234
DEC 13 2002

Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

ARIZONA CLIPPING SERVICE
1600RM
82 PL

APS power-line route won't disrupt views

By Marty Sauerzopf
The Arizona Republic

A proposed high-voltage power line through the far West Valley won't cut right in front of the White Tank Mountain range after all.

Arizona Public Service Co. has settled on a proposed route for the planned 230-kilovolt lines that some residents feared would loom over their back yards and disrupt their mountain views. The proposed route, which will soon be submitted to the state Corporation Commission's Siting Committee, calls for a 230-kv line along Perryville Road that jogs east near Indian School Road then continues north along the Loop 303, just east of Cotton Lane.

Some smaller, 69-kilovolt lines are still planned closer to the White Tank range, but APS officials said that they will be strung along 60-foot-high poles, instead of the 130-foot structures the higher-voltage lines require.

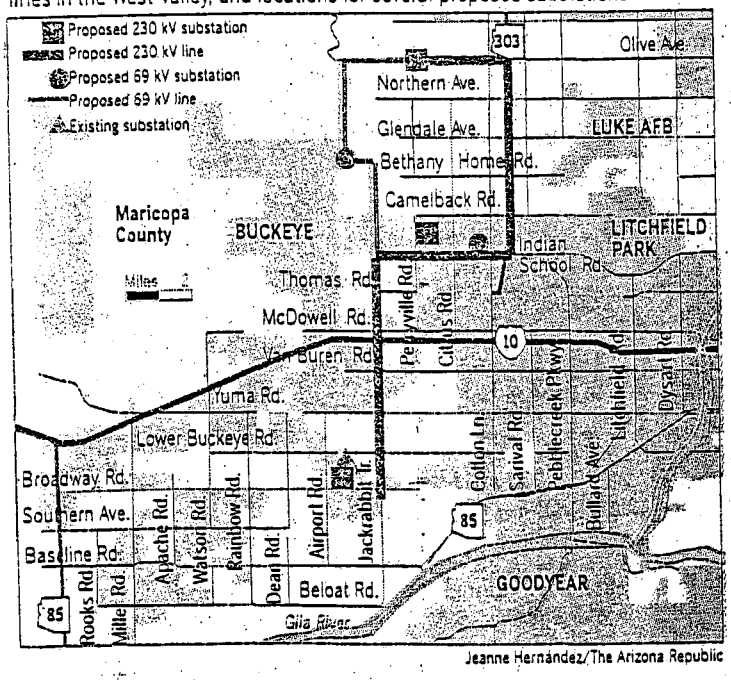
The area just east of the White Tank range was of particular concern when APS rolled out a series of alternative routes as part of its West Valley-South power line project. The lines are being planned to deal with explosive growth in the area.

Residents of the Clearwater Farms and Sonoran Ridge areas east of the mountains were particularly disturbed by several of the early alternatives, saying their neighborhoods would be surrounded by looming power poles.

APS project manager Steve Goodman said the proposed route would be submitted in the next several weeks, and public hearings would likely be scheduled in the spring.

New power lines

APS has selected its preferred route for new 230- and 69-kilovolt power lines in the West Valley, and locations for several proposed substations.



Jeanne Hernández/The Arizona Republic

West Valley View
Avondale, AZ
Weekly 40,000
December 11, 2002

Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

APS seeks OK for power lines, substations project

To file application with ACC within 2 months

by Darryl Henning
associate editor

Now that the research and development is done, it's time to seek formal approval.

That's the situation for Arizona Public Service Co. and its West Valley-South Power Line & Substation Project, charged with establishing the route for a 230-kilovolt power line and the siting of three 230kV substations and a dozen 69kV substations, as well as a network of power lines to connect the substations.

APS initiated the project in November 2001, and recently completed analysis of the engineering, environmental and construction data for the project, as well as the public-hearing process in which it elicited input from government and community leaders and the general public.

"We'll file an application for a Certificate of Environmental Compatibility with the Arizona Corporation Commission in January or February," Project Manager Steve Goodman said Dec. 5.

The ACC then will schedule a hearing 45-60 days later.

"We anticipate the hearing sometime in the spring," Goodman said.

The hearing, before the ACC's Arizona Power Plant and Transmission Line Siting Committee, will be open to the public.

"People can elect to be a formal intervener in the process or just provide public comments," explained Maria Arellano, assistant project manager.

Some people expressed concerns about the project during open houses conducted by APS over the past year. Arellano said she didn't know if that discontent would be conveyed to the Siting Committee.

"What we try to do is strike a balance" between the project's construction needs and the interests of the communities and people to be affected by the project, she said.

"But we encourage people to participate in the public process," Goodman added.

"We've sent out newsletters and are doing briefings with community leaders and city jurisdictions in the West Valley to let them know what our recommendations are," Arellano said. "The meetings have been going very well."

After conducting the hearing, the Siting Committee will make its recommendation to the ACC, which will issue a final decision on the project.

The proposed 69kV substations and lines do not require ACC approval, only the 230kV ones.

"We'll proceed with working with the affected parties and jurisdictions on the 69kV [substations] sites and lines," Arellano said.

The project, recommendations

During the information and public-input gathering process, APS received a wide range of comments on proposed locations for the 230kV and 69kV substations, as well as the transmission line routes. The company received some 1,200 comments on the subject.

"By involving and informing the public early in the process and keeping them involved today, we've been able to identify sites for these power lines and substations that make the most sense to the most people," Goodman said.

At roughly 18.5 miles long, the preferred option for the 230kV line is neither the shortest nor the longest route studied and evaluated. The route will run up Perryville Road to just north of Indian School Road, veer east to Loop 303 and then go north to Olive Avenue, where it will turn west to a 230kV substation northeast of Perryville Road and the Beardsley Canal.

"We hadn't looked at running along 303 initially," Goodman said. "But we got a lot of public comment asking us to study that possibility for the 230kV line.

"We did, and it turned out that it ranked fairly high [for public acceptance]."

APS thereby modified one of its studied alternate routes to reflect the public's suggestions.

Three 230kV substations sites were selected:

- At the northwest corner of Olive Avenue and the Beardsley Canal
- East of Perryville Road, between Camelback and Indian School roads
- North of Broadway Road, between Airport and Tuthill roads.

The preferred system will allow APS to consolidate some 69kV and 230kV transmission lines on the same structures, which will avoid the need to take existing facilities out of service during construction.

APS also worked with the Maricopa Water District, which opposed all transmission line routes on property it owned. Right-of-way acquisition issues with MWD also eliminated some otherwise viable routes from APS consideration.

For the latest information about the West Valley-South Project, visit siting.apsc.com on the Internet.

Darryl Henning can be reached by e-mail at dhenning@westvalleyview.com.

West Valley View
Avondale, AZ
Weekly 40,000
September 4, 2002

Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

APS power-line open house draws crowd

by Darryl Henning
Associate Editor

An Aug. 21 open house on Arizona Public Service Co.'s West Valley-South Project, involving the siting of three 230-kilovolt substations, 12 69-kV substations and routes for connecting transmission lines, drew upward of 200 people.

"It was a good turnout and very constructive " said APS' Maria Arrellano, assistant manager for the project. "People really did their homework."

Even those people who attended and voiced objections to some or all of the various options for substation sitings or transmission line routes were persuaded to do more than just vent, Arrellano said.

"They came in, we sat them down at tables and had them give information on what they wanted instead of just 'We don't want any power lines by my house,'" she said.

APS will analyze the input gathered at the latest open house, and assimilate it with other data collected.

"We've heard from a lot of folks, lots of stakeholders and owners. We also have had separate meetings with community planners, managers and leaders," Arrellano said. "We had our third set of meetings with them two weeks before the open house."

APS also continues to collect feedback from its project hotline, 623-932-6636, and from its project Web site — http://siting.apsc.com. The public still may offer feedback by those methods.

In the next phase of the project, APS will rank the system options based on the public input; environmental options, the study of which has been ongoing; construction considerations; engineering and system operating requirements; and the ability of APS to obtain needed rights-of-way.

"We'd expect to narrow down the options in the next five or six weeks," said West Valley-South Project Manager Steven Goodman.

The possible impacts of the project on Luke Air Force Base and its operations also have been explored.

"We've met and talked with them. We don't have anything in writing, but they have indicated to us that what we're proposing they don't see any problems with," Goodman said. "They're still doing some studies about our substations' possible effect on radar, but as for the power lines, they've indicated they don't see a problem."

As soon as APS determines its preferred option for the substation sitings and transmission line routes, it will submit an application for a certificate of environmental compatibility to the Arizona Corporation Commission's Power Plant and Transmission Line Siting Committee.

"That will be filed by the end of the year," Goodman said.

Siting Committee approval is required only for the 230-kV elements of the project, not for the 69-kV components, Arrellano said. Public hearings by the Siting Committee will be scheduled as part of the process before a decision is made.

ARIZONA REPUBLIC
PHOENIX, AZ
WEDNESDAY 498,234
AUG 21 2002

Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

ARIZONA CLIPPING SERVICE
16 00 R07

Pat Shannahan/The Arizona Republic

West Valley resident Tim Redburn (left) talks Wednesday with an employee of an environmental planning firm working with Arizona Public Service Co.

Power line plans still opposed

APS' latest proposals fail to satisfy residents

By Marty Sauerzopf
The Arizona Republic

GOODYEAR — Despite months of public input, Arizona Public Service Co. is still facing stiff opposition from far West Valley residents over power lines the utility says it needs to serve the growing area.

Some residents of the Clearwater Farms area near 187th and Glendale avenues said Wednesday that they are still irked about the proposed lines, despite revised alternative routes unveiled by APS this week.

"They do not care about the existing homes out here," resident Jack Hein said. "They care about the homes that are going to be built over the next 15 years. I'm really disappointed."

Residents have been concerned that the proposed 69- and 230-kilovolt power lines will hurt property values and affect the scenic area on the east side of the White Tank Mountains.

Hein said the latest route proposals appear to favor the DMB development company's upscale Verrado development, which broke ground this year. He said the route clearly bypasses DMB's property while the alternatives encircle neighborhoods.

Melissa Crawley, 47, of Goodyear, said the lines will be an eyesore.

"They're just going to disrupt the great views of the mountains, and that's a shame," she said.

In addition to the power lines, APS is planning to erect three 230-kV and a dozen 69-kV substations around a 330-square-mile swath of the West Valley. The 230-kV lines and substations will need the approval of the state Corporation Commission.

Maria Arellano, APS assistant project manager, said utility officials will consider public comments as they determine which preferred alternatives are the most feasible to build and operate efficiently. The routes will then be submitted to the state for final approval.

She said APS is trying to identify power line corridors that are acceptable to the public as well as having the capability of serving the growing population. APS estimates that 600,000 people will move to the West Valley by 2010.

APS will accept comments through the end of next week. Call (623) 932-6636 for information.

Arizona
Clipping Service

202 East McDowell Road, Suite 100
Phoenix, AZ 85004

WEST VALLEY VIEW
AVONDALE, AZ
WEEKLY 40,000
AUG 21 2003

ARIZONA CLIPPING SERVICE

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Wednesday Aug. 21

APS sponsors South Powerline and Substation Project open house

APS invites the community to attend a public open house, featuring new information on the West Valley-South Powerline and Substation Project. Citizens will have an opportunity to review and comment on the system options for power line routes and substation locations. The open house is from 5:30 p.m. to 7:30 p.m. at Scott Libby Elementary School-Activity Center, 18701 W. Thomas Road. For information, call 623-932-6636.

Arizona Clipping Service
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ARIZONA REPUBLIC
PHOENIX, AZ
WEDNESDAY 498,234
AUG 21 2002

ARIZONA CLIPPING SERVICE
1600RM A1
(SOUTHWEST SUP)

APS wants input on power lines

Invites public to see W. Valley plans

By Marty Sauerzopf
The Arizona Republic

West Valley residents concerned about future power stations and power lines being planned by Arizona Public Service Co. will be able to review the latest proposals at an open house tonight.

The utility will present a series of proposed routes for the 69-kilovolt and 230-kilovolt power lines that will eventually be strung throughout the southwest Valley to deliver power to the growing population.

Most controversial among the lines and substations are those just east of White Tank Mountain Regional Park. Some residents have argued that the lines would disrupt views of the mountains and would hurt property values of homes in the area.

Maria Arellano, assistant project manager for APS, said the utility has developed a series of alternatives for the area and hopes to get public reaction on the proposals.

"We'll show those at the open house, ask for more public input and start factoring in all the APS considerations, such as cost, constructability, right-of-way issues," she said.

The latest APS proposal calls for three 230-kilovolt substations, each of which would cover about 10 acres, said Steve Goodman, APS project manager. A dozen other 69-kilovolt substations would be dotted across 330 square miles of the West Valley, each covering about an acre. Goodman said the stations would be built over the next eight years as growth necessitates the need for power.

Locations of the 69-kilovolt substations and lines will not need approval from the state Corporation Commission, but the 230-kv stations and lines will, Arellano said.

Reach the reporter at marty.sauerzopf@arizonarepublic.com or (602) 444-6920.

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ARIZONA REPUBLIC
PHOENIX, AZ
WEDNESDAY 498,234
AUG 21 2002

ARIZONA CLIPPING SERVICE
1600RM PBS

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PL

TONIGHT IN LITCHFIELD PARK

WHO'S MEETING	Arizona Public Service open house.
KEY ISSUE	The utility will show residents the latest possible locations of power lines and substations around the West Valley.
WHY IT'S IMPORTANT	Some residents have objected to lines planned near the White Tank Mountains, fearing they will disrupt views.
WHEN/WHERE	5:30-7:30 p.m. at Scott Libby Elementary School, 18701 W. Thomas Road.

West Valley View
Avondale, AZ
Weekly 40,000
August 21, 2002

Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

APS hosts power line open house

by Darryl Henning
Associate Editor

After months of gathering public input, engineering research and environmental data as part of its West Valley-South Power Line and Substations Siting Project, Arizona Public Service Co. will hold another open house Aug. 21 to reveal their results to date.

The open house will be conducted between 5:30 p.m. and 7:30 p.m. Aug. 21 in the Activity Center at Scott Libby Elementary School, 18701 W. Thomas Road at Perryville Road.

The West Valley-South Project was started in November 2001 in preparation for siting three 230-kilkvolt substations, as many as a dozen 69kV substations and a network of power lines to connect those substations.

To date, APS has developed four acceptable system options based on environmental compatibility and public input. The siting options involve an area southeast of White Tank Mountain Regional Park: as far east as Loop 303, south to Broadway Road and north to Olive Avenue.

Three of the acceptable options (A, C and D) generally would route the 230kV transmission line from near the Liberty Substation in Buckeye along Perryville Road, with varying methods of taking it past the Beardsley Canal; option B would zig-zag the 230-kV line from the Liberty Substation (at Broadway and Tuthill roads), along a Tuthill Road alignment to McDowell Road, east to Perryville Road and then north to just above Indian School Road, then east to Cotton Lane and northerly along Loop 303 to Olive Avenue, then west to the Beardsley Canal.

Two sites for 230kV substations and three sites for 69kv substations are identified, the same locations set forth in all four options.

APS evaluated additional 69kV substation sites and power line routes, all of which will be on display at the open house as well.

Project representatives from APS also will be present to talk with and to ask questions, and public input about the latest developments in the project will be taken.

After the open house, APS will rank the system options based on environmental impacts, public input, construction considerations, engineering and system-operating requirements, and the ability to secure rights-of-way. Subsequently, APS will announce its recommendations to the pubic.

Thereafter, APS will seek regulatory approval for the 230kV facilities, which will involve submitting an application for a certificate of environmental compatibility from the Arizona Corporation Commission's Power Plant and Transmission Line Siting Committee. That application is expected to be submitted this fall.

For more information on the West Valley-South Power Line & Substation Siting Project, or to comment on the possible routes or substation sites, call the project hotline at 623-932-6636, or visit the APS Siting Web site at http://siting.apsc.com.

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WEST VALLEY VIEW
AVONDALE, AZ
WEEKLY 40,000
AUG 14 2002

ARIZONA CLIPPING SERVICE
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APS hosts power line open house

by Darryl Henning
associate editor

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Darryl Henning can be reached by e-mail at dhenning@westvalleyview.com.

Arizona
Clipping Service

202 East McDowell Road, Suite 100
Phoenix, AZ 85004

Surprise Independent
Sun City, AZ
Weekly 12,000
June 26, 2002

APS may line 303 with substations

By Matt Loeschman
Independent Newspapers

As the debate over Loop 303 rages on, Arizona Public Service is considering lining the route with several electrical substations.

"This is an issue that has been discussed since last December," explained Maria Arellano, an assistant project manager in the APS siting department. "We have discussed utilizing the 303 as a location for both 230 kilovolt and 69 kilovolt substations. It is likely that 230 kilovolt lines will go up along the route. We're not talking about the huge towers, though.

"We are still in the planning stages at this point. We've had a number of public meetings with the community and different leaders," she added. "More meetings are scheduled and we plan to show everyone, based on compatibility studies, which routes we will recommend to carry forward for further study."

If the project is approved, many of the substations will be placed in Surprise.

"This is just one of many possible choices," Ms. Arellano said.

The company has included information on the substations in its latest monthly newsletters.

"We've received plenty of input from the public. The two biggest factors in making this decision are public input and environmental concerns.

"We will forward our recommendations to the siting committee."

The Arizona Corporation Commission is the final authority for siting decisions.

APS is planning another public meeting on the issue in late July, Ms. Arellano said.

"After that meeting, some choices will be eliminated and others will be carried on for recommendation," she explained. "The regulatory process will take quite a while."

The entire project would not be complete for several years, Ms. Arellano said.

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WEST VALLEY VIEW

AVONDALE, AZ.
WEEKLY 40,000
MAY 22 2002

ARIZONA CLIPPING SERVICE

1600RM

APS open houses on lines, substations draw crowds

Two open houses last week to discuss possible locations for several new electricity substations and accompanying transmission lines garnered strong turnouts.

Arizona Public Service Co.'s West Valley-South Project is studying possible locations for three 230 kilovolt substations and up to 12 69kV substatops, as well as accompanying 230 kV and 69kV transmission lines. The company held three open houses in April, and after factoring in the data and comments gathered from them, scheduled two like meetings last week — the first, May 15 at the Buckeye Community Center, and the second the next night at Scott Libby Elementary School.

"They went real well. We had about 175 people turn out last night," Maria Arellano, assistant project manager, said May 17. "The comments received were really constructive. They were well thought-out opinions."

APS also has had a number of meetings with municipal and community leaders to keep them apprised and obtain input from them.

"We have a meeting with a homeowners' association scheduled soon as well," Arellano added.

APS will collate the opinions received from meetings and open houses along with environmental data being gathered and formulate final construction routes, on which it will conduct other public meetings and gather final comments.

"Then we'll submit the plan to the Siting Committee [of the Arizona Corporation Commission] for its recommendation to the ACC," Arellano said, adding that she expected APS to finalize its plans this summer.

Updates on the project can be gotten or further comments given by visiting http://siting.apsc.com on the Internet or by calling 623-932-6636.

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WEST VALLEY VIEW
AVONDALE, AZ
WEEKLY 40,000
MAY 15 2002

ARIZONA CLIPPING SERVICE

APS seeks public input

The APS West Valley Power Line Project holds two open houses to provide overview of the proposed power line sites, public responses, new substation locations, and environmental engineering, right-of-way and construction factors. The first open house is from 5:30 to 7:30 p.m. today at the Buckeye Community Center, 201 Centre St.; the second is from 5:30 to 7:30 p.m. Thursday at Scott Libby Elementary School's activity center, 18701 W. Thomas Road.

Arizona
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202 East McDowell Road, Suite 100
Phoenix, AZ 85004

Arizona Republic
Phoenix, AZ
Wednesday 498,234
May 15, 2002

West Valley residents up in arms over power lines

By Marty Sauerzapf
The Arizona Republic

Late afternoon arrives with gusting winds in Jack Hein's grassy back yard, which is framed by a small chain-link fence and spills into the remote desert terrain and the rolling hills of the White Tank Mountains.

Growth's steady march will soon arrive at Hein's neighborhood near 186th and Glendale avenues, powered by black transmission lines strung across 120-foot-high poles.

Hein and other homeowners in the area are incensed by the proposed power corridor, which will slice between their neighborhood and the picturesque White Tank Mountains. Arizona Public Service Co., which is building the lines, isn't sure exactly where the poles will be erected. At the very least, Hein wants them pushed as far west as possible. But what he and other residents really want is APS to protect the views of the mountain range by putting the lines underground.

"We've got someplace on the west side of town that can compete with Scottsdale with the lifestyle and mountain views," Hein said as he stared at the mountains, which change colors as the sun moves west. "We can't understand why APS isn't a little more cooperative."

In addition to ruining the views, the lines would diminish property values and raise questions about the safety of the lines, Hein said.

APS officials said they understand the concern, but burying the lines is 10 times more expensive than stringing them along poles.

"You can imagine this is a fairness issue," said Maria Arellano, APS assistant project

See RESIDENTS Page B2

Dave Cruz/The Arizona Republic

Jack and Lisa Hein, whose home has spectacular views of the White Tank Mountains, are fighting APS over power-line poles.

RESIDENTS Riled by power plans

From Page B1

manager. "A lot of us live near overhead power lines. We can't decide that we're going to place them underground for one community and not another."

To put the lines underground, communities must create improvement districts that charge residents the cost of burying them.

"They have to come up with a funding mechanism to pay for that (cost) difference," Arellano said.

Residents said they are willing to pay, but the sparsely populated area would have a tough time footing the bill.

"We should get the least impact," resident Mike McConaughey said. "We're subsidizing property values for other developments. They (APS) are trying to run roughshod over us because there aren't that many people out here."

The residents hope to win support from DMB, which is building thousands of upscale homes on the southeastern face of the White Tanks.

David Nilsen, DMB project manager, said the developer also has concerns about the power-line routes. The company is waiting until late summer to see which routes APS recommends before deciding whether to push for underground lines or alternative routes.

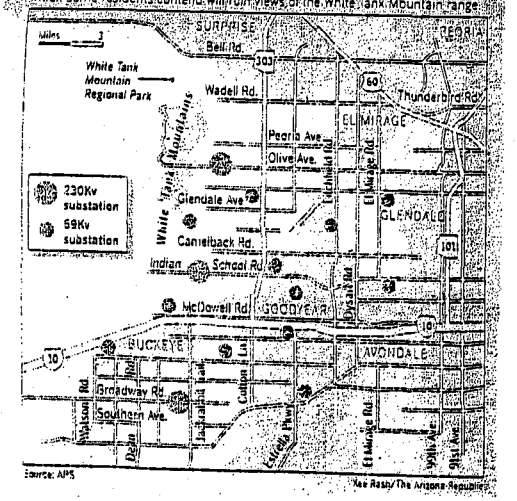
If you go

WHAT: Public meetings on APS' proposed West Valley substations and power lines.
WHEN: 5:30 to 7:30 p.m.
TODAY: Buckeye Community Center, 201 Center St.
THURSDAY: Scott Libby Elementary School, 18701 W. Thomas Road, Litchfield Park.
INFORMATION: (602) 493-4478 or siting.apsc.com.

> We've got someplace on the west side of town that can compete with Scottsdale with the lifestyle and mountain view.
>
> Jack Hein
> White Tanks area resident

Power struggle in the West Valley

APS plans more than a dozen West Valley power stations connected by power lines, which some residents contend will ruin views of the White Tank Mountain range.



Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

Preserve scenery, bury power lines, residents tell APS

Find out how e-mail can be a life-saver.

Marty Sauerzopf
The Arizona Republic
May 14, 2002 03:30:00

Late afternoon arrives with gusting winds in Jack Hein's grassy back yard, which is framed by a small chain-link fence and spills into the remote, dusty desert terrain and the rolling hills of the White Tank Mountains.

Growth's steady march will soon arrive at Hein's neighborhood near 186th and Glendale avenues, powered by black transmission lines strung across 120-foot-high poles.

Hein and other homeowners in the area are incensed by the proposed power corridor, which will slice between their neighborhood and the picturesque White Tank Mountains. Arizona Public Service Co., which is building the lines, isn't sure yet exactly where the poles will be erected.

At the very least, Hein wants them pushed as far west as possible. But what he and other residents really want is APS to protect the views of the sprawling mountain range by putting the lines underground.

"We've got someplace on the west side of town that can compete with Scottsdale with the lifestyle and mountain views," Hein says as he stares at the mountains, which change colors as the sun moves west. "We can't understand why APS isn't a little more cooperative."

In addition to ruining the views, the lines would diminish property values and raise health questions about the safety of the lines, Hein said.

APS officials said they understand the concern, but burying the lines is 10 times more expensive than stringing them along above-ground poles.

"You can imagine this is a fairness issue," said Maria Arellano, APS assistant project manager. "A lot of us live near overhead power lines. We can't decide that we're going to place them underground for one community and not another."

To put the lines underground, communities must create improvement districts that charge residents the cost of burying them.

"They have to come up with a funding mechanism to pay for that (cost) difference," Arellano said.

Residents said they are willing to pay, but the sparsely populated area would have a tough time footing the bill.

"We should get the least impact," resident Mike McConaughey said. "We're subsidizing property values for other developments. They (APS) are trying to run roughshod over us because there aren't that many people out here."

Hein said it makes no sense for residents to pay for burying the lines, then having to pay for the power they deliver.

"I might as well go down to Ford or General Motors and make my own car, then turn around and pay $30,000 to $40,000

for it," he said.

The residents hope to win support from DMB, which is building thousands of upscale homes on the southeastern face of the White Tanks, to help push APS to bury the lines. David Nilsen, DMB project manager, said the developer also has concerns about the power line routes. The company is waiting until late summer to see which power line routes APS recommends before deciding whether to push for underground lines or alternative routes.

"We try to work through things the best we can," Arellano said. "We're not going to make everyone happy, but we're going to try."

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BUCKEYE VALLEY NEWS
BUCKEYE, AZ
WEEKLY 2,300
MAY 9 2002

ARIZONA CLIPPING SERVICE
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APS will be hosting a Community Open House to discuss west valley-south power line and substation project on May 15, from 5:30 to 7:30 at the Buckeye Community Center located at 201 Center Street, in Buckeye.

Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

West Valley View
Avondale, AZ
Weekly 40,000
May 8, 2002

West Valley View

Open houses set for APS project

by Darryl Henning
staff writer

Arizona Public Service Co. has scheduled another round of open houses to present informatic to and gather input from the public about its West Valley-South Power Line & Substation Project.

The project involves placement of three 230-kilovolt substations and 12 69kV substations, as well as associated power lines. The substations and lines will serve customer demand in Avondale, Buckeye, Glendale, Goodyear, Litchfield Park and Maricopa County.

Two open houses have been scheduled; the first is from 5:30 to 7:30 p.m. May 15 at the Buck Community Center, and the second is during the same hours May 16 at Scott Libby Elementa School. Buckeye Community Center is at 201 Centre St. in Buckeye; Libby School is at 1875 W. Thomas Road, at the corner of Perryville Road.

"No formal presentations will be made at either open house," said Maria Arellano, APS assis manager of the West Valley-South Project. "People attending will be able to view charts and diagrams of the project, which take into consideration data researched and comments gathere by APS at previous open houses in March. They also will be able to talk with APS representatives and share their comments."

To date, APS has heard from about 300 people on the project. That includes telephone calls, comments from open houses and meetings with West Valley leaders and inquiries to the project's Web site, siting.apsc.com.

So far, the public has expressed two clear positions, according to the latest project update fro APS.

"... sentiment against any facilities along the Perryville Road alignment, between Bethany H Road and Northern Avenue, and sentiment in support of an alignment farther to the west," th report states.

Several people have invited APS representatives to address their homeowners associations.

"Some have expressed concern on the possible impact of electric facilities on property values few have expressed concern over electromagnetic fields; others have inquired about the feasibility of underground power lines," the report said.

APS will continue to seek public input on the West Valley-South project, factoring it into fin plans along with environmental, engineering, rights-of-way and other considerations.

APS' plans for the 230-kV substations will require approval from the Arizona Corporation Commission before construction can begin.

For information on the project or the open houses, call 623-932-6636 or visit http://siting.apsc.com on the Internet.

5/10/02

Darryl Henning can be reached by e-mail at dhenning@westvalleyview.com.

West Valley View
Avondale, AZ
Weekly 40,000
March 20, 2002

Arizona Clipping Service
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West Valley View

Search the West classifieds

APS power line open houses draw crowds

by Darryl Henning
Associate Editor

Arizona Public Service Co. officials are pleased with the turnout to a trio of public meetings t company conducted last week to inform the community about its West Valley-South transmission line and substation-siting project.

Now that the proposed route for a new 500-kilovolt power line through the West Valley has t approved by the Arizona Corporation Commission, APS is planning how to distribute that po in usable quantities to residential and commercial developments springing up here.

APS has identified possible locations and routes across the West Valley for up to three 230kV lines and as many as 12 substations for 69kV lines.

The three open houses — March 12 at The Wigwam Resort, March 13 at the Destiny Phoeni West RV Park in Buckeye and March 14 at Duncan Family Farms in Goodyear — were inten to involve the public in the siting and planning process, said APS' Maria Arellano, assistant manager for the West Valley-South siting project.

"We already had met with city and community leaders last month. We sought the input of the community directly with these open houses," Arellano said.

And the community turned out — particularly to the third open house.

"We had about 40 people the first night and about a dozen Wednesday night. But tonight's turnout is very impressive," Arellano said.

Between 5:30 and 6:15 p.m. that night, the diminutive meeting room at Duncan Family Farm: was jammed with people looking at charts on the project displayed around the room and talki with APS representatives about what the project entailed. More than 65 people came and left during that 45-minute period, and the open house continued until 7:30 p.m.

"We've received a lot of good input from government and community leaders and from these open houses," said Suzanne Pfister of BJ Communications, the Phoenix public relations firm helped APS organize the open houses and that will help collate the input gathered from them.

APS and BJC had mailed out 72,000 informational fliers about the project and open houses a few weeks ago to Avondale, Buckeye, Goodyear, Litchfield Park, Waddell and other West Valley residents. Copies of the flier, which contained a multi-color map showing areas contemplated for substations and power line routes, were on hand at the open houses.

Narrowing down the choices

The input gathered from the open houses and prior meetings with government and communit leaders will be collated and used to modify APS' initial siting plans.

"We'll narrow down the alternatives based on various factors," Arellano said.

Among those factors, according to APS' informational flier, are the public input, environmen considerations and possible impacts on scenic views, historic and archaeological sites and biological resources.

"We'll factor all the comments we receive from the open houses and from the cities and town and then prepare narrowed-down and amended alternatives for line routes and substation site: which we will present at another series of open houses sometime in late April," Arellano said APS then will take the public input from that second series of open houses and once again fa it into plan amendments. Each proposed substation site and power line segment also will be analyzed to determine historical or archaeological impacts and then evaluated by resource specialists to assess what overall potential impact each alternative may have.

"Finally, routes will be combined into complete system options that meet the electrical needs projected by APS within the study area," according to APS' project informational flier.
"Additional public input will be solicited, then APS will rank the system options based on electrical system requirements; right-of-way acquisition; costs of construction, operation and maintenance; environmental impacts; and public concerns."
Once all of those parts of the siting process are complete — a process expected to take severa more months — APS will prepare its final plan for presentation to the Arizona Power Plant a Transmission Line Siting Committee of the Arizona Corporation Commission. The committe will evaluate the project and its impact on the community.
The Siting Committee will hold public meetings and take public comments. The committee th will make its recommendations to the ACC, which ultimately will decide whether to approve project and issue a certificate of environmental compatibility. The CEC is required before AP may begin construction.
For information on the status of the West Valley-South Project, call the project telephone information line at 623-932-6636 or visit http://siting.apsc.com on the Internet.

Darryl Henning can be reached by e-mail at dhenning@westvalleyview.com.

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WEST VALLEY VIEW
AVONDALE, AZ
WEEKLY 40,000
MAR 13 2002

ARIZONA CLIPPING SERVICE
77 .112.. 1600RM PAGE 11....

APS finds sites for substations

by Darryl Henning
associate editor

Now that the Southwest Valley 500-kilovolt electric transmission line proposed by Arizona Public Service Co. and Salt River Project has been approved, work is beginning in earnest on breaking up that power into more usable chunks.

In the project, formally called the West Valley-South Power Line and Substation Siting Project, APS has identified up to three 230kV substations and as many as a dozen 69kV substations as being needed to transport the power from the new 500kV power line into new neighborhoods that are and will be springing up across the West Valley.

The area covered by the project is large, extending west from Loop 101 to Oglesby Road in Buckeye. The lines and substations will provide electricity directly to Avondale, Buckeye, Glendale, Litchfield Park and Maricopa County.

"You can think of this as tributaries of the 500kV line," said APS' Maria Arellano, assistant project manager. "The project will serve very distinctive areas of need because of growth, and cover facilities that may be needed through 2009."

If all the developments planned for the West Valley are not built out, not all of the substation facilities will be constructed either, Arellano said.

On the other hand, "Some of the facilities will be needed very, very quickly, so we've already worked with developers and cities to site some of the substations that are needed," she added.

Four such substations already have been identified and sited, said APS Project Manger Steve Goodman.

"The Tuthill Substation has been set aside by DMB, developer of the former Caterpillar facility; the Watson Substation [at Buckeye and Rainbow roads] has been set aside by the Hancock Communities; Continental [Homes] has set aside the Wildflower Substation site [at Van Buren Street and Estrella Parkway]; and we're working with Avondale on the Colter Substation [along El Mirage Road between Camelback and Indian School roads]," Goodman said.

The Tuthill and Watson substations are 2003 projects, he added; the Wildflower Substation for 2002.

"The Colter Substation we're going to try to get built by June," Goodman said.

The 230kV substations will require about 10 acres apiece on which to build, Goodman said. By contrast, the 69kV substations will need between an acre and an acre-and-a-half.

"All of the substations we will try to make as nice as we can, with 10-foot stucco walls around them," Goodman said. "They're very low profile. Basically, all you'll see is the lines dropping down into them."

Public meetings planned

APS already met with municipal representatives Feb. 21 and various community leaders Feb. 22, at informal meetings held at The Wigwam Resort.

"All the westside communities were represented, and we got good input. They were good, working meetings," Arellano said.

APS will hold a series of public meetings next week to educate people in the West Valley about the project and gather public input about it. Last week, the company mailed out 72,000 informational newsletters about the project to West Valley residents.

"We want to involve the public, like we usually do, in our siting process on the entire project," Arellano said. "Our objective in siting is to get out ahead as much as possible, but the growth is so tremendous out here [West Valley]."

On similar past projects, APS held two public meetings to disseminate information and gather input. This time, three public meetings will be held, from 5:30-7:30 p.m.:

- March 12 — in the Arizona Room at The Wigwam Resort, 300 W. Wigwam Blvd. in Litchfield Park.
- March 13 — at the Destiny Phoenix West RV Park, 416 N. Citrus Road, north of Van Buren Street, in Buckeye.
- March 14 — at Duncan Family Farms, 17203 Indian School Road, at Cotton Lane, in Goodyear.

"Because the area of the project is so large, we wanted to make sure the public knows about it and they have the opportunity to give input on the conceptual map" for the substations, Arellano said.

For information, visit the project Web site at http://siting.apsc.com or call the project information line at 623-932-6636.

Darryl Henning can be reached by e-mail at dhenning@westvalleyview.com.

Arizona Clipping Service
202 East McDowell Road, Suite 100
Phoenix, AZ 85004

ARIZONA REPUBLIC
PHOENIX, AZ
SATURDAY 365,979
MAR 9 2002

ARIZONA CLIPPING SERVICE
82 1600 RM Pl.

Substations find smoother path

No one is fighting APS this time

By Marty Sauerzopf
The Arizona Republic

Arizona Public Service Co. is looking to build more than a dozen electrical substations and connecting power lines throughout the West Valley, but the effort isn't generating the negative feedback sparked by a recent 500-kilovolt powerline project.

In fact, West Valley communities concede that the new 69- and 230-kv power lines are a necessary part of their growing populations, and they are working with APS to find the best locations for the substations.

"When we have projects like this, we understand this is because our town is growing," said James Crean, Buckeye's economic-development director. "Our big bone of contention with the 500-kv was we didn't think it was going to serve us. With this, we need to work with them to support our growth."

The state Corporation Commission last month approved the 500-kv line, which will connect the Palo Verde Nuclear Generating Station with a new substation near Avondale.

Maria Arellano, assistant APS project manager for facility and transmission siting, said that project will bring more electrical capacity to the entire Valley. She said the new, smaller lines now being proposed would deliver power exclusively to West Valley homes.

"This is directly in response to the growth that's occurring in the area," she said.

The latest APS proposal calls for three 230-kv substations, each of which would cover about 10 acres, APS project manager Steve Goodman said. A dozen 69-kv substations would be dotted across a 330-

See APS Page 4

APS None fighting new lines

From Page 1

square-mile portion of the West Valley, each covering about an acre. Goodman said the stations would be built over the next eight years as growth necessitates the power.

APS already has had discussions with developers DMB and Hancock Homes to put substations within their projects in Buckeye.

Locations of the 69-kv substations and lines will not need approval from the Corporation Commission, but the 230-kv stations and lines will, Arellano said.

APS will hold three open houses next week for residents to comment on the plans. Specific substation sites have not been determined, but APS has outlined general areas where the stations should go.

Jerene Watson, community initiatives director for Goodyear, said the 69-kv substations and lines are generally less visible than higher-voltage projects.

"They're much more a blend into the landscape," Watson said. "They're pretty well hidden. Even the substations they do behind plantings and 8- and 10-foot walls."

Reach the reporter at *marty.sauerzopf@arizonarepublic.com* or (602) 444-6920.

If you go

Arizona Public Service Co. will hold three open houses to get public input on proposed new substations and power lines in the West Valley.

WHEN: 5:30 to 7:30 p.m. Tuesday.
WHERE: Wigwam Resort Arizona Room, 300 E. Wigwam Blvd., Litchfield Park.
WHEN: 5:30 to 7:30 p.m. Wednesday.
WHERE: Destiny Phoenix West RV Park, 416 N. Citrus Road, Buckeye
WHEN: 5:30 to 7:30 p.m. Thursday.
WHERE: Duncan Family Farms, 17203 W. Indian School Road, Goodyear.
INFORMATION: Call (623) 932-6636 or visit http://siting.apsc.com on the Internet.

Arizona
Clipping Service

202 East McDowell Road, Suite 100
Phoenix, AZ 85004

Arizona Republic
Phoenix, AZ
Saturday 365,979
March 9, 2002

APS substation plans generate little negativity

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BUCKEYE VALLEY NEWS
BUCKEYE, AZ
WEEKLY 2,300
MAR 7 2002

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Open House To Discuss West Valley-South Power Line & Substation Project

A series of three public open houses will be hosted by Arizona Public Service (APS) to announce the West Valley-South Project and involve citizens in the planning of power line routes and substation sites. APS is responding to the increasing demand for electricity in the West Valley and wants community involvement in the planning process. The proposed substations and power lines will directly serve customer demand in the communities of Avondale, Buckeye, Glendale, Goodyear, Litchfield Park and Maricopa County.

Where & When:

Tuesday, March 12, 5:30 p.m. to 7:30 p.m., Wigwam Resort-Arizona Room, 300 E. Wigwam Blvd., Litchfield Park (on Wigwam Blvd., between Litchfield Park & Dysart Roads).

Wednesday, March 13, 5:30 p.m. to 7:30 p.m., Destiny Phoenix West RV Park, 416 N. Citrus Road, Buckeye (on Citrus Road, north of Van Buren Street).

Thursday, March 14, 5:30 p.m. to 7:30 p.m., Duncan Family Farms, 17203 W. Indian School Road, Goodyear (on Indian School, east of Cotton Lane).

The West Valley population is increasing faster than any other area of the Valley. The demand for electricity will continue to grow with the expansion of housing developments, businesses, schools and jobs in the West Valley.

For more information, please call our information phone line at 623-932-6636 or visit the APS Web site at http://siting.apsc.com.

NEWSLETTERS AND FACT SHEET

OVERSIZED MAP

-Project Update Number 1

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET L-00000D-03-0122-00000

OVERSIZED MAP

-Project Update Number 2

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET L-00000D-03-0122-00000

OVERSIZED MAP

-Project Update Number 3

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET L-00000D-03-0122-00000

OVERSIZED MAP

-Project Update Number 4

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET L-00000D-03-0122-00000

EXHIBIT
A-2
Admitted

WEST VALLEY-SOUTH

Power Line and Substation Project

WEST VALLEY-SOUTH
POWER LINE & SUBSTATION PROJECT

Application for a Certificate of Environmental Compatibility

SUPPLEMENTAL PACKET

Submitted by

APS

August 2003

TABLE OF CONTENTS

	SECTION
TESTIMONY PRESENTATION SLIDES	I
PHOTOGRAPHS AND VISUAL SIMULATIONS	II
AGENCY CORRESPONDENCE	III
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SECTION I

TESTIMONY PRESENTATION SLIDES

WEST VALLEY-SOUTH

Power Line and Substation Siting Project

Application for a Certificate of Environmental Compatibility

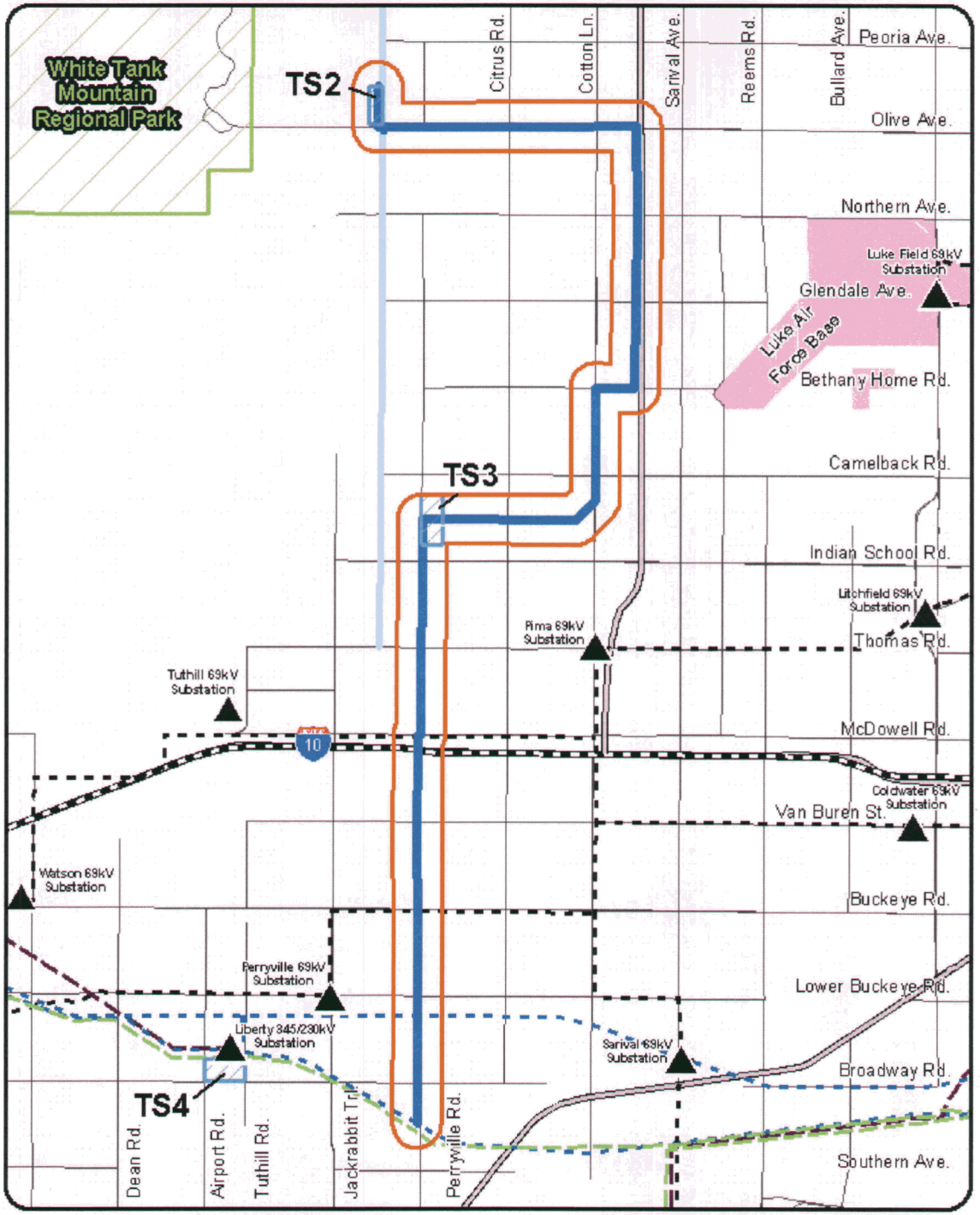
Prepared for

Arizona Corporation Commission

Arizona Power Plant and Transmission Line Siting Committee

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT


White Tank Mountain Regional Park
TS2
TS3
TS4
Citrus Rd.
Cotton Ln.
Sarival Ave.
Reems Rd.
Bullard Ave.
Peoria Ave.
Olive Ave.
Northern Ave.
Luke Field 69kV Substation
Glendale Ave.
Luke Air Force Base
Bethany Home Rd.
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Thomas Rd.
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Tuthill 69kV Substation
10
McDowell Rd.
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Van Buren St.
Watson 69kV Substation
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Perryville 69kV Substation
Lower Buckeye Rd.
Liberty 345/230kV Substation
Sarival 69kV Substation
Broadway Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl
Perryville Rd.
Southern Ave.

Introduction

- The West Valley-South Project helps meet a significant need for more power in the fast growing West Valley.
- The West Valley-South Project is environmentally compatible.
- The West Valley-South Project is the result of an extensive public process.

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WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Witnesses

- Bob Smith – Transmission System
- Stan Sierra – Subtransmission and Distribution System
- Steve Goodman – Project Description
- Randall L. Simpson – Environmental Studies

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WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Transmission System Overview

Bob Smith

Arizona Public Service

Transmission Planning

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Witness Background

- Educational background
  - BS Pharmacy, University of Utah
  - MSEE, New Mexico State University
- Professional background
  - 17 years of experience in electric utility industry transmission operations and planning
  - APS transmission operations manager 1997-2002
  - APS transmission planning manager since November 2002
  - Arizona registered professional engineer
  - 12 years extensive involvement with WECC
  - Member of various planning committees, e.g., CATS

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WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Outline of Testimony

- Transmission System Functions
- Transmission Planning Objectives/Benefits
- West Valley Transmission Projects

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WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Transmission System Functions

- Move generation to load
- Energy transactions between systems
- Substations
  - switching
  - voltage transformation
- Local transmission

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WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Transmission Planning Objectives/Benefits

- Support load growth – subtransmission (69kV) expansion or increased loading
- Increase import capability into load pocket
- Increase outlet capability from generation hub
- Respond to interconnection or transmission service requests

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WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

West Valley Transmission Plan

- APS 10-Year Plan
- West Valley Projects
  - West Valley-South – TS2 to TS3 to Gila River/Rudd 230kV; TS4
  - West Valley-North – TS2 to Trilby Wash to TS5
  - 500kV Project – Palo Verde to TS5

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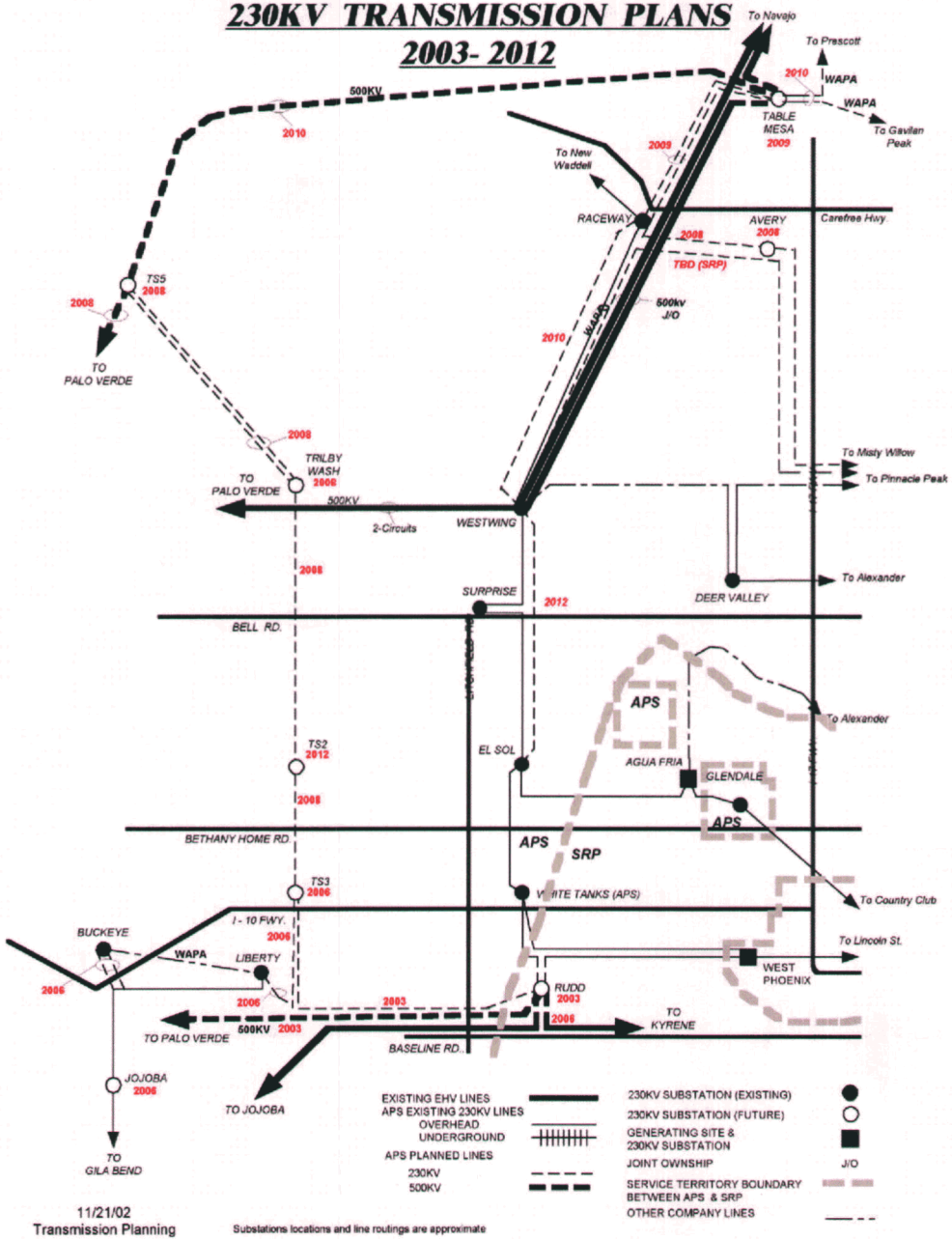
WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

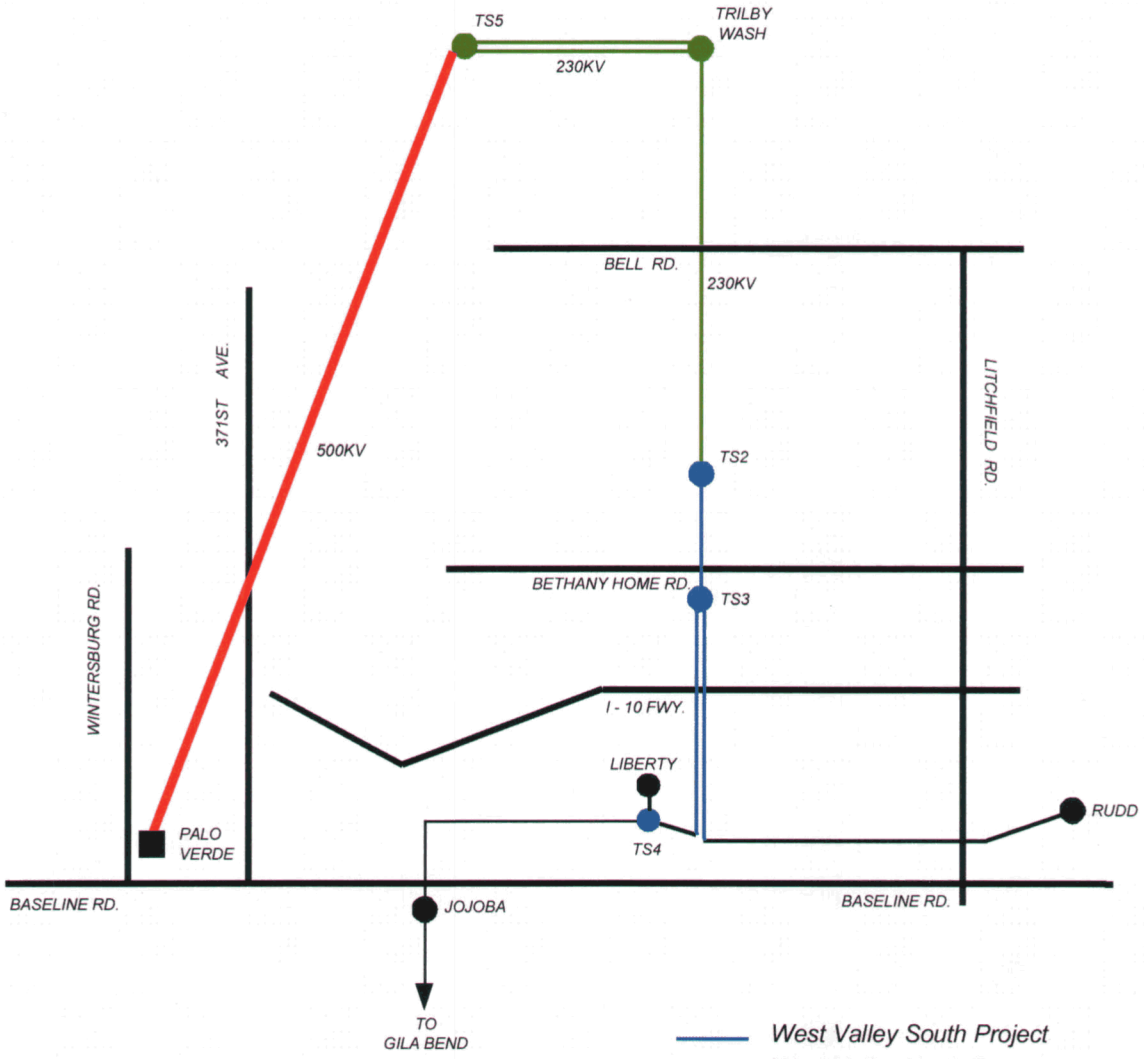
PHOENIX METROPOLITAN (WEST) AREA
230KV TRANSMISSION PLANS
2003- 2012



11/21/02
Transmission Planning

Substations locations and line routings are approximate

WEST VALLEY TRANSMISSION PROJECTS



Lines shown represent electrical connections only and not specific geographic locations.

Project Benefits

- Support load growth in West Valley
- Increase import capability
- Increase export capability from Palo Verde

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WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Subtransmission and Distribution System

Stan Sierra

Arizona Public Service Company
Transmission and Distribution
Asset Manager

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Witness Background

- BSEE, New Mexico State University
- APS Transmission and Distribution Asset Manager
  - Responsible for 12kV and 69kV systems planning
- Professional Background
  - 30 years of experience in electric utility industry
  - Registered Professional Engineer, Arizona

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Outline of Testimony

- Power Demand Forecasting Methodology – Project Need
- West Valley-South Area Peak Load Demand Forecast
- Area Growth Patterns 1998-2002
- Project Benefits

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WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Power Demand Forecasting

- Existing land uses
- Information provided by land developers
- Plans and zoning for applicable state, county, and local jurisdictions
- Land use data converted to electric demand load densities (e.g., MW per square mile)
- Electrical load demand forecast developed for an area

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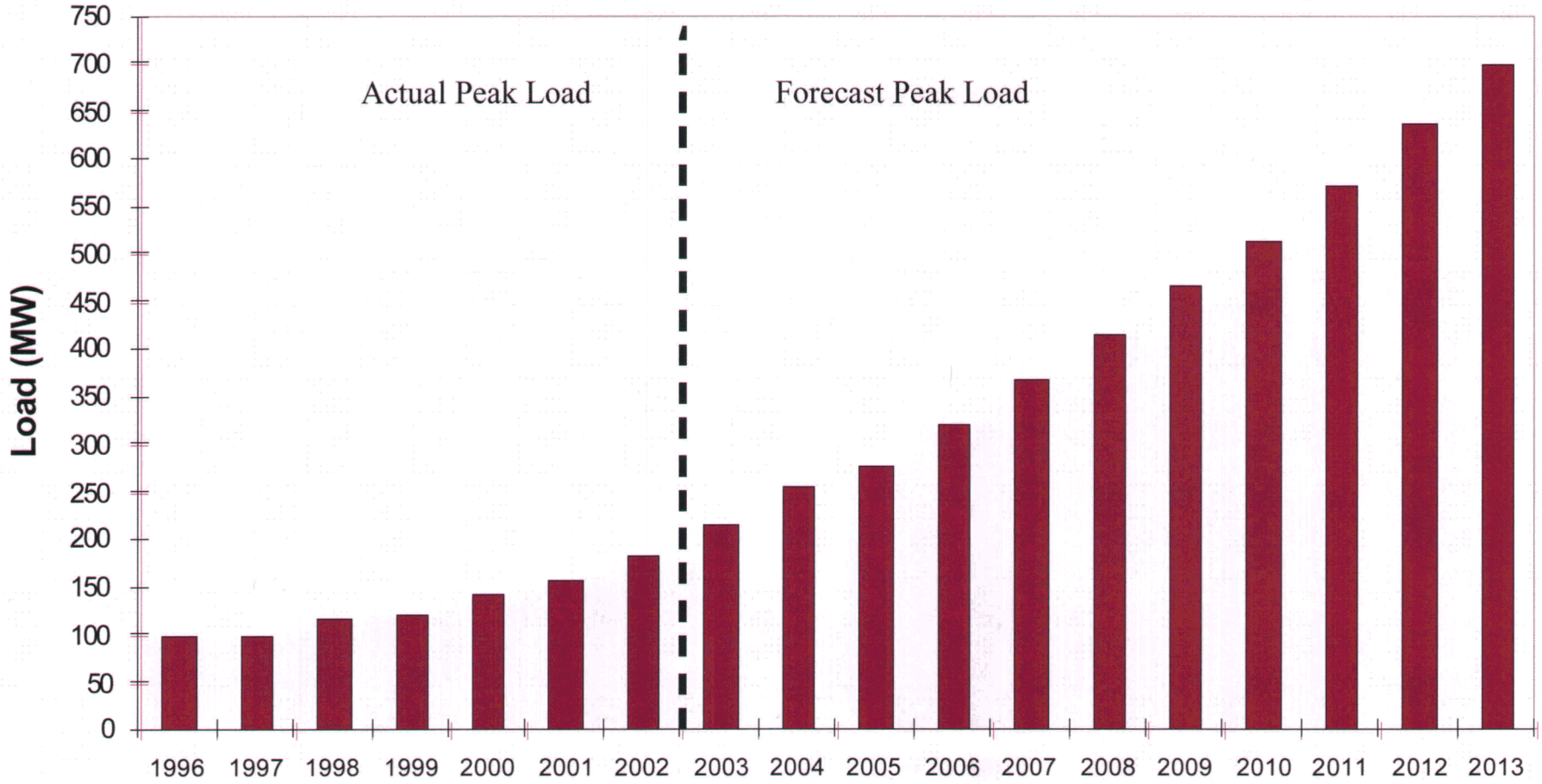
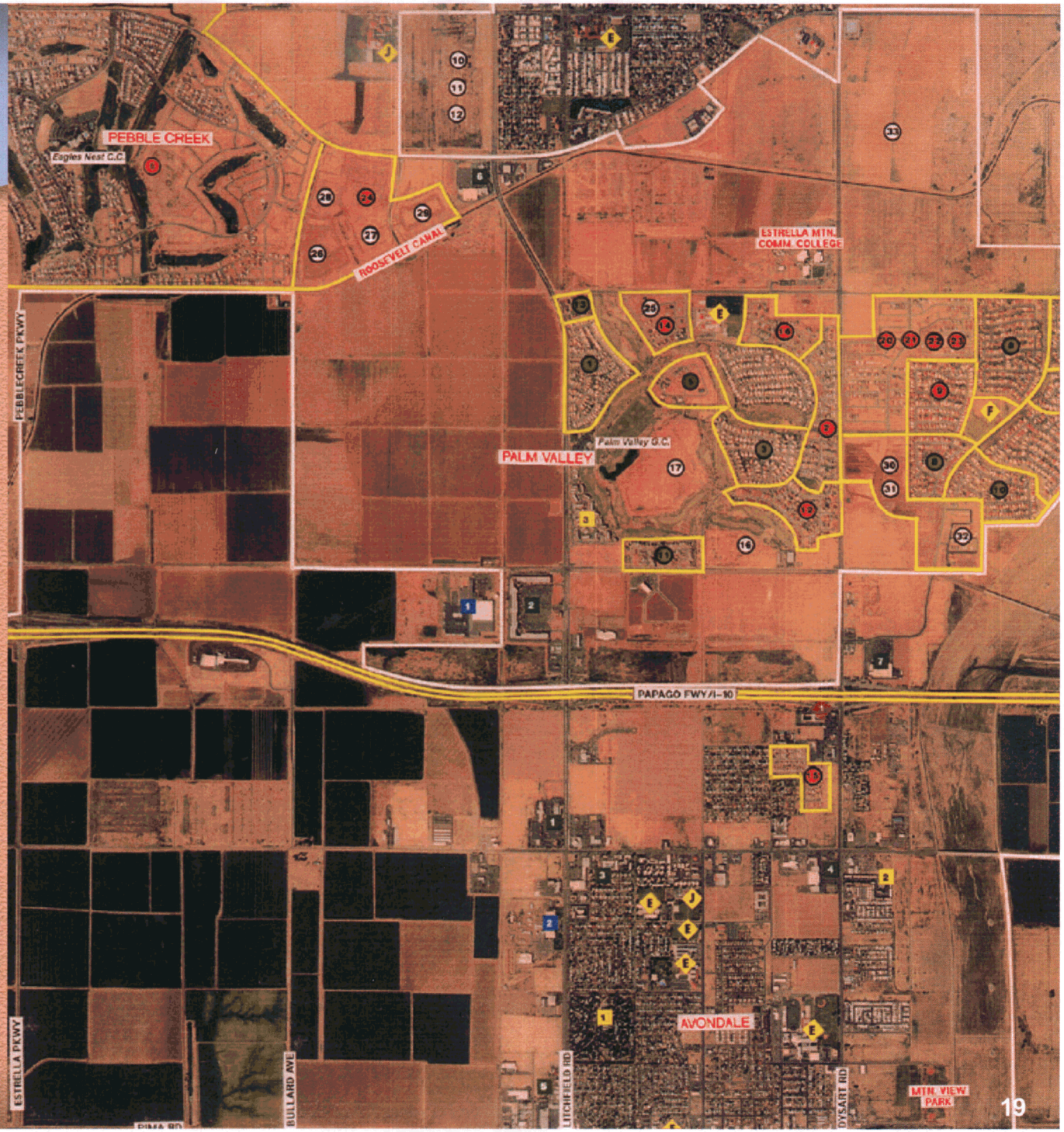
WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

West Valley-South Area Loads

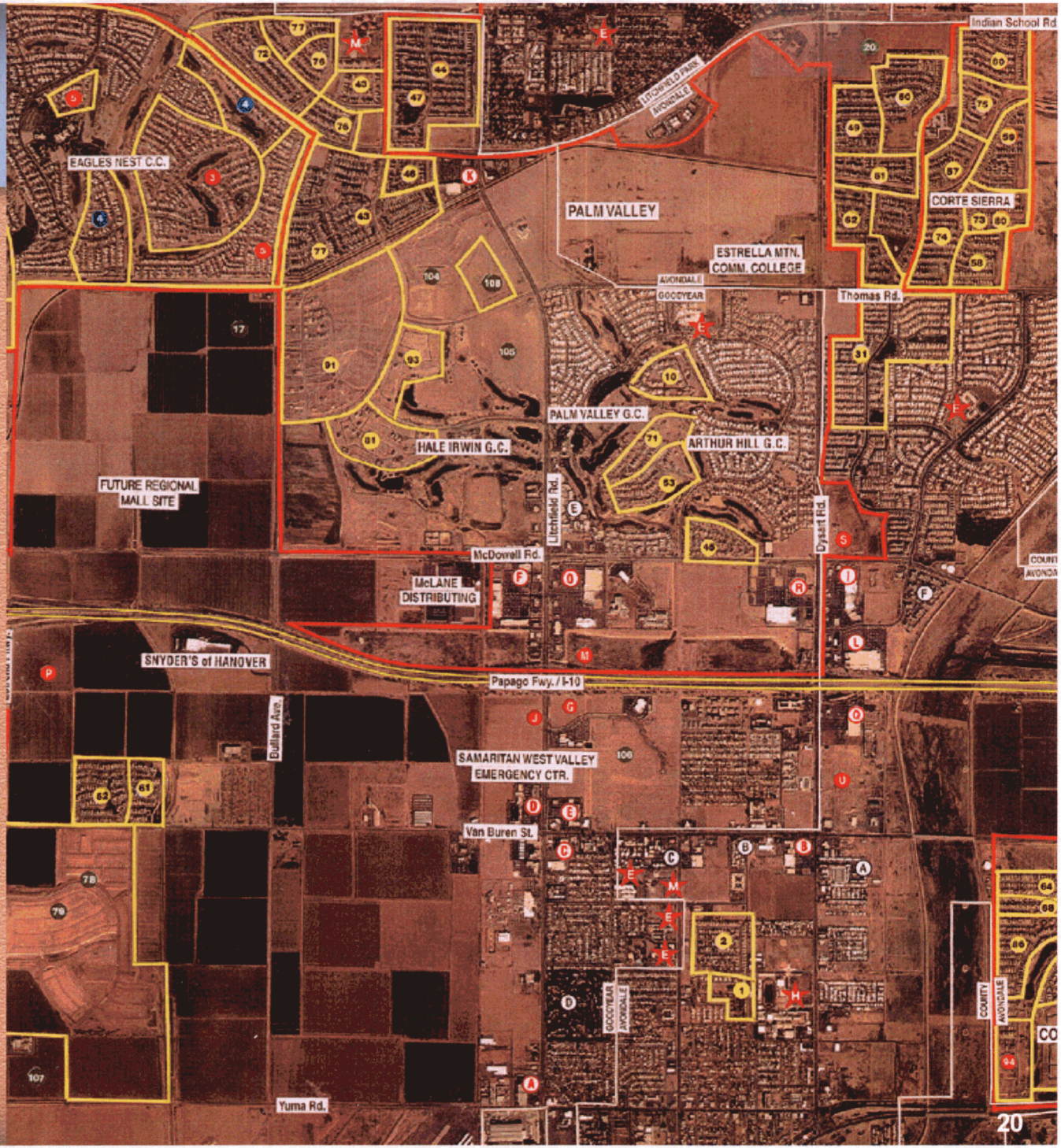


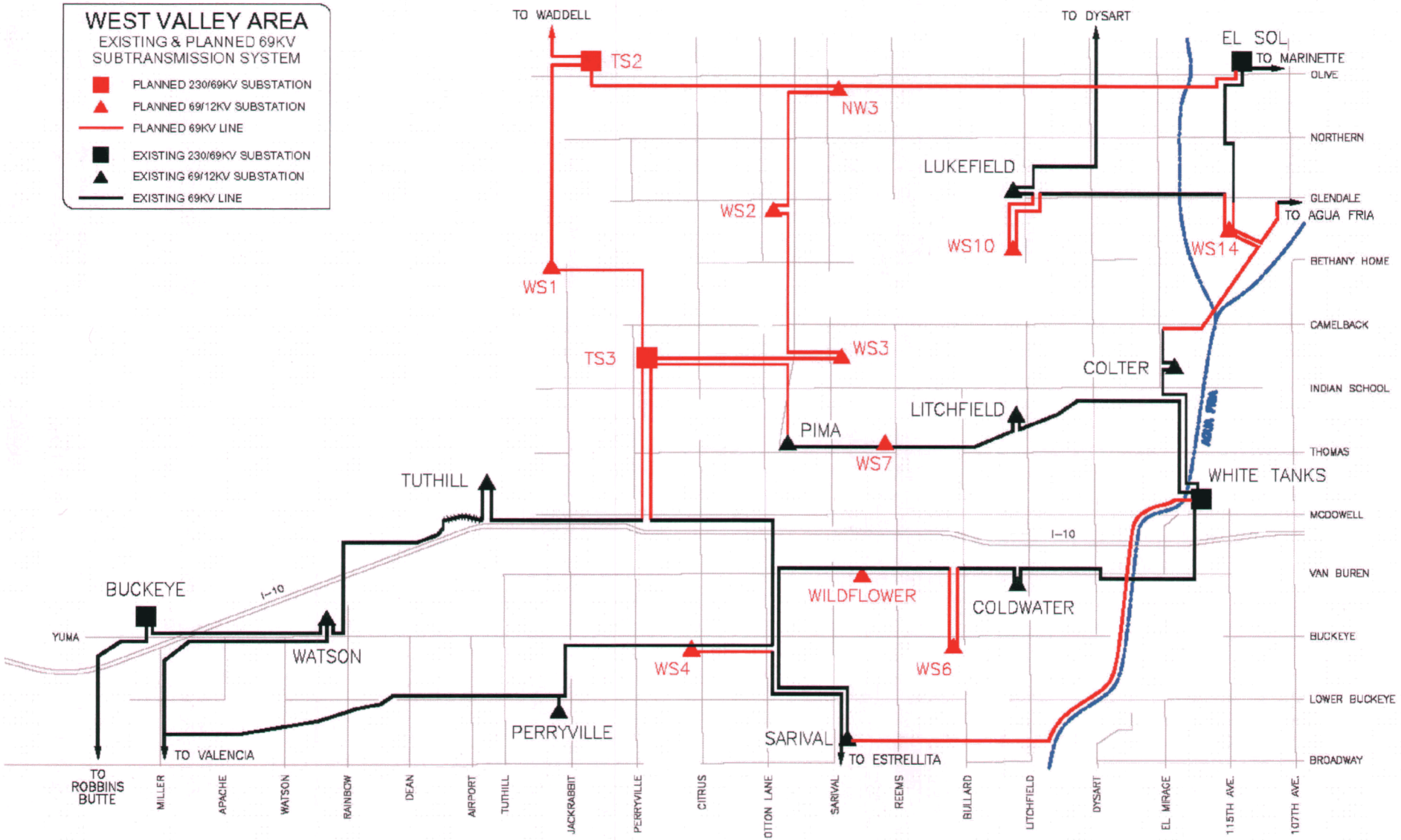
1998

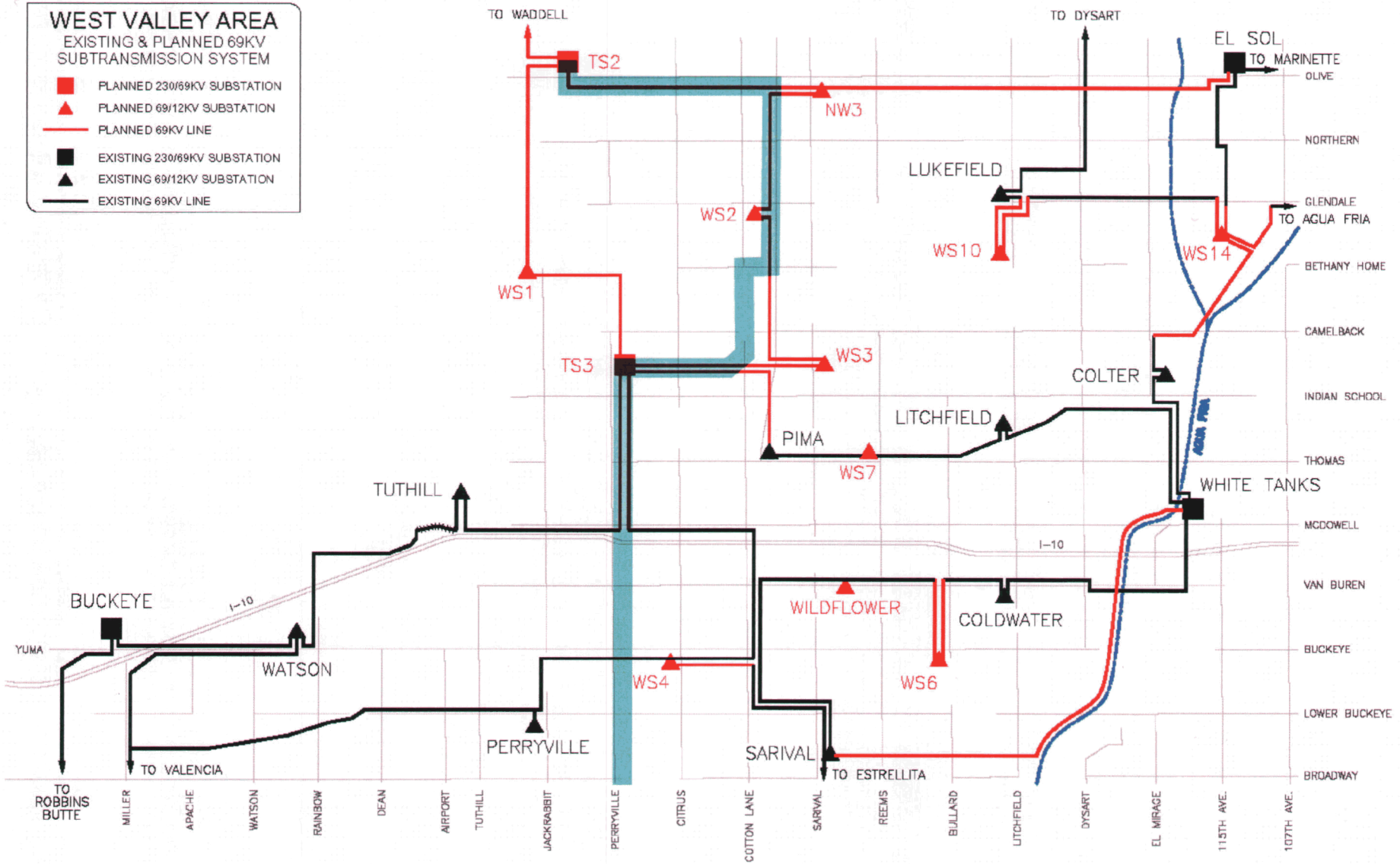

PEBBLE CREEK
Eagles Nest C.C.
ROOSEVELT CANAL
ESTRELLA MTN. COMM. COLLEGE
PALM VALLEY
Palm Valley G.C.
PAPAGO FWY/I-10
AVONDALE
MTN. VIEW PARK
PEBBLECREEK PKWY
ESTRELLA PKWY
BULLARD AVE
LITCHFIELD RD
DYSART RD

APS

2002


Indian School Rd.
EAGLES NEST C.C.
PALM VALLEY
CORTE SIERRA
ESTRELLA MTN. COMM. COLLEGE
AVONDALE
GOODYEAR
Thomas Rd.
PALM VALLEY G.C.
HALE IRWIN G.C.
ARTHUR HILL G.C.
FUTURE REGIONAL MALL SITE
Litchfield Rd.
Dysart Rd.
McDowell Rd.
McLANE DISTRIBUTING
SNYDER'S of HANOVER
Papago Fwy. / I-10
Dutlard Ave.
SAMARITAN WEST VALLEY EMERGENCY CTR.
Van Buren St.
Yuma Rd.
COUNTY
20


WEST VALLEY AREA
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
TO WADDELL
TO DYSART
EL SOL
TO MARINETTE
TS2
NW3
LUKEFIELD
WS2
WS10
WS14
WS1
TS3
WS3
COLTER
LITCHFIELD
PIMA
WS7
TUTHILL
WHITE TANKS
I-10
BUCKEYE
YUMA
WATSON
WILDFLOWER
COLDWATER
WS4
WS6
PERRYVILLE
SARIVAL
TO VALENCIA
TO ESTRELLITA
TO ROBBINS BUTTE
MILLER
APACHE
WATSON
RAINBOW
DEAN
AIRPORT
TUTHILL
JACKRABBIT
PERRYVILLE
CITRUS
DITTON LANE
SARIVAL
REEMS
BULLARD
LITCHFIELD
DYSART
EL MIRAGE
115TH AVE.
107TH AVE.
OLIVE
NORTHERN
GLENDALE
TO AGUA FRIA
BETHANY HOME
CAMELBACK
INDIAN SCHOOL
THOMAS
MCDOWELL
VAN BUREN
BUCKEYE
LOWER BUCKEYE
BROADWAY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COTTON LANE
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REEMS
BULLARD
LITCHFIELD
DYSART
EL MIRAGE
115TH AVE.
107TH AVE.

Project Benefits

- 230kV system provides needed power to the West Valley
- Provides increased customer reliability in a rapidly developing area
- Enables APS to meet its obligation to serve customers in the West Valley

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Project Description

Steve Goodman

Arizona Public Service Company

Transmission and Facility Siting Department

Project Manager

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Witness Background

- Professional background
  - 31 years of experience in electric utility industry
  - Senior designer
  - Governmental liaison between APS and East Valley Cities, Maricopa County and Arizona Department of Transportation
- Project Manager for West Valley-South Facility Siting Project

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Certificate of Environmental Compatibility Application

- Responsible for the preparation and contents of the Certificate of Environmental Compatibility (CEC) Application

- Corrections and additions

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Outline of Testimony

- Project description - Proposed system option
- Facilities
- Project Schedule
- Public Involvement
- Project Benefits

APS

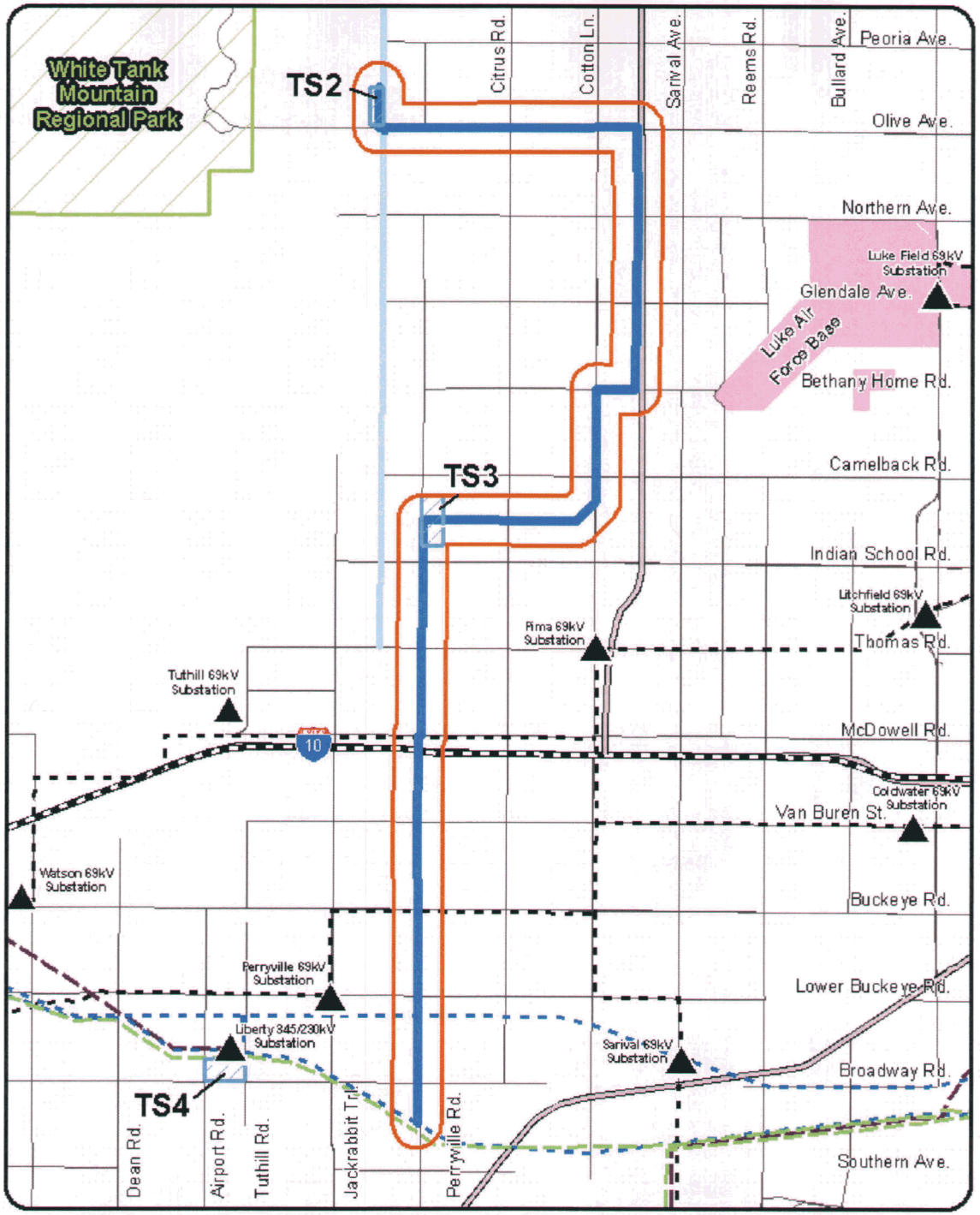
WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Project Description

- 17.4 miles of double circuit 230kV transmission line with 69kV underbuild
- New interconnection - Rudd to Gila River 230kV
- 3 Substations

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT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Bethany Home Rd.
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Indian School Rd.
Litchfield 69kV Substation
Pima 69kV Substation
Thomas Rd.
Tuthill 69kV Substation
10
McDowell Rd.
Coldwater 69kV Substation
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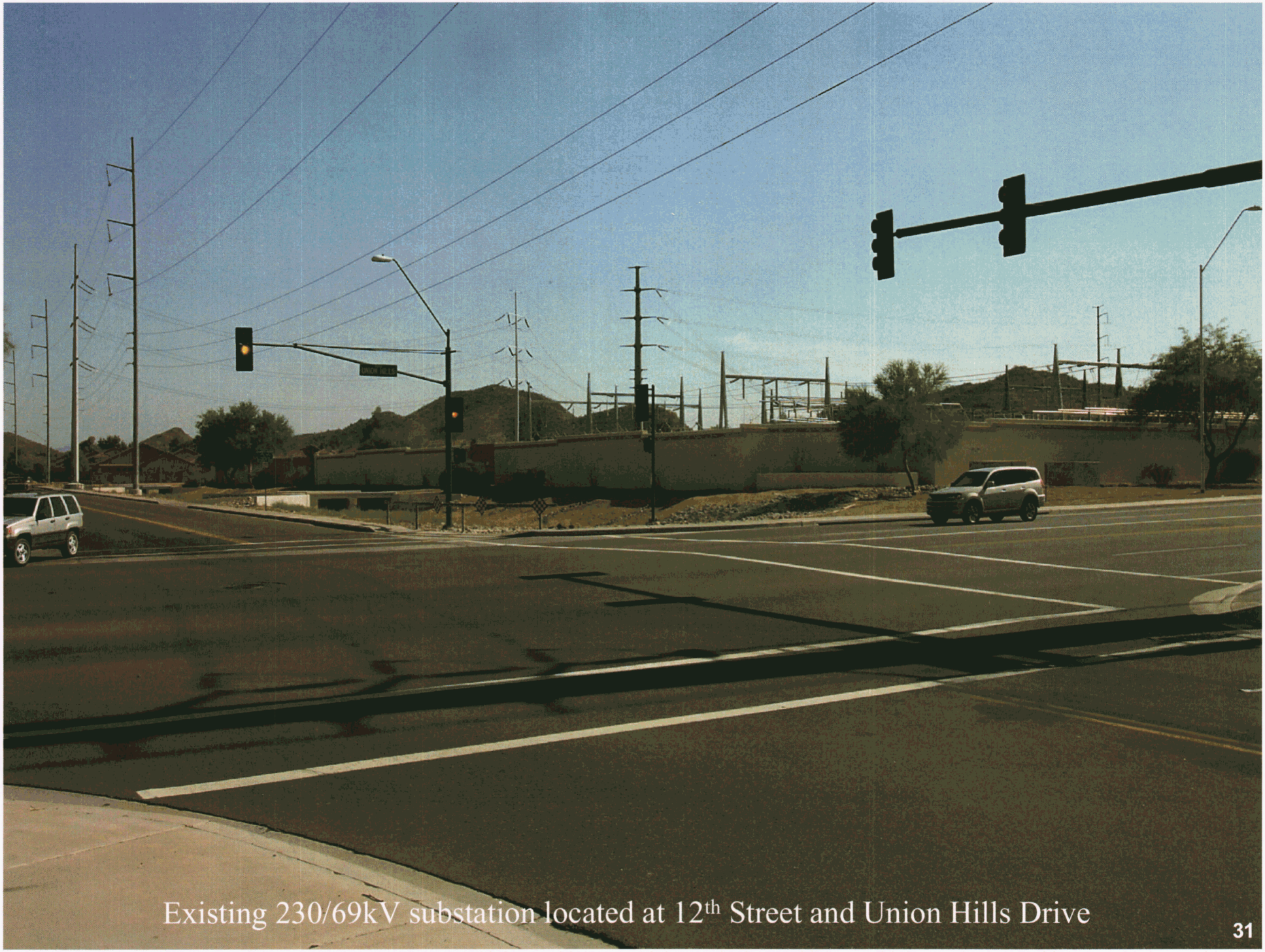
Watson 69kV Substation
Buckeye Rd.
Perryville 69kV Substation
Lower Buckeye Rd.
Liberty 345/230kV Substation
Sarival 69kV Substation
Broadway Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl
Perrywille Rd.
Southern Ave.

Facilities - Substations

- Three new 230/69kV substations
  - TS2 substation
  - TS3 substation
  - TS4 substation
- Substation Design
  - Landscaping in accordance with building permit requirements
  - Wall design and color to match surroundings
  - 10-foot-high walls with gates
  - Approximately 10 acres

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT



Existing 230/69kV substation located at 12th Street and Union Hills Drive

Facilities - 230kV Lines and Structures

- Monopole
  - Typical height
  - Typical span
  - 69kV underbuild
- Materials
  - Non-specular conductor
  - Dulled galvanized structural steel

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

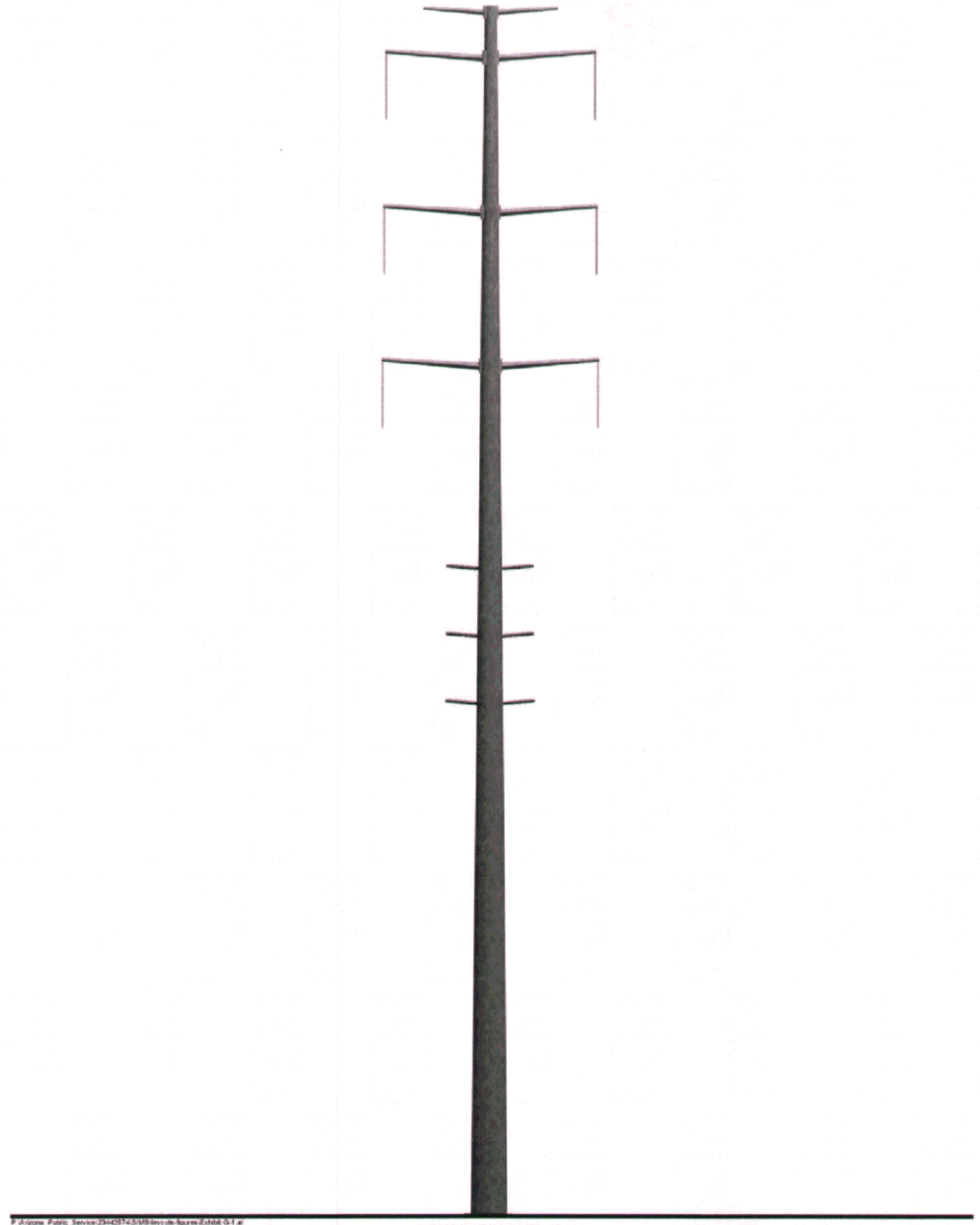
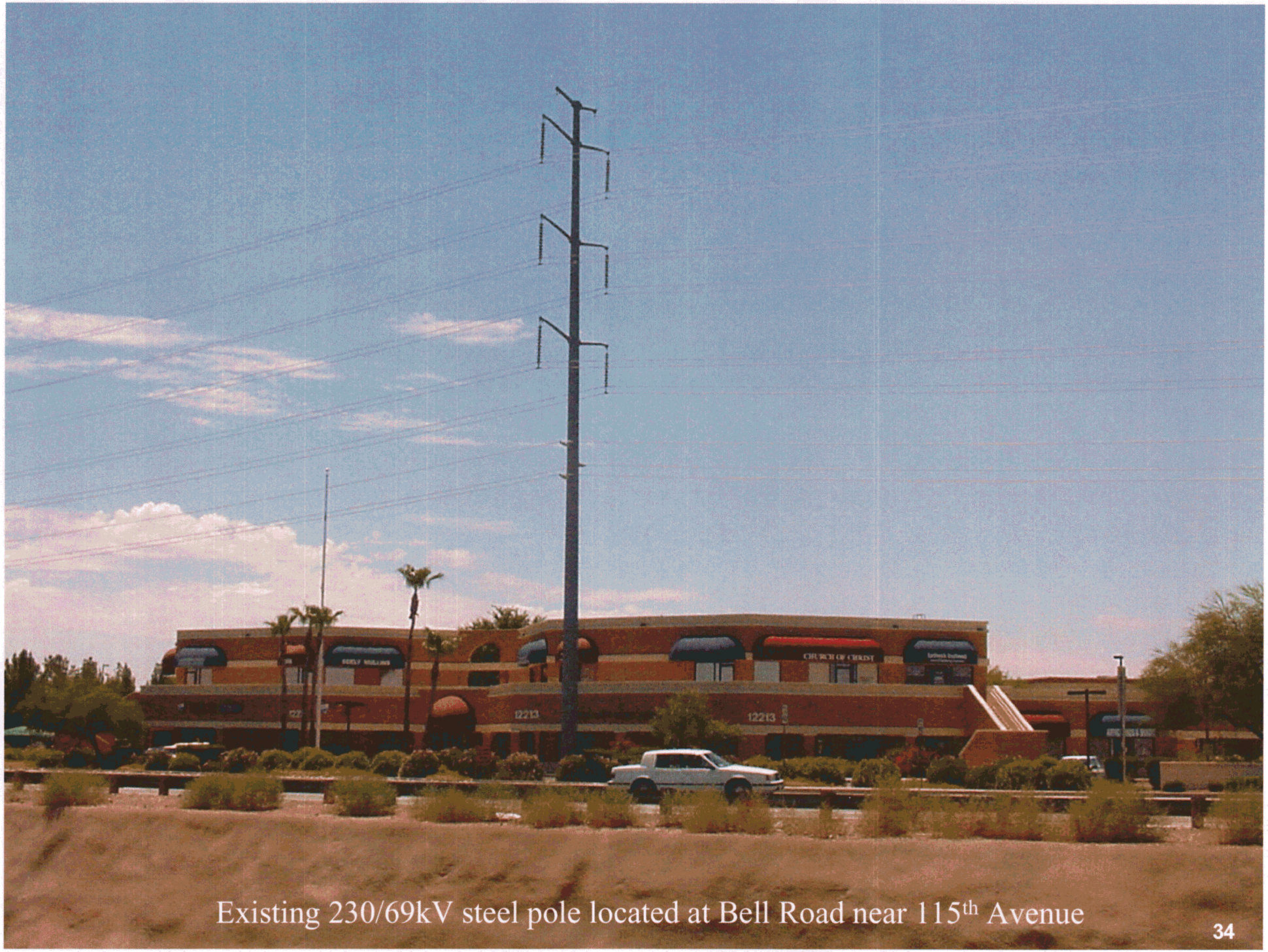


EXHIBIT G-1

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



Existing 230/69kV steel pole located at Bell Road near 115th Avenue

Project Schedule

- Begin right-of-way acquisition 2004
- Complete right-of-way acquisition 2005
- Begin construction 2006
- Construction completed and commercial operation phased in between 2006 and 2012

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Project Schedule

- Rapid development in the entire West Valley area
- Need to precede growth
- Request 10-Year term
- Accommodates project in-service dates between 2006-2012
- Project cost for Proposed system option - $46,000,000

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Public Involvement Overview

- Community leader meetings
- Community outreach efforts

APS

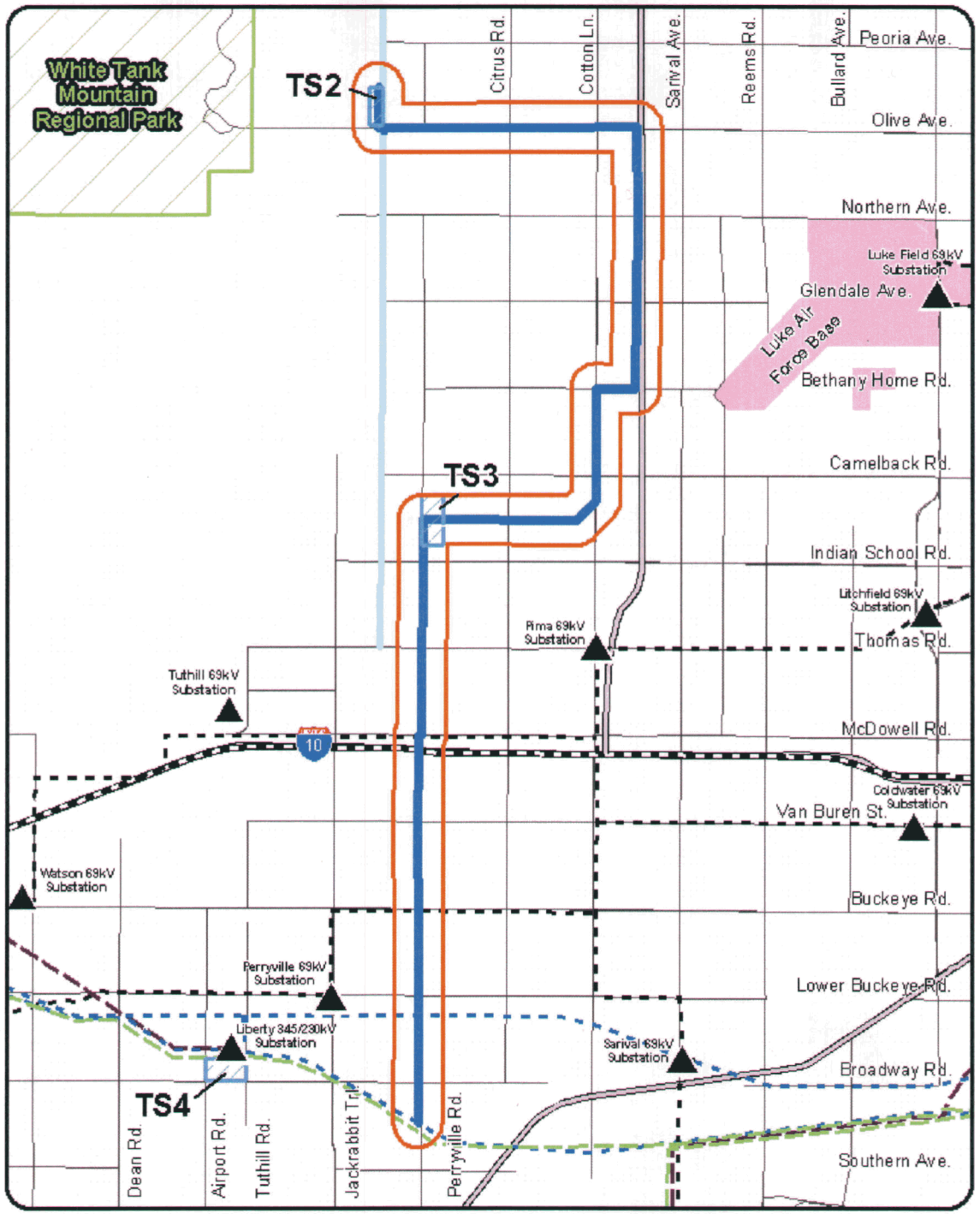
WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Public Involvement
Community Leaders

- Town of Buckeye
- City of Goodyear
- City of Glendale
- Arizona State Land Department
- Maricopa County agencies
  - Maricopa County Department of Transportation
  - Parks and Recreation
  - Flood Control District of Maricopa County
  - Maricopa County Planning and Zoning

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT


White Tank Mountain Regional Park
TS2
TS3
TS4
Citrus Rd.
Cotton Ln.
Sarival Ave.
Reems Rd.
Bullard Ave.
Peoria Ave.
Olive Ave.
Northern Ave.
Luke Field 69kV Substation
Glendale Ave.
Luke Air Force Base
Bethany Home Rd.
Camelback Rd.
Indian School Rd.
Litchfield 69kV Substation
Pima 69kV Substation
Thomas Rd.
Tuthill 69kV Substation
10
McDowell Rd.
Coldwater 69kV Substation
Van Buren St.
Watson 69kV Substation
Buckeye Rd.
Perryville 69kV Substation
Lower Buckeye Rd.
Liberty 345/230kV Substation
Sarival 69kV Substation
Broadway Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl
Perryville Rd.
Southern Ave.

Project Benefits

- Establishes needed electric infrastructure in the rapidly growing West Valley area

- Improves APS' transmission system reliability

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Environmental Studies

Randall L. Simpson

URS Corporation

Project Manager

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Witness Background

- Educational background
  - BS in Environmental Design, 1992
  - BLA in Landscape Architecture, 1993
- Professional background
  - West Valley-South Project Manager
  - Manager for URS' Energy and Utilities Business Line
  - 12 years of experience in planning/landscape architecture, engineering, and design
  - Participated in 18 transmission line and 11 generating facility projects throughout Arizona, as well as other states
  - Previously testified and presented to the Arizona Power Plant and Transmission Line Siting Committee and California Energy Commission

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

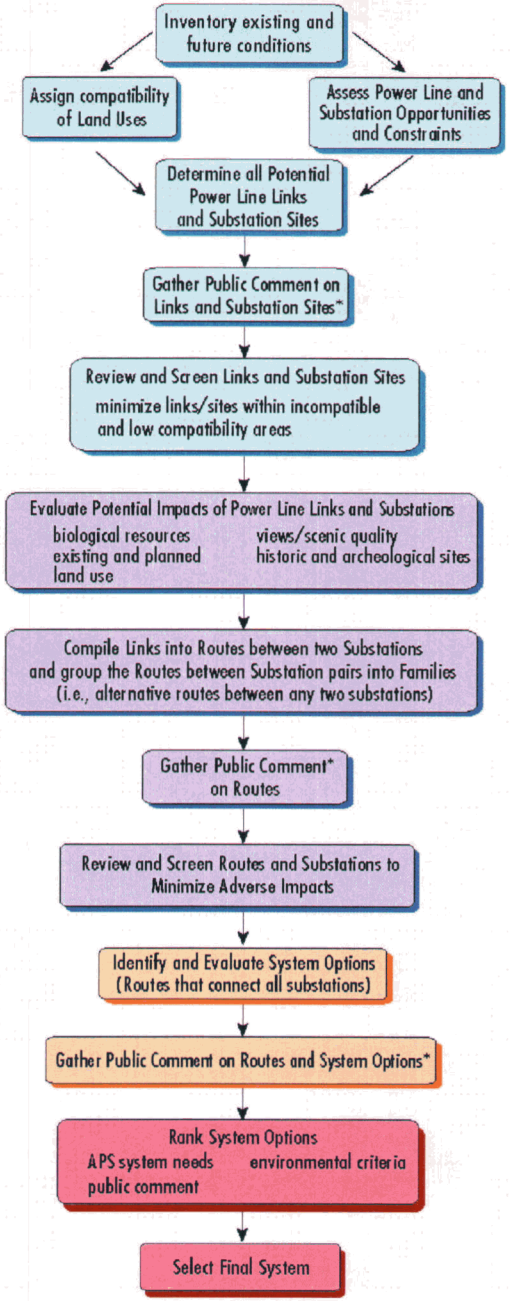
Outline of Testimony

- Overview of Siting Process
- Environmental Studies
- Video Animation of Proposed Facilities
- Proposed System Option Environmental Compatibility
- Alternative System Option

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Siting Process



*Public involvement will continue throughout the siting process.

Exhibit B-1

Environmental Studies Overview

- Environmental studies focused on:
  - existing and future land use
  - biological resources
  - archaeological and historic sites
  - visual resources
- Environmental studies considered issues identified by agencies and the public

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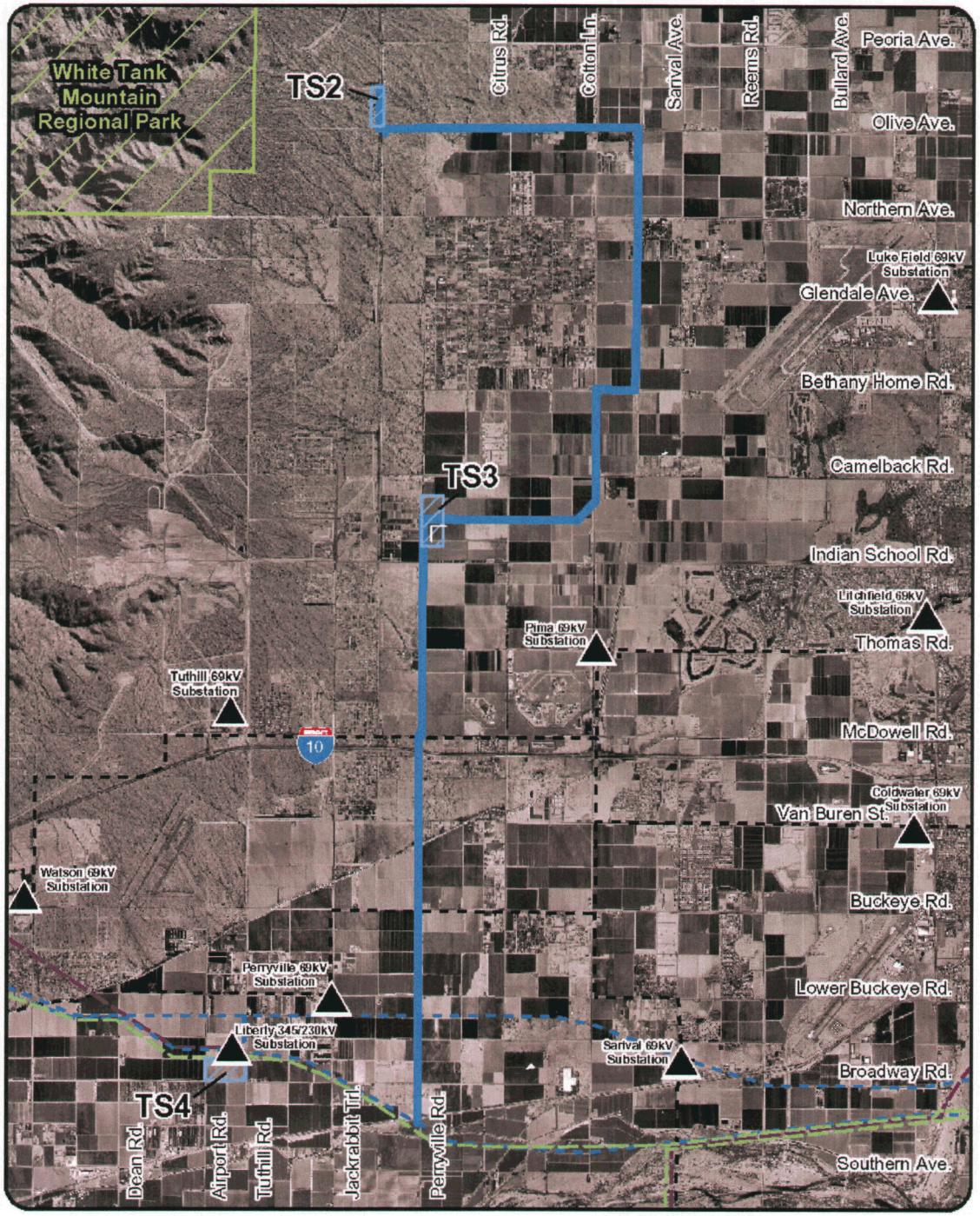
WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Key Land Use Features

- Residences and communities
- Agricultural and vacant areas
- White Tank Mountain Regional Park
- Luke Air Force Base
- Scott Libby Elementary School
- Loop 303 Freeway

APS

WEST VALLEY-SOUTH
POWER LINE & SUBSTATION PROJECT



from Application Figure 1

Land Use

Proposed System Option Summary

- Located primarily along existing linear features
- Predominantly adjacent to areas of agricultural land or undeveloped open space
- Future plans include adjacent residential and commercial development (as designated in general plans)
- Concurrence from Arizona State Land Department, Buckeye, Goodyear, Glendale and Luke Air Force Base
- Likely, no adverse impacts on existing or future land uses

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Biological Resources

Proposed System Option Summary

- Located primarily along existing linear features where there is established access resulting in minimal soil and vegetation disturbance
- Predominantly adjacent to areas of agricultural or undeveloped land
- Future residential and commercial development will likely replace existing open space before the proposed facilities are constructed
- Not likely to adversely effect threatened or endangered species
- Impacts to common wildlife and vegetation/habitat are low adjacent to agricultural/undeveloped areas and moderate within desert open space
- Likely, no adverse effects to biological resources

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Archaeological and Historic Sites

Proposed System Option Summary

- Database surveys conducted for entire study area and pedestrian field surveys conducted for accessible areas (854 acres)
- Seven low to moderate sensitivity archaeological and historic sites (e.g., canals, railroads, refuse sites) located near proposed facilities
- Cultural resource study provided to SHPO
- APS will continue to consult with SHPO as appropriate throughout design and construction
- Likely, no adverse effects to archaeological and historic sites

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

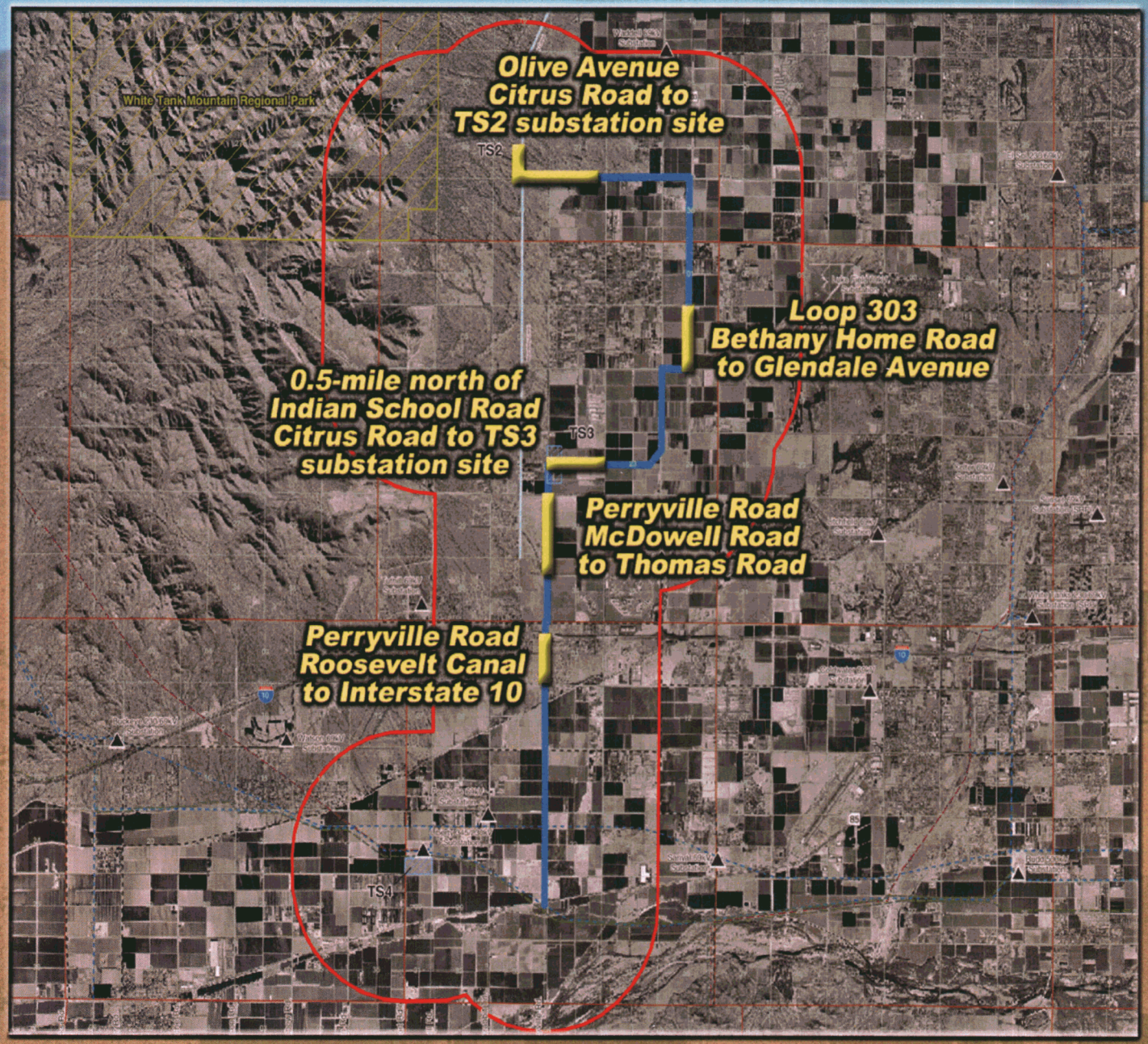
Visual Resources

Proposed System Option Summary

- Located primarily along linear features where other vertical elements (e.g., signs, light fixtures, buildings) are or will be present
- Currently adjacent to primarily agricultural or vacant land
- Future plans include adjacent residential and commercial development (as designated in general plans) and can be designed to visually accommodate the proposed facilities into the landscape
- Likely, no adverse impacts to the existing or future landscape setting and views

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT



Application for a Certificate of Environmental Compatibility

PERRYVILLE SOUTH

PERRYVILLE NORTH

HALF SECTION

LOOP 303

OLIVE AVE.

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

APS

ESTRELLA FWY/LOOP 303

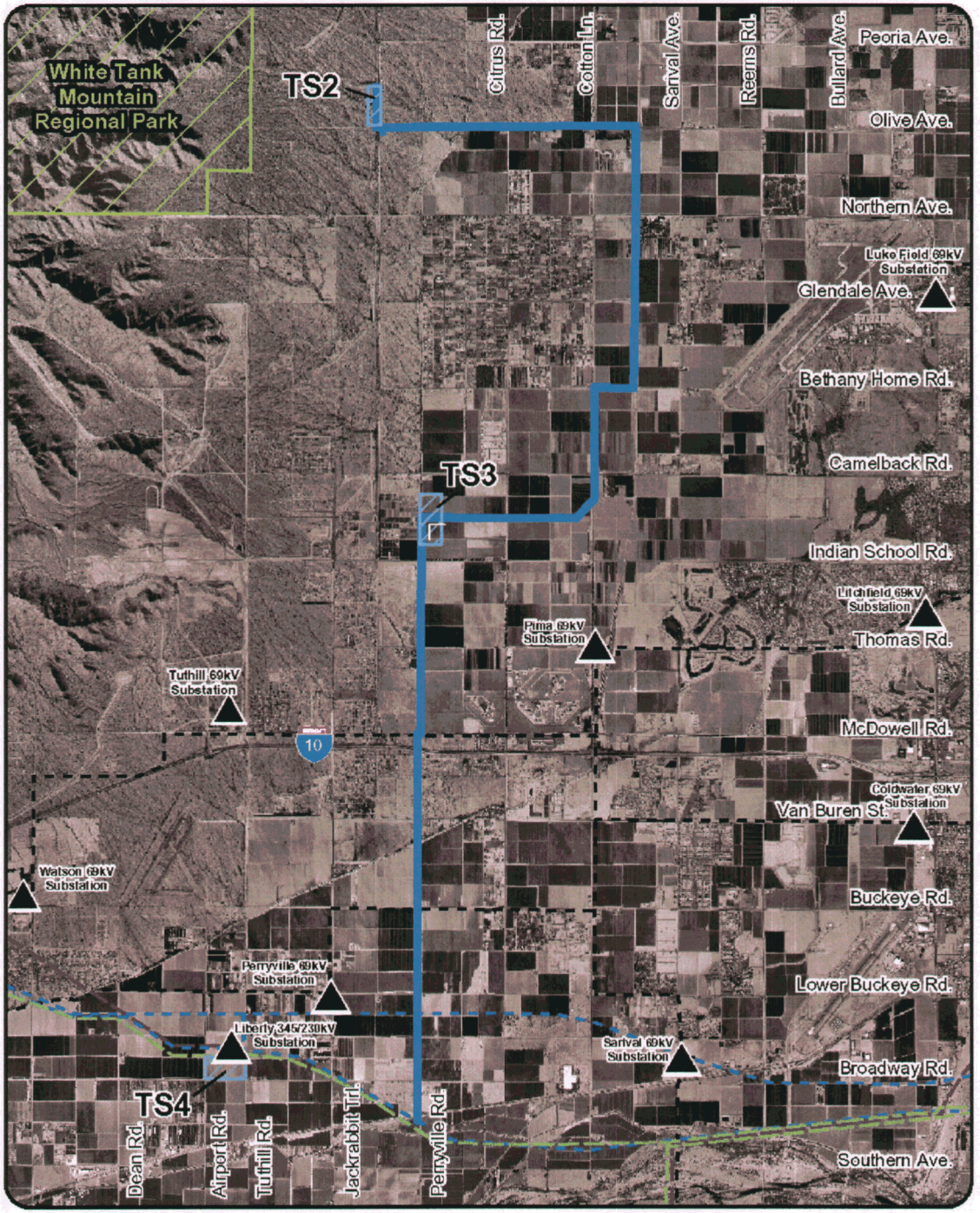
Proposed System Option

Conclusions

- The Proposed system option is compatible with existing and future uses in the West Valley
- Environmental impacts are minimal due to strategic siting and facility design features
- Public and agency support for the Proposed system option

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT



from Application Figure 1

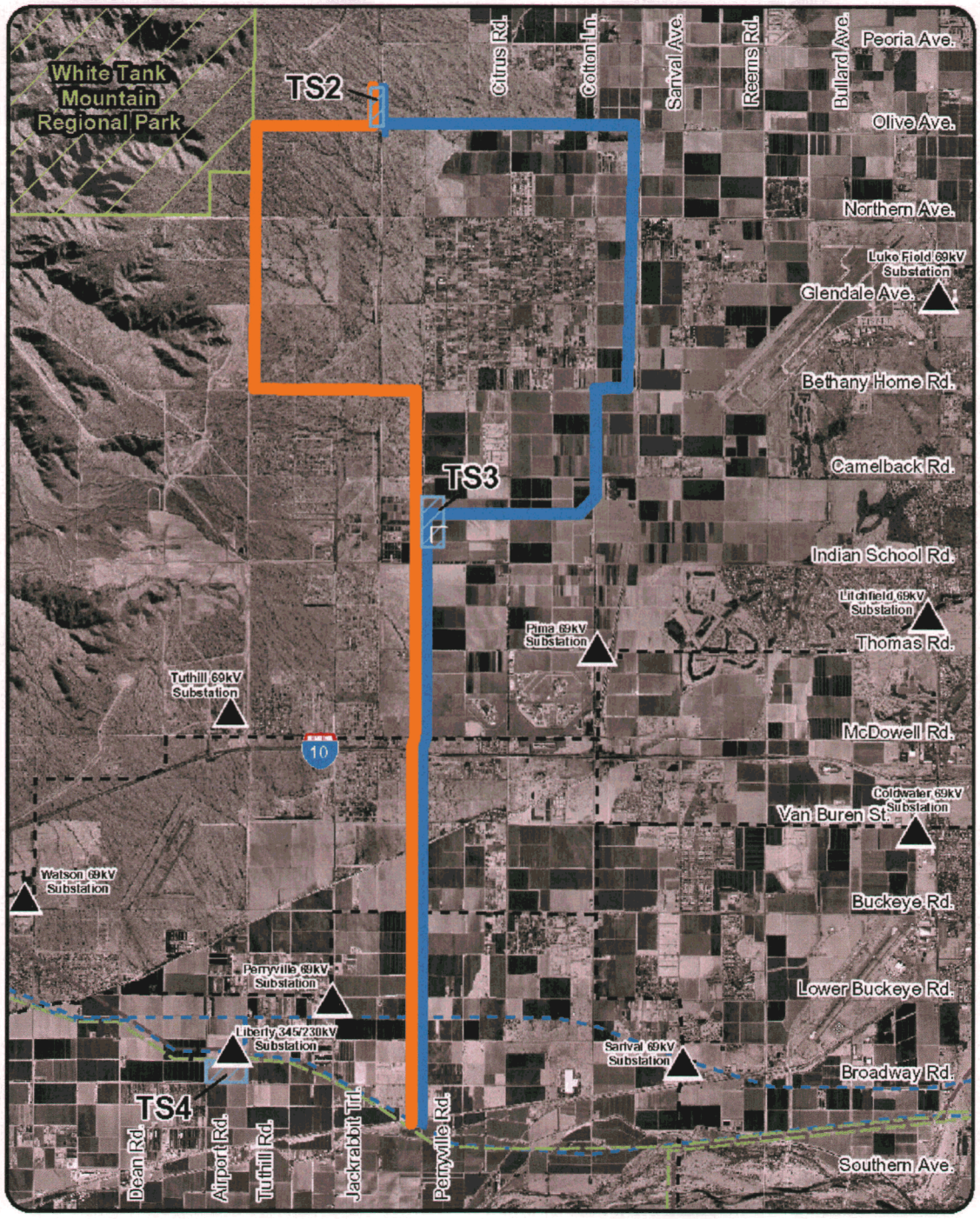
Alternative System Option

Conclusions

- Similar impacts to land use and archaeological resources
- Increased impacts on biological resources on undeveloped land adjacent to the White Tank Mountains and associated foothills
- Indirect visual impacts on White Tank Mountain Regional Park
- Less acceptable to the public
- Overall, compatible with existing and future uses and likely, no adverse effects on the environment

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT



from Application Figure 2

SECTION II

PHOTOGRAPHS AND VISUAL SIMULATIONS

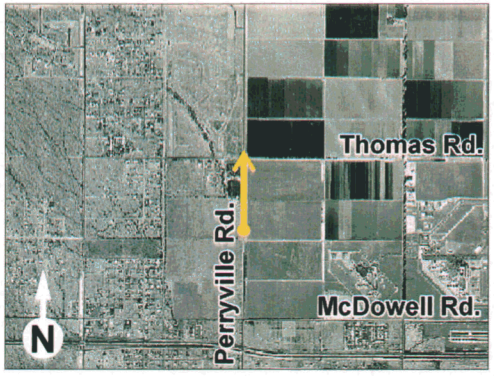
Existing Conditions

Simulated Future Conditions

Location Map (not to scale)

Perryville Segment (south of I-10)

Simulated Future Conditions

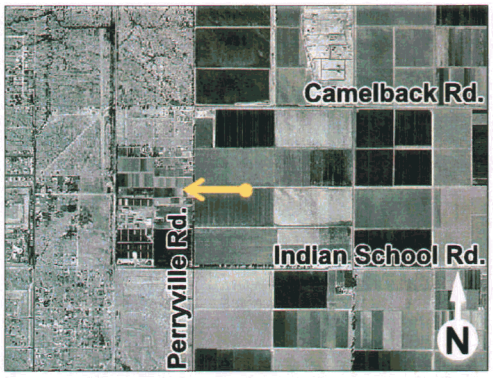


Location Map (not to scale)

Perryville Segment (north of I-10)

Existing Conditions

Simulated Future Conditions



Location Map (not to scale)

Half Section Segment

Existing Conditions

Simulated Future Conditions

Location Map (not to scale)

Loop 303 Segment

Existing Conditions

Simulated Future Conditions

Location Map (not to scale)

Olive Avenue Segment

SECTION III

AGENCY CORRESPONDENCE

Arizona State Parks

RECEIVED
JUL 14 2003
BY: L. Goodman

In reply, please refer to
SHPO-2003-1296 (16131)
more information requested

FAXED
7/10/03
to GREERS

July 10, 2003

Laurie A. Woodall, Chairperson
Power Plant and Transmission Line Siting Committee
Assistant Attorney General, Environmental Enforcement Section,
Office of the Attorney General
1275 West Washington
Phoenix, Arizona 85007

RE: Arizona Public Service (APS) West Valley-South Power Line and Substation Project, Maricopa County, Arizona; Docket No. L-00000D-03-0112

Janet Napolitano
Governor

State Parks Board Members

Chair
Suzanne Pfister
Phoenix

Gabriel Beechum
Casa Grande

John U. Hays
Yarnell

Elizabeth Stewart
Tempe

William C. Porter
Kingman

William Cordasco
Flagstaff

Mark Winkleman
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

Dear Ms. Woodall:

Thank you for having the committee's applicant (i.e., APS) consult with this office regarding the above-mentioned state plan and associated certificate of environmental compatibility. We received both a cultural resources survey report and the certificate application. The proposed plan entails the construction of 17.4 miles of overhead utility lines, three substations, and access roads as needed. The plan involves mainly private land, although some Arizona State Land Department (ASLD) lands are present. 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 resources survey inspected 60 percent of the proposed corridor and portions of other alternatives; an alignment within the corridor has not been fixed at this time. The remaining 40 percent the proposed corridor was unavailable for archaeological survey at the time of the study, because of lack of permission from landowners or the presence of crops. The examined subset is sufficient for planning purposes. The applicant should be aware that ASLD may require a 100 percent survey of the proposed right-of-way located on its lands, and our acceptance of the survey report at this time should not be construed to foreclose on ASLD's views on identification measures.

The cultural resource survey of the proposed corridor identified two historical archaeological sites (AZ T:11:160 & 161 ASM) and three historic-period structures. The report was professionally prepared and well written. We agree that Site AZ T:11:160(ASM) may be eligible for inclusion in the State and National Register of Historic Places (S&NRHP), but requires further archival research to establish an appropriate historic context; we recommend treating it is if it were eligible for purposes of this consultation. We agree that Site AZ T:11:161(ASM) is not eligible

for inclusion in the S&NRHP under any criterion. We agree that the Beardsley Canal (AZ T:3:55ASM), Roosevelt Irrigation District Canal (AZ T:10:83ASM), and Southern Pacific Phoenix Main Line (AZ T:10:84ASM) are Register eligible.

However, further identification efforts are needed to determine the Register eligibility status of a vernacular landscape of possible historic age located along Perryville Road, the most prominent element of which is a row of 80-foot-tall eucalyptus trees. A photograph of the trees is shown in the application's Exhibit E-1, and a brief description is given on Page E-8. How old are these non-native trees and the human-created landscape in general? Who planted the trees and why? What is their importance or value to the local community? Are they an important landmark to the local residents? The National Park Service's published guidance on historic-period landscapes (Preservation Brief No. 36) may be helpful.

We agree in principle that avoidance and preservation-in-place is an appropriate treatment for Register-eligible properties; in fact, the transmission line may help protect historic properties by inhibiting other kinds of development within the proposed corridor. However, the location of the poles and access roads is unknown at this time, and thus it is unclear if avoidance of all eligible properties present is feasible. Avoidance of archaeological sites usually entails the taking positive steps, such as erecting temporary fences and establishing buffer zones, to insure that plan-related, ground-disturbing activities, such as trench excavation and vehicular movement on unpaved roads, do not occur within the external boundaries of sites. Avoidance of historic-period resources generally entails taking precautions to ensure that the characteristics that contribute to property's eligibility are not impacted. Spanning over historic-period railroads and canals, is acceptable for this plan.

Based on the above, this office cannot assess the plan's effects to the identified historic properties within the corridor, 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.

We offer the following conditions for the committee's consideration:

1) 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.

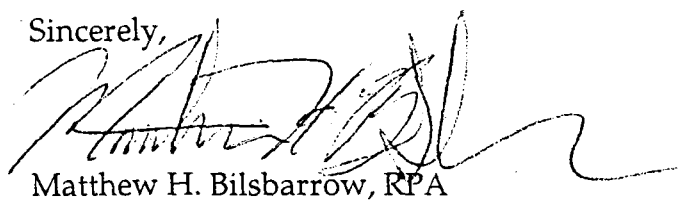
2) If the applicant decides that archaeological Site AZ T:11:60(ASM) cannot be avoided, then the applicant will plan and implement an archaeological testing and/or data recovery program in consultation with SHPO.

3) The applicant will take reasonable steps to assess the significance and integrity of a possible historic vernacular landscape along Perryville Road and continue to consult with SHPO regarding its eligibility in terms of the State Register criteria. If it is Register-eligible, the applicant will take steps to avoid or lessen impacts (to a negligible level) to the qualifying characteristics of the landscape in consultation with SHPO.

4) Should an archaeological, paleontological, or historical site or object be discovered during plan-related activities, the person in charge is required to notify promptly the Director of the Arizona State Museum and take reasonable steps to secure and maintain the resource's preservation pursuant to state law (i.e., A.R.S. § 41-844). If a discovery involves human remains or funerary objects and occurs on private land, procedures implementing A.R.S. § 41-865 must be followed.

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 or via mbilsbarrow@pr.state.az.us.

Sincerely,



Matthew H. Bilsbarrow, RPA
Compliance Specialist/ Archaeologist
Arizona State Historic Preservation Office

cc.
Steven Goodman, APS; PO Box 53933 MS 4030; Phoenix, AZ 85072
Gene Rogge, URS; 7720 N 16th St, Ste 100; Phoenix, AZ 85020

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
(602) 942-3000 • AZGFD.COM

GOVERNOR
JANET NAPOLITANO
COMMISSIONERS
CHAIRMAN, JOE CARTER, SAFFORD
SUSAN E. CHILTON, ARIVACA
W. HAYS GILSTRAP, PHOENIX
JOE MELTON, YUMA
MICHAEL M. GOLIGHTLY, FLAGSTAFF
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL

July 14, 2003

RECEIVED
JUL 21 2003
BY: S. Goodman

Ms. Laurie A. Woodall, Chairman
Power Plant and Transmission Line Siting Committee
Office of the Attorney General
1275 West Washington
Phoenix, Arizona 85007

Re: Certificate of Environmental Compatibility Application; Arizona Public Service West Valley- South Power Line and Substation Project

Dear Chairman Woodall:

The Arizona Game and Fish Department (Department) reviewed the above-referenced Certificate of Environmental Compatibility (CEC) for potential impacts to fish and wildlife resources. We understand that APS is proposing to install a 230KV transmission line and associated substations to provide reliable electricity to current and future customers in the West Valley. The Department provides the following comments for your consideration.

Based on the application, it appears that the majority of proposed route will be located along roadways and other areas of previously disturbed or low value wildlife habitats. We support locating transmission lines along previously disturbed routes to minimize any impacts to wildlife habitat. Since various raptor species may use transmission line support structures for perching and/or nesting, the Department recommends that APS incorporate, if necessary, the established guidelines within their Raptor Protection Program to ensure that necessary preventative measures are incorporated into the project to minimize the potential for electrocution to raptors.

The Department appreciates the opportunity to review this CEC application prior to consideration by the Power Plant and Transmission Line Siting Committee. We look forward to working closely with the Committee in the future during the review of future powerplant and transmission line projects. If you have any questions or require any additional information regarding this letter, please contact Mr. Bob Broscheid, Project Evaluation Program Supervisor, at (602) 789-3605.

Sincerely,

John Kennedy
Habitat Branch Chief

cc: Steve Goodman, Project Manager, Arizona Public Service
Russ Haughey, Habitat Program Manager, Region VI, Mesa

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
(602) 942-3000 • AZGFD.COM

GOVERNOR
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COMMISSIONERS
CHAIRMAN, JOE CARTER, SAFFORD
SUSAN E. CHILTON, ARIVACA
W. HAYS GILSTRAP, PHOENIX
JOE MELTON, YUMA
MICHAEL M. GOLIGHTLY, FLAGSTAFF
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL

July 17, 2003

RECEIVED
JUL 22 2003
L. A. Woodall

Ms. Laurie A. Woodall, Chairman
Power Plant and Transmission Line Siting Committee
Office of the Attorney General
1275 West Washington
Phoenix, Arizona 85007

Re: Case Number 122, Docket number L-00000 D-03-0122; Application for Certificate of Environmental Compatibility; Arizona Public Service West Valley- South Power Line and Substation Project

Dear Chairman Woodall:

The Arizona Game and Fish Department (Department) reviewed the above-referenced application and provided a letter, dated July 14, 2003, that included our general comments on the project. The Department would like to take this opportunity to clarify our previous comments in that letter.

Proposed Alignment
Based on the application, it appears that the proposed route will be located along existing roadways. We support this alignment option since it is located in previously disturbed areas (roadways), areas of high human disturbance, and will not result in the removal of native desert vegetation. As a result, the Department does not anticipate any significant adverse impacts to wildlife or wildlife habitats as a result of the proposed alignment.

Alternative Alignment
Under the alternative alignment, APS is proposing to follow the same route as the Proposed alignment from SR 85 to the proposed TS3 substation. The route diverts west towards the base of the White Tank Mountains, then north along the Regional Park boundary to the proposed TS2 substation. The Department believes the construction of a transmission line (e.g., vegetation clearing, ground disturbance, etc.) through this area has the potential to directly impact habitat for several wildlife species, including the Sonoran desert tortoise. If this alternative route is selected, the Department recommends that APS follow the attached Sonoran desert tortoise handling guidelines if tortoises are encountered in the project area. In addition, the Department is providing additional information regarding the Sonoran desert tortoise for the Committee's consideration (see attachment).

Additionally, access and/or maintenance roads that are developed during the construction of transmission lines can provide access for trespass Off-Highway Vehicles (OHV). Illegal and/or unregulated OHV use has the potential to negatively impact wildlife and their habitats through

direct mortality, harassment, increased soil erosion, and degradation of habitat through the loss of vegetation. Based on the potential negative impacts to wildlife, the Department does not support the location of the alternative alignment option.

General Comments for Both Alignments

Based on the application, APS explains that the design of the 230KV transmission structures provide adequate spacing between electrified and grounded parts to prevent electrocution of raptors. However, it is unclear in the application whether additional minimization measures, as identified in APS's Raptor Protection Program, will be utilized or are necessary for these types of structures (e.g., mounting Polyvinyl Chloride (PVC) triangles on pole crossarms, and placing rubberized "bird guards" over the wires entering into transformers).

Again, the Department appreciates the opportunity to provide additional comments on this application. We look forward to working closely with the Committee in the future during the review of future powerplant and transmission line projects. If you have any questions or require any additional information regarding this letter, please contact Mr. Bob Broscheid, Project Evaluation Program Supervisor, at (602) 789-3605.

Sincerely,

John Kennedy
Habitat Branch Chief

cc: Steve Goodman, Project Manager, Arizona Public Service
Russ Haughey, Habitat Program Manager, Region VI, Mesa

Janet Napolitano
Governor

Mark Winkleman
State Land
Commissioner

Arizona
State Land Department

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

July 3, 2003

RECEIVED
JUL 09 2003
BY: A. Goodman

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

Re: West Valley - South Facility Siting Project

Dear Mr. Goodman:

The Arizona State Land Department, would like to thank you for your continued efforts to include the Department throughout the siting process on the West Valley-South Project. We have reviewed the various alternatives provided by APS and determined that the Department would prefer either the "APS Preferred Alignment" or "Alternate 1".

These two alignments both directly impact State Trust Land and will require easement acquisitions. However, these alignments will minimize impact to a level where the Trust Land is not bearing an unreasonable portion of the burden. In all of the scenarios APS will be placing a 230 KV substation on the northern portion of the alignment at approximately the Beardsley Canal and Olive Ave. The other proposed 230kv substation will be placed on private ownership. This would seem to be fair and reasonable. The major difference in the alternatives is with the alignment of the 230kv electrical lines. The preferred alternatives have the least impact on the State Trust Land while still proposing approximately 2 linear miles of easement area to be acquired from the Trust for 230kv electrical lines.

It is our understanding that due to constraints placed on APS by Luke Air Force Base, Alternative No. 1 is currently the preferred route. The Department is in concurrence with this alignment.

As previously requested by APS, we have been asked to address the alternative of moving the electrical lines from the proposed section line alignment to an offset alignment. The Department has addressed this concept before and does not consider any aesthetic benefit derived along the arterial roadways to outweigh the potential damage to the impacted State Trust Land. There may be exceptions to our policy of siting major transmission lines along sections lines and major arterial roadways when the Department has completed the level of planning necessary to designate alternate corridors, however, this is not typically the case.

The easements required for this facility must be obtained through the Department and prior to issuing the necessary easements, the Department will require the easement to be sited within an alignment that minimizes the impact to the surrounding trust land and is consistent with our fiduciary duty to the Land Trust.

We appreciate the opportunity to work with Arizona Public Service in the siting of this alignment and look forward to working together on future alignments.

Sincerely,

Linda R. Beals, Manager
Right of Way Section

Janet Napolitano
Governor

Mark Winkleman
State Land
Commissioner

Arizona
State Land Department

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

July 15, 2003

RECEIVED
JUL 21 2003
BY: A. Goodman

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

Re: West Valley - South Facility Siting Project

Dear Mr. Goodman:

This letter is intended as a followup to the July 3, 2003 letter provided to Arizona Public Service regarding the West Valley - South Facility Siting Project. We have recently received a copy of the Certificate of Environmental Compatibility Application for this project. Upon review of this application we noticed there have been a changes regarding the Preferred and Alternate alignments. The letter I provided was prepared as a response to the November 2002 alignments. The Department would like to clarify that we have no objections to the Preferred Alignment as depicted in the CEC Application in Figure 1 and Figure 2. However, we are strongly opposed to the Alternative Alignment in Figure 2. The Alternative Alignment would bisect the State Trust Land from Northern Avenue to Olive Avenue and would severely impact the view corridor along airport road from Bethany Home Road to Olive Avenue. Both of these items which would impact the value of the State Trust Land in a negative manner. If the Department were even willing to grant the right of way required for this alignment, we would require compensation for the significant loss in value.

Therefore, as previously stated the Arizona State Land Department will continue to work with Arizona Public Service with regard to the Preferred Alignment and objects to the Alternate Alignment as proposed in the June 2003 CEC Application

If you have any questions or need any further information, please do not hesitate to contact me at 602-542-2654.

Sincerely,

Linda R. Beals, Manager
Right of Way Section

Maricopa County

Board of Supervisors

x W. Wilson
trict 4
W. Jefferson, 10th Floor
oenix, Arizona 85003-2148
ne: (602) 506-7642
X: (602) 506-4989
D: (602) 506-2966
vw.maricopa.gov

RECEIVED
JUL 07 2003
BY: S. Goodman

June 24, 2003

Mr. Steve Goodman
Arizona Public Service
Mail Station: 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: West Valley South Transmission Line Project

Dear Mr. Goodman:

Thank you for meeting with me to review the changes proposed on the siting of the subject project. I realize that it is necessary to provide electrical service for the future growth in the vicinity of White Tank Mountain Regional Park. A lot of the growth is a result of the beautiful vistas and recreational opportunities available to residents in the areas around White Tank Mountain Regional Park. It is important that we do everything possible to preserve the existing attributes of the park.

The siting of the 230kv transmission line and substation as far north or south of Olive Avenue and as far east of the park entrance as possible is moving in the right direction. Please meet with the County Departments of Parks, Planning, and Transportation and the Flood Control District to finalize a mutually agreeable alternative. Olive Avenue is the main entrance access route into the park and would be severely impacted aesthetically by a major substation in close proximity.

Thank you for your consideration in this matter.

Sincerely,

Max W. Wilson
Supervisor District 4

Maricopa County
Department of Transportation

nsportation Director &
unty Engineer
01 W Durango Street
hoenix, Arizona 85009
one: (602) 506-8600
: (602) 506-4858

July 16, 2003

RECEIVED
JUL 23 2003
BY: A. Goodman

Mr. Steve Goodman
Project Manager, Transmission & Facility Siting
Arizona Public Service Company
Mail Station 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

Dear Mr. Goodman:

RE: APS TRANSMISSION AND SUBSTATION SITING PROJECT

Thank you for giving us the opportunity to discuss the proposed siting of the future APS transmission lines and substations.

While we have identified many issues, the one sacrosanct concern from Maricopa County is the protection of the White Tank Mountain Regional Park. Siting the transmission line along Olive Avenue from Loop 303 to the Beardsley Canal is unacceptable. You and your consultant are fully aware of the negative impact this would have on the only scenic route and entrance to the White Tank Mountain Regional Park. I would expect APS to live up to your high standards of community responsibility and environmental stewardship regarding this issue.

Maricopa County is prepared to work with APS to sustain that reputation. The Maricopa County Flood Control District (MCFCD) has indicated that when placing your transmission lines along Loop 303, you could use the drainage channel easement. Since the next phase of the 230KV transmission line will continue somewhere to the north, the more logical placement of the transmission line, to the west, would be on Peoria Avenue rather than Olive Avenue. This would overcome the issues that we have raised.

Sincerely,

Thomas R Buick

Thomas R. Buick, P.E.
Transportation Director & County Engineer

cc: Arizona Department of Transportation, Ron Foluch
Maricopa County Board of Supervisors, District 4, Max Wilson
Flood Control District, Greg Jones
Parks & Recreation, Bill Scalzo and Bill VanAusdal
Planning & Development, Matt Holm
MCDOT, Wayne Butch and Patricia Pauly

ELAINE M. SCRUGGS
Mayor

June 23, 2003

Mr. Jan Bennett
Vice President, Customer Service
Arizona Public Service
P.O. Box 53999
Phoenix, Arizona 85072-3999

Dear Jan:

For the past several months I have been aware of the proactive efforts of your staff to assure that the APS West Valley South Transmission Line Project will be constructed in a manner that is deemed by Luke Air Force Base to be compatible with military airport operations.

Specifically, I have reviewed the correspondence recently provided by Col. Dennis A. Rea, Vice Wing Commander, Luke AFB, which expressed his appreciation for APS' decision to not locate transmission lines within Accident Potential Zone 2.

From my perspective, the land use and development decisions made over the next few years by numerous jurisdictions, corporations and other entities, will have a significant and long-term impact on Luke AFB's ability to preserve its mission viability. Accordingly, I appreciate the APS West Valley South Transmission Line Project's sensitivity towards this issue and, most importantly, the corresponding decisions that were consistent with the goal of preventing incompatible developments to occur within the vicinity of Luke AFB.

Sincerely,

Elaine Scruggs
Mayor

cc: Miryam Gutier, Director
Governmental Programs
City of Glendale

RECEIVED
JUN 27 2003
JAN H. BENNETT

5850 W. Glendale Ave. • Glendale, AZ 85301 • Phone (623) 930-2260 • Fax (623) 937-2764

SECTION IV

ROUTE TOUR ITINERARY

APS West Valley-South Power Line and Substation Project
Proposed Route Tour Itinerary

The following itinerary presents the APS Proposed and Alternative 230kV system options as they originate at an existing line south of Broadway Road and west of Perryville Road, and proceed north to interconnect to the proposed TS3 substation and terminate at the proposed TS2 substation.

Meeting Place:

Arizona Public Service
13979 West Van Buren
Goodyear, Arizona 85338

The APS service center in Goodyear is located approximately 0.25 mile west of Litchfield Road on the south side of Van Buren Street.

Tour Agenda:

- TS4 substation site
- Proposed system option for approximately 7 miles and TS3 substation site
- Proposed system option for approximately 10 miles and TS2 substation site
- Various locations of the Alternative system option
- Beardsley Canal

Driving Directions (see attached map [derived from Figure 2 from the CEC application]):

Area #1
PROPOSED TS4 SUBSTATION AREA

Take I-10 west and exit Jackrabbit Trail. Go south on Jackrabbit Trail to Broadway Road. Turn west on Broadway Road and travel approximately 1 mile to visit the proposed TS4 substation site.

Features to note near Area #1:

1.1 Existing Liberty Substation (operated by Western Area Power Administration [WAPA]) north of the proposed TS4 substation site [STOP]
1.2 Existing transmission lines near Liberty Substation

Area #2
THE PROPOSED TS4 SUBSTATION SITE TO THE PROPOSED TS3 SUBSTATION SITE

From the proposed TS4 substation site go east on Broadway Road to Perryville Road. Go south on Perryville Road and travel approximately 0.5-mile to visit the connection of the Proposed system option to an existing 230kV transmission line. Go north on Perryville Road along the Proposed system option alignment for approximately 7 miles to 0.5-mile north of Indian School Road to view the proposed TS3 substation site.

Features to note near Area #2:

2.1 Connection to an existing 230kV transmission line located south of Broadway Road [STOP]
2.2 Crossing of a WAPA 230kV transmission line located south of Lower Buckeye Road will be required [STOP]
2.3 Existing residential areas along the east side of Perryville Road, south of I-10
2.4 Agricultural lands east of Perryville Road and north of I-10 are designated to remain agricultural land use within City of Goodyear general plan
2.5 Scott Libby Elementary School is located west of Perryville Road, north of I-10 [STOP]
2.6 A developing residential area (Litchfield Farms) is located west of Perryville Road
2.7 Proposed TS3 substation site located on agricultural land [STOP]

Area #3
THE PROPOSED TS3 SUBSTATION SITE TO THE PROPOSED TS2 SUBSTATION SITE

From the proposed TS3 substation site, located 0.5-mile north of Indian School Road and east of Perryville Road, view the approximate 2-mile segment along the 0.5-mile section line between Indian School Road and Camelback Road (no public access road available). Go south along Perryville Road and turn east onto Indian School Road. Follow Indian School Road east to Cotton Lane and go north on Cotton Lane. The Proposed system option reaches Cotton Lane approximately 0.75-mile north of Indian School Road (due to a diagonal alignment that avoids the Luke Air Force Base Accident Potential Zone [APZ]). Go north on Cotton Lane to rejoin the Proposed system option alignment until it meets with Bethany Home Road. Turn east onto Bethany Home Road to Loop 303. Go north on Loop 303 to Olive Avenue. Turn west onto Olive Avenue and continue west for approximately 3 miles. Turn north along a dirt road located immediately west of the Beardsley Canal to visit the proposed TS2 substation site up to 0.5-mile north of Olive Avenue.

Features to note near Area #3:

3.1 Alignment 0.5-mile north of Indian School Road currently does not have any approved residential development plans

3.2 Development has been approved and construction started on residences north of Camelback Road
3.3 Future development along Loop 303 has been designated as commercial, industrial and residential
3.4 Dispersed existing residences are located south of Olive Avenue [STOP]
3.5 Proposed TS2 substation site could be located north of the wash area [STOP]

Area #4
ALTERNATIVE SYSTEM OPTION

Go west on Olive Avenue from the Beardsley Canal to the Tuthill Road alignment, near the White Tank Mountain Regional Park, and view south toward the alignment presented for the Alternative system option.

Features to note near Area #4:

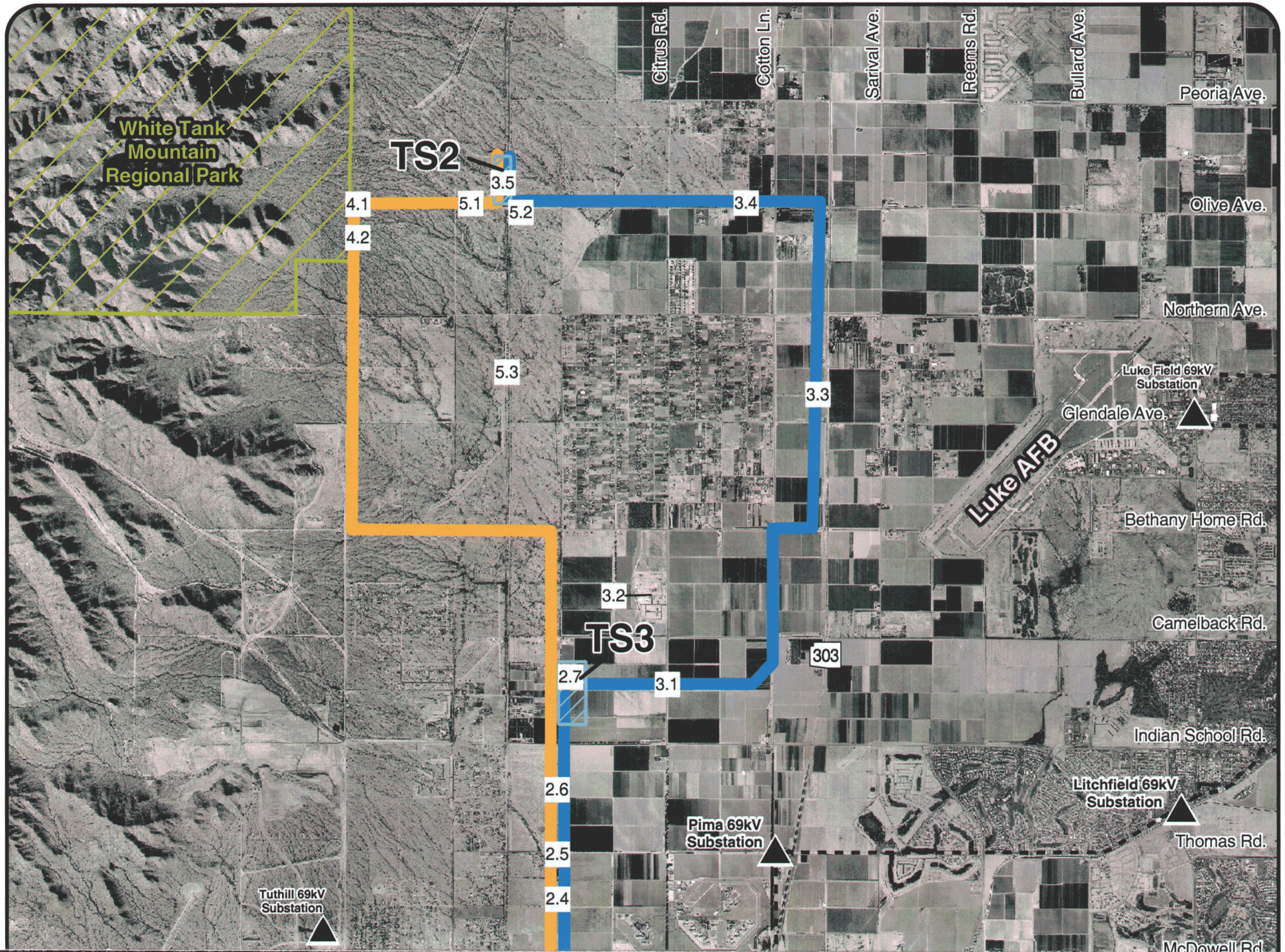
4.1 The Alternative system option would locate the 230kV transmission line adjacent to the White Tank Mountain Regional Park
4.2 Access currently not available to Tuthill Road alignment south of Olive Avenue [STOP]

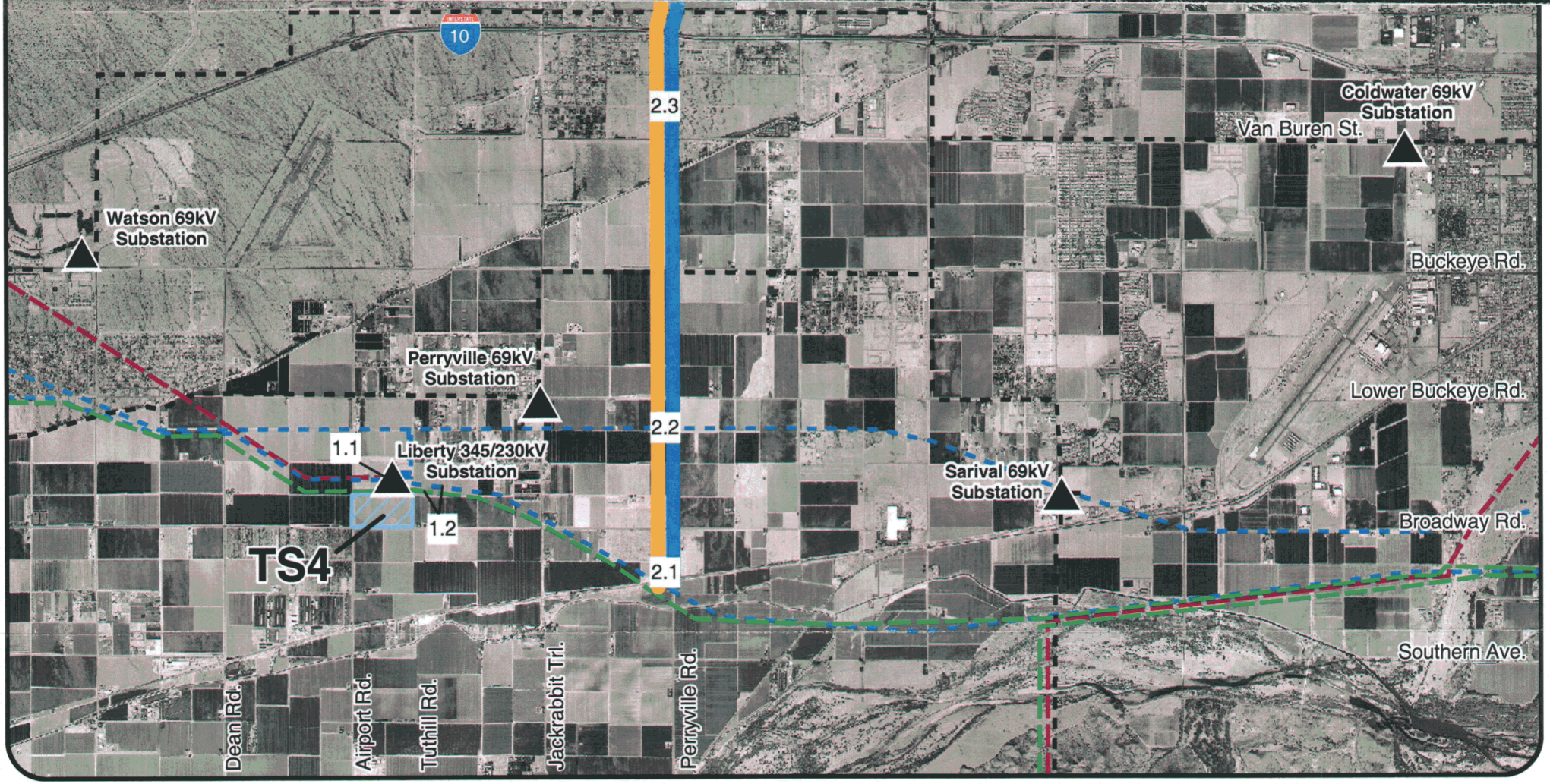
Area #5 (OPTIONAL)
BEARDSLEY CANAL

Go east from the White Tank Mountain Regional Park entrance on Olive Avenue to the Beardsley Canal and enter access road. Go south along the Beardsley Canal to Bethany Home Road alignment.

Features to note near Area #5:

5.1 Sonoran Ridge Estates is located west of the Beardsley Canal south of Olive Avenue [STOP]
5.2 Maricopa Water District has submitted plans to Maricopa County to develop east of the Beardsley Canal
5.3 West side of Beardsley Canal includes land owned by Maricopa Water District, Maricopa County Flood Control District, Arizona State Land Department, and private landowners


White Tank Mountain Regional Park
TS2
TS3
3.5
4.1
5.1
5.2
3.4
4.2
5.3
3.3
3.2
2.7
3.1
303
2.6
2.5
2.4
Citrus Rd.
Cotton Ln.
Sarival Ave.
Reems Rd.
Bullard Ave.
Peoria Ave.
Olive Ave.
Northern Ave.
Luke Field 69kV Substation
Glendale Ave.
Luke AFB
Bethany Home Rd.
Camelback Rd.
Indian School Rd.
Litchfield 69kV Substation
Thomas Rd.
Pima 69kV Substation
Tuthill 69kV Substation
McDowell Rd.



Proposed Route Tour

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

- 2.1 Features to note identified on the Proposed Route Tour Itinerary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Proposed 230kV Transmission Line Alignment
- Alternative 230kV Transmission Line Alignment
- Proposed 230kV Substation

N

0 1 2 4

Miles

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SECTION V

DRAFT FORM OF ORDER

BEFORE THE ARIZON POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF ARZIONA PUBLIC SERVICE COMPANY IN CONFORMANCE WITH THE REQUIREMENTS OF ARIZONA REVISED STATUTES SECTION 40-360, et seq., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILTY AUTHORIZING THE WEST VALLEY-SOUTH 230 KV TRANSMISSION LINE PROJECT, INCLUDING THE CONSTRUCTION OF APPROXIMATELY 18 MILES OF 230 KV TRANSMISSION LINES AND THREE 230 KV SUBSTATIONS IN MARICOPA COUNTY, ARIZONA, ORIGINATING AT THE PROPOSED TS2 SUBSTATION IN SECTION 19 TOWNSHIP 1 NORTH, RANGE 2, WEST, G&SRB&M AND CONTINUING TO THE PROPOSED TS3 SUBSTATION IN SECTION 22, TOWNSHIP 2, NORTH, RANGE 3 WEST, G&SRB&M AND TERMINATING AT THE EXISTING 230 KV TRANSMISSION LINE THAT WILL INTERCONNECT WITH THE PROPOSED TS4 SUBSTATION IN SECTION 28, TOWNSHIP 3 NORTH, RANGE 2 WEST, G&SRB&M	Docket No: L-00000D-03-0122 Case No: 122

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 August 11 and 12, 2003, 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. A route tour was conducted on August 12, 2003.

The following members and designees of members of the Committee were present at one or more of the hearings for the evidentiary presentations and/or for the deliberations:

Laurie Woodall	Chairman, Designee for Arizona Attorney General, Terry Goddard
Ray Williamson	Designee for Chairman, Arizona Corporation Commission
Richard Tobin	Designee for Director, Arizona Department of Environmental Quality
Mark McWhirter	Designee for Director, Energy Department, Arizona Department of Commerce
Sandie Smith	Appointed Member
Jeff McGuire	Appointed Member
Margaret Trujillo	Appointed Member
A. Wayne Smith	Appointed Member
Michael Whalen	Appointed Member
Michael Palmer	Appointed Member .

The Applicant was represented by Thomas H. Campbell of Lewis and Roca LLP and C. David Martinez of Pinnacle West Capital Corporation. The following parties were granted intervention pursuant to A.R.S. § 40-360.05: Arizona Corporation Commission Staff, represented by David Ronald; and Camelback L.L.C., represented by Roger K. Ferland of Quarles & Brady Streich Lang L.L.P.

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 unanimously to grant the Applicant a Certificate of Environmental Compatibility (Case No. 122) for authority to

construct the following facilities as requested in the Application: a 230kV transmission line within a 3000 foot wide corridor, three substations and related facilities.

The West Valley – South transmission line route (depicted on Exhibit A (attached)) will originate at an existing line that travels east to west that will tie into the Project where it would begin south of Broadway Road near the existing Liberty Substation, located in Sections 27 and 28, Township 1 North, Range 2 West. The project route will parallel the west side of Perryville Road until McDowell Road, and then continue north on the east side of Perryville Road to the TS3 substation site located 0.5 mile north of Indian School Road on the east side of Perryville Road, in Section 22, Township 2 North, Range 2 West. The line then would extend east from the TS3 substation toward Cotton Lane, in Section 23, Township 2 North, Range 2 West. Approximately 1,000 feet west of Cotton Lane, the line will angle to the northeast to avoid the Luke Air Force Base (LAFB) accident potential zone (APZ). The line will follow this angle for approximately 1,500 feet where it will reach Cotton Lane. The line will extend north along the east side of Cotton Lane to Bethany Home Road, in Sections13 and 14 in Township 2 North, Range 2 West. At that point, the line will extend east on the south side of Bethany Home Road to Loop 303, in Section 13, Township 2 North, Range 2 West. The line will extend north along the west side of Loop 303 to Olive Avenue, in Sections 1 and 12 in Township 2 North and 3 North, Range 2 West. At the intersection of Loop 303 and Olive Avenue the line will turn west and travel on the north side of Olive Avenue to the west side of the Beardsley Canal, through Sections 25, 26, 27 and 28, Township 3 North, Range 2 West. The line will extend along the Beardsley Canal north for approximately 0.5 mile to the proposed TS2 substation in Section 28, Township North, Range 2 West.

With the exception of turning and line crossing structures, the Project shall be constructed on double circuit monopoles with the capability for double circuit 69kV underbuild.

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 10 years from the date the Certificate is approved by the Arizona Corporation Commission unless construction is completed to the point that the Project is capable of operating by that time; provided, however, that the authorization to construct the second circuit of the Project shall expire 15 years from date of this Certificate; and further provided, however, that prior to either 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 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.

5. The Project shall comply with applicable noise guidelines of the federal Department of Housing and Urban Development 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. If the result is a determination of negative impact, the Applicant shall continue to consult with the SHPO to resolve the negative impacts. 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 and/or minimize impacts to properties considered eligible for inclusion in the State and National Register of Historic Places to the extent possible.

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. § 41-865.

8. Applicant shall retain an archeologist 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 the treatment of State Register of Historic Places-eligible properties situated on Arizona State Land Department land in consultation with SHPO.

11. 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.

12. Where practicable, the Applicant shall use existing roads for construction and access. The Applicant shall minimize vegetation disturbance, particularly in drainage channels and along stream banks, and shall re-vegetate or restore native 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 until the transmission structures are constructed. There must also be signs at the location of the proposed substations. 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, Applicant shall use reasonable means to directly notify all landowners and residents within a one-half 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 with copies to affected areas of jurisdiction. The Applicant shall, within one year of completion of construction of the Project, rehabilitate to its original state any native area disturbed by construction of the Project, except for any road that may be necessary

to access the transmission lines or substation sites 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, when not inconsistent with the respective land management agencies' or local owners' requirements, 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; and
- Prevent, where applicable, the spread of noxious weeds or other undesirable species.

17. Applicant shall monitor all ground clearing/disturbing construction activities that may affect sensitive habitat. If a special status species is encountered, Applicant shall retain a biological monitor to ensure

proper actions are taken with regard to such species. If Sonoran desert tortoises are encountered during construction, the Applicant shall follow the Arizona Game & Fish Department's Guidelines for Handling Sonoran Desert Tortoises.

18. Applicant shall salvage mesquite, ironwood, palo verde trees and saguaros 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. Applicant 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 Certificate 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 Department of Commerce Energy Office.

21. Applicant shall continue to coordinate this Project with both SRP and Western Area Power Administration ("WAPA") to ensure that all possible projects are maximally integrated, taking into account serving Arizona's growing need for electrical service, ensuring reliability for the Project and the Arizona Transmission System and minimizing any and all adverse environmental impacts. Applicant

shall provide to the ACC written confirmation of continuing efforts at coordination as described above as part of its compliance with this Certificate.

22. With respect to the Project, Applicant shall participate in good faith in state and regional transmission study forums, and shall coordinate transmission expansion plans related to the Project to resolve transmission constraints in a timely manner.

23. The following condition is to ensure transmission system safety and reliability when a transmission structure is placed within one hundred feet of a natural gas or hazardous liquid pipeline right of way, excluding distribution lines as defined by the Code of Federal Regulations. Under such circumstances, the Applicant shall:

(a) Provide the appropriate grounding and cathodic protection studies to show that the transmission line results in no material adverse impacts to such natural gas or hazardous liquid pipeline, whose right of way is a hundred feet or less from the transmission structure, when both are in operation. A report of studies shall be provided to the ACC by the Applicant as part of its compliance with the Certificate. If material adverse impacts are noted in the studies, Applicant shall take appropriate steps to ensure such material adverse impacts are eliminated. Applicant shall provide to the ACC written documentation of the actions that were taken and provide documentation showing that no material adverse impacts are occurring.

(b) Adopt a written mitigation plan outlining any and all steps taken to protect all electric facilities associated with the transmission line as a result of this Project from any potential hazards that could occur whenever a transmission line structure is placed 100 feet or less from any such pipeline right of way. The plan shall indicate what corrective action will be taken to mitigate any potential hazard that could occur. A potential hazard includes, but is not limited to, a rupture or explosion resulting from the pipeline. The written mitigation plan shall be provided to the ACC by the Applicant as part of its compliance with this Certificate and shall be subject to approval from Commission Staff. Applicant shall implement the written mitigation plan during a hazard as part of its compliance with this Certificate.

24. The Applicant shall provide copies of this Certificate to appropriate city and county planning agencies.

25. Applicant shall make good faith effort to work with affected municipalities and land management agencies to encourage future development to move major arterials away from major transmission corridors.

26. Applicant shall work with developers along the route to encourage them to include the identity and location of the certificated route in the developers' homeowners disclosure statement.

GRANTED this ___ day of _____, 2003.

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 , 2003.

By: _____
Brian C. McNeil
Executive Secretary

Dissent:

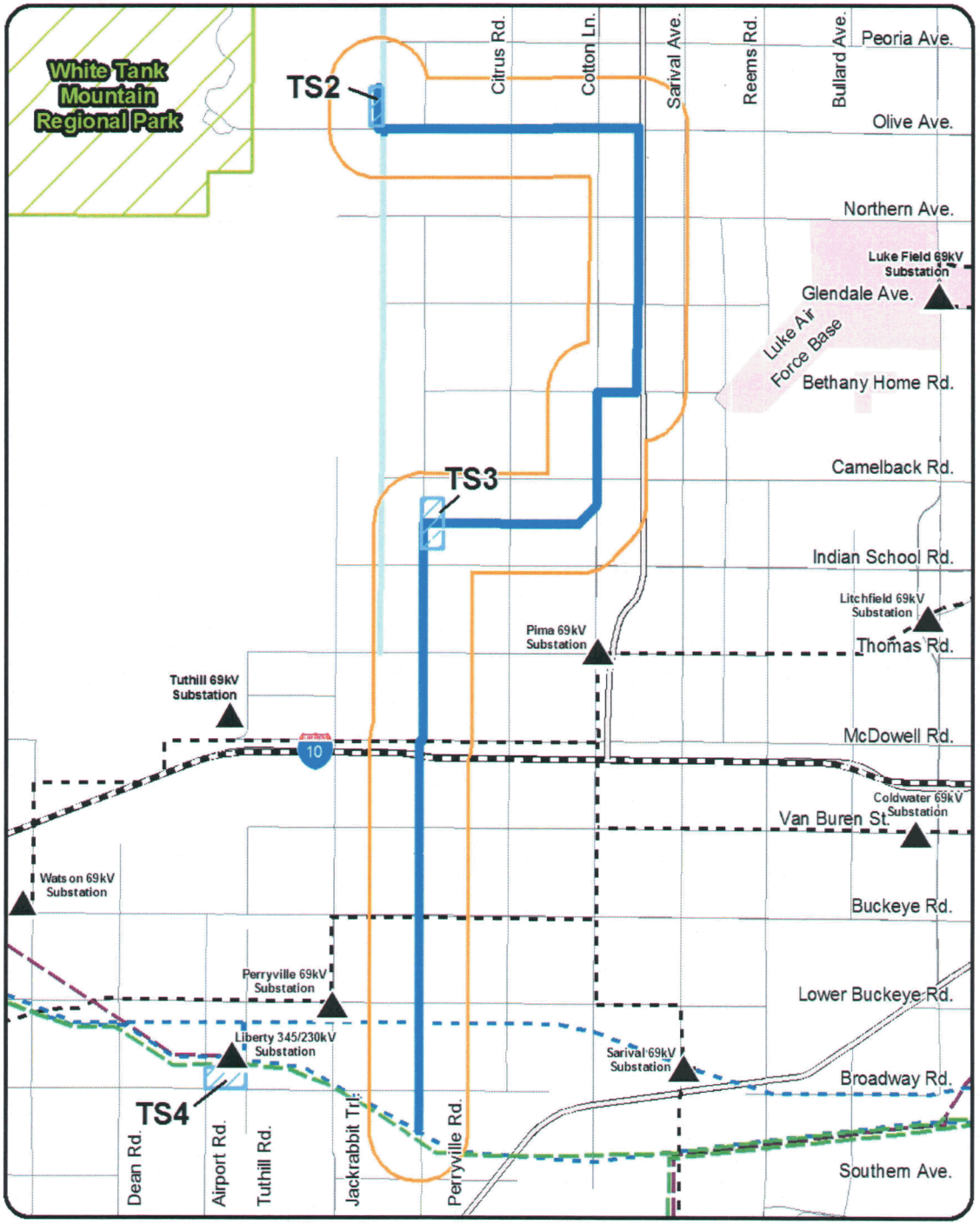

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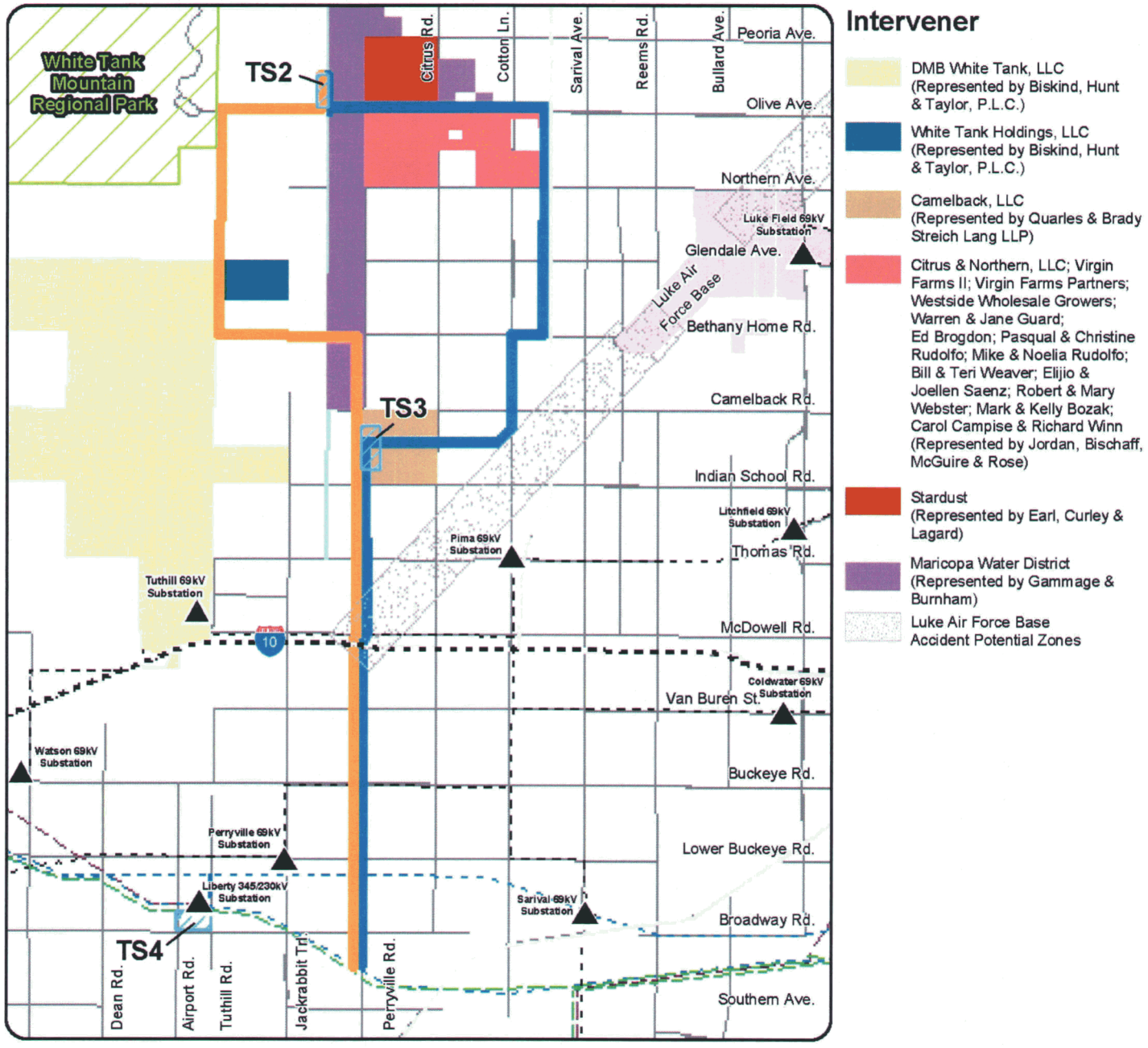
EXHIBIT

A-3

Admitted

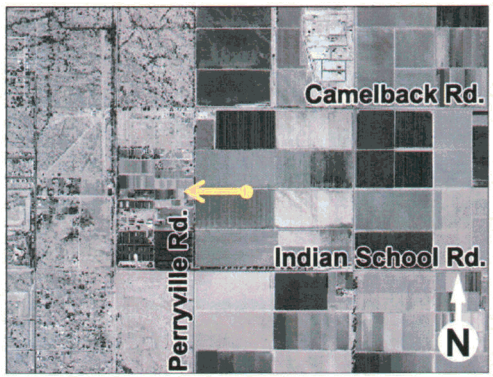


Intervener

- DMB White Tank, LLC (Represented by Biskind, Hunt & Taylor, P.L.C.)
- White Tank Holdings, LLC (Represented by Biskind, Hunt & Taylor, P.L.C.)
- Camelback, LLC (Represented by Quarles & Brady Streich Lang LLP)
- Citrus & Northern, LLC; Virgin Farms II; Virgin Farms Partners; Westside Wholesale Growers; Warren & Jane Guard; Ed Brogdon; Pasqual & Christine Rudolfo; Mike & Noelia Rudolfo; Bill & Teri Weaver; Elijio & Joellen Saenz; Robert & Mary Webster; Mark & Kelly Bozak; Carol Campise & Richard Winn (Represented by Jordan, Bischaff, McGuire & Rose)
- Stardust (Represented by Earl, Curley & Lagard)
- Maricopa Water District (Represented by Gammage & Burnham)
- Luke Air Force Base Accident Potential Zones

Existing Conditions

Simulated Future Conditions



Location Map (not to scale)

Half Section Segment

WEST VALLEY SOUTH
POWER LINE & SUBSTATION PROJECT

EXHIBIT
A-4
Admitted

SUMMARY OF PUBLIC COMMENTS PHASE III
(August 8 – September 30, 2002)

During Phase III, there were **184 public comments** expressed via comment forms, the Web site, the information phone line or personal phone calls with Steve Goodman.

System Option: A: Perryville/303
Most acceptable-36.6% support
Somewhat acceptable-28% support
Not acceptable-35.5% support

System Option: B: Tuthill/303
Most acceptable-32.3% support
Somewhat acceptable-26.9% support
Not acceptable-40.9% support

System Option: C: Perryville/MWD
Most acceptable-26.1% support
Somewhat acceptable-10% support
Not acceptable-64% support

System Option: D: Perryville/Tuthill
Most acceptable-7.7% support
Somewhat acceptable-13.2% support
Not acceptable-79% support

System Option: E: Tuthill/MWD
Most acceptable-6.9% support
Somewhat acceptable-13.8% support
Not acceptable-79.3% support

System Option: F: I-10/MWD
Most acceptable-15.2% support
Somewhat acceptable-7.6% support
Not acceptable-77.2% support

System Option: G: I-10/303
Most acceptable-17.6% support
Somewhat acceptable-18.8% support
Not acceptable-63.7% support

System Option: H: Perryville/303
Most acceptable-15.6% support
Somewhat acceptable-14.4% support
Not acceptable-70% support

System Option: I: Perryville/Perryville
Most acceptable-8% support
Somewhat acceptable-14.8% support
Not acceptable-77.3% support

WEST VALLEY SOUTH

POWER LINE & SUBSTATION PROJECT

APS West Valley - South Phase III Public Feedback Rankings

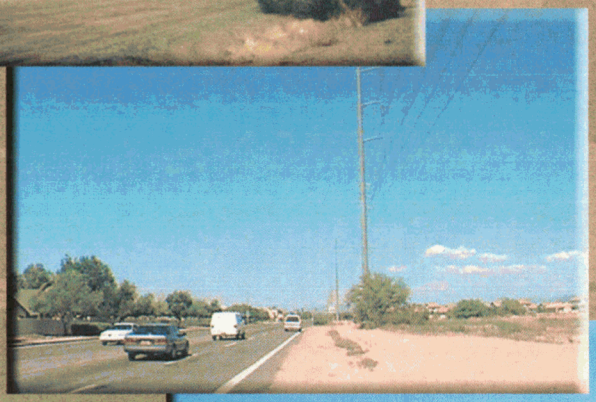
Route	Most Acceptable	Somewhat Acceptable	Total Acceptability	Acceptability Ranking	Not Acceptable	Non Acceptability Ranking
A: Perryville/303	34	26	60	1	33	9
B: Tuthill/303	30	25	55	2	38	8
C: Perryville/MWD	24	9	33	3	59	6
D: Perryville/Tuthill	7	12	19	8	72	2
E: Tuthill/MWD	6	12	18	9	69	3
F: I-10/MWD	14	7	21	6	71	1
G: I-10/303	16	17	33	4	58	7
H: Perryville/303	14	13	27	5	63	5
I: Perryville/Perryville	7	13	20	7	68	4
	152	134	286		531	

WEST VALLEY-SOUTH

Power Line and Substation Project

EXHIBIT
A-5 1 of 2
admitted

WEST VALLEY-SOUTH
POWER LINE & SUBSTATION PROJECT



Environmental Report

Volume I - Environmental Report

Prepared for
APS

Prepared by
URS

July 2003

APS WEST VALLEY-SOUTH POWER LINE AND SUBSTATION PROJECT

ENVIRONMENTAL REPORT
(Volume I)

Prepared for
APS

Prepared by
URS

July 2003

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3-D	Three-dimensional
ACC	Arizona Corporation Commission
ADWR	Arizona Department of Water Resources
AGFD	Arizona Game and Fish Department
APS	Arizona Public Service Company
ARPC	Arizona Rare Plant Committee
ARS	Arizona Revised Statutes
ASLD	Arizona State Land Department
ASM	Arizona State Museum
BLM	Bureau of Land Management
CEC	Certificate of Environmental Compatibility
FCDMC	Flood Control District of Maricopa County
FRS	Flood Retarding Structure
GIS	Geographic Information System
I-10	Interstate 10
kV	Kilovolt
MCDOT	Maricopa County Department of Transportation
MWD	Maricopa Water District
SHPO	State Historic Preservation Office
SR	State Route
URS	URS Corporation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VSOI	Visual Sphere of Influence
WVN	West Valley-North
WVS	West Valley-South

EXECUTIVE SUMMARY

Arizona Public Service (APS) is planning to expand its electrical transmission system in the West Valley to meet the local and growing demand for electricity. Required facilities include new power lines and substations. To plan the locations of these future facilities, APS conducted the West Valley-South (WVS) Power Line and Substation Project, with the assistance of URS Corporation (environmental consultant) and BJ Communications (public involvement consultant).

Based on anticipated growth in the West Valley, APS developed electrical demand estimates indicating a need for three 230,000-volt (230kV) substations, twelve 69kV substations, and an associated network of 230kV and 69kV power lines (230kV transmission lines and 69kV distribution lines). This infrastructure will provide electricity to portions of Avondale, Buckeye, El Mirage, Glendale, Goodyear, Litchfield Park, Peoria, Phoenix, Surprise, Tolleson, and unincorporated areas of Maricopa County. Both 230kV and 69kV power lines and substations were evaluated during the siting process. The facilities were evaluated jointly where they shared common locational requirements for routes and substations and independently where there were not commonalities. For example, some areas need both 230kV and 69kV infrastructure and in such areas substations and power lines could be collocated. The 230kV facilities will require preparation of a Certificate of Environmental Compatibility (CEC) application. This application will be submitted to the Arizona Power Plant and Transmission Line Siting Committee for review and finally to the Arizona Corporation Commission (ACC) for approval.

The process of identifying and evaluating power line routes and substation sites was conducted in sequential phases, which included the following:

- Defining the study area
- Conducting comprehensive inventories of land uses and visual resources
- Researching existing data on cultural and biological resources in the study area
- Developing preliminary power line links and substation sites
- Screening power line links for environmental and engineering opportunities and constraints and compiling links into routes connecting substation sites
- Evaluating potential environmental impacts of power line routes and substation sites
- Compiling power line routes into complete system options (multiple routes to connect all substations)
- Ranking system options based on environmental data, public input, electrical system requirements, right-of-way considerations, costs, and permitting requirements
- Gathering input from agencies and stakeholders throughout the siting process

Initially, numerous preliminary power line links (short segments) were identified to create potential connections between substations, as shown on Figure ES-1. However, progressively fewer alternatives were carried forward for consideration based on technical feasibility (e.g., lack of existing right-of-way), environmental considerations, and public and agency input (the purple segments denote links eliminated from consideration on Figure ES-1). After several months of environmental analyses and public outreach

efforts, nine final system options for the 230/69kV facilities were developed and two 69kV systems independent of the 230kV facilities were developed. All of the systems were determined to be technically feasible by APS. Alternative 230kV and 69kV substation sites were identified for each needed substation.

Potential environmental impacts and public comments were analyzed for the alternative 230kV and 69kV substation sites and power line systems to evaluate their compatibility with the surrounding environment and public sentiment. Based on the environmental analyses alone, while System Options A through I were all determined to be environmentally compatible, four of the nine 230/69kV systems were identified as the most environmentally compatible, including System Options A, C, E, and F. Prior to the final public meeting in August 2002, the public input received indicated more support for system options A, B, C, and D.

In addition to environmental compatibility and public input, APS considers right-of-way acquisition, constructability, APS system needs and demands, engineering, and costs in determining final 230kV/69kV and 69kV system options and substation site locations.

Based on the results of the environmental analyses and final public input, APS identified System Option A[1] for the needed 230/69kV facilities and System Option 1 for the needed 69kV facilities as their preferred options for construction. The 230kV facilities included in System Option A will be carried forward as the Proposed system option in the CEC application for review by the Arizona Power Plant and Transmission Line Siting Committee and for final approval by the ACC along with one Alternative system option, which would meet APS' system requirements. System Options A and 1 are shown on Figures ES-2 and ES-3, respectively.

[1] This report presents results of analyses on System Option A as it was presented to the public in August 2002. APS subsequently considered following a modified alignment with a 1.5-mile segment along Loop 303, rather than locating the line along Cotton Lane, and this preferred alignment was presented in a project newsletter in November 2002. However, the Proposed System Option carried forward to the Arizona Power Plant and Transmission Line Siting Committee follows the general alignment of System Option A as a result of further input APS received from Luke Air Force Base.

1.0 INTRODUCTION

Arizona Public Service (APS) is planning to expand its electrical transmission system in the West Valley to include new power lines and substations. Since the geographic area needing new facilities is expansive (approximately 400 square miles), APS has separated the area into two distinct studies: (1) the West Valley-South (WVS) Power Line and Substation Project and (2) the West Valley-North (WVN) Power Line and Substation Project. This report focuses on the WVS Project.

APS retained URS Corporation (URS) to assist with this project. URS was responsible for conducting environmental studies on proposed facilities at specific locations, assisting with the siting of facilities with consideration of environmental factors, coordinating agency consultation, and assisting with public involvement activities that were coordinated by BJ Communications.

1.1 PROJECT NEEDS

West Valley cities recently have exhibited growth rates ranging from 15 percent (Litchfield Park) to over 200 percent (Goodyear between 1990 and 2000) years (U.S. Census Bureau 1990 and 2000). The growing areas of the West Valley have few local electrical facilities to meet the current and growing demand. APS must plan to provide the necessary electricity for future residents and businesses. In addition to providing electricity for new development, the WVS Project will increase the reliability of service to existing residents and businesses. This will create redundancy (or "back up") in the electrical system, which will protect the system from power outages. APS is planning to serve new development and improve reliability by determining locations for facilities ahead of the growth occurring. By doing so the APS facilities can be incorporated into future development plans.

1.2 STUDY AREA

The study area includes portions of Avondale, Buckeye, El Mirage, Glendale, Goodyear, Litchfield Park, Peoria, Phoenix, Surprise, Tolleson, and unincorporated Maricopa County (Figure 1-1). APS electrical system planners established the study area boundaries by considering the general locations of the substations needed for future operations. The study area encompasses 294 square miles, which is bounded by Baseline Road to the south, Thunderbird Road to the north, the Oglesby Road alignment to the west, and 99th Avenue to the east.

1.3 DESCRIPTION OF THE NEEDED FACILITIES

Based on anticipated growth, APS developed electrical demand estimates indicating a need for three 230,000-volt (230kV) substations, twelve 69kV substations, and an associated network of 230kV and 69kV power lines to provide electricity in the West Valley. These facilities would be developed and entered into service from 2002 through approximately 2012. As some of the 69kV substations and lines are needed immediately (i.e., more quickly than the typical siting process can be completed), APS has worked with developers, landowners, and the governing jurisdictions to site and permit four of the needed 69kV substations. The conceptual locations of power line connections and substations are shown on Figure 1-1; 230kV substation siting areas are denoted by blue circles and 69kV substation siting areas are denoted by gold circles. The approximate in-service dates for the substations, which are identified with alphanumeric names, are provided in Table 1-1.

TABLE 1-1 IN-SERVICE DATES FOR NEEDED SUBSTATIONS		
	Facility Name	Projected In-Service Date**
230kV		
	TS2	2012
	TS3	2006
	TS4	2006
69kV		
	WS1	2007
	WS2	2008
	WS3	2006
	WS4	2007
	WS6	2004
	WS7	2006
	WS10	2008
	WS14	2005
	Colter*	2002
	Tuthill*	2003
	Watson*	2003
	Wildflower*	2004
* APS selects permanent names, as shown here, after final locations have been selected. ** In-service dates may change based on various factors such as rate of "build out" in particular areas.		

230kV Power Lines

The proposed 230kV power lines (refer to Figure 1-1) would include single-pole structures constructed out of dulled galvanized steel and non-reflective conductor wires. Each tubular monopole would be approximately 115 to 130 feet tall. The maximum right-of-way required for the 230kV power line (on single-pole structures) would be 150 feet. New 230kV power lines are needed to connect the substation siting areas in either of two scenarios. The first scenario would make the following connections:

- TS2 to TS3
- TS3 to the existing Buckeye Substation
- Buckeye Substation to an existing 230kV power line corridor on Lower Buckeye Road

Alternatively, 230kV substation siting areas would need to be connected as follows:

- TS2 to TS3
- TS3 to TS4
- Buckeye Substation to an existing 230kV power line corridor on Lower Buckeye Road

The difference between the two 230kV scenarios described above is that if the connection from substation siting area TS3 to Buckeye Substation were selected, the connection from substation siting area TS3 to TS4 would not be needed, and vice versa.

230kV Substations

APS electrical system planners identified the need for three 230kV substations within the WVS study area (refer to Figure 1-1). Each 230kV substation would require approximately 10 acres. Wall treatments for the exteriors of the new substations and landscaping surrounding each facility generally would be site-specific. The surrounding natural features (i.e., terrain and area grade) determine the visual height of the facility structures. The maximum height of structures in the substation would be approximately 60 feet. The walls enclosing substation facilities generally are concrete block with an exterior finish compliant with the local jurisdiction's requirements. A wall surrounding a 230kV substation would be approximately 10 to 11 feet tall with a locking gate. Landscaping around the substation would be consistent with the character of the surrounding area and the requirements of the approving jurisdiction.

69kV Power Lines

Similar to the 230kV power lines, the 69kV power lines (refer to Figure 1-1) would include single-pole structures of galvanized steel with non-reflective conductors. The poles needed for a 69kV line would be approximately 60 to 65 feet tall. Additionally, the 69kV lines (if independent from the 230kV lines) would require approximately 25 feet of right-of-way. If a 69kV line were collocated within the same right-of-way as a 230kV line, the 69kV line would be underbuilt on the same poles as the 230kV line, thus eliminating the need for two sets of poles (230kV and 69kV). The proposed 69kV power lines would be dispersed throughout the WVS study area to meet demand and provide a reliable electrical system.

69kV Substations

APS electrical system planners identified a need for twelve 69kV substations within the WVS Project area (refer to Figure 1-1). Four 69kV substations already have been sited through a process that included discussions with landowners, developers, and the appropriate jurisdictions; therefore, these substation sites are not evaluated in detail within this report. Each 69kV substation would require approximately 1.5 acres for operation and maintenance. Generally, the structure dimensions and height of facilities would be similar among all 69kV substations. Site-specific qualities similar to those previously described for 230kV substations would determine the visual height of the features and surrounding landscaping. The maximum height of structures in each 69kV substation would be approximately 16 feet. The walls enclosing substation facilities generally are concrete block with an exterior finish compliant with the local jurisdiction's requirements. A wall surrounding a 69kV substation would be approximately 10 feet tall with a locking gate. Landscaping around the substation would be consistent with the character of the surrounding area and the requirements of the approving jurisdiction.

1.4 SITING PROCESS

The process of identifying and evaluating power line routes and substation sites was conducted in sequential phases with a public involvement process during each phase, as described below. An overview of the siting process, which is described in this section, is displayed on Figure 1-2; the system selection process is detailed on Figure 1-3.

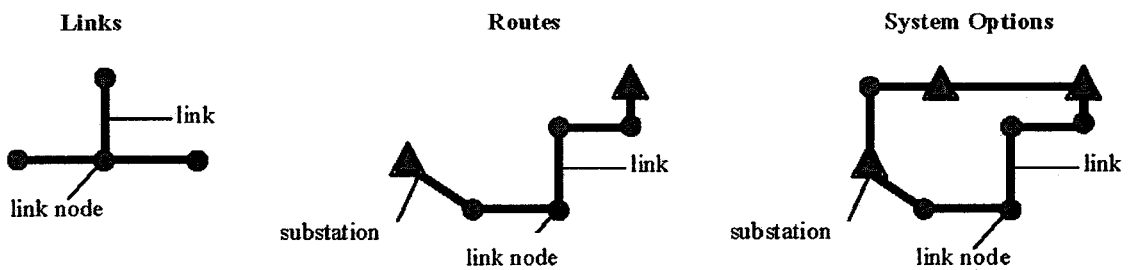
First, a study area and required facilities were defined by APS based on projected system loads. After definition of the study area, inventories of existing resources were conducted, which included review of land uses, visual resources (landscape scenic quality and views), cultural resources (archaeological and historic), and biological resources (special status species). Additionally, future land uses planned within the study area and the future visual conditions associated with these uses were reviewed.

Second, each land use category was assigned a compatibility level based on the sensitivity of those uses to the introduction of a power line within that use. The highest compatibility areas for power line links (short segments of power line) primarily followed section lines, half-section lines, property boundaries, and existing power lines and roads. The results of the compatibility mapping allowed preliminary power line links (short segments of potential power line between other intersecting segments) and broad areas for siting substations were defined. APS then contacted agencies (jurisdiction planners) and other community leaders to gather comments regarding the WVS Project, including preliminary links and substation sites. After agency input was received a series of three public meetings was held to solicit input from the community regarding the project and preliminary link locations. Additional public input was encouraged throughout the siting study.

Third, to narrow down the links and substation sites, potential environmental impacts and APS technical considerations (e.g., constructability and right-of-way) were reviewed and areas/links with environmental or engineering constraints were eliminated from further consideration.

Fourth, links were combined to form various route segments (connections between two substations). After route segments were identified, environmental analyses were conducted on each route segment to evaluate the potential impacts of each route segment and substation site on environmental resources. *The analyses in this environmental report focus on the routes and substation sites identified at this point in the process (May 2002).* The results of preliminary environmental analyses were presented at meetings for jurisdictional planners and community leaders. In addition, a set of two public meetings was held to gather comments on the route segments and substation sites identified.

Fifth, system options, or combinations of power line route segments connecting multiple substations throughout the study area, were identified. These options further narrowed the potential areas for locating power lines. These options were presented at a jurisdictional workshop, community leader meeting, and one public open house (August 2002) to gather comments on the options prior to deciding on which system options should be carried forward in the Certificate of Environmental Compatibility (CEC) application. The diagram below illustrates the manner in which power line links and substation sites were combined into route segments and finally system options.



Each system option was ranked based on its environmental compatibility and public acceptability for APS to consider with other factors when developing a final ranking of the options.

Finally, APS ranked the final systems of 230kV and 69kV facilities based on the following decision factors:

- public comments
- electrical system requirements

- right-of-way considerations and availability
- permitting requirements
- environmental compatibility
- costs and feasibility of construction, operation, and maintenance

Both 230kV and 69kV facilities (power lines and substations) were evaluated during the siting process using similar methods for each type of facility (i.e., 230kV or 69kV). The 230kV facilities will require preparation of a CEC application. This application will be submitted to the Arizona Power Plant and Transmission Line Siting Committee for review and finally to the Arizona Corporation Commission (ACC) for approval.

1.5 STRUCTURE OF THIS REPORT

The following four chapters (2 through 5) provide data and analyses for land uses, visual resources, cultural resources, and biological resources. Data gathered during inventories were used to analyze the potential effects on each resource that would result from implementation of proposed power lines and substations. The impact analyses for the four resources were combined (Chapter 6) to determine, together with results of the public involvement process, which routes should be considered in the system options (Chapter 7). APS' final recommendations are presented in Chapter 8.

2.0 JURISDICTION AND LAND USE

This section summarizes existing and future land uses in the study area based on a comprehensive inventory of the current and planned uses, jurisdictional boundaries, and land ownership patterns. The study area is bounded approximately by Thunderbird Road to the north, Baseline Road to the south, 99th Avenue to the east, and Oglesby Road to the west (refer to Figure 1-1). Following the inventory of land uses, analyses were conducted to determine the compatibility of electrical facilities with the various land uses present. The results of the compatibility analysis were used to create preliminary alternative power line links (segments), which were combined into connections between two substations (routes). After power line routes were developed, impacts of the proposed facilities on existing and future land uses were assessed.

2.1 INVENTORY METHODS

The project team consulted with the planning jurisdictions of Avondale, Buckeye, El Mirage, Glendale, Goodyear, Litchfield Park, unincorporated areas in Maricopa County, Peoria, Phoenix, Surprise, and Tolleson for information on existing and future land uses. State and local governmental agencies (e.g., Arizona State Land Department [ASLD], Maricopa County Parks and Recreation Department, Flood Control District of Maricopa County (FCDMC), Roosevelt Irrigation District, and Maricopa Water District) and organizations were contacted to collect and discuss existing and future land use data. APS also invited jurisdictional planners and community leaders to workshops throughout the initial siting process to keep them informed regarding the project's status and to allow them to comment on the proposed locations of potential substation sites and power line alternatives with respect to land use or other public concerns.

Electronic data were acquired for inventory purposes from various agencies. The Maricopa County Department of Transportation (MCDOT) provided jurisdiction data as MCDOT maintains city annexation boundary records (2001). ASLD provided ownership data (1997, and later updated with 2001 data), and the Arizona Department of Water Resources (ADWR) provided the irrigation district boundaries (2002).

A detailed land use inventory was conducted to determine where land uses would be sensitive to the construction, operation, and maintenance of the proposed 230kV and 69kV power lines and substations. Information was compiled from agency maps and planning documents, and aerial photography. All jurisdictional planning documents (e.g., general plans and available specific plans) used were the current resources for the municipalities during July 2001 through November 2002. Aerial photography for the years 1999, 2000, 2001, and 2002 was used for this analysis. Landiscor's Phoenix real estate photo books (March and April, first quarter of 2001 and 2002) were reviewed for existing land uses, and for some specific developments, future uses were identified. A majority of the field investigations were conducted in August and September 2001, but several follow-up site visits occurred to verify existing and future land use conditions, as the area is changing quickly.

Future land use incorporated existing developed land uses (i.e., residential, commercial, industrial, public-quasi-public, school or educational facilities, and mixed use), known approved developments, jurisdictional general plans, conceptual plans provided by developers, and field posted signage for approved developments. Future uses were assigned to those lands with existing agricultural or vacant/undeveloped uses. Project team members and each jurisdictional representative met to confirm general plan land uses and approved developments permitted after the general plans were established.

2.2 JURISDICTION AND OWNERSHIP

This component of the inventory included identifying entities with administrative control over and ownership of lands within the study area. The authority to control the development of the land through planning and zoning ordinances is delegated to local governments by the state. Rights-of-way and other jurisdictional constraints such as irrigation districts and the White Tank Mountain Regional Park also were identified by APS.

As shown on Figure 2-1, the study area includes lands owned or administered by the Bureau of Land Management (BLM) (federal lands), ASLD (State Trust lands), and lands that are privately owned. As indicated previously, the study area includes portions of the planning jurisdictions of Avondale, Buckeye, El Mirage, Glendale, Goodyear, Litchfield Park, unincorporated areas in Maricopa County, Peoria, Phoenix, Surprise, Tolleson, and Youngtown (refer to Figure 1-1).

BLM and ASLD manage large amounts of land surrounding the White Tank Mountain Regional Park; other lands throughout the study area are administered by various other agencies. Each agency (Maricopa County Parks and Recreation Department, Maricopa County Planning Department, MCDOT, FCDMC, ASLD, and Maricopa Water District) and municipal jurisdiction was contacted to identify potential issues and concerns. The issues were identified and considered when the analyses on proposed facility locations were completed. BLM was not contacted because substations and/or power lines were not proposed on or immediately adjacent to lands managed by the BLM.

The following 12 irrigation districts are located within the project boundary (Figure 2-2):

- Adaman Irrigation Water Delivery District
- Buckeye Water Conservation & Drainage District
- Citrus Glen Owners Association, Inc.
- Clearwater Farms Unit I
- Clearwater Farms Unit II
- Estrella Meadow Water Cooperative
- Maricopa Water District
- Olive Avenue Homeowners Associations
- Orangewood Farms
- Roosevelt Irrigation District
- Saint Johns Irrigation District
- Salt River Valley Water Users Association

Due to the potential for facilities to be located within their jurisdictions, APS met with representatives of the Maricopa Water District and Roosevelt Irrigation District to inform them of the project and to gather input.

Information regarding the ownership and jurisdiction (as well as land use) of each substation site (including the four already sited by APS) is summarized in Table 2-1 at the end of Section 2.4.

2.3 EXISTING LAND USES

Overview

Existing land use defines the types and uses of standing structures and uses of lands without structures as they presently appear. The existing land use inventory for the alternative power line routes and substations include descriptions from aerial photography, U.S. Geological Survey (USGS) quadrangle

maps, and previously conducted resource studies. All data were verified during field visits. After field verification, data were compiled in a geographical information system (GIS) to create the existing land use map (Figure 2-3), which illustrates the existing land use patterns within the study area during August 2001, as amended through August 2002.

The major categories inventoried as existing land uses included residential, commercial, industrial, public/quasi-public, schools/educational facilities, air facilities, agricultural, vacant/undeveloped, and recreation/parks. These categories are described in further detail as follows:

- Residential land uses include single-family, multi-family, and mobile homes in densities ranging from low (less than 2 units per acre) to high (more than 15 units per acre).
- Commercial land uses may include retail establishments, office buildings, hotels, and warehouses.
- Industrial land uses may include manufacturing facilities, extraction activities (e.g., mining), and water treatment plants.
- Public/quasi-public land uses include churches, government facilities, hospitals, post offices, cemeteries, and prisons.
- Schools/educational facilities include daycare, primary/secondary/high schools, colleges, and other associated educational facilities.
- Air facilities include public/private/military airports and airstrips.
- Agricultural land uses may include farmland, sheds/barns, and dairy or horse feedlots.
- Vacant/undeveloped lands are areas with no existing development. Typically there are no structures or buildings present on the properties, and the tracts of land are in a non-developed state. These areas may be disturbed or undisturbed.
- Parks/preservation lands are designated by the managing jurisdiction or agency for open space. Typically they include state and regional parks, municipal/recreational parks, riverbeds/washes, and non-developable open space (e.g., areas with slopes in excess of 15 percent).
- General recreation land uses are located throughout the study area in many forms such as golf courses, race-tracks, retired shooting ranges, zoos, and recreational trails.
- Mixed use lands are densely developed areas with commercial, light industrial, and residential uses.

Inventory Results

The study area is characterized by a variety of uses such as transportation, commercial, light-to-heavy industrial, residential, utilities, agriculture and grazing, parks, and other open space.

The primary transportation routes in the study area are Interstate 10 (I-10) and the Loop 303. I-10 traverses from east to west through the study area. The Loop 303 corridor traverses north to south through the northern half of the study area. State Route 85 (SR 85) is located in the southeastern portion of the study area. Secondary road systems also occur throughout the study area. Commercial and industrial uses

tend to be located along these major transportation routes or in areas with adequate access (e.g., major arterial roads) to these routes.

Residential uses are dispersed throughout the study area; however, they are present in higher densities along major transportation thoroughfares and adjacent to commercial areas. Portions of the study area consist of low- to medium-density residential areas located within Buckeye, Litchfield Park, Goodyear, Avondale, and unincorporated Maricopa County. Low-density residential areas predominate in the western portion of the study area, which includes areas surrounding the White Tank Mountain Regional Park. Individual or small cluster residences are located throughout the study area and near agricultural fields or within farm complexes.

Parks and preservation lands include the White Tank Mountain Regional Park, Agua Fria River, Gila River, and other smaller areas of open space. The Agua Fria River is designated for preservation because of the corridor's planned participation in the Maricopa County trail system; however, the area within the wash also serves as an existing power line corridor.

230kV Substation Siting Areas

Existing land uses near each proposed 230kV substation site consist primarily of agricultural or vacant/undeveloped land. Information regarding existing land uses for the alternative 230kV substation siting areas is provided in Table 2-1.

69kV Substation Siting Areas

Existing land uses near each proposed 69kV substation includes agricultural uses, residential areas, industrial facilities, and vacant areas, as well as other mixed uses. Information regarding existing land uses for the alternative 69kV substation siting areas is provided in Table 2-1.

2.4 FUTURE LAND USE

Overview

Two levels of planned developments were identified: general plan uses and approved developments. General plan land uses (e.g., parks/preservation, residential, commercial, industrial, mixed use, and school or educational facilities, etc.) are land use categories defined in planning documents from respective jurisdictions. Approved developments are defined as developments that have been submitted to a jurisdiction and may be at various stages from preliminary to final design.

The major categories inventoried for future land use included all *existing* and *planned* residential, commercial, industrial, public/quasi-public, schools/educational facilities, air facilities, agricultural, vacant/undeveloped, and recreation/parks (e.g., existing development was assumed to remain in the future). Based on general plans, the extent of agricultural lands is expected to decrease substantially in the future; these areas are anticipated to convert to residential, commercial, and parks/preservation. Future land use south of I-10 will include increased residential areas, commercial use, and some industrial use (primarily north of the Buckeye Canal and south of I-10 and Olglesby Road). Data collected were compiled into GIS, resulting in an extensive future land use map (Figure 2-4).

Inventory Results

Approved residential developments (either under construction or within various approval stages within the respective planning jurisdiction) greater than 160 acres were identified near the following intersections:

- *Blue Horizons Village*—Tuthill Road and Van Buren Street
- *Canyon Trails*—Buckeye Road and Sarival Avenue
- *Cotton Flower*—Yuma Road and Cotton Lane
- *Desert Moon Shadows*—Buckeye Road and Apache Road
- *Desert View Estates*—Broadway Road and Jackrabbit Trail
- *Dreaming Summit*—Dysart Road and Bethany Home Road
- *El Cidro Ranch*—Citrus Road and Lower Buckeye Road
- *Jackrabbit Estates*—Jackrabbit Trail and Camelback Road
- *Litchfield Farms*—Perryville Road and Thomas Road
- *Miller Park*—Rooks Road and I-10
- *Pasqualetti Mountain Ranch*—Indian School Road and Jackrabbit Trail
- *Parkman Ranch*—Perryville Road and Van Buren Street
- *Pebble Creek* and *Palm Valley*—Sarival Avenue and Thomas Road
- *Russell Ranch*—Camelback Road and Citrus Road
- *Savannah*—Perryville Road and Camelback Road
- *Sonoran Ridge Estates*—Olive Avenue and Jackrabbit Trail
- *Sundance*—Watson Road and Buckeye Road
- *Verrado*—previous Caterpillar, Inc. tractor proving grounds west of Tuthill Road from about I-10 north to the Glendale Avenue alignment
- *Vista De Montaña*—Van Buren Street and Perryville Road *Canyon Trails*—Buckeye Road and Sarival Avenue
- *White Tank Foothills*—Olive Avenue and Perryville Road *White Tank Mountain Ranch*—Peoria Avenue and Perryville Road

Approved developments that are less than 160 acres also were identified and mapped.

Parks/preservation land within the Town of Buckeye is conceptually planned to extend south from the White Tank Mountain Regional Park to I-10, and east from Oglesby Road to Watson Road, with the potential size of up to 10,000 acres.

FCDMC has developed the White Tanks Flood Retarding Structure (FRS) #3 conceptual recreational plan for approximately 1,700 acres west of the Beardsley Canal, between the Bethany Home Road alignment

and Northern Avenue alignment. FRS #3 is adjacent to the Alternative system option for approximately 2.5 miles. However, development of this facility is uncertain; the area may become a diversion channel rather than a large multi-use basin.

Future population growth in the West Valley also will require additional roadway access. Consultations with MCDOT indicated that three existing roads (Loop 303, Jackrabbit Trail/Tuthill Road, and McDowell Road) would be widened or improved. Studies currently are underway by MCDOT for engineering and construction projects along these roads.

230kV Substation Siting Areas

A majority of future land uses near the proposed 230kV facilities are planned for residential and mixed use in municipal or county planning documents. Information regarding future land uses for the alternative 230kV substation siting areas is provided in Table 2-1.

69kV Substation Siting Areas

A majority of future land uses located within the proposed 69kV substations are planned for residential or mixed use in municipal or county planning documents. Information regarding future land uses for the alternative 69kV substation siting areas, and the four substation sites already selected, is provided in Table 2-1.

TABLE 2-1
JURISDICTION, OWNERSHIP, AND LAND USES OF THE 230kV AND 69kV SUBSTATION SITING AREAS

Substation Siting Area	Jurisdiction	Ownership	Existing Land Use	Future Land Use
230kV				
TS2	Maricopa County	ASLD Maricopa Water District Private	• Vacant/undeveloped • Beardsley Canal • White Tank Mountain Regional Park to the west including mountainous terrain	• Residential (approved and general plan) • Commercial (general plan) • Parks/preservation (approved)
TS3	Maricopa County City of Goodyear Town of Buckeye	ASLD Private	• Industrial • Residential • Agricultural • Vacant/undeveloped • An educational facility is adjacent, not within the siting area, to the southeast	• Residential (approved and general plan) • Public/quasi-public (approved) • Parks/preservation (approved) • Educational facilities (approved)
TS4	Maricopa County Town of Buckeye	Private – APS	• Agricultural • Adjacent to existing Liberty Substation	• Industrial (general plan) • Mixed use (general plan) • Commercial (approved)

TABLE 2-1
JURISDICTION, OWNERSHIP, AND LAND USES OF THE 230kV AND 69kV SUBSTATION SITING AREAS

Substation Siting Area	Jurisdiction	Ownership	Existing Land Use	Future Land Use
69kV				
WS1	Maricopa County Town of Buckeye	ASLD Private	• Industrial (Caterpillar Tractor, Inc. proving grounds) • Vacant/undeveloped • Flood control facility • Adjacent to a constructed residential area (Verrado) not within the siting area to the west	• Residential (approved and general plan) • General recreation (approved) • Parks preservation (approved) • An educational facility is adjacent, not within the siting area, to the southwest
WS2	Maricopa County	Private	• Agricultural • Residential • Commercial • Quasi-public • Vacant/undeveloped • Loop 303 is adjacent, not within the siting area, to the east • An educational facility, not within the siting area, is approximately 0.25 mile to the east	• Residential (general plan) • Mixed use (general plan)
WS3	City of Goodyear	Private	• Agricultural • Educational facility, not within the siting area, is approximately 1.25 miles to the east • Loop 303 is adjacent, not within the siting area, to the west	• Industrial (approved) • Commercial (approved) • Residential (approved)
WS4	City of Goodyear Maricopa County	Private	• Agricultural • Residential • Public/quasi-public	• Residential (approved and general plan) • Commercial (approved) • Parks/preservation (approved) • An educational facility, not within the siting area, is adjacent to the east
WS6	City of Goodyear	Private	• Agricultural • Phoenix/Goodyear municipal airport • Educational facilities are approximately 0.5 mile, not within the siting area, to the northwest	• Mixed use (general plan) • Parks preservation (general plan)

TABLE 2-1
JURISDICTION, OWNERSHIP, AND LAND USES OF THE 230kV AND 69kV SUBSTATION SITING AREAS

Substation Siting Area	Jurisdiction	Ownership	Existing Land Use	Future Land Use
WS7	City of Goodyear	Private	• Agricultural • Residential • Canal • Utilities	• Residential (approved and general plan) • Commercial (approved and general plan) • Parks/preservation (general plan)
WS10	Maricopa County Litchfield Park City of Glendale	Private	• Residential • Vacant/undeveloped • Flood control facility • Luke Air Force Base is less than 0.25 mile, not within the siting area, to the northeast	• Residential (general plan) • Mixed use (general plan) • Parks/preservation (general plan) • General recreation (general plan)
WS14	Maricopa County City of Glendale	Private	• Parks/Preservation • Vacant/undeveloped • Utilities • Industrial • Flood control facility • Existing power lines are adjacent, not within the siting area, to the east • Glendale municipal airport is approximately 0.25 mile, not within the siting area, to the southeast and is separated by several existing power lines	• Residential (general plan) • Industrial (general plan) •
Wildflower*	City of Goodyear Roosevelt Irrigation District	Private	• Residential • Agricultural • An educational facility is approximately 0.5 mile, not within the siting area, to the southwest	• Residential (general plan) • An educational facility is less than 0.25 mile, not within the siting area, to the west
Colter*	City of Avondale Maricopa County	Private	• Industrial • Vacant/undeveloped • Agricultural • Existing power lines are less than 0.25 mile to the east, not within the siting area • An educational facility is approximately 0.25 mile, not within the siting area, to the southwest	• Commercial (general plan)

TABLE 2-1
JURISDICTION, OWNERSHIP, AND LAND USES OF THE 230kV AND 69kV SUBSTATION SITING AREAS

Substation Siting Area	Jurisdiction	Ownership	Existing Land Use	Future Land Use
Watson*	Town of Buckeye	Private	• Vacant/undeveloped • Existing power lines are to the south and east	• Residential (approved) • Industrial (approved) • Utilities (approved)
Tuthill*	Town of Buckeye	Private	• Vacant/undeveloped • Residential is less than 0.25 mile away, not within the siting area, to the east	• Mixed use (approved) • Parks/preservation (approved) • Residential (approved)

* These substation sites were determined through an expedited review process working with landowners, developers, and jurisdictions; therefore, detailed analyses were not conducted on these sites.

2.5 COMPATIBILITY OF LAND USES AND LINK IDENTIFICATION

Compatibility Analysis

Existing and future land use inventory data were compiled in GIS. Each land use category was assigned a compatibility level (Table 2-2) indicating whether an area/use would be considered suitable for the proposed facilities. These compatibility ratings were developed from experience with past projects and with input from technical advisors from various agencies. Compatibility levels range from incompatible to high compatibility. Typically, residential land use would be less compatible than a commercial or industrial use because power lines and substation sites could resemble some of the facilities or uses at commercial or industrial facilities.

In addition to compatibility of land uses, a buffer zone around airports was established to acknowledge areas where facility or pole heights greater than 200 feet would require further analysis (the buffer zone accounted for current Federal Aviation Administration guidelines). Pole heights are not likely to exceed 130 feet; however, 200 feet were used as a worst-case evaluation to provide adequate buffer around airports.

TABLE 2-2
COMPATIBILITY OF LAND USES WITH POTENTIAL ALTERNATIVES

Land Use Category	Compatibility
Existing Land Use	
Residential areas – all densities	Low
Commercial – retail/office areas	Moderate
Commercial – hotels/resorts	Low
Mixed use	Low/Moderate
Recreation areas – interpretive sites, regional parks	Incompatible/Low
Recreation areas – trails, greenbelts, golf courses	Low/Moderate
Schools – within or immediately adjacent to property boundaries	Incompatible
Cemeteries	Incompatible/Low
Churches	Low
Canals	Moderate/High
Communication facilities	Moderate/High

TABLE 2-2 COMPATIBILITY OF LAND USES WITH POTENTIAL ALTERNATIVES	
Land Use Category	**Compatibility**
Roads/highways	Moderate/High
Scenic roads/parkways	Low
Industrial areas	High
Agricultural land	Moderate/High
Vacant areas (disturbed or natural)	Low to High
Airports	Incompatible (in restricted zone)
Future Land Use	
Residential (approved/general plan)	Moderate
Commercial	High
Mixed use	Moderate/High
Recreation	Moderate/High
Schools	Incompatible/Low
Industrial	High
Roads/highways/parkways	Moderate/High
Agricultural land	Moderate/High

Additionally, transportation corridors, existing power line corridors, section lines, half-section lines, and other linear facilities were considered to have high compatibility for locating a power line or substation. The results of the compatibility analysis are shown on Figure 2-5.

These compatibility levels were used to assist with the identification of preliminary power line links, which are shown on Figure 2-6. Links are defined as short segments of potential power line alignment that are subsequently combined to form routes (connections) between two substations.

Preliminary Power Line Links

The alternative power line links (segments) are located predominantly on privately owned lands along property boundaries. As described above, links were established to follow linear features, such as section lines, half-section lines, existing power lines, and roads, and attempted to be within areas with moderately to highly compatible land uses. The link alternatives are shown on Figure 2-6. Effort was taken to not bisect established developments or future approved development properties with links, although several were considered initially (e.g., along the Tuthill Road alignment). Links located east of Perryville Road to Loop 303 north of Thomas Road were initially proposed as 69kV alternatives only. Based on public comment, these alternative links were later proposed and evaluated as 230kV/69kV alternatives.

Link locations were specific enough to denote which side of a road or property boundary the line would be located; this was determined based solely on land use information. Three steps were established to identify which side of the road the potential links should be located. First, consideration of existing land uses took preference (i.e., existing residential areas were avoided relative to vacant areas). Second, future land uses were considered if no determination could be made by existing uses (i.e., future approved residential areas were avoided relative to unplanned vacant areas). Third, if no determination could be established by existing or future land uses, the line preliminarily defaulted to the north and east sides of the road, depending on the orientation of the road. The links were then field reviewed to confirm the final location.

Strong consideration was given to incompatible land uses and, if necessary, the link was switched to the other side of the road to avoid direct impacts on incompatible land uses. For example, the Scott Libby Elementary School, located at the southwest corner of the intersection of Thomas Road and Perryville Road, has been identified as an incompatible land use. At this location, the link would be located on the east side of Perryville Road, approximately 90 feet from the school property line and 285 feet from the closest building to minimize potential impacts on the school.

Combining Links to Form Routes

After links were screened, which resulted in the recommendation to eliminate several links based on engineering constraints or land use conflicts (e.g., removal of residential structures), the links were combined into multiple routes connecting between two substation locations. Hundreds of routes could be created, although many would require extensive amounts of new line and potential "zig-zagging" through the study area. These routes were considered during internal planning sessions, but not carried forward for detailed analyses and public input. Routes and substation sites carried forward for detailed analyses are shown on Figures 2-7 through 2-15.

2.6 ENVIRONMENTAL CONSEQUENCES

Resource compatibility was the initial element in determining the level of impact that would occur on each land use. The presence or absence of existing power lines also was a factor in determining impacts, as the introduction of new structures would constitute a greater impact than rebuilding or upgrading an existing line. In addition, site-specific factors were considered including the nature of the potential losses or restrictions on a land use. For each area of affected land use, only the impacts within the assumed right-of-way of each route alternative were assessed.

Impact Assessment Methodology

The impact assessment was conducted to determine the effect of each substation and route on existing and future land uses. The impact assessment for each alternative substation siting area and power line route was based on the criteria described below (Table 2-3). Routes identified as 230kV alternatives with the potential to be 69kV alternatives were assessed as 230kV routes to determine the impact as a worst-case scenario and to provide comparative results for siting the 230kV facilities.

TABLE 2-3
LAND USE IMPACT ASSESSMENT CRITERIA

Impact Rating	Criteria
Low	• Minimal potential conflicts with existing and planned land uses • Routes would have minimal conflict with agency planning guidelines • Examples may include residential areas with existing power and distribution lines; commercial or industrial areas; areas with good construction and maintenance access (e.g., roads); previously disturbed areas; and future general planned residential, commercial, and industrial areas
Moderate	• Some conflicts with existing and planned land uses; however, the potential for mitigation efforts to be successful may reduce impacts • Examples may include commercial areas; primary and secondary roads with no existing power lines; residential areas with existing power lines where homes are not displaced or access restricted permanently and/or temporarily; agricultural and/or ranching uses; undisturbed areas that have minimal recreational value and are planned for development; and future approved residential developments

TABLE 2-3 LAND USE IMPACT ASSESSMENT CRITERIA	
Impact Rating	**Criteria**
High	• Route conflicts with existing and planned land uses (e.g., land areas may be identified as protected by agency planning guidelines and mitigation may not effectively reduce impacts to a lower level) • Examples may include existing residential areas without power and distribution lines where homes are displaced or access restricted permanently and/or temporarily, existing or planned school areas, existing or planned open space areas, airports, and areas with utilities recently placed underground

Mitigation Measures

The impact assessment considered a number of mitigation measures that APS will include in the final project design to reduce potential impacts on existing land uses. Table 2-4 illustrates the mitigation measures that would be implemented to reduce land use impacts resulting from the proposed facilities.

TABLE 2-4 MITIGATION MEASURES TO REDUCE LAND USE IMPACTS
1. All construction vehicle movement outside of the right-of-way will be restricted to predesignated access, contractor-acquired access, or public roads.
2. The limits of construction activities typically will be predetermined, with activity restricted to and confined within those limits.
3. Watering facilities (e.g., tanks, water lines, wells) will be repaired or replaced to their predisturbed conditions as required by the landowner or land-management agency if they are damaged or destroyed by construction activities.
4. All existing roads will be left in a condition equal to or better than their condition prior to the construction of the power line.
5. Fences and gates, if damaged or destroyed by construction activities, will be repaired or replaced to their original predisturbed condition as required by the landowner or land-management agency.
6. During operation of the power line, the right-of-way will be maintained free of construction-related non-biodegradable debris.
7. Structures will comply with Federal Aviation Administration guidelines and military aircraft safety requirements to minimize aircraft hazards.

Impact Assessment

230kV Power Line Facilities

Potential impacts of the alternative 230kV power line routes on land uses are summarized in Table 2-5. As indicated below, most of the alternative routes are projected to have low to moderate impacts.

230kV Substation Siting Areas

Potential impacts of the alternative 230kV substation siting areas on land uses are summarized in Table 2-6. As indicated in Table 2-6, siting a 230kV substation in most of the alternative locations would have low impacts on existing and future land uses.

TABLE 2-5
LAND USE IMPACT ASSESSMENT OF 230kV ALTERNATIVE POWER LINE ROUTES

Route		Existing Land Use	Future Land Use	Comments
Buckeye Substation-Existing 230kV Corridor	A	Moderate	Moderate	• Existing residential development, resulting in moderate impacts • Existing 69kV power line
	B	Low	Low/moderate	• Existing multiple power line corridor
Buckeye Substation-TS3	A	Moderate	Moderate	• Existing residences located on Tuthill Road, resulting in moderate impacts • Future residential development on Tuthill Road, resulting in moderate impacts
	B	Low/moderate	Low/moderate	• Existing residences on McDowell Road, resulting in low/moderate impacts • Existing 69kV power line corridor
TS2-TS3	A	Moderate	Moderate/high	• Bisects future development, resulting in moderate to high impacts • Adjacent to White Tank Mountain Regional Park
	B	Moderate/high	Moderate/high	• Adjacent to existing residential development, resulting in moderate to high impacts
	C	Low/moderate	Low/moderate	• Adjacent to future multi-use recreation area, resulting in low to moderate impacts
	D	Low/moderate	Low/moderate	• Adjacent to future multi-use recreation area, resulting in low to moderate impacts • Approximately 0.5 mile from existing residences, resulting in low to moderate impacts
	E	Low/moderate	Low/moderate	• Adjacent to White Tank Mountain Regional Park, resulting in low to moderate impacts
	F	Low/moderate	Low/moderate	• Adjacent to White Tank Mountain Regional Park, resulting in low to moderate impacts
	G	Low/moderate	Low/moderate	• Adjacent to Loop 303, resulting in low to moderate impacts • Existing residential area north of Olive Avenue
	H	Low/moderate	Low/moderate	• Existing residential development west of Cotton Lane, resulting in low to moderate impacts
	I	Low/moderate	Low/moderate	• Adjacent to Loop 303 • Existing residential development south of Northern Avenue, resulting in moderate impacts
	J	Low/moderate	Low/moderate	• Adjacent to Loop 303 • Existing residential development west of Cotton Lane, resulting in low to moderate impacts
TS3-TS4	A	Low/moderate	Low/moderate	• Parallels existing 230kV corridor east of Liberty Substation • Near Scott Libby Elementary School, resulting in no to low impacts

TABLE 2-5
LAND USE IMPACT ASSESSMENT OF 230kV ALTERNATIVE POWER LINE ROUTES

Route		Existing Land Use	Future Land Use	Comments
	B	Moderate	Moderate	• Existing residences on Tuthill and McDowell roads, resulting in moderate impacts • Near Scott Libby Elementary School, resulting in no to low impacts
	C	Moderate	Moderate	• Scattered existing residences on Tuthill Road, resulting in moderate impacts • Future residential development on Tuthill Road, resulting in moderate impacts
	D	Moderate	Moderate/high	• Adjacent to existing residences, resulting in moderate impacts • Bisecting a future residential development, resulting in moderate to high impacts
	E	Moderate	Moderate/high	• Adjacent to existing residences, resulting in moderate impacts

TABLE 2-6
LAND USE IMPACT ASSESSMENT OF 230kV SUBSTATION LOCATIONS

Substation Site	Existing Land Use	Future Land Use	Comments
TS2-1	Low	Low/moderate	• Approximately 1.25 miles from the closest existing residence, minimizing land use impacts on existing residences • East side of Beardsley Canal, minimizing impacts on future residential developments (i.e., Sonoran Ridge, White Tank Mountain Ranch) • East side of Beardsley Canal is located on Maricopa Water District property ownership
TS2-2	Low	Moderate	• Adjacent to future residential development and future conceptual recreational development, resulting in moderate impacts
TS2-3	Low	High	• Future residential development (i.e., Sonoran Ridge)
TS2-4	Low	Low	• Approximately 0.25 mile from the White Tank Mountain Regional Park • ASLD ownership
TS2-5	Low	Low	• Approximately 0.25 mile from the White Tank Mountain Regional Park • ASLD ownership
TS3-1	Low	Low	• No existing or future land use plans • Located farther from Scott Libby Elementary School
TS3-2	Low/moderate	Low/moderate	• Located near the Scott Libby Elementary School
TS3-3	Moderate	High	• Future residential development, resulting in high impacts
TS3-4	Low	High	• Future residential development, resulting in high impacts
TS3-5	Low	High	• Future residential development, resulting in high impacts
TS4-1	Low	Low	• Planned for future commercial use • Adjacent to existing Liberty Substation

69kV Power Line Facilities

Potential impacts of the alternative 69kV power line routes on land uses are summarized in Table 2-7. Alternatives that included rebuilding of existing lines were developed to the extent possible, if they would meet APS' system needs. The land use impact analysis considered the route length and the potential to locate the line within existing rights-of-way/easements.

TABLE 2-7
LAND USE IMPACT ASSESSMENT OF 69kV ALTERNATIVE POWER LINE ROUTES

Route		Existing Land Use	Future Land Use	Comments
WS1-TS2	A	Low	Low/moderate	• Adjacent to the White Tank Mountain Regional Park, resulting in low to moderate impacts • Adjacent to future conceptual multiple-use recreation area
	B	Low	Low/moderate	• Adjacent to future residential development, resulting in low to moderate impacts
	C	Moderate/high	Moderate/high	• Adjacent to existing residential development, resulting in moderate to high impacts • Adjacent to future multiple-use recreation area
WS1-TS3	A	Moderate/high	Moderate/high	• Bisects future residential development, resulting in moderate to high impacts • Adjacent to existing residential development resulting in moderate to high impacts
	B	Low/moderate	Low/moderate	• Future residential development (general plan), resulting in low to moderate impacts
	C	Low	Low/moderate	• Future residential development (general plan), resulting in low to moderate impacts
WS2-TS2	A	Low/moderate	Moderate	• Adjacent to existing residential development • Adjacent to an existing 12kV corridor • Future residential development and multi-use recreational area, resulting in moderate impacts
	B	Low/moderate	Low/moderate	• Adjacent to existing residential development, resulting in low to moderate impacts • Adjacent to an existing 12kV corridor
	C	Low/moderate	Low/moderate	• Adjacent to Loop 303 • Future residential development, resulting in low to moderate impacts
WS3-TS3	A	Low/moderate	Low/moderate	• Existing agricultural land, resulting in low to moderate impacts • Future commercial and residential development (general plan), resulting in low to moderate impacts
	B	Low/moderate	Low/moderate	• Existing agricultural land, resulting in low to moderate impacts • Future commercial and residential development (general plan), resulting in low to moderate impacts

TABLE 2-7
LAND USE IMPACT ASSESSMENT OF 69kV ALTERNATIVE POWER LINE ROUTES

Route		Existing Land Use	Future Land Use	Comments
	C	Low/moderate	Low/moderate	• Existing agricultural land, resulting in low to moderate impacts • Future commercial and residential development (general plan), resulting in low to moderate impacts
	D	Low/moderate	Low/moderate	• Existing agricultural land, resulting in low to moderate impacts • Future commercial and residential development (general plan), resulting in low to moderate impacts
WS2-WS3	A	Low	Low	• Adjacent to existing residential development with a 12kV corridor, resulting in low impacts • Future commercial and residential development (general plan), resulting in low to moderate impacts
	B	Low	Low	• Adjacent to existing residential development with a 12kV corridor, resulting in low impacts • Future commercial and residential development (general plan), resulting in low to moderate impacts
	C	Low/moderate	Low	• Adjacent to Loop 303 • Future residential and mixed use development (general plan), resulting in low impacts
	D	Low/moderate	Low/moderate	• Adjacent to Loop 303 • Future residential and mixed use development (general plan), resulting in low impacts
WS4-Sarival Substation	A	Low	Low	• Rebuild overhead line to existing double-circuit 69kV power line • No new structures needed
	B	Moderate	Moderate	• Adjacent to existing residential and agricultural lands, resulting in moderate impacts
WS6-Wildflower Substation	A	Low/moderate	Low	• Existing agricultural land, resulting in low to moderate impacts • Future mixed use (general plan), resulting in low impacts
	B	Low/moderate	Low	• Existing residential area, resulting in low to moderate impacts • Future mixed use (general plan), resulting in low impacts
WS7-Litchfield Substation	A	Low/moderate	Low/moderate	• Existing agricultural area, resulting in low to moderate impacts • Future commercial and residential development, resulting in low to moderate impacts
	B	Low/moderate	Moderate	• Existing agricultural area, resulting in low to moderate impacts • Future residential development, resulting in moderate impacts

TABLE 2-7 LAND USE IMPACT ASSESSMENT OF 69kV ALTERNATIVE POWER LINE ROUTES				
Route		**Existing Land Use**	**Future Land Use**	**Comments**
WS10-Colter Substation	A	Moderate	Moderate	• Traverses through existing residential areas, resulting in moderate impacts
	B	Low	Low	• Use of existing power line corridor, resulting in low impacts
	C	Low/moderate	Low/moderate	• Does not use entire rebuild capability for complete power line route
White Tanks Substation-Sarival Substation	A	Low/moderate	Low/moderate	• Follows existing power line corridor • Segment does not follow a linear feature between Reems Road and Sarival Avenue, resulting in low to moderate impacts
	B	Moderate/high	Moderate/high	• Adjacent to Goodyear Airport • Follows SR 85 where existing residential areas are located, resulting in moderate to high impacts
	C	Low/moderate	Low/moderate	• Adjacent to existing residences, resulting in low to moderate impacts • Follows an existing corridor
	D	Low/moderate	Low/moderate	• Adjacent to existing residences, resulting in low to moderate impacts • Follows an existing corridor with the exception between Reems Road and Sarival Avenue

69kV Substation Facilities

Potential impacts of the alternative 69kV substation sites on land uses are summarized in Table 2-8. Most of the alternative substation sites are projected to have low to moderate impacts on land uses. The exceptions are two substation sites (WS4-2 and WS10-3) with high land use impacts because of their locations within residential developments where construction was recently initiated.

TABLE 2-8 LAND USE IMPACT ASSESSMENT OF 69kV SUBSTATION LOCATIONS			
Substation	**Existing Land Use**	**Future Land Use**	**Comments**
WS1-1	Low	Moderate	• Located on future multi-use recreation area, resulting in moderate impacts • Property owned by ASLD
WS1-2	Low	Moderate	• Future residential development, resulting in moderate impacts
WS1-3	Low	Low/moderate	• Adjacent to future residential development, resulting in low to moderate impacts
WS1-4	Low	Moderate	• Future residential development, resulting in moderate impacts
WS2-1	Low/moderate	Low/moderate	• Future residential development (general plan), resulting in low to moderate impacts • Existing residences west of Cotton Lane, resulting in low to

TABLE 2-8
LAND USE IMPACT ASSESSMENT OF 69kV SUBSTATION LOCATIONS

Substation	Existing Land Use	Future Land Use	Comments
			moderate impacts
WS2-2	Low/moderate	Low	• Future commercial development (general plan) • Existing residences west of Cotton Lane, resulting in low to moderate impacts
WS3-1	Low/moderate	Low	• Future commercial development, resulting in low impacts • Specific site reviews are required by Luke Air Force Base
WS3-2	Low/moderate	Low	• Future commercial development, resulting in low impacts • Specific site reviews are required by Luke Air Force Base
WS3-3	Low/moderate	Low	• Future commercial development, resulting in low impacts • Specific site reviews are required by Luke Air Force Base
WS3-4	Low/moderate	Low	• Future commercial development, resulting in low impacts • Specific site reviews are required by Luke Air Force Base
WS3-5	Low/moderate	Low	• Future commercial development, resulting in low impacts • Specific site reviews are required by Luke Air Force Base • Adjacent to Loop 303, resulting in low impacts
WS3-6	Low/moderate	Low	• Future commercial development, resulting in low impacts • Specific site reviews are required by Luke Air Force Base • In an area approved for residential development within Luke Air Force Base noise contours
WS4-1	Low	Low/moderate	• Future residential/commercial development, resulting in low to moderate impacts • Adjacent to an existing 69kV power line
WS4-2	High	High	• Located within an existing residential development, resulting in high impacts • Adjacent to an existing 69kV power line
WS4-3	Low	Low/moderate	• Future residential area (general plan), resulting in low to moderate impacts • Adjacent to an existing 69kV power line
WS4-4	Low	Low/moderate	• Future residential area (general plan), resulting in low to moderate impacts • Adjacent to an existing 69kV power line
WS6-1	Low/moderate	Low/moderate	• Located on agricultural land near existing utility land use (water supply tank) • Close proximity to Goodyear Airport • Future mixed use (general plan), resulting in low to moderate impacts
WS6-2	Moderate	Moderate	• Close proximity to Goodyear Airport • Future mixed use (general plan), resulting in low to moderate impacts
WS6-3	Low/moderate	Low	• Farthest away from the Goodyear Airport out of the three potential substation sites
WS7-1	Low/moderate	Moderate	• Low to moderate visual impacts on future residential development • Adjacent to existing 69kV power line • Near residential area gateway, resulting in moderate impacts
WS7-2	Low/moderate	Moderate	• Minimal impacts on future commercial development • Near residential area gateway, resulting in low to moderate impacts • Agency comments expressed opposition to siting any facilities on Estrella Parkway, gateway to City of Goodyear

TABLE 2-8
LAND USE IMPACT ASSESSMENT OF 69kV SUBSTATION LOCATIONS

Substation	Existing Land Use	Future Land Use	Comments
WS7-3	Low/moderate	Low	• Future commercial development (general plan), resulting in low impacts
WS10-1	Low	Low	• Adjacent to Luke Air Force Base designated for mixed use, resulting in low impacts
WS10-2	Low	Low	• Adjacent to Luke Air Force Base designated for mixed use, resulting in low impacts
WS10-3	High	High	• Located within existing residential area, resulting in high impacts
WS10-4	Low	Low/moderate	• Future residential development (general plan), resulting in low to moderate impacts
WS14-1	Low	Low	• Future industrial area
WS14-2	Low	Low/moderate	• Future residential development (general plan), resulting in low to moderate impacts
WS14-3	Low	Low/moderate	• Future residential development (general plan), resulting in low to moderate impacts

3.0 VISUAL RESOURCES

This visual resource study focused on evaluating the existing and future landscape setting, including the potential for adverse impacts to occur on scenic quality and sensitive viewers resulting from the construction, operation, maintenance, and long-term presence of the proposed facilities. The methodology for the inventory and assessment was derived from the BLM Visual Resource Inventory and Contrast Rating System (8400 Series Manual-BLM, January 1986), as well as experience with past visual resource studies conducted for similar projects in the region.

3.1 INVENTORY

Visual Sphere of Influence

The study area in which the proposed facilities may result in adverse impacts on landscape scenic quality and/or sensitive viewers is defined as the Visual Sphere of Influence (VSOI). The VSOI for this project is more specifically defined as an area within 3 miles of either side of the proposed centerline of the alternatives considered, as well as 3 miles from the proposed substation locations. The 3-mile distance threshold was established since it represents a reasonable distance where the proposed power lines and substations could result in impacts on viewers in an open panoramic landscape setting. In special cases such as the White Tank Mountain Regional Park, the study included evaluation of views up to 5 miles away.

Landscape Character

The study area is located on the western side of the Phoenix metropolitan area in Maricopa County, Arizona. The majority of the natural landscape setting can be characterized as relatively flat, open desert plains dissected by ephemeral drainages. Major watercourses within the study area include the Agua Fria River, which dissects the eastern portion of the study area in a north to south alignment, and the Gila River and Salt River, which run east to west along the southern portion of the study area. The flat desert basins allow for expansive views of nearby mountain ranges. These ranges include the White Tank Mountains, displaying a north-south alignment, and the Sierra Estrella Mountains, which run east to west along the south side of the Gila River. These ranges enhance the visual diversity and interest by adding distinctive form, line, color, and texture features within the generally flat landscape setting. Other landscape features within the flat, open plains include dissecting washes where a higher density and diversity of vegetation occur. Interspersed throughout the region are small to mid-sized agricultural facilities, which further enhance the open nature of the study area.

Native vegetation within the study area is characteristic of typical Sonoran Desert native vegetation. The prominent vegetation community can be characterized as southwestern desertscrub (see Section 5.0 for a more detailed description of vegetation types). The vegetative pallet is composed of numerous species of trees (e.g., foothill paloverde, ironwood, saguaro, mesquite), cacti (e.g., barrel, cholla, prickly pear), creosote bush, brittlebush, and scrub grasses with some riparian areas containing denser and more diverse vegetation (e.g., foothill paloverde and ironwood). The crops associated with the agricultural lands also enhance the setting by adding color and texture patterns. Crops include small grains, cotton, flowers, alfalfa, and produce.

Existing cultural manmade modifications in the study area include, but are not limited to, residential communities (e.g., Clearwater Farms, Palm Valley, Pebble Creek, Canyon Trails, Sundance), commercial retail and office parks, roadways (e.g., I-10, Loop 303, and SR 85), airports (e.g., Goodyear, Glendale, Luke Air Force Base), dispersed agricultural centers and associated facilities (e.g., farm buildings and equipment), irrigation canals, and pipelines. The majority of the overhead infrastructure in the area

consists of high-voltage power lines, aboveground communication, electric distribution lines, and communication towers.

Agency consultation and review of applicable comprehensive and approved future plans indicate that much of the remaining open desert and agricultural land could be developed in the future (refer to Section 2.0 for details). This will result in a substantial change in the existing open landscape to a more densely developed "built" urban environment. It will consist of more uniform residential, commercial, parks, and open space areas interspersed with required infrastructure such as roads, power lines, street signs/lights, and flood control features. Therefore, the existing landscape setting likely will be substantially modified prior to the addition of some of the proposed facilities into the landscape.

Landscape Scenic Quality

The inventory of the existing scenic quality began by classifying the area's landscape character and inherent scenic attributes of landscapes within the VSOI. Scenic quality is determined by rating the uniqueness and diversity of interest of a particular landscape in terms of landform, vegetation, water, cultural features, and the effects of adjacent scenery. Additionally, landscape scenic quality can be affected by the presence of manmade modifications (e.g., power lines and industrial facilities) in the visual setting.

Based on the following criteria, the study area was separated into four scenic quality classes to identify the relative scenic value of landscapes within the study area. Generally, the landscapes representative of Class A are those areas containing the greatest amount of scenic diversity and visual interest, while Class C landscapes include areas with the least diversity and visual interest. Developed areas are considered a separate class where no valuation has been placed on the scenic quality of the area due to the variety of architectural styles, development patterns, and user attitudes, which define the setting. Scenic quality classes are defined as follows:

- Class A – Areas of outstanding diversity or interest; characteristic features of landform, rock, water, and vegetation are rare, distinctive, or unique in relation to the surrounding region. These areas contain considerable variety in form, line, color, and texture. Typically, public concern for preserving this landscape type is high.

- Class B – Areas of above-average to average diversity or interest providing some variety in form, line, color, and texture. The features are not considered rare in the surrounding region, but provide adequate visual diversity to be considered somewhat unique. Typically, public concern for preserving this landscape type is moderate, but also may be high.

- Class C – Areas of minimal diversity or interest where representative features have limited variation in form, line, color, or texture in the context of the surrounding region. Cultural modifications (e.g., power lines and communication facilities) are highly noticeable given the relative flatness of the surrounding terrain. Typically, public concern for preserving this landscape type is low, but may be moderate.

- Developed – Areas composed primarily of residential, commercial, and industrial facilities or a mix of these development types. These areas generally do not contain substantial amounts of open space, with the exception of developed parks or recreation sites. Typically, public concern for preserving this landscape is varied based on the type of development, and ranges from high in residential areas to low in industrial settings.

Photographs 1 through 6 illustrate the typical visual conditions that have been identified within the VSOI. Photograph 1 represents a Class A landscape; Photographs 2 and 3 represent Class B landscapes; Photograph 4 represents a Class C landscape; Photograph 5 illustrates developed lands; and Photograph 6 depicts a utility corridor surrounded by adjacent development.

A large portion of land within the VSOI is currently used for agricultural purposes and is considered to be of Class B landscape scenic quality. Checkerboard agricultural parcels supporting a variety of crops and flowers add to the distinctiveness of the setting and create unique elements of color and texture within the natural desert landscape. When in production, agricultural lands display brown, tan, and green colors in addition to the vibrant array of colors displayed by fields of blooming roses and other ripe crops. At times when the agricultural lands are fallow, they offer minimal variation in color from the surrounding desert landscape.

In contrast, the typical vegetation of those areas not used for agricultural purposes is relatively homogeneous, with typical southwestern desertscrub vegetation offering limited visual diversity. The majority of these areas can be characterized as Class C landscapes, as a result of their limited visual appeal and regularity within the general area. However, certain sections of land adjacent to the White Tank Mountains, including the foothills, exhibit unique topographic characteristics. Consequently, these areas can be classified as Class A landscapes. This is due to the increase in topographic diversity in these areas as well as the presence of more diverse and unique vegetative types (e.g., saguaro cacti, mesquite).

Developed areas are common within the study area, occurring throughout a significant portion of the land inventoried. In addition to the large communities of over 160 acres located within the VSOI (e.g., Clearwater Farms, Canyon Trails, Pebble Creek, Verrado, Sundance, Pasqualetti Mountain Ranch, Beautiful Arizona Estates, Sonoran Ridge, Miller Park, White Tank Mountain Ranch, Vista de Montana, and Blue Horizons), there are numerous residential clusters (i.e., mobile home parks and subdivisions) and scattered residences found most commonly adjacent to agricultural operations.

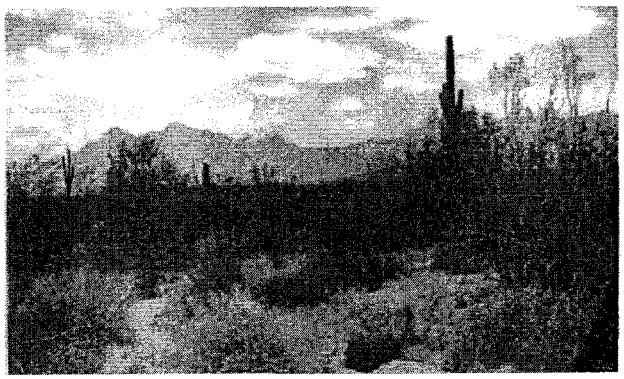
Figure 3-1 illustrates the distribution of Class A, B, C, and developed lands throughout the VSOI.

Viewpoints and Viewer Sensitivity

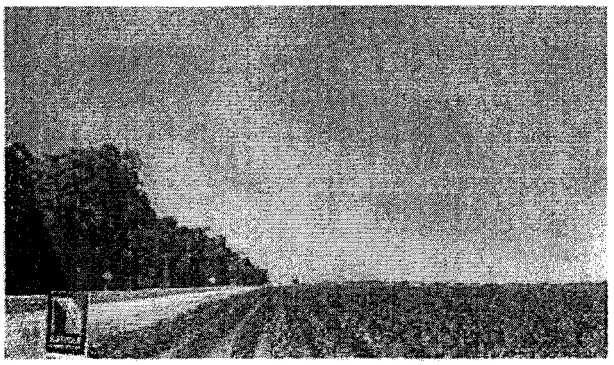
Sensitive viewpoints are those locations where viewers would be the most susceptible to visual impacts resulting from the introduction of the proposed facilities into their viewshed, based on their level of sensitivity. Viewer sensitivity is a measure of the degree of concern viewers would have towards change occurring in their viewshed. Levels of sensitivity were determined by evaluating the compatibility of land uses to be more or less accepting of change within their viewshed. For example, views from a residence or park would be assigned a higher level of sensitivity than views from a commercial or industrial area. Sensitive viewpoints were identified based on review of available land data, data gathered during field reviews, public and agency input, and previous environmental studies conducted for similar projects in similar settings. In addition, future sensitive viewpoints were identified through agency consultation, as well as review of current comprehensive approved plans for those jurisdictions located within the VSOI.

Generally, the viewpoints assigned a high sensitivity level include residential areas (e.g., Clearwater Farms, Canyon Trails, Sonoran Ridge), recreational areas (e.g., White Tank Mountain Regional Park including picnic areas and trails), educational facilities, and significant cultural areas. However, the presence of intrusive modifications in a high sensitivity area may cause the area to be characterized as having lower viewer sensitivity regardless of the type of use. Moderate sensitivity viewpoints commonly include commercial areas and major travel routes (i.e., I-10, Loop 303, SR 85, and major arterial roads) without special scenic designations and active use recreational areas (e.g., golf courses and racetracks). Views from industrial areas are considered low sensitivity.

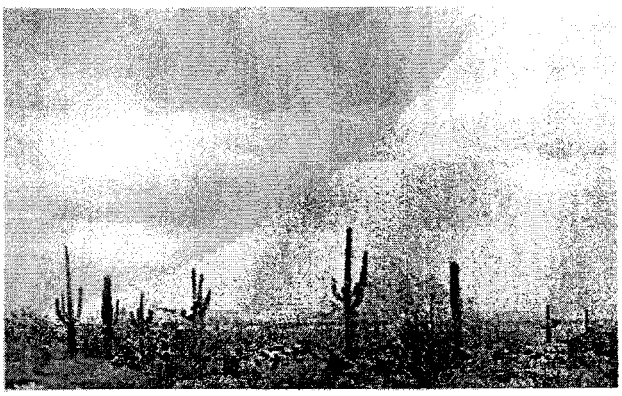
Typical Scenic Quality Classes and Development with the VSOI



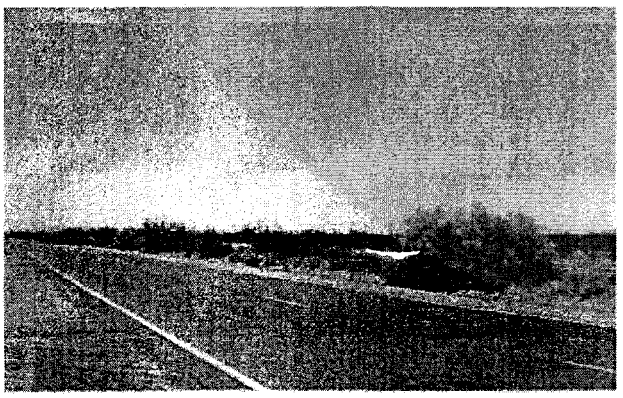
Photograph 1: Scenic Quality Class A



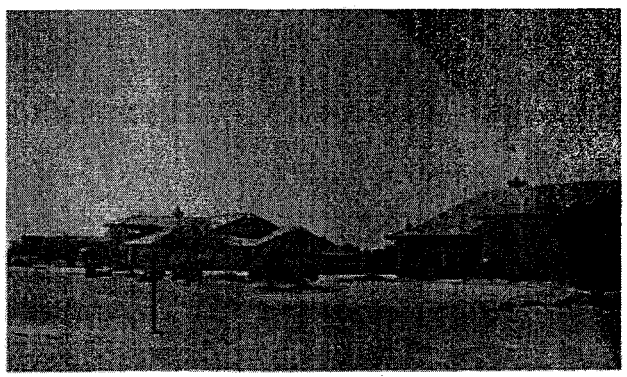
Photograph 2: Scenic Quality Class B



Photograph 3: Scenic Quality Class B



Photograph 4: Scenic Quality Class C



Photograph 5: Residential Development

Photograph 6: Utility Corridor

An inventory of sensitive viewpoints with the potential for views of the project facilities was conducted within 3 miles of the proposed centerline of the alternative power line corridors as well as within 3 miles of the proposed substation locations. Table 3-1 includes examples of sensitive viewpoints located within the VSOI, including viewer sensitivity levels based on existing and future land uses.

TABLE 3-1
SENSITIVE VIEWPOINTS WITHIN THE VISUAL SPHERE OF INFLUENCE

Viewpoint Category	Sensitivity Level of Each Existing Land Use
Residences/Facilities	
Single Family Residences	High
Master Planned Communities	High
Mobile Home/Recreational Vehicle Parks	High
Schools/Educational Facilities	High
Commercial	
Office Park	Moderate
Retail	Moderate
Parks and Recreation Areas	
White Tank Mountain Regional Park	High
Municipal Parks	High
Scenic Management Areas	High
Off-highway Vehicle - Recreational Race Track	Moderate
Trails/Trail Heads	High
Interpretive/Cultural Sites	High
Golf Course/Active Use Areas	Moderate
Cemeteries	High
Campground/Day Use Picnic Areas	High
Travel Routes	
I-10, Loop 303, and SR 85	Moderate
Arterial Roads (e.g., Perryville Road, Tuthill Road, Olive Avenue, Camelback Road)	Moderate
Community Gateways/Parkways (e.g., Estrella Mountain Parkway)	High
Recreational Trails/Roads	High
Industrial	
Utilities	Low
Mining/Sand and Gravel	Low
Warehouses	Low

General views within the study area feature residential neighborhoods, agricultural lands, the White Tank Mountains, Luke Air Force Base, and construction of future developments. The majority of undeveloped lands (e.g., agricultural and vacant flood control features) are approved for future development. Linear

features such as major arterial roads, power lines, canals, and I-10 interrupt views of distant mountains from developments.

Agricultural lands provide open views across large amounts of terrain; however, dispersed developments disrupt distant views. Various types of agricultural fields create scenic diversity between fallow and cultivated crop production and colors of rose fields.

The White Tank Mountain Regional Park is a major feature in the study area where recreational activities occur. Developments surrounding the White Tank Mountains generally orient views toward the scenic park and adjacent rolling terrain.

Luke Air Force Base, located in the northeast portion of the study area, is a dominant feature with surrounding agricultural fields to the north and residential lands to the south. Views surrounding the Base are distinct to the area because the type of facility and aircraft activities provide a unique visual environment.

Because of tremendous growth, viewers in the study area are observing existing agricultural lands transitioning into construction areas and ultimately new developments. Many of these open views are converting from distant panoramic landscapes to development throughout the study area.

3.2 ENVIRONMENTAL CONSEQUENCES

The potential impacts of the proposed facilities on visual resources within the study area could result from a variety of project activities occurring during both construction (e.g., erection of poles, stringing conductors, clearing of substation sites) and operation (e.g., presence of poles, conductors, and substations). This section discusses the methods used to assess the potential impacts the facilities would have on landscape scenic quality and sensitive viewers within the VSOI, as well as the results of the analysis. Potential visual impacts resulting from the proposed facilities range from high in areas where substantial changes would occur in the visual setting to low in areas where change would be least evident. In addition, mitigation measures that could be used to reduce impacts on the visual setting are described.

Impact Assessment Methodology

Project Contrast

Impacts on landscape scenic quality and sensitive viewers were determined by evaluating the degree of contrast the proposed facilities would have in the VSOI. Project contrast is defined as a measure of the degree of perceptible change that would occur to the scenic quality or sensitive views within the VSOI. Project contrast is determined by evaluating the following three variables: (1) physical landform changes, (2) removal of vegetation, and (3) the addition of structural changes in the landscape.

Landform and vegetation contrast were not evaluated in detail for this study because the project would not require substantial grading/landform manipulation, primarily because the area is relatively flat and accessible. The project also would not require vegetation removal because the routes are located in areas that are modified/disturbed or likely will be developed during or before the power lines and substations are built. Therefore, the primary component in the evaluation of project contrast was the relationship between existing and proposed power line structures and substation sites within the context of the surrounding environment as well as the future environment.

The introduction of new or modified structures into the existing landscape would create noticeable visual changes in the VSOI. However, these impacts would not be as noticeable when adding a power line to an

existing corridor versus a previously unmodified setting. Constructing the proposed power line next to an existing power line with the same or similar structures would result in the lowest impact on scenic quality and sensitive viewers. Alternatively, the most substantial impacts would result from the introduction of a power line into an area that does not have existing lines. Additional factors that would affect the degree of contrast include the type of adjacent development. For example, power lines typically are less noticeable in industrial settings or in areas where other vertical features such as signs, lights, buildings, roadway intersections/interchanges, and trees dominate the setting. These variables also were included in the evaluation of project contrast.

Project contrast levels (existing and future visual conditions) were established for each of the power line routes and substation sites evaluated. Tables 3-2 and 3-3 illustrate possible structure types and contrast levels that likely would occur within the VSOI for both the proposed 230kV and 69kV power line structures. The substation sites were evaluated on a case-by-case basis relevant to the existing and future visual conditions.

Landscape Scenic Quality Impact Methods

Impacts on scenic quality are determined by evaluating the level of change to the aesthetic qualities of landscapes within the VSOI as a result of the implementation of the proposed facilities. Impacts on landscape scenic quality considered existing conditions, and accounted for the predicted future conditions of the VSOI. The potential for impacts on scenic quality was driven by changes in the built environment as much as by the addition of the proposed facilities. The need for the proposed power lines is driven by future development, which typically occurs before or during the construction of the power lines.

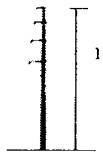
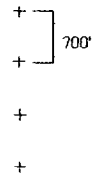
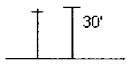
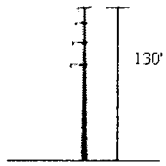
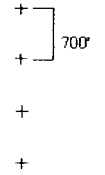
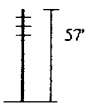
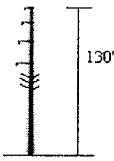
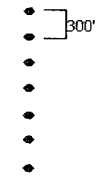
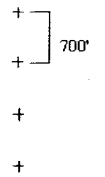
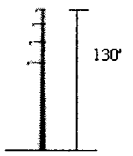
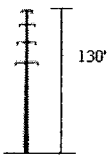
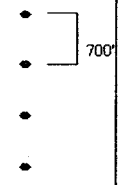
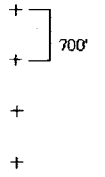
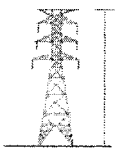
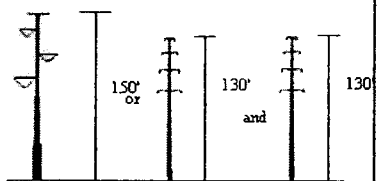
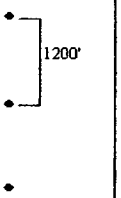
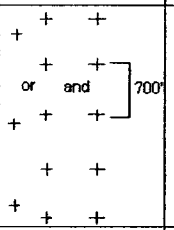
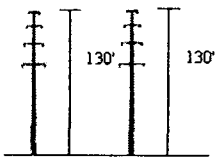
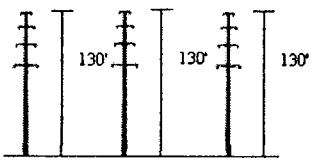
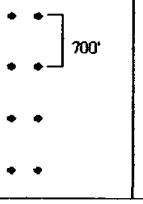
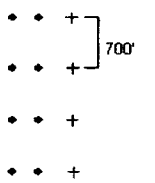
While the existing scenic quality of the landscapes within the VSOI was inventoried, the primary element driving the evaluation of impacts was the likely future condition of the landscapes established by the review of comprehensive plans and approved plans relevant to the study area. It is anticipated that the majority of land that is currently open space or used for agricultural purposes, from the White Tank Mountains east, likely will be developing into urban neighborhoods consisting of a mix of residential and commercial uses. Open space will consist primarily of developed recreational areas and vegetated drainage corridors interspersed throughout these urban areas.

Impacts from the proposed facilities on scenic quality would be highest in Class A landscapes and parks, as well as residential areas. Impacts would be lowest when the proposed facilities are located in existing power line corridors or industrial areas. It is anticipated that the majority of the impacts on landscape scenic quality would be moderate to low due primarily to avoidance of highly scenic areas and/or locating the proposed facilities in areas where there are no existing plans for development or where future plans can be developed to accommodate the power lines and substations. The scenic quality impacts resulting from the proposed facilities were established using the general criteria in Table 3-4 (on page 3-10). It should be noted that these criteria are only guidelines and specific conditions may change impact levels.

Viewer Impact Methods

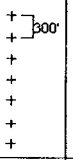
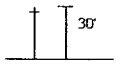
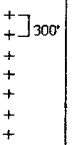
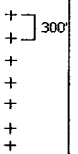
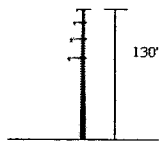
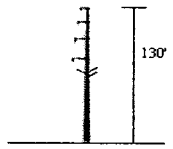
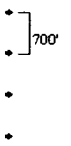
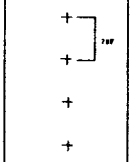
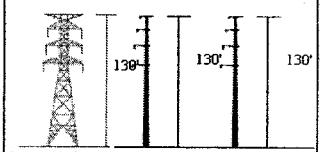
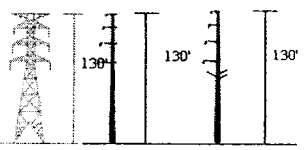
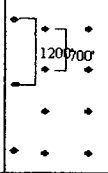
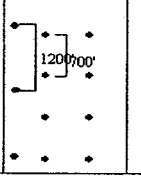
Impacts on sensitive viewers are directly attributable to the visibility potential or how the project would be seen from a particular viewing area. The impact assessment considered three components in establishing the degree of impact on sensitive viewers resulting from the introduction of the proposed facilities into the VSOI: (1) viewing distance (i.e., relationship of the viewer to the power line or substation); (2) screening and backdropping (i.e., adjacent vegetation, terrain, and development); and (3) degree of project contrast discussed previously.

Table 3-2
West Valley - South Power Line and Substation Siting Project
230kV Structure/Spanning Contrast Criteria

Existing Corridor	Corridor Conditions with Proposed SC 230kV Steel Pole	Structure Contrast Level	Existing Span	Proposed Span	Spanning Assessment	Overall Contrast
No Existing	 SC 230kV Steel Pole	S			S	S
 SC 12kV Wood	 SC 230kV Pole and 12kV Underground	S			S	S
 DC 69kV Wood/Steel	 SC 230 kV Steel with DC 69kV Underbuilt	M			M	M
 SC 230kV Steel Pole	 DC 230kV Steel	W			W	W
 Lattice 230/345/500kV	 Existing Rebuilt into DC 230 or 500kV with DC 230kV	W			W	W
 Two DC 230kV Steel Poles	 Three DC 230kV Steel Poles	W			W	W

SC = Single-circuit
DC = Double-circuit

Table 3-3
West Valley - South Power Line and Substation Siting Project
69kV Structure/Spanning Criteria

Existing Corridor	Corridor Conditions with Proposed SC 69kV Steel Pole	Structure Contrast Level	Existing Span	Proposed Span	Spanning Assessment	Overall Contrast
No Existing	SC 69kV Steel Pole	S			S	S
 SC 12kV Wood Pole	SC 69kV Steel with SC 12kV Underbuilt	W			W	W
SC 69kV Steel Pole	DC 69kV Steel Pole	W			W	W
 SC 230kV Steel Pole	 SC 230kV Steel with SC 69kV Underbuilt	W			W	W
 Lattice 230/345/500kV with 2 SC 230kV Poles	 230/345/500kV with 2 SC 230kV/ 69kV Underbuilt	W			W	W

SC = Single-circuit
DC = Double-circuit

The noticeable visual change to the landscape resulting from the introduction of power lines and substations depends largely on the distance of the facilities from the viewer. The contrast of power lines and substations within the landscape typically decreases with increased viewing distance because the details and scale/dominance of the power lines and substations are reduced. Conversely, when viewed in close proximity (e.g., within 300 feet) the details and scale/dominance of the power lines and substations are prominent. Although each project is unique due to a number of viewing variables, potential impacts on sensitive viewers were evaluated within the VSOI at the following distance zones:

- Immediate foreground 0 feet to 300 feet
- Foreground 300 feet to 1,320 feet (0.25 mile)
- Middleground I 0.25 mile to 1 mile

- Middleground II 1 mile to 2 miles
- Background 2 to 3 miles and beyond

Available screening and backdropping also were considered in the assignment of impact levels. Two types of screening were identified within the study area: (1) vegetative screening (e.g., 80-foot-tall eucalyptus trees along Perryville Road and native desert vegetation including paloverde and mesquite trees); and (2) development screening (e.g., adjacent residential, commercial, and industrial areas). Topographic screening was not considered in this study due to the relatively flat terrain throughout the VSOI. The presence of vegetative or development screening could effectively lower levels of impact assigned to views from surrounding areas since visibility of the proposed facilities may be substantially reduced or blocked. Another variable evaluated in the assignment of impact levels is consideration of backdropping from terrain (e.g., White Tank Mountains) or development. The proposed facilities are absorbed to varying degrees when viewed against background terrain or development. The visual absorption capability is determined by the degree or complexity of elements and similarity in colors and textures, which make up the background.

As previously described, sensitive viewers are those most susceptible to visual impacts resulting from the introduction of the proposed facilities into their viewshed. The degree of potential impact on viewers is based on the level of viewer sensitivity combined with project visibility and contrast relative to the view. The viewer impacts resulting from the proposed facilities were established using the general criteria described in Table 3-4. It should be noted that these criteria are only guidelines and specific conditions could change impact levels.

TABLE 3-4
VISUAL RESOURCES IMPACT ASSESSMENT CRITERIA

Impact Rating	Criteria
Low	• Minimal potential conflicts with existing scenic quality or views, as well as views from planned land uses • Scenic quality Class C landscapes or Class B landscapes with adjacent existing power lines or industrial development, as well as industrial and commercial retail areas • Non-residential areas with open views to existing power lines, industrial areas, areas with good construction and maintenance access (e.g., roads), and previously disturbed areas such as sand and gravel mining • Views (moderate sensitivity) typically would be in the background or middleground II distance zones, or the middleground I distance zone where there are existing power lines • Routes would comply with visual resource planning guidelines and scenic management policies
Moderate	• Some conflicts with existing and planned visual resources • Scenic quality Class B landscapes with no existing power lines or Class A landscapes with existing power lines or adjacent industrial development, as well as commercial office park areas and active use recreation areas • Mitigation efforts can reduce visual impacts to low levels • Commercial areas, primary and secondary roads with no existing power lines, residential areas with existing power lines, agricultural and/or ranching uses, and undisturbed areas with minimal value in terms of scenic quality or views and that are planned for development • Views (high or moderate sensitivity) typically would be in the middleground I distance zone or immediate foreground and foreground distance zones where there are existing power lines

TABLE 3-4 VISUAL RESOURCES IMPACT ASSESSMENT CRITERIA	
Impact Rating	**Criteria**
High	• Routes conflict with existing scenic quality or high sensitivity views, as well as likely views from high sensitivity future land uses • Scenic resources may be protected by agency planning guidelines • Scenic quality Class A landscapes as well as residential and regional park/preserve areas • Mitigation efforts may reduce impacts, but not to low levels • Existing nearby residential or recreation areas (parks, trails, opens space) without power lines, planned recreation or scenic areas, areas without existing access that would require substantial soil and vegetation disturbance, and areas with utilities recently placed underground • Views (high sensitivity) typically would be in the immediate foreground or foreground distance zones where there are no existing power lines

The production of visual simulations was a key component of the visual analysis conducted for the project. The visual simulations were used to verify impact levels as well as provide the public and agencies an opportunity to review the magnitude of change associated with the proposed project facilities in the VSOI. Visual simulations were completed from five viewpoints (illustrating seven scenarios) to assist with the analysis of the visual impacts associated with the introduction of proposed project into the landscape. The visual simulations are provided as Figures 3-2 through 3-6.

In general, the process of creating visual simulations includes (1) photographing the project location from various viewpoints; (2) developing a three-dimensional (3-D) model of the proposed project structures; and (3) superimposing the modeled structures into the photographs. In order to obtain the highest quality image for simulation, photographs were taken with a Canon AE-1 using a 50-millimeter lens with slow speed slide film (ISA 50). These photographs were subsequently scanned at a resolution of 72 dpi, with a single image size of 3072 x 2048 pixels. When a single photograph could not depict the entire impact area and its immediate setting, images taken from a 50-millimeter lens were spliced together to obtain the sufficient angle of view. The splicing process results in a more accurate representation of views than photos that could be acquired using a typical wide-angle lens. The 3-D digital models of proposed structures were produced by APS. Using these models, 3-D perspective views of proposed project facilities and selected existing structures were generated in 3D Studio, under lighting conditions selected to match those associated with the conditions when the photographs were taken. These 3-D perspective views were then superimposed onto the scanned photographs, using existing terrain and structures to accurately reference and locate the proposed facilities in the image, for final scaling and rendering in Photoshop. This is consistent with project description assumptions.

Mitigation Measures

The impact assessment considered a number of mitigation measures that APS will include in the final project design to reduce overall project contrast and minimize potential impacts on landscape scenic quality and sensitive viewers. The effectiveness of a mitigation measure is determined by the degree to which it diminishes the visual contrast of the proposed facilities in a given setting.

Table 3-5 illustrates the mitigation measures that would be implemented to reduce visual contrast resulting from the proposed facilities.

TABLE 3-5 MITIGATION MEASURES TO REDUCE VISUAL IMPACTS	
1.	To avoid disturbance to sensitive features (e.g., residences, recreation areas), access roads will not be constructed in those areas unless absolutely necessary. Instead, construction and maintenance traffic will use existing roads or cross-country access routes (including right-of-way) where suitable access exists. If access roads are required, APS will return the affected areas as near to their original condition as possible.
2.	To minimize ground disturbance, operational conflicts, and/or visual contrast, the power line structure design will be a single-steel pole with a galvanized or dulled finish to reduce surface reflection.
3.	To reduce visual contrast and/or potential operational conflicts, standard tower design will be modified to correspond with spacing of existing power line structures where practicable and within limits of standard structure design. The normal span will be modified to correspond with existing structures, when possible.
4.	To reduce visual impacts, potential impacts on recreation values, and safety at highway, wash, and trail crossings, structures are to be placed at the maximum viable distance from the crossing within limits of standard structure design.
5.	Non-reflective (non-specular) conductors will be used for the entire length of the power line route.
6.	Landscape walls matching the local architectural styles and vegetation will be incorporated around substations sites to minimize visibility and visual contrast.
7.	Low profile designs will be used when feasible for all electrical equipment within the substation walls to minimize visibility and visual contrast when possible.

Impact Assessment

The following sections provide a general description of the potential impacts on landscape scenic quality and sensitive viewers for the proposed power line routes and substation siting areas (230kV and 69kV). Tables 3-6 through 3-9 include the proposed facilities, visual setting, impact assessment level, and any relevant comments associated with the analysis of specific power line routes and substation sites. The potential impacts consider the existing and future visual conditions, as well as previously described mitigation measures incorporated into the project description. Impacts on future landscape settings typically would be lower than for existing landscapes because future plans can be more readily adapted to account for the presence of the power lines and/or substations. More specifically, impacts on the landscape setting for planned areas approved for implementation typically are higher than those associated with general planned areas because plans would need to be changed to accommodate the power lines and/or substations.

The potential substation sites and power line links and routes that were recommended for elimination based on engineering and land use criteria during route identification have not been discussed.

230kV Facilities

Impact Assessment Results

Potential impacts on landscape scenic quality and sensitive views from the proposed 230kV power lines and substations would range from high to low. High impacts were minimized by identifying routes early in the process, which avoided the majority of high sensitivity landscapes and viewers to the extent possible. Given the nature of the project description for 230kV facilities (i.e., relatively tall structures spanning several miles) it is almost impossible to avoid all visual impacts in developed and developing areas.

There are locations where 230kV facilities would have high and moderate impacts on the quality of the existing landscape setting. This primarily would include scenic quality Class A landscapes, as well as residential and park settings without existing power lines. This primarily consists of routes that would be in or adjacent to the foothills of the White Tank Mountains and residential communities (e.g., Clearwater Farms, Verrado, Sonoran Ridge) bounded by Olive Avenue on the north, I-10 on the south, Tuthill Road on the west, and the Loop 303 on the east. Additional residential areas (nameless) along I-10 and south of I-10 also could have potential high and moderate impacts on the existing landscape setting. Impacts on scenic quality Class B landscapes (e.g., agricultural land and ephemeral washes) would be moderate. Impacts on scenic quality Class C landscapes (e.g., desert scrub and disturbed areas) would be low due to the lack of inherent visual interest. Impacts on existing commercial settings would be low due to the primarily retail nature of the setting. Impacts on other developed areas including Scott Libby Elementary School would be low due to the modified nature of the built environment.

The evaluation of potential impacts on future landscape scenic quality considered a number of currently approved residential, recreation, and commercial development plans, as well as general plans. Potential moderate impacts could occur on approved planned commercial and residential development on both the north and south sides of I-10 between Loop 303 and Tuthill Road including Verrado, Maricopa Water District, Sonoran Ridge, Pasqualetti Mountain Ranch, White Tank Mountain Ranch, Sundance, and other smaller developments. Moderate impacts would occur on FCDMC's conceptual multi-use recreation area west of the Beardsley Canal between Northern Avenue and Bethany Home Road currently known as the FRS #3. Low impacts could occur on general planned residential throughout the VSOI and commercial development along the west side of the Loop 303 corridor.

The potential 230kV power line routes and substations would not conflict with any jurisdictional or agency visual management objectives since there are no formally adopted plans in place with the exception of the White Tank Mountain Regional Park (there are no routes under consideration within the park boundaries). However, a number of communities such as Buckeye, Goodyear, and Avondale expressed general concern for aesthetic values within the landscape.

There are locations where 230kV facilities would have high and moderate impacts on sensitive viewers throughout the VSOI. This primarily would include residential and park settings without existing power lines. High impacts could occur on existing residential communities north of I-10 including Clearwater Farms, as well as dispersed residences (nameless) along Olive Avenue, I-10, Tuthill Road, Jackrabbit Trail, Camelback Road, Indian School Road, and McDowell Road. These residences would be located in the immediate foreground and foreground distance zone and have little to no screening from the proposed facilities. High impacts also would occur on views from the southeastern section of the White Tank Mountain Regional Park along the Tuthill Road alignment and including the gateway into the park along Olive Avenue from routes in these areas.

Impacts on views from routes along existing community gateway roads, including Miller Road and I-10, would be considered moderate to low due to the existing conditions such as existing power lines along these routes.

Impacts on views from existing commercial settings along I-10 and Jackrabbit Trail would be low due to the primarily retail nature of the setting.

The evaluation of potential impacts on future views also considered a number of currently approved residential, recreation, and commercial development plans, as well as general plans. Potential moderate impacts could occur on views from approved planned residences on both the north and south sides of I-10 between the Loop 303 and Tuthill Road including Maricopa Water District, Pasqualetti Mountain Ranch, White Tank Mountain Ranch, Sundance, and other smaller developments.

Moderate impacts could occur to views from FCDMC's conceptual multi-use recreation area west of the Beardsley Canal between Northern Avenue and Bethany Home Road currently know as the FRS #3. The most prominent views from this area would be towards the White Tank Mountains. Views of potential routes along Tuthill Road from this area would be greater than a mile away and therefore would result in potential low impacts.

Low impacts would occur on views from general planned future residences throughout the VSOI. Impacts on views from general planned commercial development would be low.

Potential impacts on existing and future visual conditions that would result from the introduction of the 230kV power lines and substations into the landscape are further summarized in Tables 3-6 and 3-7, respectively.

TABLE 3-6
VISUAL RESOURCES IMPACT ASSESSMENT OF 230kV ALTERNATIVE POWER LINE ROUTES

Route		Setting	Existing Visual	Future Visual	Comments
Buckeye Existing	A	Desert/ developed	Moderate/high	Moderate/high	• Adjacent residences with immediate foreground views • Gateway into the Town of Buckeye on I-10 • Existing 69kV power line structures, resulting in moderate structure contrast with a 230kV structure
	B	Desert w/ power lines	Low	Low	• Multiple power line corridor, minimizing structure contrast and impacts on existing residences
Buckeye TS3	A	Desert w/ power lines	Moderate	Moderate/high	• Adjacent residences with immediate foreground views • Partial view blockage of White Tank Mountains
	B	Agricultural/ desert/ developed	Moderate	Moderate/high	• Adjacent residences with immediate foreground views • Partial view blockage of White Tank Mountains
TS2-TS3	A	Desert	Moderate/high	High	• Immediate foreground views from residences, White Tank Mountain Regional Park, and future residences • Bisects future development resulting in high impacts
	B	Desert/ agricultural/ developed	High	High	• Immediate foreground views from residences and future residences
	C	Desert/ agricultural	Low/moderate	Moderate	• Least number of existing residential viewers in immediate foreground • Potential future viewers from a multi-use recreation area
	D	Desert/ agricultural	Low/moderate	Moderate	• Least number of existing residential viewers in immediate foreground • Potential future viewers from a multi-use recreation area
	E	Desert/ agricultural	Moderate	Moderate/high	• Immediate foreground views from residences, White Tank Mountain Regional Park, and future residences

TABLE 3-6
VISUAL RESOURCES IMPACT ASSESSMENT OF 230kV ALTERNATIVE POWER LINE ROUTES

Route		Setting	Existing Visual	Future Visual	Comments
	F	Desert/ agricultural	Moderate	Moderate/high	• Immediate foreground views from residences, White Tank Mountain Regional Park, and future residences
	G	Agricultural	Low/moderate	Moderate	• Least number of existing residential viewers in immediate foreground
	H	Agricultural	High	High	• Immediate foreground views from residences
	I	Agricultural/ desert	High	High	• Immediate foreground views from residences
	J	Agricultural/ desert	Low/moderate	Moderate/high	• Few viewers on existing agricultural lands
TS3-TS4	A	Agricultural	Low/moderate	Moderate	• Least number of existing residential viewers in immediate foreground • Parallels existing corridor, minimizing impacts
	B	Agricultural/ developed/ desert	Moderate	Moderate/high	• Immediate foreground views from residences and future residences
	C	Desert/ developed/ agricultural	Moderate/high	Moderate/high	• Immediate foreground views from residences and future residences
	D	Agricultural/ developed/ desert	Moderate/high	High	• Immediate foreground views from residences and future residences
	E	Desert/ developed/ agricultural	Moderate/high	High	• Immediate foreground views from residences and future residences

TABLE 3-7
VISUAL RESOURCES IMPACT ASSESSMENT OF 230kV SUBSTATION LOCATIONS

Substation	Setting	Existing Visual	Future Visual	Comments
TS2-1	Desert	Low/moderate	Moderate	• Approximately 1.5 miles from the White Tank Mountain Regional Park, minimizing potential impacts on the Park • Approximately 1.25 miles from the closest existing residence, minimizing impacts on existing residences
TS2-2	Desert	Low/moderate	Moderate	• Approximately 1.75 miles from the White Tank Mountain Regional Park, minimizing impacts on the park • Approximately 1 mile from the closest existing residence, minimizing impacts on existing residences
TS2-3	Desert/Beardsley Canal	Low/moderate	High	• Future residential development

sides of I-10 between Loop 303 and Tuthill Road including Verrado, Maricopa Water District, Canyon Trails, Palm Valley/Pebble Creek, Sonoran Ridge, White Tank Mountain Ranch, and other smaller developments. Low impacts could occur on general planned residential throughout the VSOI and commercial development along the west side of the Loop 303 corridor.

The potential 69kV power line routes and substations would not conflict with any jurisdictional or agency visual management objectives since there are no formally adopted plans in place, with the exception of the White Tank Mountain Regional Park (there are no routes under consideration within the park boundaries). However, a number of communities such as Buckeye, Goodyear, and Avondale expressed general concern for aesthetic values within the landscape.

There are a number of locations where 69kV facilities would have moderate/high and moderate impacts on sensitive viewers throughout the VSOI. This primarily would include residential settings without existing power lines. Moderate/high impacts could occur on existing residential communities north of I-10 including Clearwater Farms, Verrado, and Sonoran Ridge, as well as dispersed residences (nameless) along Olive Avenue, I-10, Tuthill Road, Jackrabbit Trail, Camelback Road, Indian School Road, McDowell Road, 0.5 mile west of Bullard Avenue between Van Buren Street and Buckeye Road, and Litchfield Road between Glendale Road and Camelback. These residences would be located in the immediate foreground and foreground distance zone and have little to no screening from the proposed facilities. Moderate/high impacts also would occur on views from the southeastern section of the White Tank Mountain Regional Park along the Tuthill Road alignment and including the gateway into the park along Olive Avenue.

Impacts on views from routes along existing community gateway roads, including Miller Road and I-10, would be considered moderate to low due to the existing conditions such as existing power lines along these routes. Moderate impacts on existing views would occur on routes along Estrella Parkway.

Impacts on views from existing commercial settings along I-10 and Jackrabbit Trail would be low due to the primarily retail nature of the setting.

The evaluation of potential impacts on future views also considered a number of currently approved residential, recreation, and commercial development plans, as well as general plans. Potential moderate impacts could occur on views from approved planned residences on both the north and south sides of I-10 between the Loop 303 and Tuthill Road including Verrado, Maricopa Water District, Sonoran Ridge, Pasqualetti Mountain Ranch, White Tank Mountain Ranch, Sundance, and other smaller developments.

Moderate to low impacts could occur on views from general planned residences throughout the VSOI. It is expected that the majority of impacts on future residential developments could be mitigated to low levels during project planning, with the implementation of appropriate design measures such as landscape buffering. Views from general planned commercial development would be low.

Potential impacts on existing and future visual conditions that would result from the introduction of the 69kV power lines and substations into the landscape are further summarized in Tables 3-8 and 3-9, respectively.

TABLE 3-8
VISUAL RESOURCE IMPACT ASSESSMENT OF 69kV ALTERNATIVE POWER LINE ROUTES

Route		Setting	Existing Visual	Future Visual	Comments
WS1-TS2	A	Desert	Moderate	Moderate	• Adjacent recreational areas (White Tank Mountain Regional Park, multi-use recreation area), resulting in visual impacts on recreationalists
	B	Desert	Low/moderate	Moderate	• Future potential residential viewers
	C	Desert	Moderate/high	Moderate/high	• Adjacent residential viewers • Adjacent multi-use recreation area, resulting in visual impacts on recreationalists
WS1-TS3	A	Desert	Moderate/high	Moderate/high	• Adjacent to residential viewers • Minimizes views from existing and future residential areas
	B	Desert/ agricultural/ developed	Moderate	Moderate	• Minimizes views from existing and future residential areas
	C	Desert/ agricultural/ developed	Low/moderate	Moderate	• Minimizes views from existing and future residential areas
WS2-TS2	A	Agricultural/ developed / desert	Low/moderate	Moderate	• Adjacent residential viewers • Adjacent multi-use recreation area, resulting in visual impacts on recreationalists • Adjacent existing 12kV distribution line, minimizing impacts
	B	Agricultural/ developed/ desert	Low/moderate	Low/moderate	• Adjacent residential viewers • Adjacent existing 12kV distribution line, minimizing impacts
	C	Agricultural/ desert/ developed	Moderate	Moderate	• Minimizes views from future residential areas
WS3-TS3	A	Agricultural/ developed	Low	Low	• Potential future residential and commercial viewers
	B	Agricultural/ developed	Low	Low	• Potential future residential and commercial viewers
	C	Agricultural/ developed	Low	Low	• Potential future residential and commercial viewers
	D	Agricultural/ developed	Low	Low	• Potential future residential and commercial viewers
WS2-WS3	A	Agricultural/ developed	Low/moderate	Low/moderate	• Adjacent residential viewers • Adjacent 12kV distribution line, minimizing impacts
	B	Agricultural/ developed	Low/moderate	Low/moderate	• Adjacent residential viewers • Adjacent 12kV distribution line, minimizing impacts
	C	Agricultural/ developed	Low/moderate	Low/moderate	• Potential future residential and mixed use viewers
	D	Agricultural/ developed	Low/moderate	Low/moderate	• Potential future residential and mixed use viewers

TABLE 3-8
VISUAL RESOURCE IMPACT ASSESSMENT OF 69kV ALTERNATIVE POWER LINE ROUTES

Route		Setting	Existing Visual	Future Visual	Comments
WS4-Sarival	A	Residential/ developed	Low	Low	• No new structures needed, minimizing impacts
	B	Agricultural/ developed	Moderate	Moderate	• Adjacent residential viewers • Potential future residential viewers
WS6-Wildflower	A	Agricultural	Low/moderate	Moderate	• Potential mixed use viewers
	B	Agricultural	Moderate/high	Moderate/high	• Adjacent existing and future residential viewers
WS7-Litchfield	A	Agricultural	Low	Low/moderate	• Minimizes views from future residential areas • Future commercial viewers
	B	Agricultural	Moderate	Moderate	• Minimizes views from existing residential areas • Adjacent future residential and commercial viewers
WS10-Colter	A	Agricultural/ developed/ desert	Moderate/high	Moderate/high	• Traverses through existing residential area, resulting in moderate to high impacts • Use of existing power line corridor, minimizes impacts
	B	Developed/ disturbed	Moderate	Moderate	• Use of existing power line corridor, minimizes impacts
	C	Developed/ disturbed	Moderate	Moderate	• Minimizes views from existing and future residential areas • Use of existing power line corridor, minimizes impacts
White Tanks-Sarival	A	Agricultural/ riverbed	Low/moderate	Low/moderate	• Use of existing power line corridor, minimizes impacts
	B	Developed/ agricultural/ riverbed	Moderate	Moderate	• Minimizes views from existing residential areas
	C	Agricultural/ developed/ riverbed	Low	Low	• Adjacent existing residential viewers • Use of existing power line corridor, minimizes impacts
	D	Agricultural/ developed/ riverbed	Low/moderate	Moderate	• Adjacent existing residential viewers • Use of existing power line corridor, minimizes impacts

TABLE 3-9
VISUAL RESOURCES IMPACT ASSESSMENT OF 69kV SUBSTATION LOCATIONS

Substation	Setting	Existing Visual	Future Visual	Comments
WS1-1	Desert	Low	Moderate	• Potential visual impacts on approved future residences • Potential future viewers from a multi-use recreation area
WS1-2	Desert	Low	Moderate	• Adjacent future residential viewers
WS1-3	Desert	Low	Low/moderate	• Potential adjacent future residential viewers
WS1-4	Desert	Low	Moderate	• Adjacent future residential viewers
WS2-1	Agricultural	Low/moderate	Low/moderate	• Adjacent existing and potential future residential viewers
WS2-2	Agricultural	Low/moderate	Low/moderate	• Adjacent existing residential area • Future foreground views from commercial land uses
WS3-1	Agricultural	Low	Low	• Minimizes impacts on existing and future residential views • Future foreground views from commercial land uses
WS3-2	Agricultural	Low	Low	• Minimizes impacts on existing and future residential views • Future foreground views from commercial land uses
WS3-3	Agricultural	Moderate	Moderate	• Potential impacts on existing residential viewers • Future commercial viewers
WS3-4	Agricultural	Low/moderate	Low/moderate	• Future commercial viewers
WS3-5	Agricultural	Low	Low	• Future commercial viewers
WS3-6	Agricultural	Low/moderate	Moderate	• Potential impacts on existing residential viewers • Future commercial/residential viewers
WS4-1	Agricultural	Low/moderate	Moderate	• Future commercial/residential viewers • Adjacent 69kV power line, minimizing impacts
WS4-2	Agricultural	High	Moderate	• Located within existing residential area, resulting in high impacts • Adjacent 69kV power line, minimizing impacts
WS4-3	Agricultural	Low/moderate	Low/moderate	• Adjacent 69kV power line, minimizing impacts
WS4-4	Agricultural	Low/moderate	Low/moderate	• Adjacent 69kV power line, minimizing impacts
WS6-1	Agricultural	Low	Low/moderate	• Potential future mixed use viewers
WS6-2	Agricultural	Low	Low/moderate	• Potential future mixed use viewers
WS6-3	Agricultural	Low	Low/moderate	• Potential future mixed use viewers
WS7-1	Agricultural	Moderate/high	Moderate/high	• Near residential area gateway, resulting in visual impacts • Adjacent 69kV power line, minimizing impacts

TABLE 3-9
VISUAL RESOURCES IMPACT ASSESSMENT OF 69kV SUBSTATION LOCATIONS

Substation	Setting	Existing Visual	Future Visual	Comments
WS7-2	Agricultural	Moderate/high	Moderate/high	• Near residential area gateway, resulting in visual impacts • Adjacent 69kV power line, minimizing impacts
WS7-3	Agricultural	Low/moderate	Low/moderate	• Future commercial viewers
WS10-1	Developed	Low/moderate	Low/moderate	• Potential mixed use viewers
WS10-2	Desert	Low/moderate	Low/moderate	• Potential mixed use viewers
WS10-3	Developed	Moderate/high	Moderate/high	• Immediate foreground views from existing residences
WS10-4	Partially developed	Moderate/high	Moderate/high	• Future residential viewers
WS14-1	Developed	Low	Low	• Future industrial viewers
WS14-2	Disturbed desert	Low	Low/moderate	• Potential future residential viewers
WS14-3	Disturbed desert	Low	Low/moderate	• Potential future residential viewers

4.0 CULTURAL RESOURCES

ACC Rules of Practice and Procedure (R14-3-219) stipulate that CEC applications "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." ACC uses this information to consider potential impacts on archaeological and historical resources in compliance with the Arizona State Historic Preservation Act. In accordance with that act, ACC provides the State Historic Preservation Office (SHPO) an opportunity to review actions that would affect properties listed in or eligible for the Arizona State Register of Historic Places.

In addition, any right-of-way that might be acquired across lands owned by the state or county and local governments would be subject to the provisions of the Arizona Antiquities Act (Arizona Revised Statutes [ARS] 41-841 through 41-847). This law prohibits excavation of historic or prehistoric sites on such public lands without a permit. The Act also directs those in charge of activities on such lands to notify the director of the Arizona State Museum (ASM) of the discovery of any archaeological sites, historical resources, or human remains. State law (ARS 41-865) also stipulates that anyone finding human remains and funerary objects associated with archaeological sites on private lands notify the director of the ASM. Such remains are to be protected in place while consultations with appropriate American Indian groups are conducted. To address these regulatory requirements, and as an element of the comprehensive environmental planning undertaken for the project, cultural resources within the study area were considered in evaluating alternative 230kV and 69kV facilities (though 69kV facilities do not require ACC approval).

4.1 INVENTORY

A study area was defined for the cultural resources analysis to include all substation sites and 230kV and 69kV power route alternatives, as well as a buffer zone of no less than 0.5 mile from any proposed alternative.

Overview

Human occupation of the region has a rich and varied history. Nomadic hunters and gatherers, known as Paleoindians, ranged across much of North America at least 12,000 years ago. Over-hunting or climatic warming and drying led to the extinction of several species of large game animals that had been staples of Paleoindian subsistence. Evidence of Paleoindian occupation in the project vicinity is limited to a few isolated spear points. The people of the subsequent Archaic era traveled with the seasons to hunt game and collect plant resources in different environmental zones. Archaic sites are more common than Paleoindian sites in the study area, but still are relatively rare. The end of this era, about 2,000 to 3,000 years ago, is marked by the addition of horticulture to subsistence strategies. Approximately 1,500 years ago, the local inhabitants, known as the Hohokam, came to rely primarily on agriculture and became masters of irrigation farming. Hohokam shell, bone, stone, and pottery artifacts are found at remnants of small camps and large village sites, some with ceremonial mounds and ball courts. The Hohokam cultural system, which had thrived for a millennium or more, changed drastically at about A.D. 1450 and the large canal systems and many villages were abandoned. Archaeological evidence of subsequent periods of aboriginal occupation is uncommon.

When Europeans first arrived in the area, the Phoenix Basin was largely uninhabited by native peoples because it was a contested boundary zone between the territories of the Akimel O'odham (Pima) and Maricopa villagers residing on the Gila River to the south, Yavapais to the north, and Apaches to the

northeast. Evidence of ethnohistoric occupation in the study area is limited to a few ceramic sherds of ambiguous affiliation.

Early Euro-American agricultural settlement and development was confined largely to the areas immediately adjacent to the Gila River, where the Hohokam had developed irrigation canals centuries before. The Buckeye Canal was in operation by 1886, and was the stimulus for the founding of the Town of Buckeye in 1889 and the community of Liberty in 1895. Attempts to augment the water supply north of the Buckeye Canal began with the development of an irrigation project along the lower Agua Fria River Valley in the 1880s. William Beardsley and the Agua Fria Water and Land Company began building a diversion dam near Frog Tanks in the 1890s. However, the dam was left unfinished until 1926-1927 when it was completed in conjunction with the construction of Waddell Dam and the Beardsley Canal. Southwest Cotton, a subsidiary of Goodyear Tire & Rubber Company, purchased 24,000 acres west of the Agua Fria River during World War I and developed farms to grow long-staple cotton to meet wartime demands for tires and airplane fabric. During World War II, the Luke Air Field became the largest advanced pilot training facility in the world and the Litchfield Naval Air Facility was established to test and deliver aircraft produced by Goodyear.

Prior Cultural Resource Surveys

Information about prior studies and previously recorded archaeological and historical sites was obtained from the computerized AZSITE Cultural Resource Inventory (AZSITE Consortium 2002). The information in this database has been compiled over several decades by many different researchers using different methods. As a result, the information is not fully consistent and complete, and there is an unknown margin of error regarding the plotted locations of prior surveys and recorded resources. Very recent studies also have not been added to the database, but information about some recent projects in URS project files was added to supplement the AZSITE data. Although the available information has limitations, it provides a reasonable basis for modeling cultural resource sensitivities and evaluating project alternatives.

The compiled database includes information about 155 cultural resource projects that have resulted in some level of survey of almost 37 square miles (23,498 acres), or 12 percent of the approximately 300-square-mile study area. The vast majority of this cultural resource survey was conducted to assess the potential impacts on cultural resources from construction of roads and utilities, residential development, materials extraction and disposal, and flood control facilities. The surveys are relatively evenly distributed across the study area and represent samples of varied environmental zones including terraces of the Gila and Agua Fria rivers, farmland on the valley floor, and alluvial fans around the White Tank Mountains.

Previously Recorded Cultural Resources

The compiled database includes information about 138 archaeological and historical sites, and 5 Hohokam canals (Midvale 1974). (To prevent vandalism to cultural resources, a map depicting archaeological site locations is not included in this report.)

Of the 138 archaeological and historical sites identified in the study area, 14 are in locations that potentially could be affected by one or more of the alternative substations or alternative routes for the power lines. These sites include three historic canals, two railroads, a historic bridge, remnants of a historic homestead, two Hohokam village sites, two Hohokam canal systems, a scatter of Hohokam artifacts, and two undated archaeological sites with rock or ditch features but no artifacts. Information about these sites is summarized in Table 4-1.

TABLE 4-1
SUMMARY OF CULTURAL RESOURCES POTENTIALLY AFFECTED

Site Name and Number	General Location	Site Type	Register Eligibility	Conflicts	Comments
Beardsley Canal [AZ T:3:55 (ASM)] [AZ T:3:4 (ARS)]	T2N, R2W; T3N, R2W	Irrigation canal, started in 1890s, but not finished until 1928	Recommended eligible, Criterion A	TS2-TS3 (A-J); TS3-TS4 (D,E); TS2-1; TS2-2; TS2-3; WS1-TS2 (A-C); WS1-TS3 (A-C) WS2-TS2 (A-C)	Canal remains in use, has been upgraded, and is regularly maintained; specific historic character-defining elements have not been defined
Airline Canal [AZ T:7:76 (ASM)]	T2N, R1W	Irrigation canal, built 1910-1911	Potentially eligible, Criterion A	WS10-Colter (A,C); WS7-1; WS7-2; WS14-2; WS14-3;	Canal remains in use, and has been recently lined with concrete; specific historic character-defining elements have not been defined
AZ T:7:178 (ASM)	T3N, R2W	2 rock pile features and 2 ditches of unknown date	Recommended ineligible	TS2-TS3 (G, H, J); WS2-TS2 (B, C)	
AZ T:7:198 (ASM)	T2N, R1W	Historic house remnants, 1900-1930	Recommended register eligible, Criterion D	WS14-3	
AZ T:7:246 (ASM)	T3N, R2W	Scatter of Hohokam (and possibly some Patayan) ceramic sherds and flaked stone artifacts	Recommended eligible, Criterion D	TS2-TS3 (C, D, I); WS1-TS2 (C); WS2-TS2(A)	
AZ T:10:13 (ASM)	T1N, R3W	Clearing in desert pavement, no artifacts	Unevaluated	Buckeye-TS3 (A, B)	Probably destroyed by construction of flood retarding structure
Roosevelt Irrigation District Canal [AZ T:10:83 (ASM)]	T1N, R1W; T1N, R2W; T2N, R1E; T2N, R1W	Historic canal, built 1928	Recommended eligible, Criterion A	TS3-TS4 (A-E); WS7-Litchfield (A, B)	Canal remains in use, has been upgraded, and is regularly maintained; specific historic character-defining elements have not been defined

TABLE 4-1
SUMMARY OF CULTURAL RESOURCES POTENTIALLY AFFECTED

Site Name and Number	General Location	Site Type	Register Eligibility	Conflicts	Comments
Phoenix Main of Southern Pacific Railroad [AZ T:10:84 (ASM)]	T1N, R1W; T1N, R2W; T1N, R3W	Railroad, built 1926	Eligible, Criterion A	Southern extension of TS3-TS4	Railroad remains in use as Union Pacific Railroad, has been upgraded, and is regularly maintained
AZ T:11:2 (PG)	T1N, R2W	Hohokam village site, Classic period	Unevaluated	WS4-Sarival (A); WS4-1	Mounds leveled by cultivation, location ambiguous and condition unknown; potential for human remains
Coldwater Ruin AZ T:11:18 (MNA)	T1N, R1W	Hohokam village site, ball court, 24 mounds scattered over 300 acres	Potentially eligible, Criterion D, testing in 1970s,	White Tanks-Sarival (A, C, D)	Current condition unknown; potential for human remains
Agua Fria Bridge State Inventory #123	T1N, R1W	Bridge, built 1915-16, replaced with 1930 bridge	Recommended ineligible	White Tanks-Sarival (A, B)	
Canal Coldwater	T1N, R1W	Buried remnants of Hohokam canal	Unevaluated	White Tanks-Sarival (A, C, D)	Disturbed by development; current condition unknown
Canal Liberty	T1N, R1W; T1N, R2W; T1N, R3W	Buried remnants of Hohokam canal	Unevaluated	Southern extension of TS3-TS4	Disturbed by development; current condition unknown
Atchison, Topeka & Santa Fe Railroad (AT&SF RR) spur	T3N, R1W; T3N, R2W T2N, R1W; T2N, R2W	Railroad spur, built circa 1920s- 1940s	Recommended ineligible	TS2-TS3 (G-J); WS2-TS2 (A-C); WS2-1; WS2-2	

Evaluations of the significance of cultural resources commonly are based on criteria for listing on the National Register of Historic Places, which are essentially identical for listing on the Arizona Register of Historic Places. To be eligible, districts, sites, buildings, structures, and objects must be significant in American history, architecture, archaeology, or engineering, at the local, state, or national level, and possess integrity of location, design, setting, materials, workmanship, feeling, and association and

(a) be associated with events that have made a significant contribution to the broad patterns of our history; or

(b) be associated with the lives of persons significant in our past; or

(c) 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) have yielded, or may be likely to yield, information important to prehistory or history [National Register of Historic Places, Title 36, Code of Federal Regulations, Part 60].

Unless cultural resources have exceptional significance, they must be at least 50 years old to be considered for inclusion.

Many of the recorded archaeological and historical resources recorded within the study area have not been formally evaluated for register eligibility. The Beardsley, Roosevelt Irrigation District, and Airline canals played an important role in the Euro-American settlement and agricultural development of the West Valley, and continue to be used. Therefore, these canals generally are considered to be eligible for the Arizona and National Registers under Criterion A, but they have been updated and maintained over the years and historic character-defining elements have not been rigorously identified.

Similarly, the two railroads are of historic age but have been upgraded and maintained over the years and continue to be used. The Union Pacific Railroad, originally completed in 1926 as the Phoenix Main Line of the Southern Pacific Railroad, has been previously evaluated as eligible for the National Register under Criterion A. The Atchison, Topeka & Santa Fe Railway spur was built and modified from the 1920s to 1940s. Although part of the line continues to be operated, other parts have been removed. This spur has been previously recommended as ineligible for the Arizona and National Registers.

The two other historic-era resources include the remnants of a homestead designated as site AZ T:7:198 (ASM) and the remnants of a bridge built across the Agua Fria River in 1915-1916. When recorded, the homestead site was recommended as eligible for the National Register under Criterion D for its potential to yield important information about early twentieth-century settlement of the region. A prior evaluation recommended the bridge remnants be considered ineligible for the National Register.

Two important Hohokam-era resources are the Coldwater Ruin [site AZ T:11:18 (MNA)]) and site AZ T:11:2 (PG). When first recorded in 1937 and 1940, both sites were described as remnants of villages. Both are located in areas that have been disturbed by agricultural or residential development, but archaeological research has documented that buried remnants of such villages often remain intact and can provide important information about the aboriginal occupation of the region. Therefore, such sites commonly are considered eligible for the Arizona and National Registers under Criterion D. Hohokam village sites often have associated human remains.

The Coldwater Ruin was described as having a ball court and 24 mounds scattered over 300 acres. The southern margins of the site were tested in the late 1970s in conjunction with installation of a 96-inch water line for the Palo Verde Nuclear Generating Station. No buried archaeological features were identified. Site AZ T:11:2 (PG) was described as having trash mounds with Classic period Hohokam ceramics. Information about the location of the site is ambiguous and no subsequent investigations have been documented.

Site AZ T:7:246 (ASM) is a scatter of Hohokam (and perhaps some Patayan) ceramic sherds and flaked stone artifacts. Further study of this site has potential to yield important information about Hohokam collection and processing of indigenous plant foods, and broader settlement and subsistence strategies.

The two other recorded Hohokam resources are irrigation canals that are known as Canal Coldwater and Canal Liberty. Canal Coldwater headed on the right bank of the Agua Fria River approximately 3 miles above the confluence with the Gila River. Within the Coldwater Ruin site, the canal divided into four branches. Canal Liberty headed on the Gila River just below the confluence of the Agua Fria River. Approximately 3 to 4 miles to the west, this canal divided into three branches (Liberty Branch, Van Liere Branch, Lower Branch) and may have continued another 8 to 9 miles to the west. Study of buried remnants of such canals can yield important information about Hohokam technology, subsistence practices, and the riverine environment. The routes of these canal alignments were mapped decades ago and have not been verified.

The other two archaeological sites, AZ T:7: 178 (ASM), and AZ T:10:13 (ASM), both lack artifacts and are undated. Site AZ T:7:178 (ASM) has two rock pile features and two ditches of undetermined function. When recorded, this site was recommended as ineligible for the National Register. Site AZ T:10:13 (ASM) had a cleared circle in the desert pavement, a type of feature common on sites in the arid deserts of southwestern Arizona and often called "sleeping circles." This site probably was destroyed when the Buckeye FRS #3 was constructed.

4.2 ENVIRONMENTAL CONSEQUENCES

Consideration of potential impacts focused on recorded sites that could be physically or visually affected by construction of the alternative 230kV and 69kV substations and power lines (refer to Table 4-1). Much of the area to be affected by project construction has not been previously surveyed, and other unidentified cultural resources very well may be present. The available data indicate that archaeological site density is highest in areas adjacent to the Agua Fria River and especially the Gila River, as well as the base of the White Tank Mountains. The vast majority of substation siting areas and alternative power line routes are located on the valley floor in areas that have been substantially altered by agriculture, residential development, and road and utility construction. There could be historic-era sites in this setting related to early settlement and agricultural development. Aboriginal sites on the valley floor are likely to have been primarily artifact scatters with perhaps some simple features such as hearths or cooking pits. Agricultural and residential development is likely to have destroyed such sites.

Impact Assessment Methodology

The impact assessment for each alternative substation siting area and power line route was based on potential direct and visual effects on known significant resources, extent of prior survey, and projected types and densities of resources that might be found in unsurveyed areas based on extent of prior development and environmental setting, The criteria used to define low, moderate, and high levels of impacts are summarized in Table 4-2.

TABLE 4-2
CULTURAL RESOURCES IMPACT ASSESSMENT CRITERIA

Impact Rating	Criteria
Low	• No potential disturbance of known properties listed in or eligible for the Arizona or National Registers • Unsurveyed areas are on the valley floor away from the Gila and Agua Fria rivers and the base of the White Tank Mountains • Unsurveyed areas have been substantially disturbed by agricultural or urban development

TABLE 4-2 CULTURAL RESOURCES IMPACT ASSESSMENT CRITERIA	
Impact Rating	**Criteria**
Moderate	• Potential disturbance of properties listed or eligible for listing in the Arizona or National Registers under Criterion D, and data recovery studies are likely to satisfactorily mitigate impacts • Potential impacts on linear Arizona or National Register-listed or eligible canals or railroads are limited to visual intrusions resulting from crossing or paralleling the canals or railroads • Unsurveyed areas include considerable undeveloped desert in the foothills of the White Tank Mountains, or areas occupied intensively by the Hohokam within approximately 1 to 2 miles of the Gila River and lower Agua Fria River
High	• Substantial disturbance of Hohokam village sites that could have associated human remains or require costly data recovery studies to mitigate impacts

Impact Assessment

Impact assessments are discussed in the following sections by type of facility.

230kV Facilities

Potential impacts of the alternative 230kV power line routes on cultural resources are summarized in Table 4-3. The alternative routes all are projected to have low to moderate impacts. The moderate impacts would result from visual impacts on the Beardsley and Roosevelt Irrigation District canals and Southern Pacific Railroad. From a cultural resource perspective, perpendicular crossings of linear historic structures are preferred over those that would parallel the structures. Therefore, the least preferred routes are those that parallel the Beardsley Canal for 1 to 4 miles (Routes C, D, F and I connecting TS2 and TS3). Routes C, D and I connecting TS2 and TS3 also may cross a register-eligible scatter of Hohokam artifacts, and if it were affected, data recovery studies likely would be required.

TABLE 4-3 CULTURAL RESOURCES IMPACT ASSESSMENT OF 230kV ALTERNATIVE POWER LINE ROUTES							
Route		**Surveyed**	**Known Resources**	**Setting**	**Impact Assessment**	**Comments**	**Recommendations**
Buckeye Existing	A	Partial >25%	None	Desert/ residential	Low		Survey
	B	Partial ~25%	None	Desert with power lines	Low		Survey
Buckeye-TS3	A	Partial ~25%	AZ T:10:13 (ASM)	Desert with power lines	Low	May cross site AZ T:10:13 (probably destroyed)	Survey
	B	Partial ~25%	AZ T:10:13 (ASM)	Agricultural/ desert/ residential	Low	May cross site AZ T:10:13 (probably destroyed)	Survey
TS2-TS3	A	Partial <25%	Beardsley Canal	Desert	Moderate	Would cross canal	Survey; document canal
	B	Partial <25%	Beardsley Canal	Desert/ agricultural/ residential	Moderate	Would cross canal	Survey; document canal

TABLE 4-3
CULTURAL RESOURCES IMPACT ASSESSMENT OF 230kV ALTERNATIVE POWER LINE ROUTES

Route	Surveyed	Known Resources	Setting	Impact Assessment	Comments	Recommendations
C	Partial <25%	Beardsley Canal; AZ T:7:246 (ASM)	Desert/ agricultural	Moderate	Would parallel canal for 3 miles; may cross site AZ T:7:246 (eligible)	Survey; document canal; avoid or test site 246
D	Partial <25%	Beardsley Canal; AZ T:7:246 (ASM)	Desert/ agricultural	Moderate	Would parallel canal for 4 miles; may cross site AZ T:7:246 (eligible)	Survey; document canal; avoid or test site 246
E	Partial <25%	Beardsley Canal	Desert/ agricultural	Moderate	Would cross canal	Survey; document canal
F	Partial <25%	Beardsley Canal	Desert/ agricultural	Moderate	Would parallel canal for 1 mile	Survey; document canal
G	Approx. ~20-50%	Beardsley Canal, AZ T:7:178 (ASM), AT&SF RR spur	Agricultural	Moderate	Would cross canal; may cross site AZ T:7:178 (ineligible); would parallel railroad spur for 0.5 mile (ineligible)	Survey; document canal
H	Partial <25%	Beardsley Canal, AZ T:7:178 (ASM), Atchison, Topeka & Santa Fe railroad spur	Agricultural	Moderate	Would cross canal; may cross site AS T:7:178; would parallel railroad spur for 4.5 miles (ineligible)	Survey; document canal
I	Partial ~25-50%	Beardsley Canal, AZ T:7:246 (ASM), Atchison, Topeka & Santa Fe railroad spur	Agricultural/ desert	Moderate	Would parallel canal for 1 mile; may cross site AZ T:7:246 (eligible); would cross railroad spur twice (ineligible)	Survey; document canal; avoid or test site 246
J	Partial 30%	Beardsley Canal, AZ T:7:178 (ASM), Atchison, Topeka & Santa Fe railroad spur	Agricultural/ desert	Moderate	Would cross canal; may cross site AZ T:7:178 (ineligible), would parallel railroad spur for 0.5 mile (ineligible)	Survey; document canal

TABLE 4-3
CULTURAL RESOURCES IMPACT ASSESSMENT OF 230kV ALTERNATIVE POWER LINE ROUTES

Route		Surveyed	Known Resources	Setting	Impact Assessment	Comments	Recommendations
TS3-TS4	A	None	Roosevelt Irrigation District Canal [System A modification also would affect Southern Pacific Railroad and Canal Liberty]	Agricultural	Moderate	Would cross canal and railroad; would terminate near Van Liere Branch of Canal Liberty	Survey; document canal
	B	Partial <25%	Roosevelt Irrigation District Canal	Agricultural/ residential/ desert	Moderate	Would cross canal	Survey; document canal
	C	Partial <25%	Roosevelt Irrigation District Canal	Desert/ residential/ agricultural	Moderate	Would cross canal	Survey; document canal
	D	Partial <25%	Beardsley Canal; Roosevelt Irrigation District Canal	Agricultural/ residential/ desert	Moderate	Would cross canals	Survey; document canals
	E	Partial <25%	Beardsley Canal; Roosevelt Irrigation District Canal	Desert/ residential/ agricultural	Moderate	Would cross canals	Survey; document canals

Potential impacts of the alternative 230kV substation siting areas on cultural resources are summarized in Table 4-4. Most of the alternative locations are projected to have low impacts. Substation sites TS2-1, TS2-2, and TS2-3 are projected to have potential moderate impacts because of visual effects on the historic Beardsley Canal.

TABLE 4-4
CULTURAL RESOURCES IMPACT ASSESSMENT OF 230kV SUBSTATION LOCATIONS

Substation	Survey	Known Resources	Setting	Impact Assessment	Comments	Recommendations
TS2-1	None	Beardsley Canal	Desert	Moderate	Potential visual effect on canal	Survey; document canal
TS2-2	None	Beardsley Canal	Desert	Moderate	Potential visual effect on canal	Survey
TS2-3	100%	Beardsley Canal	Desert	Moderate	Potential visual effect on canal	Survey; document canal

TABLE 4-4
CULTURAL RESOURCES IMPACT ASSESSMENT OF 230kV SUBSTATION LOCATIONS

Substation	Survey	Known Resources	Setting	Impact Assessment	Comments	Recommendations
TS2-4	None	None	Desert	Low		Survey
TS2-5	None	None	Desert	Low		Survey
TS3-1	None	None	Agricultural	Low		Survey
TS3-2	None	None	Agricultural	Low		Survey
TS3-3	Partial ~50%	None	Desert	Low		Survey
TS3-4	100%	None	Desert	Low		No further study
TS3-5	100	None	Desert	Low		No further study
TS4-1	None	None	Agricultural	Low		Survey

69kV Facilities

Potential impacts of the alternative 69kV power line routes on cultural resources are summarized in Table 4-5. Thirteen of the alternative routes are projected to have low impacts, and the other 17 alternatives are projected to result in moderate impacts.

TABLE 4-5
CULTURAL RESOURCES IMPACT ASSESSMENT OF 69kV ALTERNATIVE POWER LINE ROUTES

Route		Surveyed	Known Cultural Resources	Setting	Impact Assessment	Comments	Recommendations
WS1-TS2	A	Partial ~25%	Beardsley Canal	Desert	Moderate	Could cross canal depending on substation selection	Survey; document canal
	B	Partial ~75%	Beardsley Canal, AZ T:7:246 (ASM)	Desert	Moderate	Would parallel canal for 3 miles; site AZ T:7:246 is eligible	Survey; document canal; avoid or test site AZ T:7:246
	C	Partial ~25%	Beardsley Canal	Desert	Moderate	Would cross canal twice	Survey; document canal
WS1-TS3	A	Partial <25%	Beardsley Canal	Desert	Moderate	Would cross canal	Survey; document canal
	B	Partial ~25%	Beardsley Canal	Desert/ agricultural/ residential	Moderate	Would cross canal	Survey; document canal
	C	Partial ~25%	Beardsley Canal	Desert/ agricultural/ residential	Moderate	Would parallel canal for 1 mile	Survey; document canal

TABLE 4-5
CULTURAL RESOURCES IMPACT ASSESSMENT OF
69kV ALTERNATIVE POWER LINE ROUTES

Route		Surveyed	Known Cultural Resources	Setting	Impact Assessment	Comments	Recommendations
WS2-TS2	A	Partial ~25%	Beardsley Canal, AZ T:7:246 (ASM), AT&SF railroad spur	Agricultural/ residential/ desert	Moderate	Would parallel canal for 1 mile; may cross site AZ T:7:246 (eligible), would parallel railroad spur for 1 mile (ineligible)	Survey; document canal; avoid or test site AZ T:7:246
	B	Partial <25%	Beardsley Canal, AZ T:10:178 (ASM), Atchison, Topeka & Santa Fe railroad spur	Agricultural/ residential/ desert	Moderate	Would cross canal; may cross site AZ T:7:178 (ineligible); would parallel railroad spur for 2 miles (ineligible)	Survey; document canal
	C	Partial ~50%	Beardsley Canal, AZ T:10:178 (ASM), Atchison, Topeka & Santa Fe railroad spur	Agricultural/ desert/ residential	Moderate	Would cross canal; may cross site AZ T:10:178 (ineligible); would parallel railroad spur for 0.5 mile (ineligible)	Survey; document canal
WS3-TS3	A	Partial <10%	None	Agricultural/ residential	Low		Survey
	B	Partial <10%	None	Agricultural/ residential	Low		Survey
	C	Partial <10%	None	Agricultural/ residential	Low		Survey
	D	Partial <10%	None	Agricultural/ residential	Low		Survey
WS2-WS3	A	Partial <10%	None	Agricultural/ residential	Low		Survey
	B	Partial <10%	None	Agricultural/ residential	Low		Survey
	C	Partial 75%	None	Agricultural/ residential	Low		Survey
	D	Partial >75%	None	Agricultural/ residential	Low		Survey
WS4-Sarival	A	None	AZ T:11:2 (PG)	Residential/ agricultural	Moderate	May cross site AZ T:11:2 (location and condition ambiguous, potential for human remains)	Survey

TABLE 4-5
CULTURAL RESOURCES IMPACT ASSESSMENT OF 69kV ALTERNATIVE POWER LINE ROUTES

Route		Surveyed	Known Cultural Resources	Setting	Impact Assessment	Comments	Recommendations
	B	None	None	Agricultural/ residential	Low		Survey
WS6-Wildflower	A	None	None	Agricultural	Low		Survey
	B	None	None	Agricultural	Low		Survey
WS7-Litchfield	A	None	Roosevelt Irrigation District Canal	Agricultural	Moderate	Would cross canal	Survey; document canal
	B	None	Roosevelt Irrigation District Canal	Agricultural	Moderate	Would cross canal	Survey; document canal
WS10-Colter	A	Partial ~25%	Airline Canal	Agricultural/ residential/ desert	Moderate	Would cross canal	Survey; document canal
	B	Partial ~25%	None	Residential/ disturbed	Low		Survey
	C	Partial ~25%	Airline Canal	Residential/ disturbed	Moderate	Would cross canal	Survey; document canal
White Tanks-Sarival	A	Partial <10%	Coldwater Ruin, Canal Coldwater, Agua Fria Bridge	Agricultural/ river bed	Moderate	Would cross site and canal system (potential for human remains), may cross bridge (ineligible)	Survey
	B	Partial >50%	Agua Fria Bridge	Residential/ agricultural/ river bed	Low	May cross bridge (ineligible)	Survey
	C	Partial <10%	Coldwater Ruin, Coldwater Canal	Agricultural/ residential/ river bed	Moderate	Would cross site and canal system (potential for human remains)	Survey
	D	Partial <10%	Coldwater Ruin, Coldwater Canal	Agricultural/ residential/ river bed	Moderate H	Would cross site and canal system (potential for human remains)	Survey

The projections of moderate impacts stem primarily from crossings of historic canals. For Route WS1-TS2, Route B is least preferred from a cultural resource perspective because it would parallel the Beardsley Canal for 3 miles. Route B also may cross the Hohokam artifact scatter designated as site AZ T:7:246 (ASM), which may require data recovery studies. Route C is less preferable than Route A because it would cross the canal twice instead of only once. Neither Route A nor C would affect site AZ T:7:246 (ASM).

For Route WS1-TS3, Route C is least preferred because it would parallel the Beardsley Canal for 1 mile, and Routes A and B would cross the canal perpendicularly.

Similarly, for Route WS2-TS2, Route A is least preferred because it would parallel the Beardsley Canal for 1 mile, and also may cross the Hohokam artifact scatter designated as site AZ T:7:246 (ASM), which may require data recovery studies. Routes B and C would cross the canal perpendicularly, and not affect site AZ T:7:246 (ASM).

For Route WS7-Litchfield, both alternatives would cross the Roosevelt Irrigation District Canal perpendicularly. For Route WS10-Colter, Routes A and C would cross the Airline Canal perpendicularly. From a cultural resource perspective, Route B is preferred because it does not cross the canal.

Other moderate impacts would result from potential crossings of Hohokam village archaeological sites. For Route WS4-Sarival, Route A may cross site AZ T:11:2 (PG), which was described as a Classic period habitation site when recorded in 1940. This is a type of site that may have associated human remains. There is no documentation of any subsequent archaeological investigations of the site and information about its location is ambiguous. Because of this ambiguity, and the limited extent of ground disturbance that would result from a 69kV line, impacts are projected to be moderate.

Similarly, Routes A, C, and D of Route White Tanks-Sarival would cross the mapped location of the Coldwater Ruin, another large Hohokam village site associated with the Canal Coldwater system. Because of the current condition of the site, which has been disturbed by agricultural and residential development, and the limited extent of ground disturbance that would result from a 69kV line, impacts are projected to be moderate. From a cultural resource perspective, Route B for this line is preferred because it would avoid the Coldwater Ruin.

Potential impacts of the alternative 69kV substation siting areas on cultural resources are summarized in Table 4-6. Twenty-four of the evaluated alternatives are projected to result in low impacts on cultural resources, and the other five are projected to have moderate impacts. The moderate impacts at the WS7-1 and WS7-2 options are due to potential visual effects on the adjacent Roosevelt Irrigation District Canal. Moderate impacts at the WS14-2 and WS14-3 options are due to potential visual effects on the nearby Airline Canal. The WS14-3 option also could affect the archaeological remnants of a historic house, site AZ T:7:198 (ASM), which could require data recovery studies.

TABLE 4-6
CULTURAL RESOURCES IMPACT ASSESSMENT OF 69kV SUBSTATION LOCATIONS

Substation	Survey	Known Cultural Resources	Setting	Impact Assessment	Comments	Recommendations
WS1-1	100%	None	Desert	Low		Survey
WS1-2	None	None	Desert	Low		Survey
WS1-3	None	None	Desert	Low		Survey
WS1-4	Partial ~50%l	None	Desert	Low		Survey
WS2-1	None	AT&SF RR spur	Agricultural	Low	Adjacent to railroad spur (ineligible)	Survey
WS2-2	None	AT&SF RR spur	Agricultural	Low	Adjacent to railroad spur (ineligible)	Survey

TABLE 4-6
CULTURAL RESOURCES IMPACT ASSESSMENT OF
69kV SUBSTATION LOCATIONS

Substation	Survey	Known Cultural Resources	Setting	Impact Assessment	Comments	Recommendations
WS3-1	None	None	Agricultural	Low		Survey
WS3-2	None	None	Agricultural	Low		Survey
WS3-3	None	None	Agricultural	Low		Survey
WS3-4	None	None	Agricultural	Low		Survey
WS3-5	None	None	Agricultural	Low		Survey
WS3-6	None	None	Agricultural	Low		Survey
WS4-1	None	AZ T:11:2 (PG)	Agricultural	Moderate	In vicinity of site AZ T:11:2 but location ambiguous (type of site that may have human remains)	Survey
WS4-2	None	None	Agricultural	Low		Survey
WS4-3	None	None	Agricultural	Low		Survey
WS4-4	None	None	Agricultural	Low		Survey
WS6-1	None	None	Agricultural	Low		Survey
WS6-2	None	None	Agricultural	Low		Survey
WS6-3	None	None	Agricultural	Low		Survey
WS7-1	None	RID Canal	Agricultural	Moderate	Adjacent to canal, possible for visual effects	Survey
WS7-2	None	RID Canal	Agricultural	Moderate	Adjacent to canal, possible for visual effects	Survey
WS7-3	None	None	Agricultural	Low		Survey
WS10-1	100%	None	Developed	Low		No further study
WS10-2	100%	None	Desert	Low		No further study
WS10-3	100%	None	Developed	Low		No further study
WS10-4	None	None	Partially developed	Low		Survey
WS14-1	None	None	Developed	Low		Survey
WS14-2	100%	Airline Canal	Disturbed	Moderate	Adjacent to canal, possible for visual effects	Field review to assess effects

TABLE 4-6 CULTURAL RESOURCES IMPACT ASSESSMENT OF 69kV SUBSTATION LOCATIONS						
Substation	**Survey**	**Known Cultural Resources**	**Setting**	**Impact Assessment**	**Comments**	**Recommendations**
WS14-3	100%	Airline Canal, AZ T:7:198 (ASM)	Disturbed	Moderate	Adjacent to canal, possible for visual effects; may effect site (eligible)	Field review to assess effects

Mitigation Measures

The first step to take in determining whether mitigation measures are warranted is to complete an inventory survey once a plan has been selected for construction. The significance of any additional resources identified would be evaluated. This could involve testing of archaeological sites. Effects of the proposed project then would be assessed. Potential mitigation measures that might be implemented to address any identified adverse effects include design changes that could avoid or minimize impacts. These could involve minor shifts in the alignment or placement of structures in a manner that would allow resources to be spanned and not directly affected. Other potential design measures such as selection of structure types and coloring could reduce visual intrusions. Impacts on any resources significant for their information could be mitigated through data recovery studies. Compilation of historic documentation about affected resources also would be a form of mitigation that may be appropriate.

Measures also should be developed to deal appropriately with any discoveries that might be made during project construction, particularly of human remains and funerary objects that are protected by law. It is recommended that a discovery clause defining a protocol for protecting, reporting, and treating any discoveries be included in construction contracts. Archaeological monitoring may be appropriate in some circumstances.

230kV Facilities

Once a plan is selected for construction, further survey should be undertaken to complete an inventory of historic properties within the area of potential effect. Mitigation measures are likely to focus on reducing visual intrusions in the vicinity of historic structures such as the Beardsley Canal and Phoenix Main Line of the Southern Pacific Railroad. Only one Hohokam archaeological site and one possible buried Hohokam canal have been identified as subject to potential impacts. As construction plans are prepared, further field investigations may be required to assess potential impacts on those resources. The SHPO should be consulted to review the inventory results and effects assessment, and develop measures to avoid, lessen, or mitigate adverse effects. These measures may include, but are not limited to, design modifications, comprehensive documentation, archaeological monitoring, or archaeological data recovery studies.

69kV Facilities

State law does not require CECs for 69kV facilities. However, parts of any rights-of-way on lands managed by state, county, or local government agencies are subject to the Arizona Antiquities Act. ASLD also would be required to comply with the State Historic Preservation Act and consult with the SHPO

about any rights-of-way across State Trust land. ASLD would require APS to conduct studies to support those consultations. Also, state law protects any human remains regardless of land ownership. As an element of sound environmental planning and to avoid delays, it is recommended that inventory surveys be conducted for the 69kV facilities selected for construction and cultural resources continue to be considered in conjunction with and in a manner similar to further consideration of potential impacts of 230kV facilities.

Impacts After Mitigation

If all significant cultural resources were avoided, there would be no impacts. In the event that adverse effects cannot be avoided, it is likely that measures could be developed and implemented to satisfactorily mitigate those impacts. No significant residual impacts are anticipated.

230kV Facilities

The 230kV facilities could affect archaeological sites that have significant information potential, and it is expected that data recovery studies would satisfactorily mitigate such impacts. The 230kV facilities are unlikely to directly affect historic buildings, or linear structures such as canals and railroads, but they could result in visual intrusions into the settings of such properties. In any such situations, design modifications should be considered to lessen any visual impacts. Compiling historic documentation of the canals also may be a way of compensating for any adverse effects.

69kV Facilities

The impacts of the 69kV facilities are likely to be of the same type as the 230kV facilities, but of less magnitude. The extent of ground disturbance would be less and the potential for visual impacts would be more limited. Accordingly, the potential is good for satisfactorily mitigating any adverse effects through data recovery or design modifications. No significant residual impacts are anticipated.

5.0 BIOLOGICAL RESOURCES

ACC Rules of Practice and Procedure (R14-3-219) stipulate that CEC applications "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 [and] describe the biological wealth or species involved and state the effects, if any, the proposed facilities will have thereon." The CEC application also must "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, the proposed facilities will have thereon." In addition, any right-of-way that might be acquired across lands owned by the state or county and local governments would be subject to the provisions of the Native Plant Law (ARS 3-901 through 3-934), requiring avoidance or salvage of specific plant species. To address these regulatory requirements, and as an element of the comprehensive environmental planning undertaken for the project, sensitive biological resources within the study area were considered in evaluating alternative 230kV and 69kV facilities (though 69kV facilities do not require ACC approval).

5.1 INVENTORY

A field reconnaissance of the study area was conducted on May 27, 2002 to collect the following data (1) opportunistic wildlife observations; (2) a list of common plant species; and (3) a description of major vegetation associations, topographic features (e.g., drainages), and natural and anthropomorphic landscape features (e.g., rock outcrops, caves, mine adits, buildings, and stock tanks) that might affect the occurrence of special interest species. Special consideration also was directed toward locating any riparian or wetland features that might occur in the project area. Prior to field reconnaissance, literature was compiled on special status species with the potential of occurring in the study area. In addition, URS gathered information from the U.S. Fish and Wildlife Service (USFWS) and Arizona Game and Fish Department (AGFD) to develop a list of special status species listed for Maricopa County and the study area. Aerial photographs of the study area were reviewed to determine the locations of biologically sensitive areas.

Overview

The study area is located within the Basin and Range physiographic province (McNab and Avers 1994) and is characterized by a desert plain bounded by short mountain ranges (White Tank Mountains to the west and Sierra Estrella Mountains to the south). Soil taxa generally include mountains of granite rock and valleys of alluvial deposits. Elevations range from 1,000 to 4,100 feet above mean sea level. The valley is a productive agricultural area that supports the urban areas of Phoenix as well as smaller communities.

Annual precipitation ranges from 3 to 8 inches. Precipitation is bimodal, occurring as winter rain and high intensity summer thunderstorms. More than half the annual precipitation falls during the winter. Average daytime temperatures in the study area range from 100 degrees Fahrenheit in the summer to the mid-60s in the winter. The growing season lasts 250 to 350 days.

In terms of biotic communities, the study area is located within the Lower Colorado River Valley subdivision and Arizona Uplands subdivision of the Sonoran desertscrub vegetation biome (Brown 1994). Vegetation in the study area is dominated by human-altered landscapes while natural vegetation is composed of creosote bush communities in the valleys and paloverde/mixed cacti communities in the uplands.

Vegetation Communities and Wildlife Habitat

The natural vegetation in the study area is characteristic of the Lower Colorado River Valley subdivision and Arizona Upland subdivision of the Sonoran desertscrub biome (Brown 1994). The Lower Colorado River Valley subdivision occurs predominantly in the valleys and is characterized by creosote bush flats. The mountain areas are characteristic of Arizona Upland subdivision and are covered mostly with paloverde/mixed cacti vegetation.

Riparian areas generally include riparian desertscrub. Portions of the Gila River are characteristic of riparian woodland vegetation association. Human-altered vegetation associations include active agricultural fields, disturbed areas such as abandoned agricultural fields, and landscaped vegetation associated with residential, commercial, and industrial land uses. Among all of the vegetative communities present, at least 200 species of vascular plants are expected to occur within the study area (Brown 1994). Below is a brief description of each vegetation subdivision/association.

Lower Colorado River Valley Subdivision – occurs throughout the valley portions of the study area. Dominant plant species include creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). Major associates include ocotillo (*Fouquieria splendens*), brittlebush (*Encelia farinosa*), foothill paloverde (*Cercidium microphyllum*), saguaro (*Carnegiea gigantea*), and ironwood (*Olneya tesota*). This vegetation association provides low structural diversity, and vegetation density is low with large areas of bare ground between plants.

Arizona Upland Subdivision – occurs in the higher elevation mountain ranges found along the western and southern portions of the study area. Foothill paloverde and saguaro are the dominant plant species in this association. Major shrub and ground cover species include acacia (*Acacia* spp.), cholla cacti (*Opuntia* spp.), prickly pear cactus (*O. engelmannii*), and desert zinnia (*Zinnia acerosa*). Vegetation structural diversity and vegetation density varies from low to moderate. In general, north-facing slopes have the lowest vegetation density and structural diversity, while riparian areas have the highest.

Xeroriparian Association – occurs throughout the study area in ephemeral and intermittent washes. Common plant species include, but are not limited to, mesquite (*Prosopis* spp.), foothill paloverde, acacia, hackberry (*Celtis* spp.), and ironwood.

Riparian Scrubland Association – occurs along the Gila River. This area is dominated by velvet mesquite and salt cedar (*Tamarix ramosissima*). Where the vegetation has not been modified for human use, mesquite and salt cedar extend throughout the floodplain of the Gila River. Vegetation density and structural diversity are high.

Agricultural Field Association – occurs in the study area where uplands, valleys, and river floodplain have been modified for agricultural or residential use.

Disturbed Areas – occur as mostly abandoned agricultural fields and industrial sites. These areas are dominated by large areas of bare ground with patches of weedy shrub such as desert broom (*Baccharis sarothroides*) and tumbleweed (*Salsola kalii*).

Wildlife

Wildlife species expected to occur in the study area include those associated with the Sonoran Desert, agricultural fields, and urban fragmented habitats. Common species include, but are not limited to, mourning dove, European house sparrow, house finch, northern mockingbird, rock dove, coyote, collared

peccary, round-tailed ground squirrel, white-throated woodrat, striped skunk, Sonoran desert tortoise, Gila monster, common collared lizard, desert spiny lizard, and western whiptail lizard.

Potential Areas of Concern

Gila River

The Gila River flows for approximately 10 miles along the southwestern boundary of the study area. This reach has intermittent flow and scattered areas of dense vegetation. Highly scoured areas of the stream channel consist of low shrub species such as desert broom and burro bush in low to moderate density. In stretches of the stream channel where water flow is slowed, dense areas of cattail, bulrush, and other emergents are established. Salt cedar, seep willow, and coyote willow of moderate to high density occur in a narrow strip in areas adjacent to the stream channel. Farther from the stream channel are areas of mesquite, salt cedar, Gooding willow, and cottonwood that occur in low to high density.

Other portions of the river have been degraded by past land uses such as fire, logging, grazing activities, agriculture, and other human disturbance. Three existing power lines cross the Gila River at approximately Township 1 North, Range 2 West, Sections 25 and 36 (near Estrella Mountain Park), just east of the southern portion of the study area.

The Gila River contains habitat potentially suitable for cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*), American peregrine falcon (*Falco peregrinus anatum*), lowland leopard frog (*Rana yavapaiensis*), southwestern willow flycatcher (*Empidonax traillii extimus*), western least bittern (*Ixobrychus exilis hesperis*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and Yuma clapper rail (*Rallus longirostris yumanensis*).

Agua Fria River

The Agua Fria River flows for approximately 15 miles through the eastern third of the study area. This reach of the Agua Fria River begins on the northern boundary of the study area and ends at its confluence with the Gila River near the southern boundary of the study area. Much of the natural vegetation along this stretch of the Agua Fria River has been removed as a result of river channelization, agriculture, and rapidly expanding urbanization. There are virtually no trees left and only scattered areas of early successional desert vegetation. The Agua Fria River is heavily impacted and often dominated by desert broom and tumbleweed. Despite the heavy disturbance to the river, this area may provide habitat for the lowland leopard frog.

White Tank Mountain Regional Park and Surrounding Foothills

White Tank Mountain Regional Park occupies several square miles along the northwest boundary of the study area. Most of the park's 29,217 acres is made up of the White Tank Mountains, which is a freestanding range separating the Phoenix Basin of the Salt River Valley from the Hassayampa Plain. Elevation ranges from 1,400 feet at the base of the mountains to more than 4,000 feet at some of the taller peaks. The base and upper levels of the mountains are deeply serrated with ridges and deep canyons. The mountains are covered with paloverde/saguaro desertscrub.

This portion of the study area contains habitat potentially suitable for the endangered cactus ferruginous pygmy-owl and the Sonoran desert tortoise (*Gopherus agassizii* [Sonoran population]). USFWS may recommend surveys (which occur over two calendar years) for the cactus ferruginous pygmy-owl prior to

construction of facilities in this area. However, White Tank Mountain Regional Park and surrounding foothills are located outside the boundaries of any cactus ferruginous pygmy-owl survey zones established by USFWS. Additionally, APS has not proposed to locate facilities within White Tank Mountain Regional Park.

Special Status Species

The list of special status species considered in this analysis was developed from the following sources: (1) federally listed, proposed, and candidate species for Maricopa County provided by USFWS; (2) a list of sensitive species provided by AGFD Heritage Data Management System; and (3) the Native Plant Law (enforced by the Arizona Department of Agriculture).

The potential for occurrence of special status species in the study area was evaluated based on (1) existing information, (2) qualitative comparisons between the known habitat requirements of each species and biotic and abiotic conditions found on the property, and (3) the experience from similar evaluations conducted by URS biologists.

Twenty-six special status species were reviewed for this study (Table 5-1). The 26 species includes federally listed endangered, threatened, and candidate species, Arizona wildlife of concern, and plants restricted from salvage by the Arizona Department of Agriculture. AGFD identified four species with records of occurrence within the study area or its immediate vicinity including the (1) western yellow-billed cuckoo, (2) Sonoran desert tortoise, (3) western least bittern, and (4) Yuma clapper rail. In addition to these four species, four others (lowland leopard frog, southwestern willow flycatcher, American peregrine falcon, and cactus ferruginous pygmy-owl) have potential habitat within the study area.

TABLE 5-1
SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES

Species Common Name *Scientific Name*	Status	Habitat Requirements	Potential Habitat Present
Amphibians			
Lowland leopard frog *Rana yavapaiensis*	WC	Lowland leopard frogs inhabit aquatic systems found in desert grassland to piñon-juniper. They are habitat generalists and breed in a variety of natural and manmade aquatic systems. Natural systems include rivers, permanent streams, permanent pools in intermittent streams, beaver ponds, cienegas, and springs. Manmade systems include earthen cattle tanks, livestock drinkers, canals, irrigation sloughs, wells, mine adits, abandoned swimming pools, and ornamental backyard ponds. In semi-permanent aquatic systems, lowland leopard frogs may survive the loss of surface water by retreating into deep mud cracks, mammal burrows, or rock fissures (AGFD 2001).	Yes. The study area is within the known range of the lowland leopard frog. Within the study area this species may be found in small springs, stock ponds, irrigation canals, and larger rivers such as the Gila River.
Birds			
American peregrine falcon *Falco peregrinus anatum*	WC	Found in Arizona near cliffs where sufficient prey exists. Optimum peregrine habitat generally is considered to be areas of steep, sheer cliffs overlooking woodlands, riparian areas, or other habitat supporting avian prey species in abundance (AGFD 1998). As Arizona's human population grows, peregrines seem to be breeding in less optimal habitat -- either small broken cliffs in ponderosa pine forests or large, sheer cliffs in very xeric areas (AGFD 1998), and sometimes on manmade structures such as office towers and bridge abutments (USFWS 2001). The presence of an open expanse is critical to the peregrine falcon (AGFD 1998). There are more than 200 known peregrines in Arizona. Breeding pairs are well distributed throughout suitable habitat statewide, except for the low elevation deserts of the southwest quarter of the state where only one nesting territory is currently known. Breeding pairs appear to be year-round residents. Migrants also occur throughout the state as transients and wintering individuals (USFWS 2001).	Yes. The study area is within the known range of the American peregrine falcon. This species may forage in the study area; however, the study area does not contain suitable breeding habitat.

TABLE 5-1
SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES

Species Common Name *Scientific Name*	Status	Habitat Requirements	Potential Habitat Present
Bald eagle *Haliaeetus leucocephalus*	LT WC	Usually found along seacoasts, lakes, and rivers. Nesting sites usually are isolated high in trees, on cliffs, or on pinnacles, with a commanding view of the area and in close proximity to water. A small resident population of approximately 40 pairs nest along the Salt, Verde, Gila, Bill Williams, Agua Fria, San Pedro, and San Francisco rivers and along Tonto and Canyon creeks. Bald eagles winter throughout the state of Arizona, with at least 200 to 300 found each year. The greatest numbers of wintering eagles are found along the Mogollon Rim and east through the White Mountains (USFWS 2001).	No. Vegetation and landform features within the study area do not resemble those known to support this species. There is no critical habitat designated for this species.
Cactus ferruginous pygmy-owl *Glaucidium brasilianum cactorum*	LE WC	Usually found in river bottom woodlands and paloverde-cacti-mixed scrub associations of the upland areas of the Sonoran desert. In central and southern Arizona, the pygmy-owl currently is found primarily in Sonoran desertscrub vegetation with some locations in riparian habitat and desert grassland habitat. The cactus ferruginous pygmy-owl primarily nests within cavities of saguaro cacti, but also will use tree cavities. They are found below 4,000 feet (1,219 meters) in elevation (USFWS 2001). Cactus ferruginous pygmy-owls formerly were common in mesquite bosques throughout central and southern Arizona (AGFD 2001). They historically have been found south and west of the Tortolita Mountains, and in the vicinity of the Rincon, Pajarito, Puerto Blanco, Ajo, Santa Catalina and Santa Rita mountains. Other areas of occurrence include the Tucson area, Gila River near Bonita Creek, San Francisco River, San Pedro River near Dudleyville, and Sonoita Creek. The only recent records are from Organ Pipe Cactus National Monument, near Ajo, and suburban northwest Tucson (AGFD 2001).	Yes. The study area is within the species' historical range and contains suitable upland habitat; however, known populations of cactus ferruginous pygmy-owls are restricted to Pima and southern Pinal counties. Likely habitat for the pygmy-owl in the White Tank Mountains is several miles north of Survey Zone 3 as designated by USFWS. Survey Zone 3 recommends surveys for pygmy-owl for projects that include a federal review process. There is no critical habitat for the cactus ferruginous pygmy-owl within the study area.

TABLE 5-1
SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES

Species Common Name *Scientific Name*	Status	Habitat Requirements	Potential Habitat Present
Mexican spotted owl *Strix occidentalis lucida*	LT WC	Occurs in varied habitat, consisting of mature montane forest and woodland, shady wooded canyons, and steep canyons. In forested habitat, uneven-aged stands with a high canopy closure, high tree density, and sloped terrain appear to be key habitat components (USFWS 2002). The Mexican spotted owl can be found in mixed conifer and pine oak vegetation types. Elevation ranges from 4,100 to 9,000 feet (1,249 to 2,743 meters). Populations in Arizona are scattered but occur in all areas except the arid southwestern portion of the state and much of the lowland riparian zones (USFWS 2002).	No. The study area is below the known elevational range of the Mexican spotted owl and vegetation communities within the study area do not resemble those known to support this species. There is no critical habitat for the Mexican spotted owl in the study area.
Southwestern willow flycatcher *Empidonax traillii extimus*	LE WC	Occurs in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, box elder, tamarisk, Russian olive, buttonbush, and arrow weed are present. Elevation of habitat is less than 8,500 feet (2,590 meters) (USFWS 2001). In Arizona, the southwestern willow flycatcher breeds locally along the Colorado River, Alamo Lake, headwaters of the Little Colorado and San Francisco rivers, portions of the Verde River, Roosevelt Lake, and the Gila and the San Pedro rivers (AGFD 2002).	Yes. The study area is within the geographic range of the species. Vegetation communities within the Gila River portion of the study area are similar to that known to support the southwestern willow flycatcher (i.e., even-aged stands of willow and cottonwood or salt cedar). There is no critical habitat for the southwestern willow flycatcher in the study area.
Western least bittern *Ixobrychus exilis hesperis*	WC	Least bitterns breed in dense cattail marshes along the lower Colorado River and in some locations along the Salt and Gila rivers, Picacho Reservoir, and Dankworth Ponds south of Safford (AGFD 1988).	Yes. The study area is within the range of the western least bittern. Riparian habitat along the Gila River resembles that known to support this species.
Yellow-billed cuckoo *Coccyzus americanus*	C WC	Suitable habitat is limited to narrow, and often widely separated, riparian cottonwood-willow galleries (salt cedar is also used by the cuckoo) (USFWS 2001). The species is rarely observed as transient in xeric desert or urban settings (AGFD 2001).	Yes. The study area is within the range of the yellow-billed cuckoo. Riparian habitat along the Gila River resembles that known to support this species.

TABLE 5-1
SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES

Species Common Name *Scientific Name*	Status	Habitat Requirements	Potential Habitat Present
Yuma clapper rail *Rallus longirostris yumanensis*	LE WC	Inhabits freshwater or brackish streamsides and marshlands under 4,500 feet (1,372 meters) in elevation. The Yuma clapper rail is associated with dense riparian and marsh vegetation. It requires a wet substrate, such as a mudflat, sandbar, or slough bottom that supports cattail and bulrush stands of moderate to high density adjacent to shorelines (USFWS 2002). The Yuma clapper rail occurs along the Bill Williams River drainage, Lower Gila River from near Phoenix to the Colorado River, lower Salt and Verde rivers, and Picacho Reservoir (AGFD 2001). The species also occurs along the Tonto Creek arm of Roosevelt Lake, and may be expanding into other suitable marsh habitats in western and central Arizona (USFWS 2002).	Yes. The study area is within the range of the Yuma clapper rail. Riparian habitat along the Gila River resembles that known to support this species. Critical habitat has not been designated for the Yuma clapper rail.
Fish			
Bonytail chub *Gila elegans*	LE WC	Found in slower water habitats such as eddies, pools, side channels, and coves. Bonytail chubs are found in streams below 4,000 feet (1,219 meters) in elevation. A small population exists in Lake Mohave with possible individuals down river as far as Parker Dam (AGFD 2001). Hatchery-produced and cove-reared bonytails have been stocked into Lakes Havasu and Mohave. Both sites have ongoing reintroduction programs (USFWS 2001).	No. There are no suitable aquatic sites in the study area to support the bonytail chub. There is no critical habitat for the bonytail chub in the study area.
Desert pupfish *Cyprinodon macularius*	LE WC	Found in shallow water of desert springs, small streams, and marshes below 5,000 feet (1,515 meters) in elevation. The species tolerates high salinities and water temperatures (USFWS 2000). There are no natural populations of this subspecies remaining in Arizona. Reintroduced populations exist at Cold Springs in Graham County, AD Wash in Maricopa County, and Finley Tank in Santa Cruz County. There are also approximately nine populations in private ponds and aquariums (AGFD 2001).	No. There are no suitable aquatic sites in the study area to support the desert pupfish. There is no critical habitat for the desert pupfish in the study area.

TABLE 5-1
SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES

Species Common Name *Scientific Name*	Status	Habitat Requirements	Potential Habitat Present
Gila chub *Gila intermedia*	PT	Gila chub commonly inhabit pools in smaller streams, cienegas, and artificial impoundments ranging in elevation from 2,000 to 3,500 feet (609 to 1,069 meters). Gila chub prefer quiet deeper waters, especially pools, or remaining near cover including terrestrial vegetation, boulders, and fallen logs. This species currently is known from the following drainages: Santa Cruz River (Cienega Creek, Sabino Canyon, Sheehy Spring); Middle Gila River (Eagle, Bonita and Harden Cienega creeks and San Carlos and Blue rivers); San Pedro River (Bass, O'Donnell and Redfield canyons, Babocomari River and Turkey Creek); Agua Fria River (Silver and Sycamore [rare] creeks), and Verde River (Spring and Walker creeks).	No. There are no suitable aquatic sites in the study area to support the Gila chub.
Gila topminnow *Poeciliopsis occidentalis occidentalis*	LE WC	Occurs in small streams, springs, and cienegas below 4,500 feet (1,350 meters) in elevation, primarily in shallow areas with aquatic vegetation and debris for cover (USFWS 2001). Currently, disjunct populations exist in nine to 11 natural locations, 22 to 24 re-introduced locations within the Gila River drainage, and one location in the Bill Williams River drainage (AGFD 2001).	No. There are no suitable aquatic sites in the study area to support the Gila topminnow. Critical habitat has not been designated for this species.
Razorback sucker *Xyrauchen texanus*	LE WC	Found in backwaters, flooded bottomlands, pools, side channels, and other slow moving habitats under 6,000 feet (1,829 meters) in elevation. Historically, they were recorded in areas near strong currents (USFWS 2001). Presently, adult populations exist in Lake Mohave, Lake Mead, and Lake Havasu (AGFD 2001). Small remnant populations are found in the Green, Yampa, and mainstream Colorado rivers (USFWS 2001).	No. There are no suitable aquatic sites in the study area to support the razorback sucker. There is no critical habitat for the razorback sucker in the study area.

TABLE 5-1
SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES

Species Common Name *Scientific Name*	Status	Habitat Requirements	Potential Habitat Present
Roundtail chub *Gila robusta*	WC	Roundtail chub occupy cool to warm water, mid-elevation streams, and rivers where typical adult microhabitat consists of pools up to 6.6 feet (2.0 meters) deep adjacent to swifter riffles and runs. Cover is usually present and consists of large boulders, tree root wads, submerged large trees and branches, undercut cliff walls, or deep water. The species occurs in the mainstream tributaries of the Verde and Salt rivers, as well as canals in metropolitan Phoenix (AGFD 2001).	No. There are no suitable aquatic sites in the study area to support the roundtail chub.
Mammals			
California leaf-nosed bat *Macrotus californicus*	WC	Mostly found in Sonoran desertscrub vegetation. The primary summer and winter ranges of the California leaf-nosed bat are essentially the same. The species roosts in mines, caves, and rock shelters from 160 to 3,980 feet (49 to 1,214 meters) in elevation. They occur primarily south of Mogollon Plateau (AGFD 2001).	No. The study area is outside the current known range of the California leaf-nosed bat. There are no roosting or breeding locations in the study area.
Lesser long-nosed bat *Leptonycteris curasoae yerbabuenae*	LE WC	Found mainly in desertscrub habitat in the United States portion of its range. This species roosts in caves, abandoned mines, and unoccupied buildings at the base of mountains where agave, saguaro, and organ pipe cacti are present. Forages at night on nectar, pollen, and fruit of paniculate agaves and columnar cacti (USFWS 2001). The species ranges in southern Arizona from the Picacho Mountains southwesterly to the Agua Dulce Mountains; southeasterly to the Galiuro and Chiricahua mountains; and then southerly into Mexico and beyond. Limited records are available from the Phoenix area. The lesser long-nosed bat is not present in Arizona in winter (AGFD 1998).	No. The study area is outside the current known range of the lesser long-nosed bat. There are no roosting or breeding locations in the study area. No critical habitat has been designated for this species.
Sonoran pronghorn *Antilocapra americana sonoriensis*	LE WC	Inhabits wide alluvial basins with desert grassland vegetation in the Sonoran Desert climactic zone. A small remnant population persists in the extremely arid flatlands in portions of Maricopa, Pima and Yuma counties (USFWS 2002).	No. The study area is outside the current known range of the Sonoran pronghorn. The study area does not contain habitat known to support this species. Critical habitat has not been designated for this species.
Plants			

TABLE 5-1
SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES

Species Common Name *Scientific Name*	Status	Habitat Requirements	Potential Habitat Present
Arizona agave *Agave arizonica*	LE HS	Arizona agave occurs in the transition zone between oak-juniper woodland and mountain mahogany-oak scrub at 3,000 to 6,000 feet (915 to 1,830 meters) in elevation. Steep rocky slopes characterize known habitat; however, Arizona agave can occur on drainage bottoms or relatively gentle slopes or saddles (USFWS 2000). Scattered clones of Arizona agave are known to inhabit areas extending from the New River Mountains (Maricopa and Yavapai counties) to southeast of Payson and the Sierra Ancha Mountains (Gila County) in Arizona (AGFD 1997).	No. The study area is outside the current known range of the Arizona agave and does not contain habitat for this species. Critical habitat has not been designated for this species.
Arizona cliffrose *Purshia subintegra*	LE HS	Occurs on rolling, rocky, limestone hills and slopes within Sonoran desertscrub from 2,120 to 4,000 feet (647 to 1,220 meters) in elevation. The species occurs where the winters are mild, summers are hot, and annual rainfall (9 to 34 inches [22.9 to 86 centimeters]) is evenly distributed between summer and winter rainfall periods (AGFD 2001). All four localities of Arizona cliffrose are in central Arizona below the Mogollon Rim. These known sites include the Burro Creek drainage in Mohave County, Horseshoe Lake in Maricopa County, Verde Valley in Yavapai County, and the San Carlos Indian Reservation in Graham County (USFWS 2000).	No. The study area is outside the current known range of the Arizona cliffrose and does not contain habitat for this species. Critical habitat has not been designated for this species.
Hohokam agave *Agave murpheyi*	HS	In central Arizona, the Hohokam agave usually is found on benches or terraces on gentle bajada slopes (not steep slopes or drainage bottoms) above major drainages associated with prehistoric habitations and/or agricultural sites at elevations from 1,300 to 3,200 feet (397 to 976 meters). The Hohokam agave also is found near rock piles, which discourage rodents and help accumulate nutrients and water. The species' range in Arizona includes Paradise Valley (Phoenix Basin) and the New River Mountains in Maricopa County; South Bradshaw Mountains, Castle Creek, and Agua Fria rivers in Yavapai	No. The study area is outside the current known range of the Hohokam agave and does not contain habitat for this species.

TABLE 5-1
SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES

Species Common Name *Scientific Name*	Status	Habitat Requirements	Potential Habitat Present
		County; Roosevelt Lake and Tonto Basin in Gila County; and Queen Creek near Superior in Pinal County (AGFD 1997).	
Tonto basin agave *Agave delamateri*	HS	Usually found atop benches (often high benches), at edges of slopes, and on gentle slopes overlooking major drainages and perennial streams from 2,190 to 5,100 feet (668 to 1,556 meters) in elevation. Found in direct or indirect association with archaeological features, including multi-room foundations and also above check dams and linear alignments. Approximately 90 clones are known to occur from Young, Arizona to San Carlos Reservoir; in the foothills of Mazatzal and Sierra Ancha mountains in Gila County; Sunflower area in Maricopa County; and in the Verde Valley area in Yavapai County (AGFD 1997).	No. The study area is outside the current known range of the Tonto basin agave and does not contain habitat for this species.
Tumamoc globeberry *Tumamoca macdougalii*	SR	Found along arroyos and sandy washes, below 3,000 feet (915 meters) in elevation, in desert grassland, Sinaloan thornscrub, Sonoran Desert, and upland Sonoran Desert (Arizona Rare Plant Committee [ARPC] 2002). Occurs in the Tucson Mountains, Avra Valley, Puerto Blanco Mountains, Santa Catalina Mountains, Santa Cruz Valley, Vekol Valley, Santa Rosa Valley, Santa Rita Mountains, and Silverbell Mountains (ARPC 2002).	No. The study area is outside the current known range of the Tumamoc globeberry.
Reptiles			
Arizona skink *Eumeces gilberti arizonensis*	WC	Distribution is largely uncertain, but currently the species is documented only in riparian habitats along the perennial reaches of the Hassayampa River and its tributaries (AGFD 1988).	No. The study area is outside the current known range of the Arizona skink. Riparian areas in the study area do not resemble those known to support this species.
Mexican garter snake *Thamnophis eques megalops*	WC	In Arizona, these snakes are most abundant in densely vegetated habitat surrounding cienegas, cienega-streams, and stock tanks. They are found in or near water along streams in valley floors and generally open areas, but not in steep mountain canyon stream habitat. The species usually ranges at elevations between 3,000 and 5,000 feet (914 to 1,525 meters), but may reach elevations of 8,500 feet (2,593 meters). It	No. The study area is outside the current known geographic and elevational range of the Mexican garter snake. This species occurs south and north of the study area. In addition, stream habitat in the study area occurs below 3,000 feet.

TABLE 5-1
SPECIAL STATUS FISH, WILDLIFE AND PLANT SPECIES

Species Common Name *Scientific Name*	Status	Habitat Requirements	Potential Habitat Present
		occurs in the southeast corner of the state from the Santa Cruz Valley east to generally south of the Gila River. It is also known to occur near the Agua Fria River, Oak Creek, Verde River, and several upper Salt/Black River sites, including smaller tributaries (AGFD 2001).	
Sonoran desert tortoise *Gopherus agassizii* (Sonoran population)	WC	The Sonoran population includes those tortoises south and east of the Colorado River from locations near Pearce Ferry in Mojave County to the south beyond the International Boundary, and at many scattered locations in between. The northeastern-most tortoise records in Arizona occur along the Salt River near Roosevelt Lake in Gila County, although populations here have not been confirmed with recent observations. The Sonoran population of the desert tortoise occurs primarily on rocky slopes and bajadas of Mojave and Sonoran desertscrub. Caliche caves in incised cut banks of washes (arroyos) are also used for shelter sites, especially in the Lower Colorado River Valley subdivision. Shelter sites are rarely found in shallow soils (AGFD 2001).	Yes. The study area is within the current known range of the Sonoran desert tortoise (Sonoran population). Vegetation and topography of the White Tank Mountains within the study area resemble those known to support this species.

Status Definitions

LE	Listed Endangered (USFWS)
LT	Listed Threatened (USFWS)
PT	Proposed Threatened (USFWS)
C	Candidate (USFWS)
HS	Highly Safeguarded (Arizona Department of Agriculture)
SR	Salvage Restricted (Arizona Department of Agriculture)
WC	Wildlife of Special Concern in Arizona (AGFD)

5.2 ENVIRONMENTAL CONSEQUENCES

Impact Assessment Methodology

The impact assessment for alternative substation siting areas and power line routes was based on the set of criteria described below (Table 5-2). These criteria focused on the types of biological resources present in the area (e.g., vegetation, wildlife, and special status species) and the type and extent of potential disturbance to these resources based on the project description.

TABLE 5-2
BIOLOGICAL RESOURCES IMPACT ASSESSMENT CRITERIA

Impact Rating	Criteria
Low	• Native vegetation removal limited to areas immediately surrounding pole locations and substation; existing access to substation(s) or along route available for construction • Construction and operation occur primarily in a developed and previously disturbed environmental setting • Temporary disturbance to or displacement of wildlife during construction • Permanent loss of individuals or habitat negligible
Moderate	• Native vegetation removal required around pole locations, substation, and access roads; partial access may be available for construction • Construction and operation occur primarily in a partially developed and previously disturbed environmental setting or in common habitat/vegetation types in the region • Temporary disturbance to or displacement of wildlife during construction • Permanent loss of individuals or habitat measurable, but minor
High	• Native vegetation removal required around pole locations, substation, and access roads; no access available for construction • Construction and operation occur in pristine/undeveloped areas with unique or high-quality habitat/vegetation types in the region • Construction and operation cause permanent disturbance to or displacement of wildlife (resulting from vegetation removal)

Impact Assessment

The assessment below qualifies the potential impacts on vegetation communities, wildlife habitat, wildlife, and special status species. Following the qualitative discussion, impact assessment tables are presented to provide details regarding impacts for each proposed route and substation site (by type of facility).

Vegetation Communities and Wildlife Habitat

Impacts on vegetation resources in the substation siting areas and along the alternative power line routes would be expected to include removal of desertscrub vegetation, particularly in the Sonoran desertscrub vegetation association. Impacts on vegetation resources would be minimal because much of the study area consists of agricultural, urban, or previously disturbed areas.

Impacts on riparian and wetland vegetation along the Gila River would be avoided by placing utility poles several miles north of the river. Impacts on the Agua Fria River from the proposed 69kV power lines would be minimal due to the highly disturbed condition of this river system.

Wildlife

Potential impacts on wildlife are expected to be low. Impacts during construction would include minimal mortality of some small mammals, as well as a minimal amount of habitat loss for some species. Some larger mammals, such as coyote, fox, and skunk, may be displaced by construction; however, these species have a greater capacity to leave the immediately impacted areas and likely would move from the area temporarily when activities start. The primary project disturbances (i.e., construction), although locally intense, would be temporary and should be completed within a few months.

Although nesting birds, including raptors, were not observed during field reconnaissance, nesting birds could occupy the proposed project site prior to construction. If such birds were observed, USFWS and AGFD may be contacted to evaluate mitigation measures beyond the design features typically utilized by APS as part of their raptor protection program (e.g., insulated wire and special perches).

Special Status Species

Due to the disturbed and developed character of most of the alternative power line alignments and substation sites, special status species would not be adversely impacted. Of the 26 species evaluated, only eight have potential habitat occurring within the study area, as shown in Table 5-1. According to records maintained by AGFD, the only four of those species to have been documented within the study area are the western yellow-billed cuckoo, western least bittern, Yuma clapper rail, and Sonoran desert tortoise (AGFD 2001). The western yellow-billed cuckoo, western least bittern, and Yuma clapper rail would not be impacted because habitat for these species does not exist within the areas that would be disturbed by project facilities.

Short-term and temporary impacts may occur on the Sonoran desert tortoise in undisturbed desert upland areas where incised washes are present. APS would mitigate impacts on the Sonoran desert tortoise by either (1) ensuring a qualified biologist conducts surveys for burrows prior to construction or is present during construction activities within tortoise habitat, or (2) ensuring that if a tortoise were encountered, AGFD would be contacted for assistance prior to continuing construction.

The other four species with potential habitat within the study area are the lowland leopard frog, southwestern willow flycatcher, American peregrine falcon, and cactus ferruginous pygmy-owl. Potential habitat for the lowland leopard frog and southwestern willow flycatcher is located along the Gila River in areas where facilities would not be located. Therefore, no impacts on these two species would occur.

The American peregrine falcon, or other raptors, could be drawn to poles associated with power lines because they offer high places to perch, roost, nest, hunt, and they can provide shade. The large wingspan of raptors makes them vulnerable to injury (or death) from the power lines. Though there is potential for raptor injury or mortality, APS modifies features of power lines in specific areas to minimize impacts on raptors and other wildlife. These features may include installation of special perches, triangles, or plastic spikes to discourage raptors from landing in dangerous areas. Additionally, APS uses insulated wire for all pole mounted equipment and places rubber or plastic guard covers or caps on transformers. With installation of these features in specific areas, APS would keep potential impacts on raptors low.

The study area is within the historic range of the cactus ferruginous pygmy-owl and contains suitable nesting, foraging, and movement habitat in the form of Sonoran desertscrub vegetation within the White Tank Mountains and surrounding foothills. However, the nearest known population of pygmy-owls occurs approximately 100 miles away from the study area; therefore, the potential to encounter a pygmy-owl in the foothills of the White Tank Mountains is low. Construction of the power line and the TS2

230kV substation in these foothill areas would include the loss of vegetation where poles are to be placed. The use of existing access to the construction site would minimize vegetation loss. Pole structures and utility lines would not present a hindrance to movement and the height of the utility lines are generally above the height of trees. This would place the utility lines above the documented flight pattern of the pygmy-owl. Temporary effects on the pygmy-owl, if present, would include the presence of construction equipment and personnel, and noise from construction activities. These affects would temporarily disperse pygmy-owl from the area during construction activities. However, a portion of the construction activities would take place along Olive Avenue where disturbance from vehicle traffic already occurs. Despite the limited probability of pygmy-owls being present, the construction activities and loss of vegetation in potential habitat could result in a "may affect" determination from the USFWS on the cactus ferruginous pygmy-owl, but the project would not be likely to adversely affect the cactus ferruginous pygmy-owl or its habitat.

230kV Facilities

Potential impacts on existing and future biological resources that would result from the introduction of the 230kV power lines and substations are summarized in Tables 5-3 and 5-4, respectively.

TABLE 5-3
BIOLOGICAL RESOURCES IMPACT ASSESSMENT OF
230kV ALTERNATIVE POWER LINE ROUTES

Route		Setting	Impact Assessment	Comments
Buckeye Existing	A	Desert/developed	Low	Road access; predominantly disturbed
	B	Desert with power lines	Low	Road access; predominantly disturbed (in power line corridor)
Buckeye TS3	A	Desert with power lines	Low/moderate	Road access; partially disturbed
	B	Agricultural/desert/developed	Low/moderate	Road access; partially disturbed
TS2-TS3	A	Desert	Low/moderate	Road access; partially disturbed
	B	Desert/agricultural/developed	Low	Road access; predominantly disturbed
	C	Desert/agricultural	Low/moderate	Road access; partially disturbed
	D	Desert/agricultural	Low/moderate	Road access; partially disturbed
	E	Desert/agricultural	Low/moderate	Road access; partially disturbed
	F	Desert/agricultural	Low/moderate	Road access; partially disturbed
	G	Agricultural	Low	Road access; predominantly disturbed
	H	Agricultural	Low	Road access; predominantly disturbed
	I	Agricultural/desert	Low	Road access; predominantly disturbed
	J	Agricultural/desert	Low	Road access; predominantly disturbed
TS3-TS4	A	Agricultural	Low	Road access; predominantly disturbed
	B	Agricultural/developed/desert	Low	Road access; predominantly disturbed
	C	Desert/developed/agricultural	Low/moderate	Road access; partially disturbed
	D	Agricultural/developed/desert	Low	Road access; predominantly disturbed
	E	Desert/developed/agricultural	Low	Road access; predominantly disturbed

TABLE 5-4 BIOLOGICAL RESOURCES IMPACT ASSESSMENT OF 230kV SUBSTATION LOCATIONS			
Substation	**Setting**	**Impact Assessment**	**Comments**
TS2-1	Desert	Moderate	Road access (canal); relatively undisturbed
TS2-2	Desert	Moderate	Road access; relatively undisturbed
TS2-3	Desert	Moderate	Road access (canal); relatively undisturbed
TS2-4	Desert	Moderate	Road access; relatively undisturbed
TS2-5	Desert	Moderate	Road access; relatively undisturbed
TS3-1	Agricultural	Low	Completely disturbed area
TS3-2	Agricultural	Low	Completely disturbed area
TS3-3	Desert	Low/moderate	Road access; partially disturbed
TS3-4	Desert	Moderate	Road access; relatively undisturbed
TS3-5	Desert	Moderate	Road access; relatively undisturbed
TS4-1	Agricultural	Low	Completely disturbed area

69kV Facilities

Potential impacts on existing and future biological resources that would result from the introduction of the 69kV power lines and substations are summarized in Tables 5-5 and 5-6, respectively.

TABLE 5-5 BIOLOGICAL RESOURCE IMPACT ASSESSMENT OF 69kV ALTERNATIVE POWER LINE ROUTES				
Route		**Setting**	**Impact Assessment**	**Comments**
WS1-TS2	A	Desert	Low/moderate	Partial access; partially disturbed
	B	Desert	Low	Road access; predominantly disturbed
	C	Desert	Low	Road access; predominantly disturbed
WS1-TS3	A	Desert	Low	Road access; predominantly disturbed
	B	Desert/agricultural/developed	Low	Road access; predominantly disturbed
	C	Desert/agricultural/developed	Low	Road access; predominantly disturbed
WS2-TS2	A	Agricultural/developed/desert	Low	Road access; predominantly disturbed
	B	Agricultural/developed/desert	Low	Road access; predominantly disturbed
	C	Agricultural/desert/developed	Low	Road access; predominantly disturbed
WS3-TS3	A	Agricultural/developed	Low	Road access; predominantly disturbed
	B	Agricultural/developed	Low	Road access; predominantly disturbed
	C	Agricultural/developed	Low	Road access; predominantly disturbed
	D	Agricultural/developed	Low	Road access; predominantly disturbed
WS2-WS3	A	Agricultural/developed	Low	Road access; predominantly disturbed
	B	Agricultural/developed	Low	Road access; predominantly disturbed
	C	Agricultural/developed	Low	Road access; predominantly disturbed
	D	Agricultural/developed	Low	Road access; predominantly disturbed
WS4-Sarival	A	Residential/developed	Low	Road access; predominantly disturbed
	B	Agricultural/developed	Low	Road access; predominantly disturbed
WS6-Wildflower	A	Agricultural	Low	Road access; predominantly disturbed
	B	Agricultural	Low	Road access; predominantly disturbed

TABLE 5-5
BIOLOGICAL RESOURCE IMPACT ASSESSMENT OF
69kV ALTERNATIVE POWER LINE ROUTES

Route		Setting	Impact Assessment	Comments
WS7-Litchfield	A	Agricultural	Low	Road access; predominantly disturbed
	B	Agricultural	Low	Road access; predominantly disturbed
WS10-Colter	A	Agricultural/developed/ desert	Low/moderate	Road access; partially disturbed; marginal potential habitat for species of concern
	B	Developed/disturbed	Low/moderate	Road access; partially disturbed; marginal potential habitat for species of concern
	C	Developed/disturbed	Low/moderate	Road access; partially disturbed; marginal potential habitat for species of concern
White Tanks-Sarival	A	Agricultural/riverbed	Low/moderate	Road access; partially disturbed; marginal potential habitat for species of concern
	B	Developed/agricultural/ riverbed	Low	Road access; predominantly disturbed
	C	Agricultural/developed/riverbed	Low	Road access; predominantly disturbed
	D	Agricultural/developed/riverbed	Low	Road access; predominantly disturbed

TABLE 5-6
BIOLOGICAL RESOURCES IMPACT ASSESSMENT OF
69kV SUBSTATION LOCATIONS

Substation	Setting	Impact Assessment	Comments
WS1-1	Desert	Moderate	Road access; potential habitat along foothills for species of concern
WS1-2	Desert	Moderate	Road access; potential habitat along foothills for species of concern
WS1-3	Desert	Moderate	Road access; potential habitat along foothills for species of concern
WS1-4	Desert	Low	Road access; heavily disturbed
WS2-1	Agricultural	Low	Road access; disturbed
WS2-2	Agricultural	Low	Road access; disturbed
WS3-1	Agricultural	Low	Road access; disturbed
WS3-2	Agricultural	Low	Road access; disturbed
WS3-3	Agricultural	Low	Road access; disturbed
WS3-4	Agricultural	Low	Road access; disturbed
WS3-5	Agricultural	Low	Road access; disturbed
WS3-6	Agricultural	Low	Road access; disturbed
WS4-1	Agricultural	Low	Road access; disturbed
WS4-2	Agricultural	Low	Road access; disturbed
WS4-3	Agricultural	Low	Road access; disturbed
WS4-4	Agricultural	Low	Road access; disturbed
WS6-1	Agricultural	Low	Road access; disturbed
WS6-2	Agricultural	Low	Road access; disturbed
WS6-3	Agricultural	Low	Road access; disturbed
WS7-1	Agricultural	Low	Road access; disturbed
WS7-2	Agricultural	Low	Road access; disturbed
WS7-3	Agricultural	Low	Road access; disturbed
WS10-1	Developed	Low	Road access; disturbed
WS10-2	Desert	Low/moderate	Road access; partially disturbed; marginal potential habitat for species of concern
WS10-3	Developed	Low	Road access; disturbed

TABLE 5-6 BIOLOGICAL RESOURCES IMPACT ASSESSMENT OF 69kV SUBSTATION LOCATIONS			
Substation	**Setting**	**Impact Assessment**	**Comments**
WS10-4	Partially developed	Low	Road access; disturbed
WS14-1	Developed	Low	Road access; disturbed
WS14-2	Disturbed desert	Low/moderate	Road access; partially disturbed; marginal potential habitat for species of concern
WS14-3	Disturbed desert	Low/moderate	Road access; partially disturbed; marginal potential habitat for species of concern

Mitigation Measures

Mitigation measures should include consideration of species-specific surveys at the request of the USFWS or AGFD, and salvage of native desert plants from all disturbance areas, regardless of ownership (salvage is required on State Trust land). In addition to surveys and salvage, APS should inform the construction crew that there is potential to encounter Sonoran desert tortoise, particularly in undisturbed desert areas with incised washes. APS may choose to have a qualified biological monitor present during construction activities in these areas to minimize potential adverse affects on the Sonoran desert tortoise.

Impacts After Mitigation

Based on the low to moderate levels of impacts anticipated from the project prior to mitigation, mitigation would be expected to reduce impacts marginally, resulting generally in low impacts on biological resources.

6.0 IMPACT ASSESSMENT SUMMARY OF ALTERNATIVE POWER LINE ROUTES AND SUBSTATION SITES

6.1 IMPACT ASSESSMENTS COMPARED BY ROUTE

Following the individual resource assessments for the potential substation sites and power line routes, the results of these analyses were compiled in tables to provide summaries of the potential impacts on environmental resources from 230kV alternative power line routes (Table 6-1), 230kV substation sites (Table 6-2), 69kV alternative power line routes (Table 6-3), and 69kV substation sites (Table 6-4). Preliminary results of these analyses were presented at public meetings in May 2002 (minor modifications to impact levels have occurred as a result of additional information received; final results are presented in this report). These environmental impacts were evaluated, along with public comments received, to determine which power line routes and substation sites should be considered further in APS' system options. System options, which are combinations of routes that connect multiple substations in the study area, are presented in Chapter 7.

Table 6-1 shows the potential impact levels on environmental resources that would result from the alternative 230kV power line routes. Table 6-1 also indicates that nine 230kV routes (all or in part) were carried forward for further consideration in the system options. The routes not carried forward included those that generally resulted in higher impacts on resources when making connections between the two substations. The notable exception is the connection between substation siting areas TS2 and TS3. The power line routes carried forward to connect between substation siting areas TS2 and TS3 included those with the highest public support (Routes G and J). Several routes between TS2 and TS3 carried forward would have slightly higher impacts and less public support (Routes B and E) but considering these routes further was important to providing viable alternatives in case right-of-way could not be acquired along other route alignments. Route A, which also had strong public support and generally lower impacts than Route B, was not carried forward because the route would bisect an approved development parcel (under construction), essentially locating the power line inside a future community, rather than along its edge.

TABLE 6-1
POTENTIAL ENVIRONMENTAL IMPACTS FROM 230kV ALTERNATIVE POWER LINE ROUTES

Route		Existing Land Use	Future Land Use	Existing Visual	Future Visual	Cultural	Biological
Buckeye Existing	A	Moderate	Moderate	Moderate/high	Moderate/high	Low/moderate	Low
	B	Low	Low/moderate	Low	Low	Low/moderate	Low
Buckeye TS3	A	Moderate	Moderate	Moderate	Moderate/high	Low/moderate	Low/moderate
	B	Low/moderate	Low/moderate	Moderate	Moderate/high	Low	Low/moderate
TS2-TS3	A	Moderate	Moderate/high	Moderate/high	High	Moderate	Low/moderate
	B*	Moderate/high	Moderate/high	High	High	Moderate	Low
	C	Low/moderate	Low/moderate	Low/moderate	Moderate	Moderate/high	Low/moderate
	D	Low/moderate	Low/moderate	Low/moderate	Moderate	Moderate/high	Low/moderate
	E*	Low/moderate	Low/moderate	Moderate	Moderate/high	Moderate	Low/moderate
	F	Low/moderate	Low/moderate	Moderate	Moderate/high	Moderate/high	Low/moderate
	G*	Low/moderate	Low/moderate	Low/moderate	Moderate	Low/moderate	Low
	H	Low/moderate	Low/moderate	High	High	Low/moderate	Low
	I	Low/moderate	Low/moderate	High	High	Moderate/high	Low
	J*	Low/moderate	Low/moderate	Low/moderate	Moderate/high	Low/moderate	Low

TABLE 6-1
POTENTIAL ENVIRONMENTAL IMPACTS FROM 230kV ALTERNATIVE POWER LINE ROUTES

Route		Existing Land Use	Future Land Use	Existing Visual	Future Visual	Cultural	Biological
TS3-TS4	A*	Low/moderate	Low/moderate	Low/moderate	Moderate	Low/moderate	Low
	B	Moderate	Moderate	Moderate	Moderate/high	Low/moderate	Low
	C	Moderate	Moderate	Moderate/high	Moderate/high	Low/moderate	Low/moderate
	D	Moderate	Moderate/high	Moderate/high	High	Low/moderate	Low
	E	Moderate	Moderate/high	Moderate/high	High	Low/moderate	Low

NOTES:
Shaded routes were carried forward for further consideration based on environmental data, public input, and technical considerations.
* Route alignment carried forward was modified slightly due to technical considerations.

The levels of impact on multiple resources from the 230kV substation site alternatives are shown in Table 6-2. As indicated by the shaded rows, seven 230kV substations were carried forward for further consideration. The substations not carried forward included substation sites on areas designated and approved for future development, resulting in higher impacts on those areas. Generally, the public comment on these substation sites favored the substation sites or no comments were received.

TABLE 6-2
POTENTIAL ENVIRONMENTAL IMPACTS FROM ALTERNATIVE 230kV SUBSTATION SITES

Substation Site	Existing Land Use	Future Land Use	Existing Visual	Future Visual	Cultural	Biological
TS2-1*	Low	Low/moderate	Low/moderate	Moderate	Moderate/high	Moderate
TS2-2	Low	Moderate	Low/moderate	Moderate	Low/moderate	Moderate
TS2-3	Low	High	Low/moderate	High	Moderate/high	Moderate
TS2-4	Low	Low	Moderate/high	Moderate/high	Low/moderate	Moderate
TS2-5	Low	Low	Moderate/high	Moderate/high	Low/moderate	Moderate
TS3-1	Low	Low	Low/moderate	Moderate	Low	Low
TS3-2	Low/moderate	Low/moderate	Low/moderate	Moderate/high	Low	Low
TS3-3	Moderate	High	Moderate/high	High	Low	Low/moderate
TS3-4	Low	High	Moderate/high	High	Low	Moderate
TS3-5	Low	High	Moderate/high	High	Low	Moderate
TS4-1	Low	Low	Low	Low	Low	Low

NOTES:
Shaded substations were carried forward for further consideration based on environmental data, public input, and technical considerations.
* Site boundary carried forward was modified slightly due to technical considerations.

Table 6-3 summarizes the potential impact levels on multiple resources that would result from the 69kV alternative power line routes. Table 6-3 also shows that 15 of the 69kV routes (all or in part) were carried forward for further consideration in the system options. When a 69kV route overlaps with a proposed 230kV route, the 69kV line would be underbuilt on 230kV lines along the proposed alignment to consolidate facilities and lessen the amount of right-of-way required. Efforts were made to include the route with the least environmental impacts in the final system options, as shown by comparing those

carried forward with those not carried forward. For each connection (e.g., WS1 to TS2) the route with the highest public support was carried forward, except for WS1 to TS3 Route A. This route would have higher environmental impacts than the other routes connecting those two substations and, therefore, it was not carried forward for further consideration.

TABLE 6-3
POTENTIAL ENVIRONMENTAL IMPACTS FROM 69kV ALTERNATIVE POWER LINE ROUTES

Route		Existing Land Use	Future Land Use	Existing Visual	Future Visual	Cultural	Biological
WS1-TS2	A	Low	Low/moderate	Moderate	Moderate	Moderate	Low/moderate
	B	Low	Low/moderate	Low/moderate	Moderate	Moderate	Low
	C *	Moderate/high	Moderate/high	Moderate/high	Moderate/high	Moderate/high	Low
WS1-TS3	A	Moderate/high	Moderate/high	Moderate/high	Moderate/high	Moderate	Low
	B	Low/moderate	Low/moderate	Moderate	Moderate	Moderate	Low
	C	Low	Low/moderate	Low/moderate	Moderate	Moderate/high	Low
WS2-TS2	A	Low/moderate	Moderate	Low/moderate	Moderate	Moderate/high	Low
	B	Low/moderate	Low/moderate	Low/moderate	Low/moderate	Low/moderate	Low
	C	Low/moderate	Low/moderate	Moderate	Moderate	Moderate	Low
WS3-TS3	A	Low/moderate	Low/moderate	Low	Low	Low	Low
	B	Low/moderate	Low/moderate	Low	Low	Low	Low
	C	Low/moderate	Low/moderate	Low	Low	Low	Low
	D *	Low/moderate	Low/moderate	Low	Low	Low	Low
WS2-WS3	A	Low	Low	Low	Low	Low	Low
	B	Low	Low	Low	Low	Low	Low
	C *	Low/moderate	Low	Low	Low	Low	Low
	D *	Low/moderate	Low/moderate	Low	Low	Low	Low
WS4-Sarival	A	Low	Low	Low	Low	Low/moderate	Low
	B	Moderate	Moderate	Moderate	Moderate	Low	Low
WS6-Wildflower	A	Low/moderate	Low	Low/moderate	Moderate	Low	Low
	B	Low/moderate	Low	Moderate/high	Moderate/high	Low	Low
WS7-Litchfield	A	Low/moderate	Low/moderate	Low	Low/moderate	Low/moderate	Low
	B	Low/moderate	Moderate	Moderate	Moderate	Low/moderate	Low
WS10-Colter	A	Moderate	Moderate	Moderate/high	Moderate/high	Low/moderate	Low/moderate
	B	Low	Low	Moderate	Moderate	Low	Low/moderate
	C	Low/moderate	Low/moderate	Moderate	Moderate	Low/moderate	Low/moderate
White Tanks-Sarival	A	Low/moderate	Low/moderate	Low/moderate	Low/moderate	Moderate/high	Low/moderate
	B	Moderate/high	Moderate/high	Moderate	Moderate	Low	Low
	C	Low/moderate	Low/moderate	Low	Low	Moderate/high	Low
	D	Low/moderate	Low/moderate	Low/moderate	Moderate	Moderate/high	Low

NOTES:
Shaded routes were carried forward for further consideration based on environmental data, public input, and technical considerations; some routes would be underbuilt on 230kV facilities.
* Route alignment carried forward was modified slightly due to technical considerations.

Table 6-4 summarizes the potential impact levels on multiple resources that would result from the 69kV alternative substation locations. All of the 69kV substation sites were carried forward for further

consideration because impacts generally would be low to moderate (except for two WS10 sites) and public comment on these sites had been minimal. The decision to further consider all the 69kV substation sites allowed greater flexibility for locating the routes.

TABLE 6-4
POTENTIAL ENVIRONMENTAL IMPACTS FROM ALTERNATIVE 69kV SUBSTATION LOCATIONS

Substation Site	Existing Land Use	Future Land Use	Existing Visual	Future Visual	Cultural	Biological
WS1-1	Low	Moderate	Low	Moderate	Low/moderate	Moderate
WS1-2	Low	Moderate	Low	Moderate	Low/moderate	Moderate
WS1-3	Low	Low/moderate	Low	Low/moderate	Low/moderate	Moderate
WS1-4	Low	Moderate	Low	Moderate	Low/moderate	Low
WS2-1	Low/moderate	Low/moderate	Low/moderate	Low/moderate	Low	Low
WS2-2	Low/moderate	Low	Low/moderate	Low/moderate	Low	Low
WS3-1	Low/moderate	Low	Low	Low	Low	Low
WS3-2	Low/moderate	Low	Low	Low	Low	Low
WS3-3	Low/moderate	Low	Moderate	Moderate	Low	Low
WS3-4	Low/moderate	Low	Low/moderate	Low/moderate	Low	Low
WS3-5	Low/moderate	Low	Low	Low	Low	Low
WS3-6	Low/moderate	Low	Low/moderate	Moderate	Low	Low
WS4-1	Low	Low/moderate	Low/moderate	Moderate	Moderate	Low
WS4-2	High	High	High	Moderate	Moderate	Low
WS4-3	Low	Low/moderate	Low/moderate	Low/moderate	Moderate	Low
WS4-4	Low	Low/moderate	Low/moderate	Low/moderate	Moderate	Low
WS6-1	Low/moderate	Low/moderate	Low	Low/moderate	Low	Low
WS6-2	Moderate	Moderate	Low	Low/moderate	Low	Low
WS6-3	Low/moderate	Low	Low	Low/moderate	Low	Low
WS7-1	Low/moderate	Moderate	Moderate/high	Moderate/high	Low/moderate	Low
WS7-2	Low/moderate	Moderate	Moderate/high	Moderate/high	Low/moderate	Low
WS7-3	Low/moderate	Low	Low/moderate	Low/moderate	Low/moderate	Low
WS10-1	Low	Low	Low/moderate	Low/moderate	Low	Low
WS10-2	Low	Low	Low/moderate	Low/moderate	Low	Low/moderate
WS10-3	High	High	Moderate/high	Moderate/high	Low	Low
WS10-4	Low	Low/moderate	Moderate/high	Moderate/high	Low	Low
WS14-1	Low	Low	Low	Low	Low	Low
WS14-2	Low	Low/moderate	Low	Low/moderate	Moderate	Low/moderate
WS14-3	Low	Low/moderate	Low	Low/moderate	Moderate	Low/moderate

NOTE: Shaded substations were carried forward for further consideration based on environmental data, public input, and technical considerations.

6.2 ROUTES TO SYSTEM OPTIONS

The routes that were carried forward were combined into system options, or complete connections between multiple substations. System options included both 230kV and 69kV facilities because in some cases the locations of the facilities were dependent on each other. Chapter 7 describes which routes were incorporated into each system option, describes each system option by geographic features, and provides an overall environmental ranking for each system option.

7.0 SYSTEM OPTIONS

7.1 OVERVIEW

This chapter presents the overall levels of environmental compatibility and public acceptability (Appendix A summarizes the public participation activities conducted for the project and comments received throughout the planning process) for the final substation sites and system options, and the final environmental ranking. The environmental compatibility of each system option includes consideration of the potential impacts that would occur on existing and planned land uses, existing and planned visual character, historic and archaeological sites, and biological resources. The weight of consideration given to each resource may vary by location, but impacts on each resource are evaluated when determining the overall environmental compatibility.

The public acceptability of each system option includes consideration of the comments received throughout the planning process. The overall public acceptability was based on the majority of comments received.

Based on the environmental analyses and public input received on routes, nine 230kV/69kV and two 69kV system options were developed and compared to determine overall levels of environmental compatibility and public acceptability. These system options are shown on Figures 7-1 through 7-4. The routes carried forward for further consideration are listed in Tables 7-1 and 7-2 with the associated system options that incorporated that route.

TABLE 7-1
230kV ROUTES AND CORRESPONDING SYSTEM OPTIONS

Route Connection	Route Carried Forward	System Options that Include Route
Buckeye Existing	B	A, B, C, D, E, F, G, H, I
Buckeye-TS3	B	F, G
TS2-TS3	B*	I
	D	C, E, F
	E*	D
	G*	A, B, G, H
	J*	A, B, G, H
TS3-TS4	A*	A, C, D, H, I
	B	B, E

NOTES:
* Route alignment carried forward was modified slightly.

TABLE 7-2
69kV ROUTES INCORPORATED INTO SYSTEM OPTIONS

Route Connection	Route Carried Forward	System Options that Include Route
WS1-TS2	A	A, B, D
	B	C, E, F
	C*	G, H, I
WS1-TS3	B	A, B, D, G, H, I
	C	C, E, F
WS2-TS2	C	A, B, C, D, E, F, G, H, I
WS3-TS3	D*	A, B, G, H
WS2-WS3	C*	A, B, G
	D*	C, D, E, F, H, I

TABLE 7-2 69kV ROUTES INCORPORATED INTO SYSTEM OPTIONS		
Route Connection	**Route Carried Forward**	**System Options that Include Route**
WS4-Sarival	A	1
WS6-Wildflower	A	1
	B	2
WS7-Litchfield	A	1
	B	2
WS10-Colter	B	1
	C	2
White Tanks-Sarival	A	1
	D	2
NOTES: Some routes would be underbuilt on 230kV facilities. * Route alignment carried forward was modified slightly.		

Substation sites also were selected for further consideration; seven 230kV substation sites and twenty-nine 69kV substation sites were carried forward. A brief description of the facilities' locations, acceptability, and environmental compatibility are provided below and summarized in Tables 7-3 through 7-6.

7.2 230kV SUBSTATION SITE ALTERNATIVES

Substation sites initially were identified as large potential siting locations covering several square miles. After environmental data had been gathered, preliminary siting locations were identified and analyzed for potential environmental impacts (as shown in Chapter 6). Prior to the final public open house in August 2002, several sites were recommended for elimination based on environmental constraints; a few sites were moved or modified slightly to account for new information (e.g., new development approvals). The final 230kV substation sites presented in August are shown in the 230kV system options (Figures 7-1 through 7-3); the environmental compatibility of these sites is indicated in Table 7-3.

TS2

The TS2 siting area is centered on Olive Avenue and the alignment for Jackrabbit Trail (though the road does not extend this far north). Within this 1-mile radius, four substation sites were carried forward for further consideration (TS2-1, TS2-2, TS2-4, and TS2-5). Each is described briefly below, with a statement regarding the substation site's environmental compatibility.

TS2-1

The portion of substation site TS2-1 on the west side of the Beardsley Canal is considered the most environmentally compatible because it is located farthest away from future residential developments (i.e., Sonoran Ridge, White Tank Mountains Ranch, White Tank Foothills, and Maricopa Water District's unnamed parcels). Low to moderate impacts would occur on views by travelers to White Tank Mountain Regional Park on Olive Avenue. This parcel is located on State Trust land. Moderate to high impacts would occur on cultural resources along Beardsley Canal; however, cultural resource impacts could be

Table

Preliminary Assessment of 230kV Substation Sites Based on E

230kV SUBSTATION SITES		ENVIRONMENTAL Compatibility Based on Minimizing Impacts	PUBLIC Acceptability Based on Stakeholder Input	PRELIMINARY COMPATIBLITY/ ACCEPTABILITY	
TS2*	TS2-1	◒	●	●	
	TS2-2	◒	◒	◒	
	TS2-4	◒	○	○	
	TS2-5	◒	○	○	
TS3*	TS3-1	●	●	●	
	TS3-2	◒	◒	◒	
TS4	TS4-1	●	●	●	

* Several previously evaluated 230kV substation sites have been recommended for elimination based on pot land use and visual impacts, public input, and lack of power line options connecting to the specific sites.

nvironmental Compatibility and Public Input (August 14, 2002)

NOTES
Located on currently vacant land Approximately 1.25 miles from the closest existing residence, minimizing land use and visual impacts on existing residences Potential land use and visual impacts on approved future residential area Approximately 1.5 miles from the White Tank Mountains Regional Park, minimizing potential visual impacts on the Park
Located on currently vacant land Approximately 1 mile from the closest existing residence, minimizing land use and visual impacts on existing residences Potential land use and visual impacts on approved future residential area Approximately 1.75 miles from the White Tank Mountains Regional Park, minimizing visual impacts on the Park
Located on currently vacant land Near boundary of the White Tank Mountains Regional Park; agency comments expressed opposition to siting any facilities near the Park
Located on currently vacant land Near boundary of the White Tank Mountains Regional Park; agency comments expressed opposition to siting any facilities near the Park
Located on currently agricultural land Minimal impacts on views from existing residences (tall, old-growth trees screen views from areas west of Perryville Road)
Located on currently agricultural land Potential land use and visual impacts on approved future residential area Near Scott Libby Elementary School
Located on currently agricultural land planned for industrial uses, minimizing land use and impacts on residential areas Located adjacent to Liberty Substation, which is a dominant feature in landscape setting

ential

otability:

Acceptable ◯ Least Compatible/Acceptable

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minimized with effective mitigation (e.g., survey and documentation). Moderate impacts on existing biological resources would occur because the area is primarily undisturbed desert.

TS2-2

Substation site TS2-2 is considered the second most environmentally compatible because it would result in minimal visual impacts on existing residences because they are located approximately 1 mile away. However, moderate to high visual impacts would occur on future residents in the adjacent development (White Tank Mountain Ranch and Maricopa Water District's unnamed parcels). As no current development is present, land use impacts would be low. Low to moderate impacts would be anticipated on cultural resources; however, cultural resource impacts could be minimized further with effective mitigation (e.g., survey and documentation). Moderate impacts on biological resources would occur because the area is primarily undisturbed desert.

TS2-4

Substation site TS2-4 is considered the third most environmentally compatible because of the proximity of the White Tank Mountain Regional Park and the moderate to high impacts on views along Olive Avenue at the Park entrance. As no current development is present, land use impacts would be low. Low to moderate impacts would be anticipated on cultural resources; however, cultural resource impacts could be minimized further with effective mitigation (e.g., survey and documentation). Moderate impacts on biological resources would occur because the area is primarily undisturbed desert.

TS2-5

Substation site TS2-5 is considered the fourth most environmentally compatible (though it is relatively equal to TS2-4 environmentally) because of the proximity of the White Tank Mountain Regional Park and the moderate to high impacts on views along Olive Avenue at the Park entrance. As no current development is present, land use impacts would be low. Low to moderate impacts would be anticipated on cultural resources; however, cultural resource impacts could be minimized further with effective mitigation (e.g., survey and documentation). Moderate impacts on biological resources would occur because the area is primarily undisturbed desert.

TS3

The TS3 siting area is centered on Indian School Road, just east of its intersection with Jackrabbit Trail. Within this 1-mile radius, two substation sites were carried forward for further consideration (TS3-1 and TS3-2). Each is described briefly below, with a statement regarding the substation site's environmental compatibility.

TS3-1

Substation site TS3-1 would create fewer land use and visual impacts on existing and future residential areas compared to TS3-2. Impacts on cultural resources and biological resources would be low. Therefore, site TS3-1 is considered preferable compared to TS3-2.

Preliminary Assessment of 230kV and 69kV System Options Based

SYSTEM OPTION	Approximate Length of Power Line (Mles)		Length of Parallel or Rebuild of Existing Power Line (Mles)	ENVIRONMENTAL Compatibility Based on Minimizing Impacts	PUBLI Acceptability E Stakeholder
	230kV	69kV			
A*	18.5	10.0	1.5	●	●
B	20	10.0	4.0	◒	●
C*	13.5	12.5	1.5	●	●
D*	16.5	11.0	1.5	◒	◒
E	15	12.5	3.5	◒	◒
F	17.5	12.5	9.5	●	○
G	22.5	8.5	9.5	◒	○
H*	18.5	8.0	1.5	○	○
I*	13.5	12.5	1.5	○	○

* Requires double circuit 230kV from the TS3 Substation to 1/2 mile south of Broadway Road.

Compatiblity/Acce

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

● Most Compatible/Acceptable ◒ Partially Compatible/

on Environmental Compatibility and Public Input (August 14, 2002)

ased on Input	PRELIMINARY COMPATIBILITY/ ACCEPTABILITY	NOTES
	●	• Locates the 230kV alignment away from the White Tank Mountains Regional Park and existing Clearwater Farms residential area • Minimizes impacts on views and land uses south of I-10 by following Perryville Road • Locates the 230kV alignment along future Loop 303 corridor, favored by many public comments
	●	• Locates the 230kV alignment away from the White Tank Mountains Regional Park and existing Clearwater Farms residential area • Results in some impacts on residential land uses and views south of I-10 and along Olive Avenue • Locates the 230kV alignment along future Loop 303 corridor, favored by many public comments
	●	• Minimizes overall potential environmental impacts, including impacts on existing land uses and views by placing the 230kV alignment at least 0.5 mile from residences • Provides a 230kV alignment that balances public comments favoring Tuthill Road and concerns of Maricopa County Parks favoring canals and freeways
	◒	• Minimizes impacts on existing Clearwater Farms residential area from the 230kV alignment, but results in impacts along the White Tank Mountains Regional Park boundary and entry • Comments from public, landowners, and agencies show both strong favor and strong opposition to the 230kV alignment along Tuthill Road
	◒	• Results in some impacts on residential land uses south of I-10, but locates the 230kV alignment at least 0.5 mile from the existing Clearwater Farms Residential area • Provides a 230kV alignment that balances public comments favoring Tuthill Road and concerns of Maricopa County Parks favoring canals and freeways
	◒	• Generally the 230kV alignment does not conflict with existing uses, although there would be some visual impacts on existing views towards White Tank Mountains along I-10 • Comments from public, landowners, and agencies show concern about locating the 230kV alignment along I-10 • Provides a 230kV alignment that balances public comments favoring Tuthill Road and concerns of Maricopa County Parks favoring canals and freeways
	○	• Results in some visual impacts on existing views along I-10, and land use and visual impacts on residences in Clearwater Farms residential area from the 69kV alignment • Comments from public, landowners, and agencies show concern about locating the 230kV alignment along I-10 • Numerous public comments expressed opposition to siting any facilities (including 69kV lines) near the Clearwater Farms residential area
	○	• Results in land use and visual impacts on residences in Clearwater Farms residential area from the 69kV alignment • Numerous public comments expressed opposition to siting any facilities (including 69kV lines) near the Clearwater Farms residential area
	○	• Results in land use and visual impacts on residences in Clearwater Farms residential area from the 230kV alignment • Numerous public comments expressed opposition to siting any facilities (especially 230kV lines) near the Clearwater Farms residential area

ptability:

/Acceptable ○ Least Compatible/Acceptable

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System Option B

The 230kV portion of System Option B begins at a proposed new substation at Olive Avenue and the Beardsley Canal, moves east along Olive Avenue, south on Loop 303 then west on Bethany Home Road, then south on Cotton Lane. It then travels west along the half-section between Camelback and Indian School roads and south on Perryville Road then west on McDowell Road and south on Tuthill Road and generally continues south to tie into electrical facilities just south of Broadway Road near the existing Liberty Substation. The 69kV line travels west on Olive Avenue to Tuthill Road, south to Bethany Home then east on Bethany Home Road. It then travels south on Perryville Road to connect with the 230kV option at Perryville Road.

System Option B would cause high visual impacts on a small number of existing residences along Olive Avenue and the southeast corner of Clearwater Farms. The 69kV portion would cause moderate indirect impacts on views from the White Tank Mountain Regional Park and future residential development in Verrado. Moderate land use and visual impacts would occur on future residences along Olive Avenue and Perryville and Tuthill roads. Moderate impacts would result on views from Scott Libby Elementary School; however, minimal impacts would occur with effective mitigation (i.e., underground existing 12kV distribution line).

System Option B Environmental Rank: 5

System Option C

The 230kV portion of System Option C begins at the proposed new substation at Olive Avenue and the Beardsley Canal, and heads south along the Beardsley Canal to Camelback Road. It turns east and follows Camelback Road to Perryville Road south to connect with electrical facilities just south of Broadway Road east of the existing Liberty Substation. The 69kV line travels east on Olive Avenue to the Loop 303 corridor, south to the existing Pima Substation at Thomas Road, and west to connect with the 230kV option at Perryville Road.

System Option C causes the least amount of environmental impacts compared to the other eight alternatives. It has potential moderate impacts on land use and views from future residential development. Potentially low to moderate impacts would occur on future residential development located west of the Beardsley Canal (i.e., Sonoran Ridge). No impacts would result on the White Tank Mountain Regional Park. Cultural resources may result in moderate to high impacts because of known historical sites; however, minimal impacts would occur with effective mitigation. Moderate impacts would result on views from Scott Libby Elementary School; however, minimal impacts would occur with effective mitigation (e.g., underground existing 12kV distribution line).

System Option C Environmental Rank: 1

System Option D

The 230kV portion of System Option D starts from the proposed new substation at Olive Avenue and the Beardsley Canal, heads west to the Tuthill Road alignment, south to Bethany Home Road, east to Perryville Road and then follows Perryville Road to tie into facilities just south of Broadway Road near the Liberty Substation. The 69kV portion travels east on Olive Avenue to the Loop 303 corridor, south to the existing Pima Substation at Thomas Road, and west to connect with the 230kV option at Perryville Road.

System Option D would cause high visual impacts on a few residences at the southwest corner of Clearwater Farms and along the Beardsley Canal north of Northern Avenue, and along Tuthill Road south of Bethany Home Road. High indirect visual impacts would occur on White Tank Mountain Regional Park; however, the alternative would not be located within the Park boundary. Moderate visual and land use impacts would occur on future residences along Perryville and Tuthill roads. Moderate impacts would result on views from Scott Libby Elementary School; however, minimal impacts would occur with effective mitigation (i.e., underground existing 12kV distribution line).

System Option D Environmental Rank: 6

System Option E

The 230kV portion of System Option E begins at a proposed new substation at Olive Avenue and the Beardsley Canal, moves south along the Beardsley Canal, east on Camelback Road then south on Perryville Road. It then travels west along McDowell Road and south on Tuthill Road and generally continues south to tie into electrical facilities just south of Broadway Road near the existing Liberty Substation. The 69kV line travels east on Olive Avenue to the Loop 303 corridor, south to the existing Pima Substation at Thomas Road, and west to connect with the 230kV option at Perryville Road.

System Option E would cause moderate to high visual impacts on existing commercial and residential land uses along Tuthill and McDowell roads and on future developing residences along the Beardsley Canal north of Northern Avenue. Moderate visual impacts would occur on residences along Loop 303 and Olive Avenue. Cultural resources may result in moderate to high impacts because of known historical sites; however, minimal impacts would occur with effective mitigation. Moderate impacts would result on views from Scott Libby Elementary School; however, minimal impacts would occur with effective mitigation (i.e., underground existing 12kV distribution line).

System Option E Environmental Rank: 4

System Option F

The 230kV portion of System Option F begins at the proposed new substation at Olive Avenue and the Beardsley Canal, and heads south along the Beardsley Canal to Camelback Road. It turns east and follows Camelback Road to Perryville Road south then west on McDowell Road along the existing 69kV corridor north along I-10 to connect with electrical facilities at the existing Buckeye Substation. The 69kV line travels east on Olive Avenue to the Loop 303 corridor, south to the existing Pima Substation at Thomas Road, and west to connect with the 230kV option at Perryville Road.

System Option F follows existing linear facilities including I-10, 230kV/69kV power line, and the Beardsley Canal for a majority of the length of the alternative. Moderate visual impacts would occur on existing residences along McDowell Road and views of the White Tank Mountains from I-10. High visual impacts would occur on a few residences along the Beardsley Canal and north of Northern Avenue. Visual impacts on Loop 303 and the White Tank Mountain Regional Park would be minimized. The Town of Buckeye identifies I-10 as the gateway to the town (although there are no established guidelines for this designation) resulting in moderate visual impacts.

System Option F Environmental Rank: 2

System Option G

The 230kV portion of System Option G begins at the proposed new substation at Olive Avenue and the Beardsley Canal, heads east on Olive Avenue to the Loop 303 corridor, south of Bethany Home Road on Cotton Lane and south of the Camelback Road corridor. It then heads west to Perryville Road, and south on Perryville Road to McDowell Road. It then travels west along the northern 69kV corridor off I-10 and generally continues west to tie into electrical facilities at the existing Buckeye Substation. The 69kV route in this area travels from the same new substation south on Perryville Road where it then joins the 230kV route. A 69kV segment travels west to the WS1 siting area on Bethany Home Road from the Perryville Road alignment.

System G would cause moderate to high visual impacts on residences along Perryville Road between Northern Avenue and Bethany Home Road. High visual impacts would occur on residences at the southeast corner of Clearwater Farms and along Olive Avenue. Moderate impacts would result on views from Scott Libby Elementary School; however, minimal impacts would occur with effective mitigation (i.e., underground existing 12kV distribution line).

System Option G Environmental Rank: 7

System Option H

The 230kV portion of System Option H starts from the proposed new substation at Olive Avenue and the Beardsley Canal, heads east on Olive Avenue to the Loop 303 corridor, south of Camelback Road. It then heads west to Perryville Road, and generally continues south to tie into electrical facilities just south of Broadway Road near the existing Liberty Substation. The 69kV route in this area travels from the same new substation south on Perryville Road where it then joins the 230kV route. A 69kV segment travels west to the WS1 siting area on Bethany Home from the Perryville Road alignment.

System Option H would cause high visual impacts on residences along Perryville Road north of Bethany Home Road to Northern Avenue. Moderate impacts would result on views from Scott Libby Elementary School; however, minimal impacts would occur with effective mitigation (i.e., underground existing 12kV distribution line). This system ranked lower than System Option G based on information received from Luke Air Force Base regarding potential conflicts with flight procedures and communication. System Option G became environmentally preferable to System Option H.

System Option H Environmental Rank: 8

System Option I

The 230kV portion of System Option I begins at the proposed new substation at Olive Avenue and the Beardsley Canal, turns south on Perryville Road to tie into the electrical facilities south of Broadway Road near the existing Liberty Substation. The 69kV route in this area travels from the same new substation east on Olive Avenue to the Loop 303 corridor, south to the existing Pima Substation at Thomas Road, and west to connect with the 230kV option at Perryville Road.

System I would result in high visual and land use impacts on existing residences along Perryville Road north of Bethany Home Road to Northern Avenue. Moderate impacts would result on views from Scott Libby Elementary School; however, minimal impacts would occur with effective mitigation (i.e., underground existing 12kV distribution line).

System Option I Environmental Rank: 9

7.4 69kV SUBSTATION SITE ALTERNATIVES

Twenty-nine 69kV substation sites were analyzed throughout the siting process. The environmental compatibility and public acceptability of these sites are shown in Table 7-5. The number of 69kV substation sites considered was not reduced after conducting initial analyses and public involvement because minimal differences were present with respect to environmental criteria, and very little public comment was received. Therefore, to allow additional comments, all sites were carried forward for consideration. With respect to WS3, Luke Air Force Base sent APS a letter requesting that additional consultation occur with Luke Air Force Base when a site is selected to ensure that no interference would occur with current operations (i.e., radio interference). The environmental rank of each 69kV substation site is presented in Table 7-6.

7.5 69kV SYSTEM OPTIONS

Two system options, 1 and 2 (Figure 7-4), were developed and both were assessed as environmentally compatible and acceptable to the public (Table 7-7). The alternative with a power line segment located on Estrella Parkway/Reems Road would result in higher visual impacts because the City of Goodyear recognizes it as the gateway to the community. Therefore, System Option 1 is environmentally preferable to System Option 2.

Table 7-5

Preliminary Assessment of 69kV Substation Sites Based on Environmental Co

69kV SUBSTATION SITES		ENVIRONMENTAL Compatibility Based on Minimizing Impacts	PUBLIC* Acceptability Based on Stakeholder Input	PRELIMINARY COMPATIBLITY/ ACCEPABILITY	
WS1	WS1-1	◒	◒	◒	• Located on • Potential vi
	WS1-2	◒	○	○	• Located on • Some oppo
	WS1-3	●	●	●	• Located on • Minimizes
	WS1-4	◒	○	○	• Located on • Some oppo
WS2	WS2-1	◒	◒	◒	• Located on • Adjacent to
	WS2-2	●	●	●	• Located on • Adjacent to
WS3	WS3-1	●	●	●	• Located on • Minimizes p
	WS3-2	●	●	●	• Located on • Minimizes p
	WS3-3	◒	◒	◒	• Located on • Potential im
	WS3-4	●	●	●	• Located on
	WS3-5	●	●	●	• Located on • Located ad
	WS3-6	◒	◒	◒	• Located on • Potential im
WS4	WS4-1	◒	◒	◒	• Located on • Adjacent to
	WS4-2	◒	◒	◒	• Located wit • Adjacent to
	WS4-3	●	◒	●	• Located on • Adjacent to
	WS4-4	●	◒	●	• Located on • Adjacent to
WS6	WS6-1	●	●	●	• Located on • General pla
	WS6-2	●	●	●	• Located on • General pla
	WS6-3	●	●	●	• Located on • General pla
WS7	WS7-1	◒	○	○	• Located on • Adjacent to • Near reside • Agency cor gateway to
	WS7-2	◒	○	○	• Located on • Near reside • Agency cor of Goodyea
	WS7-3	●	●	●	• Located on
WS10	WS10-1	●	●	●	• Located on
	WS10-2	●	●	●	• Located on
	WS10-3	○	○	○	• Located wit
	WS10-4	◒	◒	◒	• Located on visual impa
WS14	WS14-1	●	●	●	• Located on • Planned fo
	WS14-2	◒	○	◒	• Located on • Dry wash t
	WS14-3	◒	○	◒	• Located on • Dry wash t

* A majority of the public comment received to date has focused on 230kV substation sites and power line locations.

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Compatiblity/Acceptability:

● Most Compatible/Acceptable ◒ Partially Compatible/Acceptable ○

mpatibility and Public Input (August 14, 2002)
NOTES
currently vacant land in future multi-use recreation area ual impacts on approved future residential area
currently vacant land within an approved future residential area sition to siting a 69kV substation within a master planned community
currently vacant land isual and land use impacts on future residential developments
currently vacant land within an approved future residential area sition to siting a 69kV substation within a master planned community
future residential area (general plan) existing residential areas
future commercial area (general plan) existing residential area
currently agricultural land that is approved for future commercial development otential impacts on views from future residential developments
currently agricultural land that is approved future commercial area otential impacts on views from future residential development
currently agricultural land that is approved for future commercial area pacts on views from existing residential area
currently agricultural land that is approved future commercial area
currently agricultural land that is approved for future commercial development acent to Loop 303 freeway
currently agricultural land that is approved future residential/commercial development pacts on existing residential area
currently agricultural land that is approved for future residential/commercial development existing 69kV power line
hin existing residential area existing 69kV power line
currently agricultural land existing 69kV power line
currently agricultural land existing 69kV power line
currently agricultural land nned for mixed use
currently agricultural land nned for mixed use
currently agricultural land nned for mixed use
currently vacant land existing 69kV power line ntial area gateway, resulting in some land use and visual impacts nments expressed opposition to siting any facilities on Estrella Parkway, which is the City of Goodyear
currently agricultural land ntial area gateway, resulting in some land use and visual impacts nments expressed opposition to siting any facilities on Estrella Parkway, gateway to City r
currently agricultural land that is planned for commercial use
currently vacant land, adjacent to Luke Air Force Base
currently vacant land, designated for mixed use
hin existing residential area, resulting in land use and visual impacts
currently vacant land, designated for residential use resulting in potential land use and cts
currently vacant land industrial use
currently vacant land rough part of site, potential impacts on cultural resources
currently vacant land rough site, potential impacts on cultural resources

Least Compatible/Acceptable

TABLE 7-6 69kV SUBSTATION SITE RANKINGS BASED ON ENVIRONMENTAL DATA		
69kV Substation Sites		**Environmental Ranking**
WS1	WS1-1	4
	WS1-2	2
	WS1-3	1
	WS1-4	3
WS2	WS2-1	2
	WS2-2	1
WS3*	WS3-1	3
	WS3-2	4
	WS3-3	6
	WS3-4	2
	WS3-5	1
	WS3-6	5
WS4	WS4-1	3
	WS4-2	4
	WS4-3	1
	WS4-4	2
WS6	WS6-1	1
	WS6-2	3
	WS6-3	2
WS7	WS7-1	3
	WS7-2	2
	WS7-3	1
WS10	WS10-1	1
	WS10-2	2
	WS10-3	4
	WS10-4	3
WS14	WS14-1	1
	WS14-2	2
	WS14-3	3

* Specific site reviews are required by Luke Air Force Base.

Tabl

Preliminary Assessment of 69kV System Options Based on Env				
SYSTEM OPTION	Approximate Length of Power Line (Miles)	Length of Parallel or Rebuild of Existing Power Line (Miles)	ENVIRONMENTAL Compatibility Based on Minimizing Impacts	PUB Acceptab on Stak Inp
1	19.0	12	●	●
2	20.0	11	◒	◒

*A majority of the public comments received to date have focused on 230kV substation sites and pow

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Compatiblity/Acce

● Most Compatible/Acceptable

◒ Partially Compatible

e 7-7

ironmental Compatibility and Public Input (August 14, 2002)		
BLIC ility Based keholder ut*	PRELIMINARY COMPATIBILITY/ ACCEPTABILITY	NOTES
●	●	• Connection to WS6 is located adjacent to compatible land uses (future commercial), minimizing land use and visual impacts • Connection from Sarival Substation to White Tanks Substation locates majority of 69kV alignment within an existing transmission line corridor • Connection to WS10 is located near compatible land uses (future commercial) that minimize land use and visual impacts • Connection to WS7 is located away from Estrella Parkway, a gateway road into the City of Goodyear, as well as existing and future residences
◒	◒	• Connection to WS6 is located near existing residences • Connection from Sarival Substation to White Tanks Substation would include removal of 12kV wooden poles along Dysart Road and Van Buren Street • Connection to WS10 does not use the entire corridor with a rebuild capability • Connection to WS7 is located on the City of Goodyear's gateway (Estrella Parkway), which is not favored by the public

er line locations.

ptability:

/Acceptable ◯ Least Compatible/Acceptable

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8.0 APS FINAL SYSTEM SELECTION

Analyses of environmental impacts and public comments resulted in ranking of alternative 230kV and 69kV substation sites and power line systems. These systems and substation sites were identified and considered based on a comprehensive siting process. Through the siting process, potential substation sites and power line alignments were screened from further consideration if constraints to locating a facility were present (e.g., a new subdivision developing on a substation site, or right-of-way for a power line would not be available). Based on the above, all of the systems and substations are technically feasible. The differences presented in this report among the alternatives focuses on where environmental impacts would occur, how intense the impacts would be, and how acceptable the alternatives would be to the public. Tables 8-1 and 8-2 summarize the potential impacts from each of the 230/69kV and 69kV system options, and provide an overall environmental ranking of the system options.

Based on the environmental analyses alone, four of the 230/69kV systems are most suitable for construction: System Options A, C, E, and F (recognizing that only the 230kV facilities require a CEC). The public involvement process that occurred throughout the project provided insight into which systems would be preferred by the public. Prior to the final public meeting in August 2002, the public input received indicated that System Options A, B, C, and D would be preferred (Appendix A provides a summary of public activities conducted for the project).

The decision factors that APS considers when selecting locations for new power lines and substation facilities include the following:

- public comments
- environmental compatibility
- electrical system requirements
- right-of-way considerations and availability
- permitting and regulatory requirements
- costs and feasibility of construction, operation, and maintenance

Based on the results of the environmental analyses and final public input, APS identified System Option A[2] for the needed 230/69kV facilities and System Option 1 for the needed 69kV facilities as its preferred options for construction. The 230kV facilities included in System Option A will be carried forward as the Proposed system option in the CEC application for review by the Arizona Power Plant and Transmission Line Siting Committee and for final approval by the ACC along with three Alternative system options as presented in the final project newsletter (November 2002). Each of the four system options would meet APS' system requirements. System Options A and 1 are shown on Figures 8-1 and 8-2, respectively.

[2] This report presents results of analyses on System Option A as it was presented to the public in August 2002. APS subsequently considered following a modified alignment with a 1.5-mile segment along Loop 303, rather than locating the line along Cotton Lane, and this preferred alignment was presented in a project newsletter in November 2002. However, the Proposed System Option carried forward to the Arizona Power Plant and Transmission Line Siting Committee follows the general alignment of System Option A as a result of further input APS received from Luke Air Force Base.

Tabl

230kV/69kV System Option Rankings Based

SYSTEM OPTION	Approximate Length of Power Line (Miles)		Length of Parallel or Rebuild of Existing Power Line (Miles)	ENVIRONMENTAL RANKING	
	230kV	69kV			
A	18.5	10.0	1.5	3	• High • Mod • Mod • Mod unde
B	20.0	10.0	4.0	5	• High • Mod • Mod • Mod unde • Mod
C	13.5	12.5	1.5	1	• Mini • High • Mod • Oppo • No ir • Mini • Mod unde • Mod docu
D	16.5	11.0	1.5	6	• High and a • High • Mod • Mini • Mod unde
E	15.0	12.5	3.5	4	• Mod • Mod • High • Mod unde • Mod docu

e 8-1
on Environmental Data (September 13, 2002)

NOTES

visual impacts on a small number of existing residences along Olive Avenue and the southeastern corner of Clearwater Farms erate indirect impacts on views from White Tank Mountain Regional Park and future (developing) Verrado development erate impacts on future residences along Olive Avenue and Perryville and Tuthill roads erate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., rground 12kV)
visual impacts on a small number of existing residences along Olive Avenue and the southeastern corner of Clearwater Farms erate indirect impacts on views from White Tank Mountain Regional Park and future (developing) Verrado development erate impacts on land use and views from future residences along Olive Avenue and Perryville and Tuthill roads erate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., rground 12kV) erate to high impacts on existing commercial and residential land uses along Tuthill and McDowell roads
mizes impacts on existing residences and recreation in most areas impacts on views from a few residences along Beardsley Canal north of Northern Avenue erate impacts on land use and views from future residential development including Maricopa Water District (MWD) ortunity to work with Flood Control District of Maricopa County and MWD on development plans to incorporate power line npacts on White Tank Mountain Regional Park or future (developing) Verrado development mizes impacts along Loop 303 and Olive Avenue erate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., rground 12kV) erate to high impacts on cultural resources along Beardsley Canal; minimal impacts with effective mitigation (e.g., survey and mentation)
visual impacts on a few residences at the southwestern corner of Clearwater Farms and along Beardsley Canal north of Northern Avenue, long Tuthill Road south of Bethany Home Road indirect visual impacts on White Tank Mountain Regional Park (alternative is outside the Park boundary, but at Park entry) erate impacts on land uses and views from future residences along Perryville and Tuthill roads (developing Verrado development) mizes impacts on existing residential and commercial land uses along Loop 303 and Olive Avenue erate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., ground 12kV)
erate to high visual impacts on existing commercial and residential land uses along Tuthill and McDowell roads erate visual impacts on residences along Loop 303 and Olive Avenue visual impacts on a few future (developing) residences along Beardsley Canal north of Northern Avenue erate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., ground 12kV) erate to high impacts on cultural resources along Beardsley Canal; minimal impacts with effective mitigation (e.g., survey and mentation)

Tabl

230kV/69kV System Option Rankings Based

SYSTEM OPTION	Approximate Length of Power Line (Miles)		Length of Parallel or Rebuild of Existing Power Line (Miles)	ENVIRONMENTAL RANKING	
	230kV	69kV			
F	17.5	12.5	9.5	2	• Follo • Mod • High • Mod • Mini • Mod unde • Gate • Mod docu
G*	22.5	8.5	9.5	7	• Mod • High • Mod unde
H*	18.5	8.0	1.5	8	• High • Mod unde
I	13.5	12.5	1.5	9	• High • Mod unde

* G and H were initially ranked 7 and 8, respectively. However, based on confirmation from LAFB that routes along Loop 303 would

e 8-1
on Environmental Data (September 13, 2002)

NOTES

ws existing linear facilities including I-10, 230/69kV power line, and Beardsley Canal for majority length of alternative erate visual impacts on residences along McDowell Road and to views of White Tank Mountains from I-10 impacts on few residences along Beardsley Canal north of Northern Avenue erate to high visual impacts on future (developing) Verrado development where 69kV lines are being buried mizes impacts along Loop 303 and Olive Avenue and White Tank Mountain Regional Park erate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., rground 12kV) way to Town of Buckeye along I-10 resulting in moderate visual impacts (no guidelines for aesthetics along I-10) erate to high impacts on cultural resources along Beardsley Canal; minimal impacts with effective mitigation (e.g., survey and mentation)
erate/high visual impacts on residences along Perryville Road (Clearwater Farms) impacts on residences at the southeastern corner of Clearwater Farms and along Olive Avenue erate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., rground 12kV)
visual impacts on residences along Perryville Road (Clearwater Farms) erate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., rground 12kV)
visual impacts on residences along Perryville Road (Clearwater Farms) erate impacts on views from Scott Libby Elementary School along Perryville Road; minimal impacts with effective mitigation (e.g., rground 12kV)

not pose a conflict, H is now ranked environmentally preferable to G.

Tabl 69kV System Option Rankings Based on			
69kV SYSTEM OPTION	**Approximate Length of Power Line (Miles)**	**Length of Parallel or Rebuild of Existing Power Line (Miles)**	**ENVIRO RA**
1	19.0	12	
2	20.0	11	

e 8-2 Environmental Data (September 13, 2002)	
NMENTAL NKING	NOTES
1	• Connection to WS6 is located adjacent to compatible land uses (future commercial), minimizing land use and visual impacts • Connection from Sarival Substation to White Tanks Substation locates majority of 69kV alignment within an existing transmission line corridor • Connection to WS10 is located near compatible land uses (future commercial) minimizing land use and visual impacts • Connection to WS7 is located away from Estrella Parkway, a gateway road into the City of Goodyear, as well as existing and future residences • Passes through sensitive cultural resource area; impacts reduced with effective mitigation (e.g., survey and documentation)
2	• Connection to WS6 is located near existing residences • Connection from Sarival Substation to White Tanks Substation would include removal of 12kV wooden poles along Dysart Road and Van Buren Street • Connection to WS10 does not use the entire corridor with a rebuild capability • Connection to WS7 is located on the City of Goodyear's gateway (Estrella Parkway), generating low to moderate visual impacts • Passes through sensitive cultural resource area; impacts reduced with effective mitigation (e.g., survey and documentation)

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_____. 2001. Lesser long-nosed bat species abstract. Species abstract compiled and edited by the Arizona Ecological Services Field Office, United States Fish and Wildlife Service, Phoenix, AZ.

_____. 2001. Razorback sucker species abstract. Species abstract compiled and edited by the Arizona Ecological Services Field Office, United States Fish and Wildlife Service, Phoenix, AZ.

_____. 2001. Southwestern willow flycatcher species abstract. Species abstract compiled and edited by the Arizona Ecological Services Field Office, United States Fish and Wildlife Service, Phoenix, AZ.

_____. 2001. Yellow-billed cuckoo species abstract. Species abstract compiled and edited by the Arizona Ecological Services Field Office, United States Fish and Wildlife Service, Phoenix, AZ.

_____. 2000. Arizona agave species abstract. Species abstract compiled and edited by the Arizona Ecological Services Field Office, United States Fish and Wildlife Service, Phoenix, AZ.

_____. 2000. Arizona cliffrose species abstract. Species abstract compiled and edited by the Arizona Ecological Services Field Office, United States Fish and Wildlife Service, Phoenix, AZ.

_____. 2000. Desert pupfish species abstract. Species abstract compiled and edited by the Arizona Ecological Services Field Office, United States Fish and Wildlife Service, Phoenix, AZ.

APPENDIX A

PREPARED BY APS
IN CONJUNCTION WITH
BJ COMMUNICATIONS

APPENDIX A – PUBLIC PARTICIPATION SUMMARY

PUBLIC INVOLVEMENT

Overview

A comprehensive public involvement and communications program was conducted as part of the West Valley-South (WVS) Power Line and Substation Project (Project). APS initiated an extensive 14-month process from September 2001 through November 2002 to notify the public and community leaders of the need for new transmission and substation facilities in the West Valley and to discuss possible locations for 230kV transmission line routes and substations included in this CEC application. The outreach involved sending information to more than 72,000 residents in the West Valley four different times, meetings with hundreds of residents at public meetings and neighborhood groups, as well as briefing dozens of community leaders, jurisdictional planners, and the local press in the area. It also included paid advertisements in newspapers with circulations of more than 162,000. In addition, there was extensive use of electronic outreach to people in the area throughout the siting process through a project telephone information line and via the Internet.

The public involvement effort solicited very specific input from the community, starting with small power line segments, or "links," and then continuing to collect input as the links were combined to form alternative route alignments. Several hundred comments were received regarding these links and alternative routes, and the input was valuable to APS in determining its preferred route alignment.

Public input played an important role in selecting the Proposed system option. For instance, input from the Maricopa County Parks and Recreation Department, Town of Buckeye, and current residents in the north part of the study area resulted in a proposed transmission line route that would parallel the Loop 303, and this option continued to receive widespread support throughout the siting review. Input from Luke Air Force Base (LAFB) and City of Goodyear influenced the proposed transmission line route and substation location in the Cotton Lane area between Indian School and Camelback roads. Input from the Maricopa Water District and adjacent residents contributed to the elimination of a potential transmission line route option along the north part of Perryville Road or along the Beardsley Canal.

Many of the challenges that were raised by community leaders and the public focused on keeping the transmission lines away from existing residential development, avoiding any impacts to the views of the White Tank Mountains or the existing Maricopa County White Tank Mountain Regional Park, and avoiding possible impacts to LAFB. The final Proposed system option selected by APS reflects this support for a Loop 303 route, while avoiding any potential impacts to the flight patterns at LAFB.

Although the public and agency input was valuable, it was not possible to specifically address each concern given other engineering, environmental, and right-of-way acquisition aspects of the project. The Proposed system option provides a balance between the public and agency input, while considering environmental and technical factors.

The goals of the public outreach efforts were to build facilities as the community grows and, with public input, select locations that make the most sense for a majority of the public.

Scope of the Communications Plan

A communications plan was developed at the beginning of the WVS Project to help guide the public involvement and community relations efforts. The plan was flexible and was adjusted periodically to respond to specific issues that occurred. The program had three primary goals:

1. Educate the public about the need for expanding facilities and services in the project area.
2. Inform the public about the benefits and effects of the project.
3. Provide the opportunity for meaningful public involvement in the transmission line route and substation site selection process.

Communication Activities

Community Leader Meetings

In order to gauge the level of public concern and identify potential issues, project team members held three meetings with a select group of key community leaders. At these meetings, project team members explained the need for additional electrical facilities, provided the most up-to-date project information, and asked for suggestions and opinions from community leaders. In return, the community leaders provided APS with their input on public concerns and how key stakeholders would like to be informed and involved in the project.

When/Where: February 22, 2002 at 2:00 p.m. (Wigwam Resort)
Invitees:

Dr. James Howard	Superintendent	Agua Fria School District
Dr. Catherine Stafford	Superintendent	Avondale School District
Mr. David Iwanski	Principal	Bookman-Edmonston
Ms. Connie Bailey	Director	Buckeye Chamber of Commerce
Dr. Henry Schmitt	Superintendent	Buckeye Union High School District
Ms. Lisa Atkins	Executive Assistant	Congressman Bob Stump's Office
Mr. John L. Bradley	Vice President	DMB Associates, Inc.
Ms. Kathleen Duncan	Owner	Duncan Family Farms
Mr. R.D. (DeWayne) Justice	Vice Chairman - Manager	Electrical District #7
Dr. Homero Lopez	President	Estrella Mountain Community Coll.
Ms. Mary Westwood	Neighborhood Contact	Estrella Mountain Ranch HOA
Ms. Anne Quilgey	Manager	Goodyear Airport
Mr. Mark Brown	Asst. Police Chief-Goodyear	Goodyear Estates Neighborhood Ass.
Mr. L. Thomas Heck	Superintendent	Litchfield Elementary School Dist.
Col. Robert Worley		Luke Air Force Base
Ms. Joy Rich	Planning Director	Maricopa County Planning/Dev.
Mr. Jim Sweeney	General Manager	Maricopa Water District
Ms. Debbie Wilden	President	Northwest Valley Chamber
Mr. Shannon Letcher	Director of Golf	Palm Valley Country Club
Mr. Jack Pernice	President	Palm Valley HOA #1
Ms. Sue Linney	City Goodyear Councilmember	Pebblecreek HOA

Ms. Sharolyn Hohman	President/CEO	Southwest Valley Chamber
Ms. Diane McCarthy	President	WESTMARC
Mr. Jay Ellingson	Vice President-SunCor	WESTMARC Executive Board
Ms. Kim Beneli		White Tanks Concerned Citizens
Ms. Christie Birdsell		Wildflower Ranch HOA

Attendees:

M/M Ron & Leeta Mackey		
Ms. Bear Shimmin		Sun City Grand Homeowners Assoc.
Dr. James Howard	Superintendent	Agua Fria School District
Dr. Henry Schmitt	Superintendent	Buckeye Union High School Dist.
Mr. Nathan Crane	Planning Manager	City of Avondale
Ms. Lisa Atkins	Executive Assistant	Congressman Bob Stump's Office
Mr. Dave Nilsen		DMB Associates, Inc
Mr. John L. Bradley	Vice President	DMB Associates, Inc.
Mr. R.D. (DeWayne) Justice	Vice Chairman - Manager	Electrical District #7
Mr. L. Thomas Heck	Superintendent	Litchfield Elementary School Dist.
Mr. Richard Zumbehl	Civic Engineer	Luke Air Force Base
Ms. Debbie Wilden	President	Northwest Valley Chamber
Ms. Donna Phillips		SunCor Development Company
Ms. Diane McCarthy	President	WESTMARC
Ms. Kim Beneli		White Tanks Concerned Citizens
Mr. James Truman		White Tanks Concerned Citizens

When/Where: May 13, 2002 at 1:00 p.m. (Wigwam Resort)
Invitees:

Dr. James Howard	Superintendent	Agua Fria School District
Dr. Catherine Stafford	Superintendent	Avondale School District
Mr. David Iwanski	Principal	Bookman-Edmonston
Ms. Connie Bailey	Director	Buckeye Chamber of Commerce
Dr. Henry Schmitt	Superintendent	Buckeye Union High School Dist.
Ms. Lisa Atkins	Executive Assistant	Congressman Bob Stump's Office
Mr. John L. Bradley	Vice President	DMB Associates, Inc.
Ms. Kathleen Duncan	Owner	Duncan Family Farms
Mr. R.D. (DeWayne) Justice	Vice Chairman - Manager	Electrical District #7
Dr. Homero Lopez	President	Estrella Mountain Community Coll.
Ms. Mary Westwood	Neighborhood Contact	Estrella Mountain Ranch HOA
Ms. Anne Quilgey	Manager	Goodyear Airport
Mr. Mark Brown	Asst. Police Chief-Goodyear	Goodyear Estates Neighborhood Ass.
Mr. L. Thomas Heck	Superintendent	Litchfield Elementary School Dist.
Col. Robert Worley		Luke Air Force Base

Ms. Joy Rich	Planning Director	Maricopa County Planning/Dev
Mr. Jim Sweeney	General Manager	Maricopa Water District
Ms. Debbie Wilden	President	Northwest Valley Chamber
Mr. Shannon Letcher	Director of Golf	Palm Valley Country Club
Mr. Jack Pernice	President	Palm Valley HOA #1
Ms. Sue Linney	City Goodyear Councilmember	Pebblecreek HOA
Ms. Sharolyn Hohman	President/CEO	Southwest Valley Chamber
Ms. Diane McCarthy	President	WESTMARC
Mr. Jay Ellingson	Vice President-SunCor	WESTMARC Executive Board
Ms. Kim Beneli		White Tanks Concerned Citizens
Ms. Christie Birdsell		Wildflower Ranch HOA
Mr. James Truman		White Tanks Concerned Citizens

Attendees:

M/M Ron & Leeta Mackey		
M/M C.A. & L. Baron Shimmin		
Mr. Glen Vortherms	District Engineer	Maricopa Water District
Mr. John Schmadeke	Director of Field Operations	Agua Fria Union High School Dist.
Mr. David Iwanski	Principal	Bookman-Edmonston
Mr. Udo Meyer		Clearwater Farms HOA
Mr. Dave Nilsen		DMB Associates, Inc
Ms. Sharolyn Hohman	President/CEO	Southwest Valley Chamber
Ms. Donna Phillips		SunCor Development Company
Mr. James Truman		White Tanks Concerned Citizens
Ms. Diane McCarthy	President	WESTMARC

When/Where: August 20, 2002 at 10:30 a.m. (Wigwam Resort)

Invitees:

Dr. James Howard	Superintendent	Agua Fria School District
Dr. Catherine Stafford	Superintendent	Avondale School District
Mr. David Iwanski	Principal	Bookman-Edmonston
Ms. Connie Bailey	Director	Buckeye Chamber of Commerce
Dr. Henry Schmitt	Superintendent	Buckeye Union High School Dist.
Ms. Lisa Atkins	Executive Assistant	Congressman Bob Stump's Office
Mr. John L. Bradley	Vice President	DMB Associates, Inc.
Ms. Kathleen Duncan	Owner	Duncan Family Farms
Mr. R.D. (DeWayne) Justice	Vice Chairman - Manager	Electrical District #7
Dr. Homero Lopez	President	Estrella Mountain Community Coll.
Ms. Mary Westwood	Neighborhood Contact	Estrella Mountain Ranch HOA
Ms. Anne Quilgey	Manager	Goodyear Airport
Mr. Mark Brown	Asst. Police Chief-Goodyear	Goodyear Estates Neighborhood Ass.

Mr. L. Thomas Heck	Superintendent	Litchfield Elementary School Dist.
Col. Robert Worley		Luke Air Force Base
Ms. Joy Rich	Planning Director	Maricopa County Planning/Dev
Mr. Jim Sweeney	General Manager	Maricopa Water District
Ms. Debbie Wilden	President	Northwest Valley Chamber
Mr. Shannon Letcher	Director of Golf	Palm Valley Country Club
Mr. Jack Pernice	President	Palm Valley HOA #1
Ms. Sue Linney	City of Goodyear-Councilmember	Pebblecreek HOA
Ms. Sharolyn Hohman	President/CEO	Southwest Valley Chamber
Ms. Diane McCarthy	President	WESTMARC
Mr. Jay Ellingson	Vice President-SunCor	WESTMARC Executive Board
Ms. Kim Beneli		White Tanks Concerned Citizens
Ms. Christie Birdsell		Wildflower Ranch HOA
Mr. James Truman		White Tanks Concerned Citizens

Attendees:

Mr. Richard Zumbehl	Civil Engineer	Luke Air Force Base
Mr. Doug Graham		
Mrs. Roberta Graham		
Mr. Ken Axford		Litchfield Elementary School
Mr. Glen Vortherms	District Engineer	Maricopa Water District
Mr. Jack Hein		
Mr. Dave Nilsen		
Mr. Doug Wilson		
Ms. Sharolyn Hohman	President/CEO	Southwest Valley Chamber
Mr. David Iwanski	Principal	Bookman-Edmonston

Jurisdictional Leader Meetings

Because this project crosses many jurisdictions, APS hosted three informal meetings with local planners and management staff from the relevant governments to discuss and resolve project issues and siting concerns. Members of this group were higher-ranking decision makers or representatives who report directly to decision makers.

The jurisdictional leaders were briefed on the purpose and need for the project and were asked their opinions and suggestions as the process continued. This group provided valuable feedback, as well as assisted with siting issues as APS worked through the various government approval processes.

When/Where: February 21, 2002 at 2:00 p.m. (Wigwam Resort)

Invitees:

Mr. Scott Schrader	City Manager	City of Avondale
Mr. David Fitzhugh	City Engineer/Interim Director Developmental	City of Avondale
Ms. Kristin Greene	Intergovernmental Affairs Officer	City of Avondale

Mr. Ed Beasley	City Manager	City of Glendale
Mr. Jim Colson	Economic Development Director	City of Glendale
Mr. Jon Froke	Planning Director	City of Glendale
Mr. Stephen S. Cleveland	City Manager	City of Goodyear
Mr. Harvey Krauss	Community Development Director	City of Goodyear
Mr. Horatio Skeete	City Manager	City of Litchfield Park
Mr. Gregory L. Jones	Regional Planning Manager	Flood Control District of Maricopa County (FCDMC)
Ms. Valerie A. Swick	Project Manager	FCDMC
Mr. Matthew Holm	Principal Planner	FCDMC
Mr. Wayne R. Butch	Transportation Improvement Prog./Policy Mgr.	Maricopa County Department of Transportation (MCDOT)
Mr. Bill Hahn	Project Manager	MCDOT
Mr. Leo E. Trinidad	Project Manager, Transportation Planning	MCDOT
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

Attendees:

Mr. David Fitzhugh	City Engineer/Interim Director Developmental	Town of Buckeye
Ms. Kristin Greene	Intergovernmental Affairs Officer	City of Avondale
Mr. Jon Froke	Planning Director	City of Glendale
Mr. Stephen S. Cleveland	City Manager	City of Goodyear
Mr. Harvey Krauss	Community Development Director	City of Goodyear
Mr. Luke Guitierrez	Public Works Director	City of Litchfield Park
Mr. Horatio Skeete	City Manager	City of Litchfield Park
Mr. Gregory L. Jones, P.E.	Regional Planning Manager	FCDMC
Mr. Valerie A. Swick	Project Manager	FCDMC
Mr. Bill Hahn	Project Manager	MCDOT
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

When/Where: May 13, 2002 at 3:00 p.m. (Wigwam Resort)

Invitees:

Mr. Scott Schrader	City Manager	City of Avondale
Mr. David Fitzhugh	City Engineer/Inter. Dtr. Developmental	City of Avondale
Ms. Kristin Greene	Intergovernmental Affairs Officer	City of Avondale
Mr. Ed Beasley	City Manager	City of Glendale
Mr. Jim Colson	Economic Development Director	City of Glendale
Mr. Jon Froke	Planning Director	City of Glendale
Mr. Stephen S. Cleveland	City Manager	City of Goodyear
Mr. Harvey Krauss	Community Development Director	City of Goodyear
Mr. Horatio Skeete	City Manager	City of Litchfield Park
Mr. Gregory L. Jones	Regional Planning Manager	FCDMC
Ms. Valerie A. Swick	Project Manager	FCDMC

Mr. Matthew Holm	Principal Planner	FCDMC
Mr. Wayne R. Butch	Transportation Improvement Prg./Policy Mgr.	MCDOT
Mr. Bill Hahn	Project Manager	MCDOT
Mr. Leo E. Trinidad	Project Manager, Transportation Planning	MCDOT
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

Attendees:

Ms. Kristin Greene	Intergover. Affairs Officer	City of Avondale
Mr. Harvey Krauss	Community Dev. Director	City of Goodyear
Mr. Kevin Kugler	Planning Manager	City of Goodyear
Mr. Horatio Skeete	City Manager	City of Litchfield
Ms. Valerie A. Swick	Project Manager	FCDMC
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

When/Where: August 20, 2002 at 1:30 p.m. (Wigwam Resort)
Invitees:

Mr. Steve Careccia	City Manager	City of Avondale
Mr. David Fitzhugh	City Engineer/Inter. Dtr. Developmental	City of Avondale
Ms. Kristin Greene	Intergovernmental Affairs Officer	City of Avondale
Mr. Ed Beasley	City Manager	City of Glendale
Mr. Jim Colson	Economic Development Director	City of Glendale
Mr. Jon Froke	Planning Director	City of Glendale
Mr. Stephen S. Cleveland	City Manager	City of Goodyear
Mr. Harvey Krauss	Community Development Director	City of Goodyear
Mr. Horatio Skeete	City Manager	City of Litchfield Park
Mr. Gregory L. Jones	Regional Planning Manager	FCDMC
Ms. Valerie A. Swick	Project Manager	FCDMC
Mr. Matthew Holm	Principal Planner	FCDMC
Mr. Wayne R. Butch	Transportation Improvement Prg./Policy Mgr.	MCDOT
Mr. Bill Hahn	Project Manager	MCDOT
Mr. Leo E. Trinidad	Project Manager, Transportation Planning	MCDOT
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

Attendees:

Mr. Steve Careccia		City of Avondale
Ms. Christina Montoya		City of Glendale
Mr. Kevin Kugler	Planning Manager	City of Goodyear
Mr. Russ Miracle	Director of Planning Division	FCDMC
Ms. Valerie A. Swick	Project Manager	FCDMC

Ms. Elaine Averitt		FCDMC
Mr. Joseph Blanton	City Manager	Town of Buckeye
Mr. James Crean	Economic Development Manager	Town of Buckeye

Meetings with the Press

APS met on a regular basis with local newspaper reporters to brief them on the latest project developments.

Public Open Houses

The format for all community meetings was an open house arrangement that allowed for flexible attendance and one-on-one personal communication. The open houses consisted of several stations that covered details of the project, the siting activities, and visual materials depicting the criteria and process. There was no formal presentation and residents dropped by to talk over the project with company representatives. The meetings were conducted at facilities near the substation and transmission line sites. Hundreds of people attended the open houses held in the community.

Phase I
Date: March 12, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Wigwam Resort

Date: March 13, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Phoenix Destiny RV Resort

Date: March 14, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Duncan Family Farms

Phase II
Date: May 15, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Buckeye Community Center

Date: May 16, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Scott Libby Elementary School-Activity Center

Phase III
Date: August 21, 2002 from 5:30 p.m. to 7:30 p.m.
Location: Scott Libby Elementary School-Activity Center

Display Ads

Display ads were placed in local newspapers to publicize the project and open house dates. All ads were quarter-page in size and are listed below with publication dates. The publications where display ads were placed have the following circulation numbers:

West Valley View – 43,704
Buckeye Valley New – 2,300
The Desert Sun – 12,000

A total of <u>162,012</u> people were reached via the display ads placed in the three community publications over the life of the project.

Phase I
Publication: West Valley View
Run-dates: February 27 and March 6

Publication: Buckeye Valley News
Run-dates: March 5 and 12

Phase II
Publication: West Valley View
Run-dates: May 1, 8 and 15

Publication: Desert Sun
Run-dates: May 1 and 8

Publication: Buckeye Valley News
Run-dates: May 7 and 14

Phase III
Publication: West Valley View
Run-dates: August 7, 14 and 21

Publication: Desert Sun
Run-dates: August 7 and 13

Publication: Buckeye Valley News
Run-dates: August 13 and 20

Sample ads are attached.

Newsletters

Four newsletters and one fact sheet were developed during the project to provide up-to-date information to the public. Each newsletter announced upcoming open houses and offered various means for the public to comment. The additional ways to comment listed in the newsletters were the information phone line and Web site address. The content of the newsletters was informative and addressed impending issues and timely decisions. **Each newsletter was mailed to more than 72,000 residents in the West Valley including numerous community leaders, elected officials and anyone who gave their address at the open houses, on the Web site or via the informational phone line.**

Phase I
Distribution: March 1, 2002

Phase II
Distribution: April 23, 2002

Phase III
Distribution: August 8, 2002

Phase IV
Distribution: November, 2002

Samples of each of the four newsletters are attached.

Various Meetings with Key Stakeholders and Leaders

APS Project Manager, Steve Goodman, attended all meetings listed below along with various other APS representatives.

2001:

- December 17 - Joe Blanton, Town Manager, Town of Buckeye
- December 20 - Ed Beasley, Manager, City of Glendale
- December 20 - Harvey Krauss, Community Development Director & Grant Anderson, Deputy Manager, City of Goodyear

2002:

- January 20 - Dick Schrader, City Manager, City of Avondale
- January 22 - Greg Jones, Project Manager, FCDMC and Dennis Holcomb
- January 22 - Matt Holm, Senior Planner, MC Planning Dept
- January 25 - Sharolyn Holman-Executive Director, Southwest Valley Chamber
- January 31 - Dave Iwanski, Agri-Business Council
- February 11 - Mary Rose Wilcox, Supervisor, Arizona Corporation Commission
- February 13 - Jim Adams, Deputy Commissioner, Arizona State Land Department
- February 25 - Greg Jones, Flood Control District, Maricopa County
- March 6 - Rusty Bowers, Arizona Rock Products
- March 8 - Scott Phillips, Senior Planner, City of Surprise
- March 14 - Ralph Veloz, City Manager, City of Tolleson
- March 19 - Betty Lynch, City Council Member, City of Avondale
- April 5 - Stuart Brackney, City Manager, City of El Mirage
- April 5 - Scott Phillips, Senior Planner, City of Surprise
- April 11 - Al Carroll, Council Member, City of Avondale
- April 15 - Presentation to Avondale City Council
- April 29 - Sue Linney, Council Member, City of Avondale
- April 30 -Harvey Krauss, Com. Development Director, City of Goodyear
- May 15 - Frank Cavalier, James Cavanaugh, Council Members, City of Goodyear
- May 17 - William Scalzo, Director, Maricopa County Parks
- May 23 - Terry Ellis, City Manager's Office, City of Peoria
- May 21 - Glen Vortherms, Engineer, Maricopa Water District
- May 31 - Terry Hansen, Airspace Manager, Luke Air Force Base
- May 28 - Charles Criss, Clearwater Farms, HOA member
- May 29 and June 14 - Jack Hein and neighbors, Clearwater Farms HOA members
- June 10 - Andy Kunasek and Max Wilson, Supervisors, Maricopa County
- June 17 - Clearwater Farms HOA & Jack Hein and Neighbors
- July 1 - Dr. Thomas Heck, Superintendent, Litchfield School District
- July 12 - Jim Sweeney, General Manager, Maricopa Water District
- August 6 - Greg Jones and staff, FCDMC
- August 12 - Todd Hileman, City Manager, City of Avondale
- August 26 - Stan Ashby, General Manager, Roosevelt Irrigation District
- December 3 - Max Wilson, Maricopa County Supervisor

- December 3 - Horatio Skeete, Town Manager, City of Litchfield Park
- December 3 - Joe Blanton, Town Manager, Town of Buckeye
- December 4 - Sharolyn Holman, Executive Director, Southwest Valley Chamber
- December 4 - Todd Hileman, City Manager, City of Avondale
- December 9 - Greg Jones and Staff, Maricopa County Flood Control District
- December 12 - Grant Anderson, Deputy Manager, City of Goodyear
- December 16 - Jim Adams, Deputy Commissioner, Arizona State Land Department

2003:

- February 13 - Sheldon Jones, Agri-Business Council
- February 21 - Terry Hansen, Airspace Manager, Luke Air Force Base
- March 5 - Tom Buick, Maricopa County
- March 25 - Terry Hansen, Airspace Manager, Luke Air Force Base
- May 13 - Joe Blanton, City Manager, Town of Buckeye
- March 3 - Dennis Harkins, Deputy Warden, Arizona State Prison, Perryville
- April 30 - Harvey Krauss, Com. Development Director, City of Goodyear
- March 5 - Wayne Butch, Maricopa County Department of Transportation (MCDOT)
- May 19 - Linda Beals, Gordon Taylor, Arizona State Land Department
- June 2 - Jim Sweeney, General Manager, Maricopa Water District

Web Site

Because more people are using the Internet as a primary source of information, a Web site was created for the WVS Project. The site was updated regularly and was easy to locate. The content of the site included project information, dates of upcoming public meetings, and visual representations of the project. The site was designed to solicit feedback from the public, and enabled people to request more information or to be contacted by an APS representative. The Web site address was: http://siting.apsc.com.

- Since the site went live in February, through September 2002, 809 people accessed the Web site excluding internal hits from APS employees. Of the 809 web site visits, 62 people asked to be put on the mailing list or gave comments.

- Here is the breakdown per month:

February	81
March	119
April	114
May	142
June	93
July	80
August	118
September.....	62
Total**.....**	***809***

Informational Phone Line

A project information line was created to collect comments, project inquiries, and information requests. The information line also gave information on upcoming open houses and newsletters. The phone number used the West Valley's local area code (623) and was included on all outreach materials. The phone number was 623-932-6636.

Public Comment Summary

APS began initial outreach for the project in November 2001. The public had the opportunity to comment on the project from February 2002 through September 2002. During this time, there were numerous public comments expressed via open house comment forms, the web site, the informational phone line, faxes, and personal phone calls with Steve Goodman of APS.

Using various communication vehicles, APS reached thousands of people with information on this project and received over 1,200 comments from the public.

APPENDIX B

AGENCY RESPONSE LETTER

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
COMMISSIONERS
CHAIRMAN, DENNIS D. MANNING, ALPINE
MICHAEL M. GOLIGHTLY, FLAGSTAFF
JOE CARTER, SAFFORD
SUSAN E. CHILTON, ARIVACA
W. HAYS GILSTRAP, PHOENIX
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL

August 28, 2001

Mr. Jean Paul Charpentier
URS
Cambric Corporate Center
1790 E. River Rd.
Suite E-300
Tucson, AZ 85718-5876

Re: Special Status Species Information for **T2N,R1W-3W; T1N,R1W-3W; T3N,R1W Sec 31-36; T3N,R2W Sec 31-36; T3N,R3W Sec 31-36; T3N,R4W Sec 35-36; T3N,R1E Sec 31-32; T2N,R1E Sec 5-8, 17-20, 29-32; T1N,R1E Sec 5-8, 17-20, 29-32; T1N,R4W Sec 1, 2, 11-14, 23-26, 35-36; T2N,R4W Sec 1, 2, 11-14, 23-26, 35-36; T3N, R4W Sec 35, 36; APS to Upgrade Electrical Infrastructure in Maricopa County .**

Dear Mr. Charpentier:

The Arizona Game and Fish Department (Department) has reviewed your request, dated August 20, 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 area. In addition, this 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
Heritage Data Management System, Coordinator

SSS:ss

Attachment

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

AGFD #8-27-01(03)

Special Status Species within T2N,R1W-3W; T1N,R1W-3W; T3N,R1W Sec 31-36; T3N,R2W Sec 31-36; T3N,R3W Sec 31-36; T3N,R4W Sec 35-36; T3N,R1E Sec 31-32; T2N,R1E Sec 5-8, 17-20, 29-32; T1N,R1E Sec 5-8, 17-20, 29-32; T1N,R4W Sec 1, 2, 11-14, 23-26, 35-36; T2N,R4W Sec 1, 2, 11-14, 23-26, 35-36; T3N, R4W Sec 35, 36

Arizona Game and Fish Department, Heritage Data Management System

August 28, 2001

Scientific Name	Common Name	ESA	USFS	BLM	WSCA	NPL
COCCYZUS AMERICANUS OCCIDENTALIS	WESTERN YELLOW-BILLED CUCKOO	C	S		WC	
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC			WC	
IXOBRYCHUS EXILIS HESPERIS	WESTERN LEAST BITTERN	SC			WC	
RALLUS LONGIROSTRIS YUMANENSIS	YUMA CLAPPER RAIL	LE			WC	

No Critical Habitats in the project area. AGFD #8-27-01(03), APS to Upgrade Electrical Infrastructute in Maricopa County.

WEST VALLEY-SOUTH

Power Line and Substation Project

EXHIBIT
A-5 2 of 2
admitted

WEST VALLEY-SOUTH
POWER LINE & SUBSTATION PROJECT

Environmental Report

Volume II - Maps and Graphics

Prepared for
APS

Prepared by
URS

July 2003

APS WEST VALLEY-SOUTH
POWER LINE AND SUBSTATION PROJECT

ENVIRONMENTAL REPORT
(Volume II)

Prepared for
APS

Prepared by
URS

July 2003

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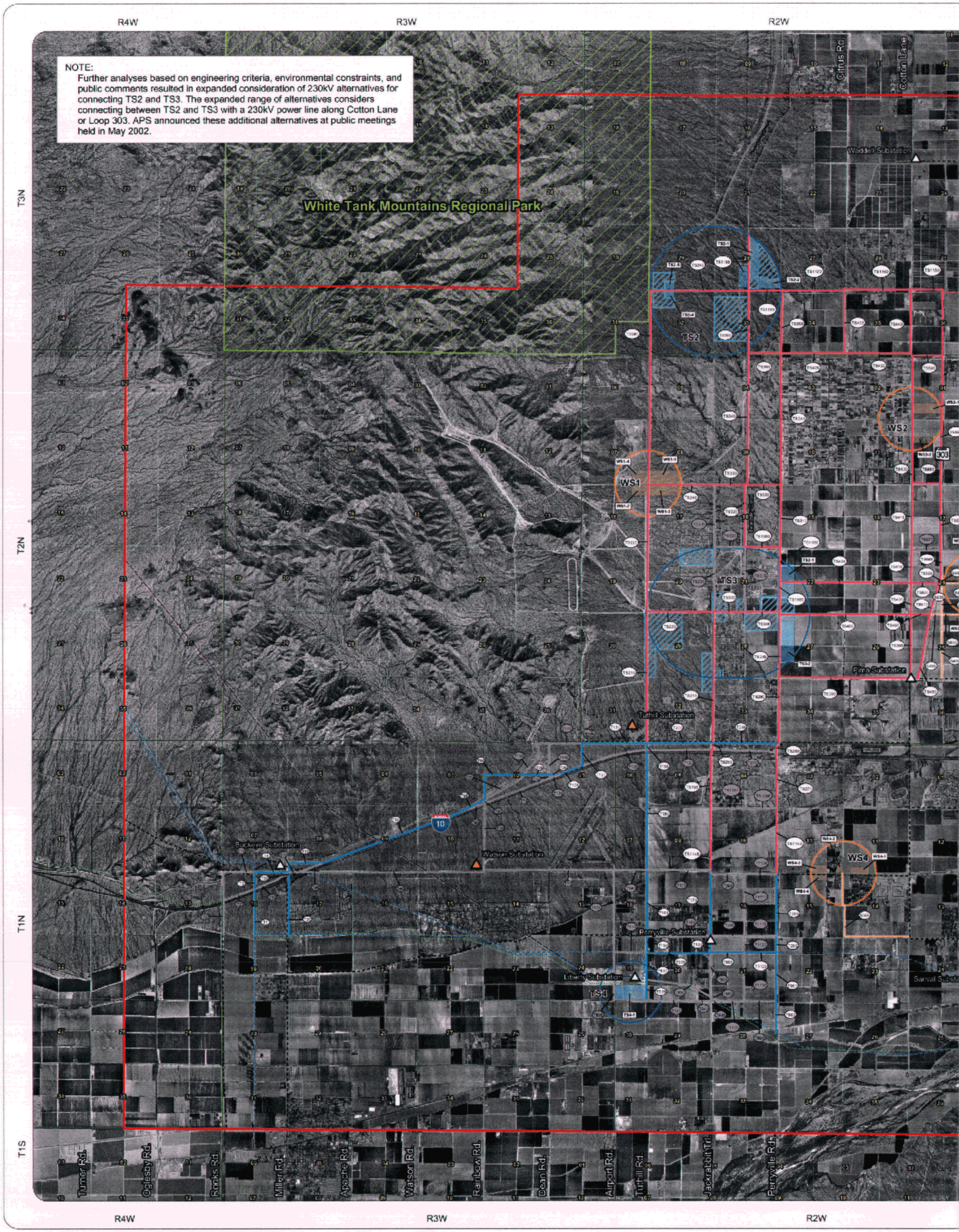
NOTE:
Further analyses based on engineering criteria, environmental constraints, and public comments resulted in expanded consideration of 230kV alternatives for connecting TS2 and TS3. The expanded range of alternatives considers connecting between TS2 and TS3 with a 230kV power line along Cotton Lane or Loop 303. APS announced these additional alternatives at public meetings held in May 2002.
R4W
R3W
R2W
T3N
T2N
T1N
T1S
White Tank Mountains Regional Park
Citrus Rd.
Cotton Lane
Waddell Substation
TS2
WS2
WS1
TS3
Pima Substation
Tuthill Substation
Buckeye Substation
Watson Substation
WS4
Perryville Substation
Liberty Substation
TS4
Sarival Substation
303
10
Turner Rd.
Ogelsby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl.
Perryville Rd.

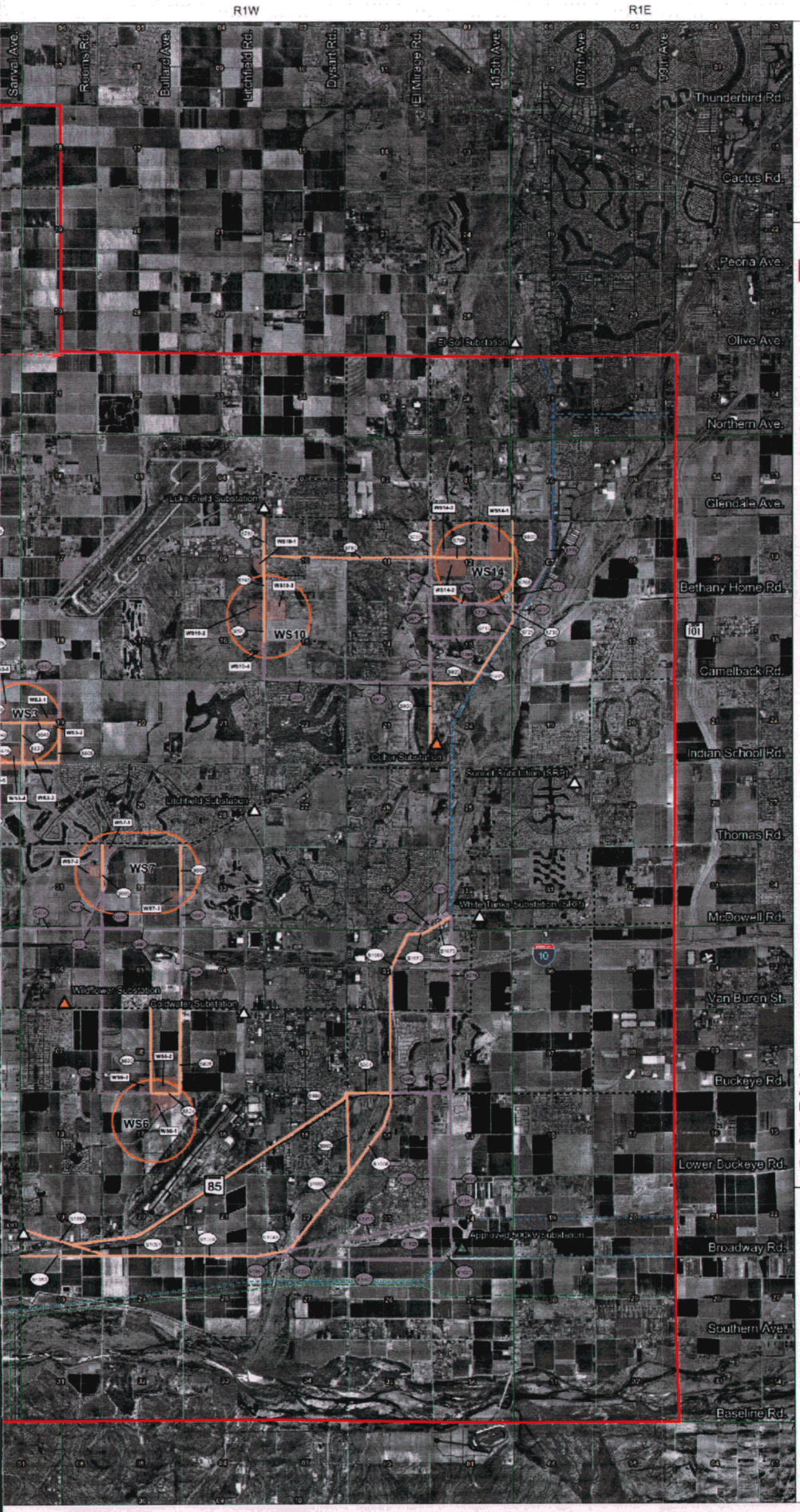

Photo Map with Alternative Substation Sites and Power Line Connections

Figure ES-1

Last Modified 10/22/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Potential 230kV Transmission Line
- Potential 230/69kV Transmission Line
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation Site*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 — Section Lines and Numbers
- WS3-1 — Potential Substation Identification Number
- T30 — Link Identification Number
- T35 — Link Identification Number (Link Recommended for Elimination)
- Alternatives considered but recommended for elimination based on engineering criteria
- Potential 230kV Transmission Line Corridor for future study**

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

**The West Valley-North Project will evaluate alternative 230kV connections between TS2 and the existing El Sol Substation.

Photo Source:
Kenney Aerial Mapping Inc., 2001.

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Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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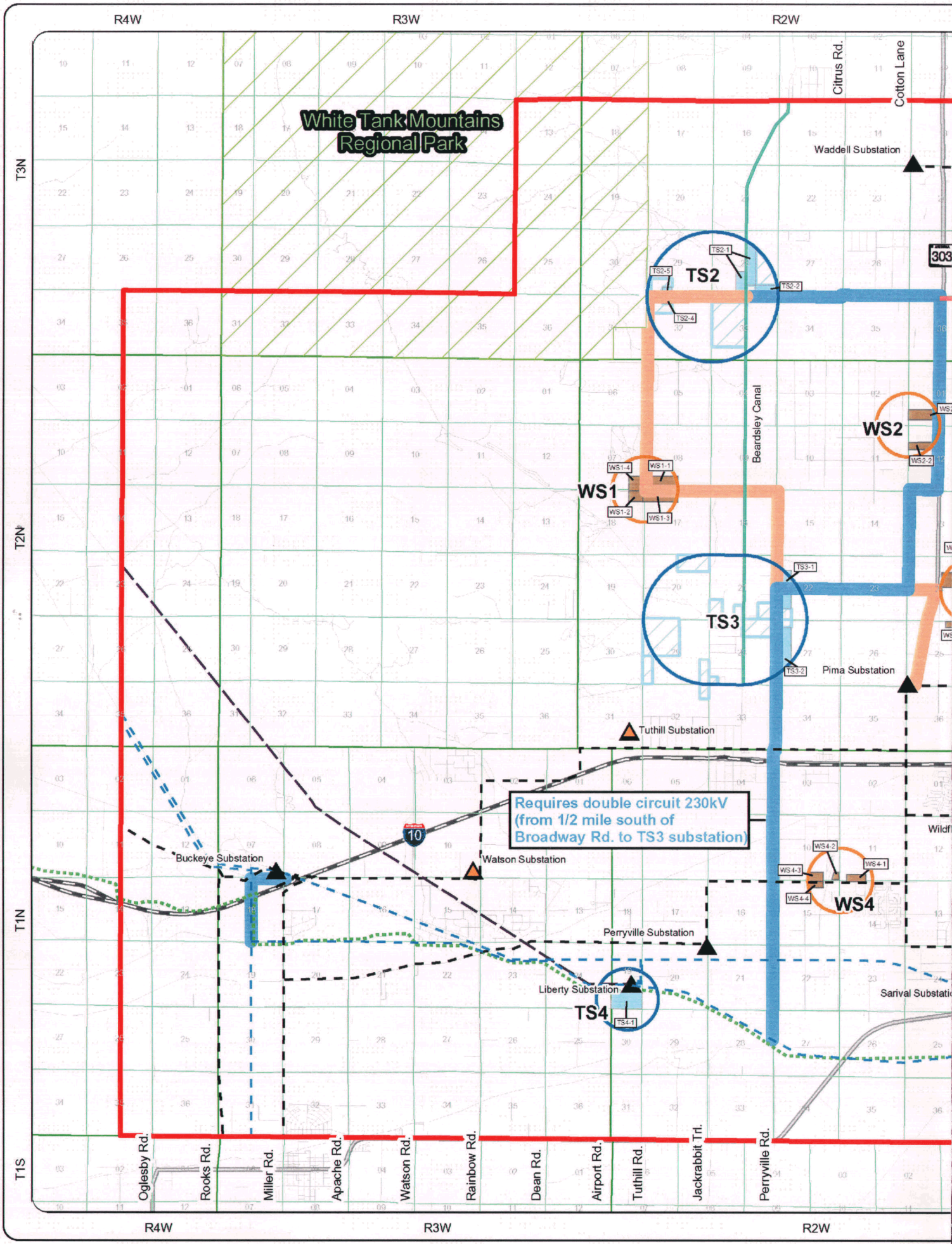
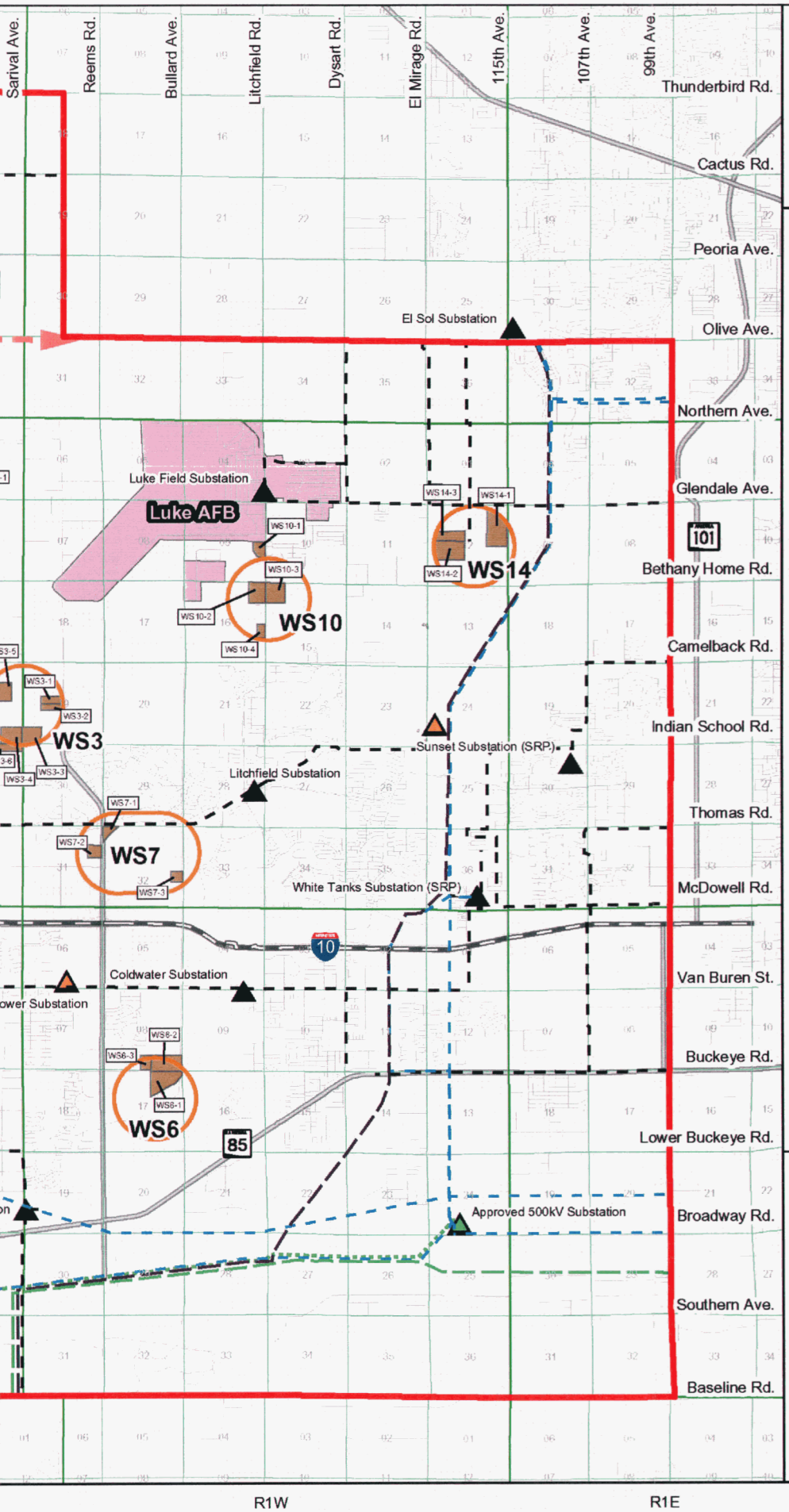

R4W
R3W
R2W
T3N
T2N
T1N
T1S
White Tank Mountains Regional Park
Citrus Rd.
Cotton Lane
Waddell Substation
TS2
TS2-1
TS2-2
TS2-4
TS2-5
303
Beardsley Canal
WS2
WS2-2
WS1
WS1-1
WS1-2
WS1-3
WS1-4
TS3
TS3-1
TS3-2
Pima Substation
Tuthill Substation
Requires double circuit 230kV (from 1/2 mile south of Broadway Rd. to TS3 substation)
Buckeye Substation
Watson Substation
10
WS4
WS4-1
WS4-2
WS4-3
WS4-4
Perryville Substation
Liberty Substation
TS4
TS4-1
Wildf
Sarival Substati
Oglesby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl.
Perryville Rd.



System A

230kV and 69kV System Option Connections

Figure ES-2

Last Modified 08/15/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Potential 230kV Transmission Line
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 — Section Lines and Numbers
- Potential 230kV Transmission Line Corridor for future study**

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

**The West Valley-North Project will evaluate alternative 230kV connections between TS2 and the existing El Sol Substation.

N W E S

0 1 2 4

Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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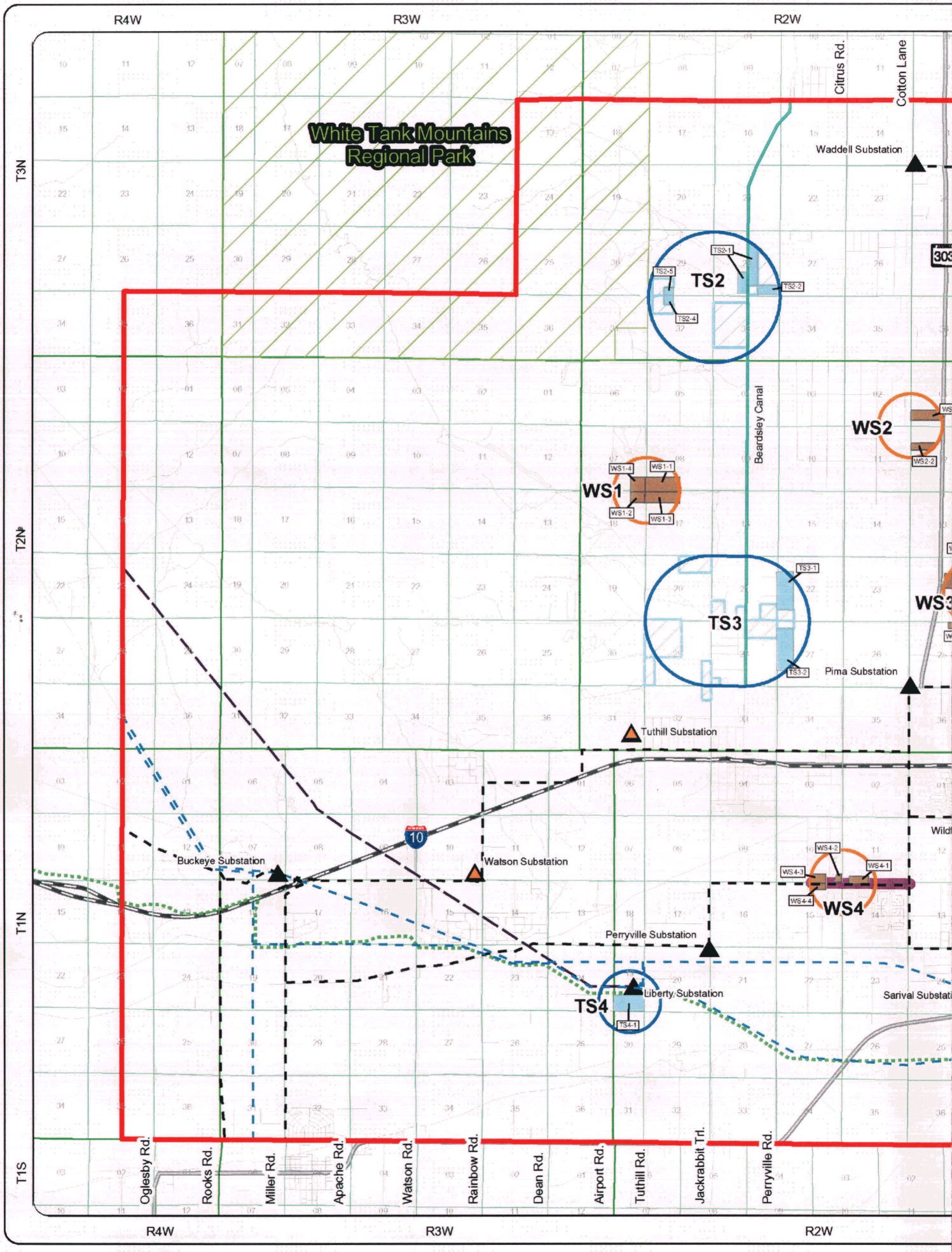
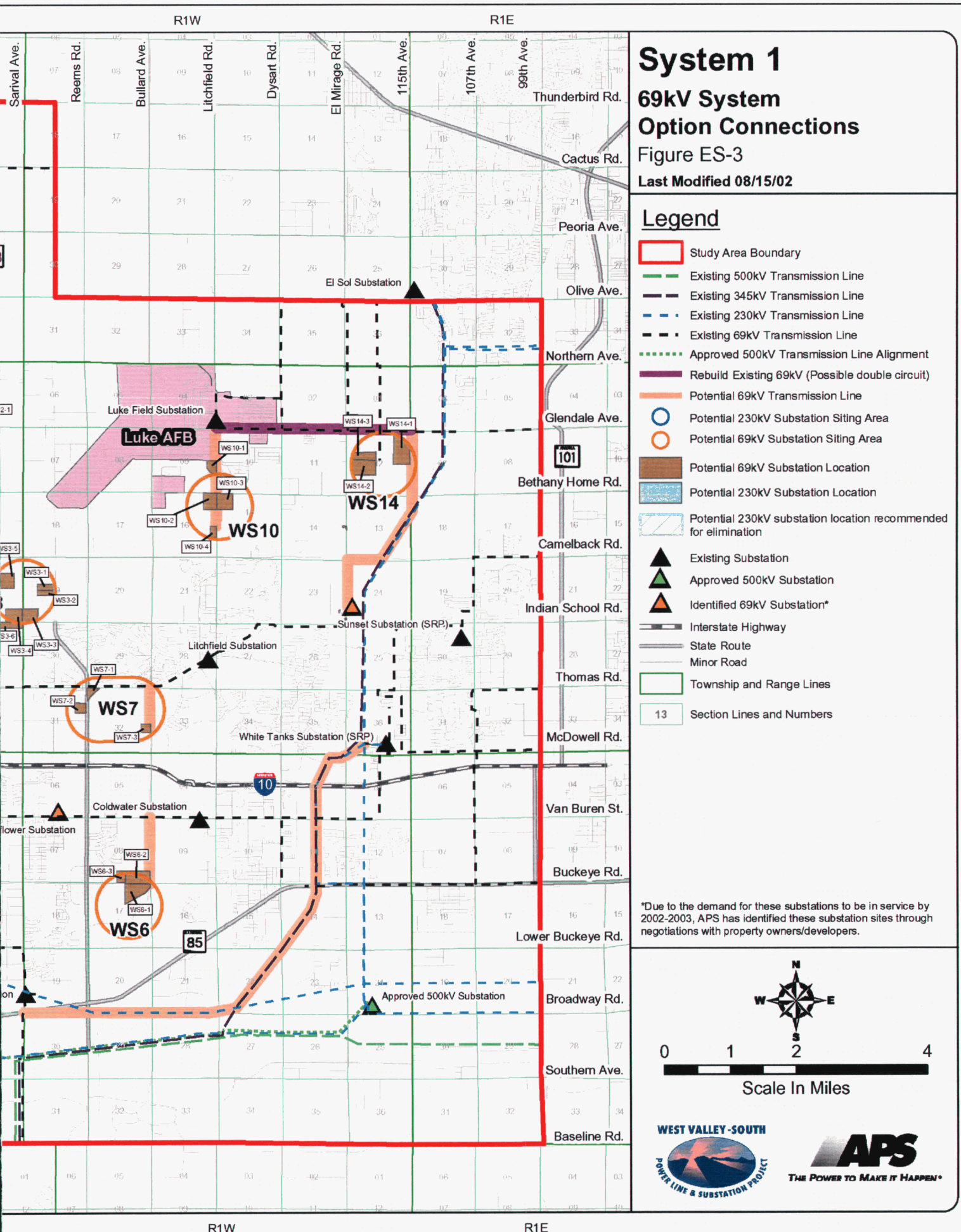

R4W
R3W
R2W
T3N
T2N
T1N
T1S
White Tank Mountains Regional Park
Citrus Rd.
Cotton Lane
Waddell Substation
TS2
TS2-1
TS2-2
TS2-4
TS2-5
Beardsley Canal
WS2
WS2-2
WS1
WS1-1
WS1-2
WS1-3
WS1-4
TS3
TS3-1
TS3-2
Pima Substation
Tuthill Substation
Buckeye Substation
Watson Substation
Perryville Substation
Liberty Substation
TS4
TS4-1
WS4
WS4-1
WS4-2
WS4-3
WS4-4
Oglesby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl.
Perryville Rd.



System 1

69kV System Option Connections

Figure ES-3

Last Modified 08/15/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Rebuild Existing 69kV (Possible double circuit)
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 Section Lines and Numbers

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

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Scale In Miles

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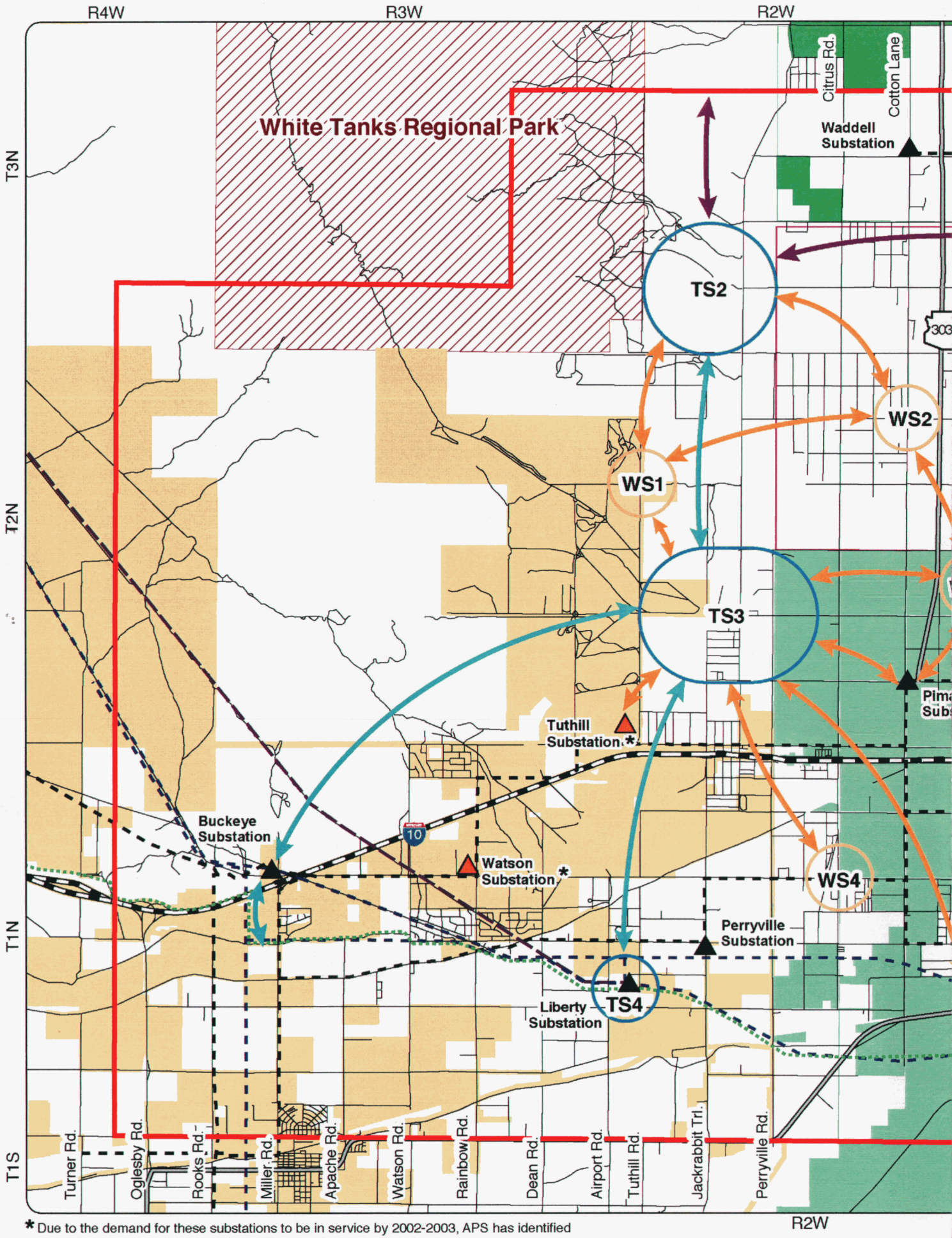
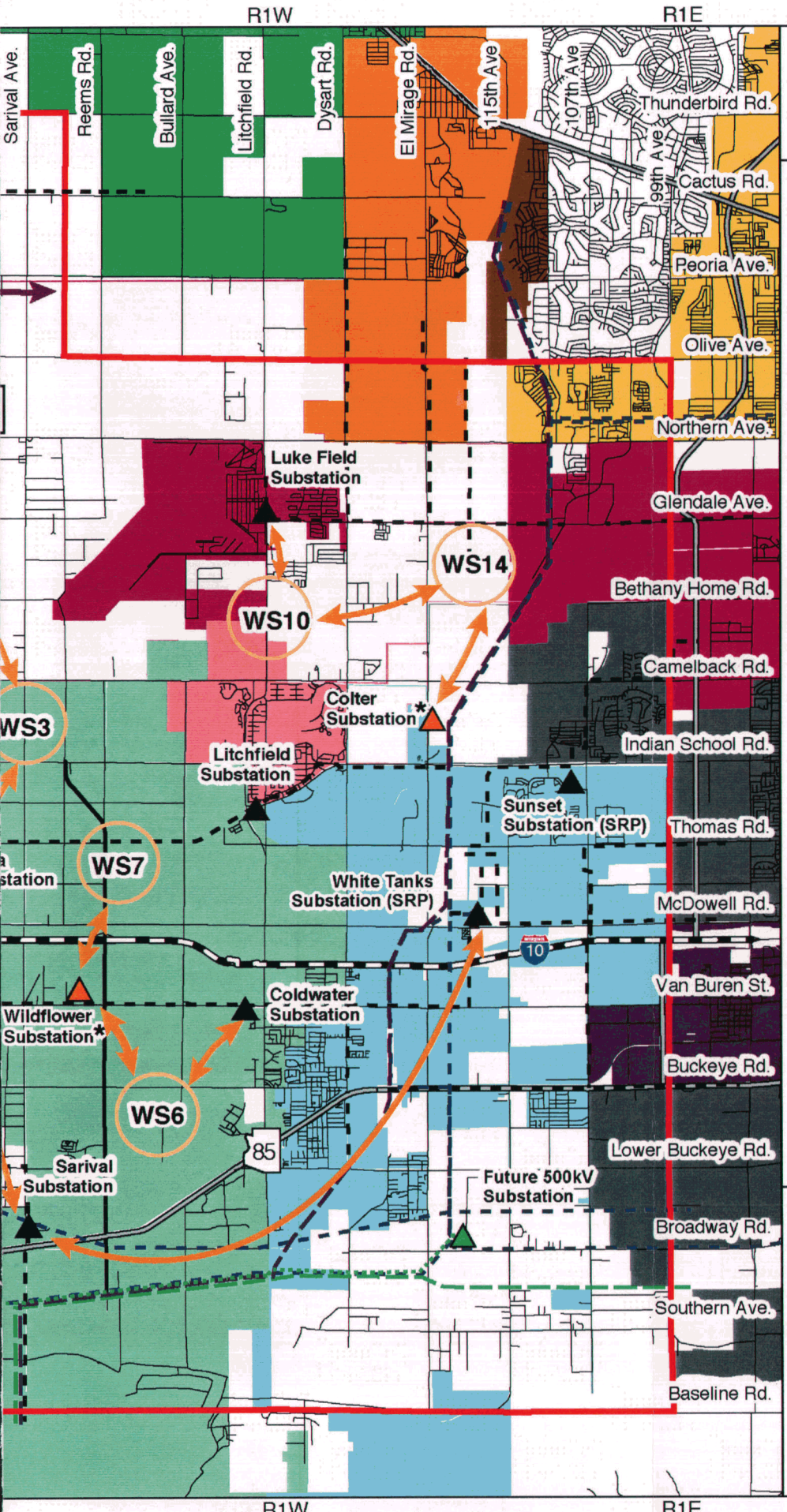


* Due to the demand for these substations to be in service by 2002-2003, APS has identified substation sites through negotiations with property owners/developers.



Conceptual Substation Locations and Power Line Connections

Figure 1-1

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Proposed 230kV Substation Siting Area
- Proposed 69kV Substation Siting Area
- Potential 69kV Transmission Line
- Potential 230kV Transmission Line
- 230kv Transmission Line for Future Study
- Existing Substations
- Approved 500kV Substation Location
- Identified 69kV Substation Site *
- Interstate Highways
- State Routes
- Estrella Parkway
- Minor Roads

Jurisdiction

- Avondale
- Buckeye
- El Mirage
- Glendale
- Glendale Municipal Planning Boundary
- Goodyear
- Litchfield Park
- Maricopa County
- Peoria
- Phoenix
- Surprise
- Tolleson
- Youngtown

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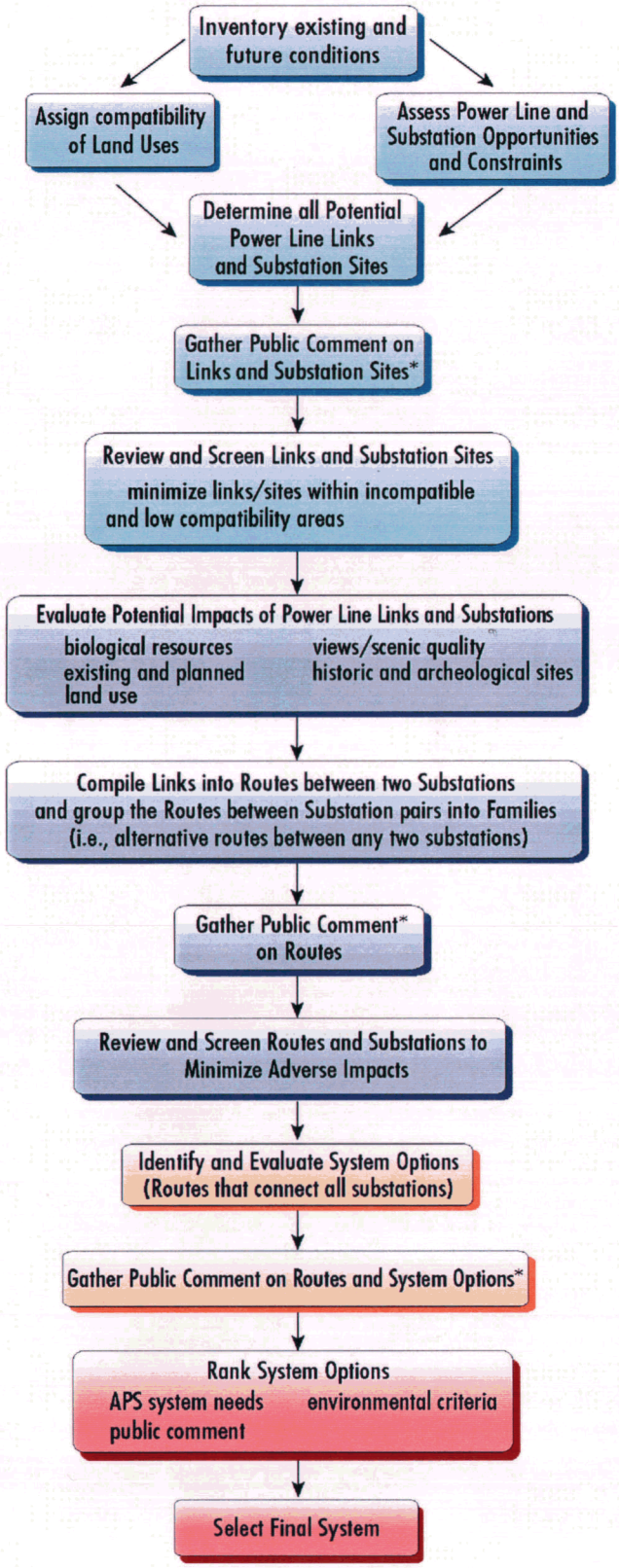
Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

APS

Last Modified 10/08/02

Siting Process



SEPTEMBER 2001 – MARCH 2002

MARCH 2002 – MAY 2002

MAY 2002 – AUGUST 2002

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

*Public involvement will continue throughout the siting process.

Figure 1-2

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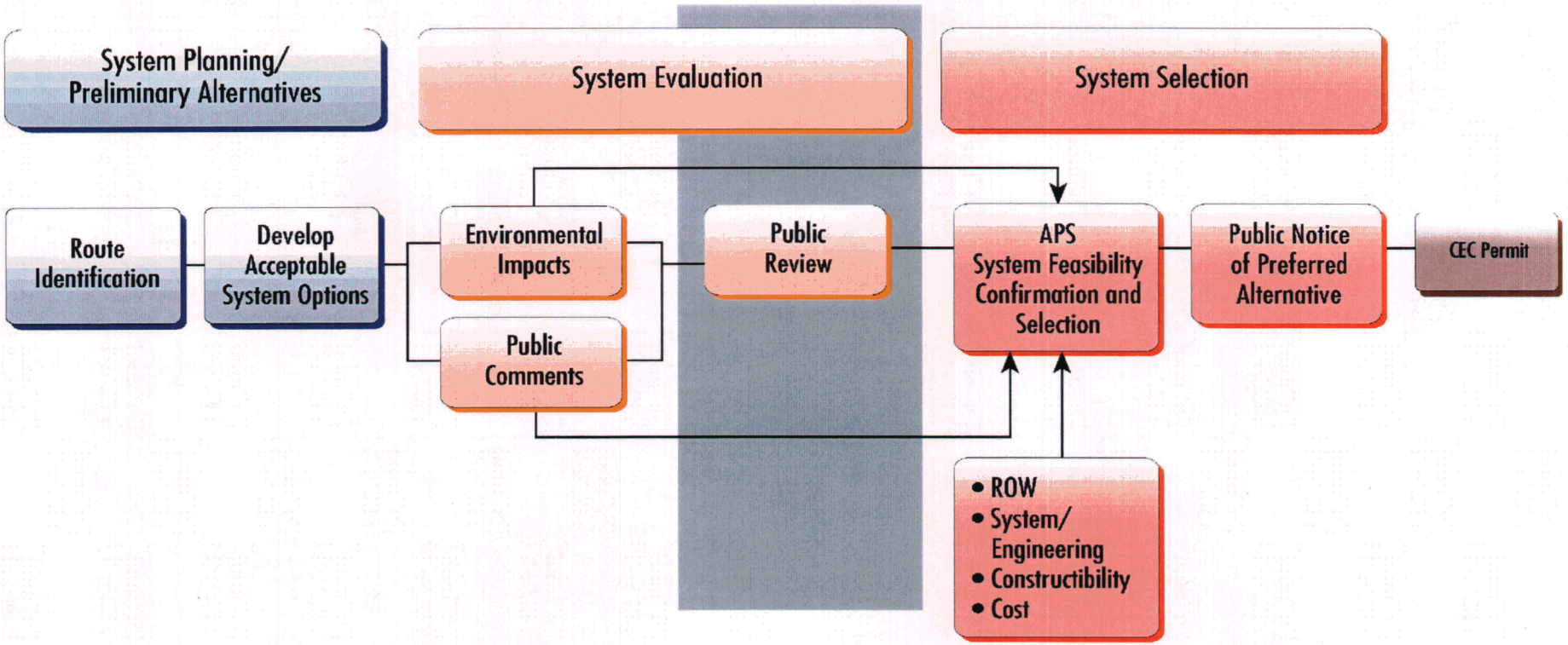
System Selection Process



WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Figure 1-3

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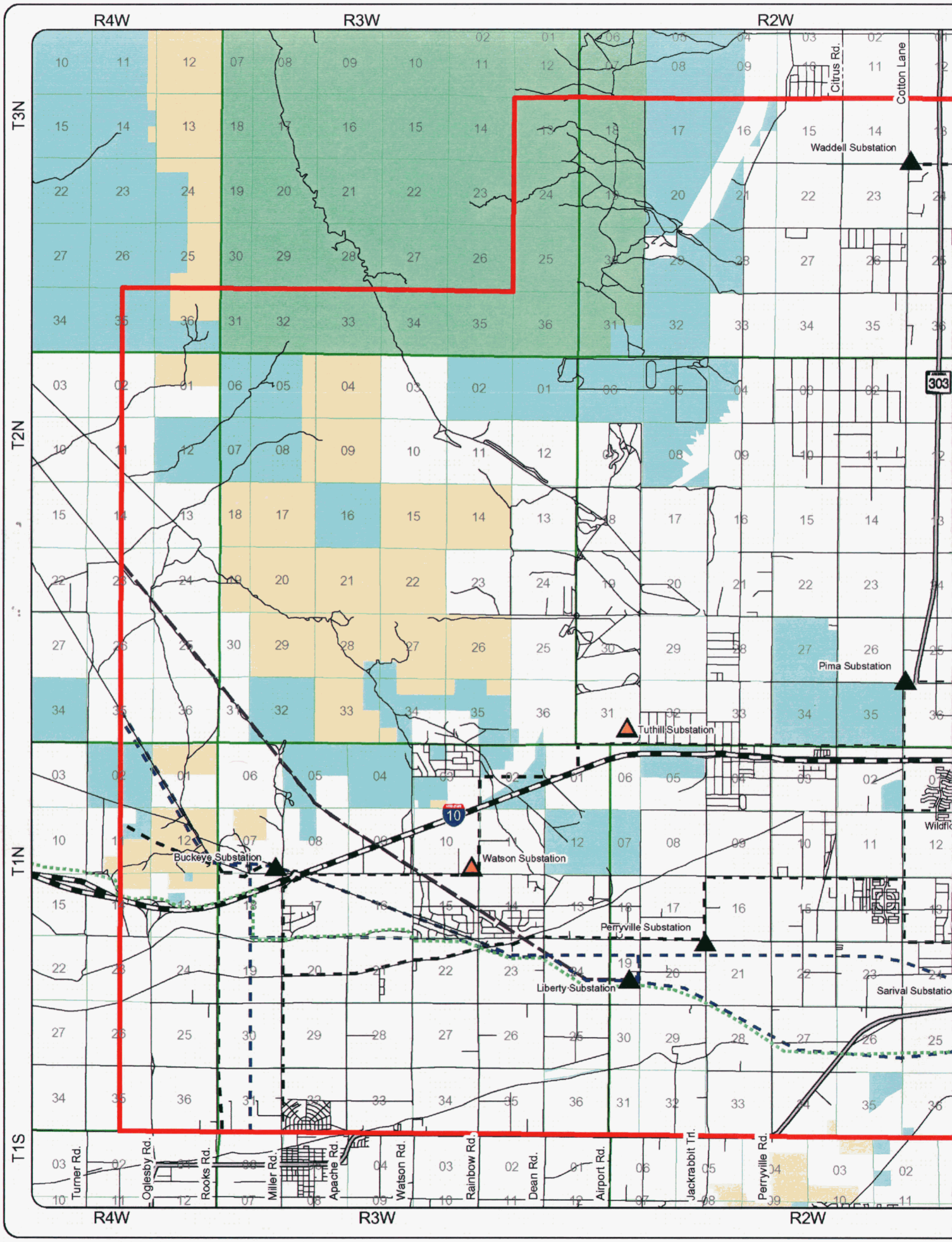
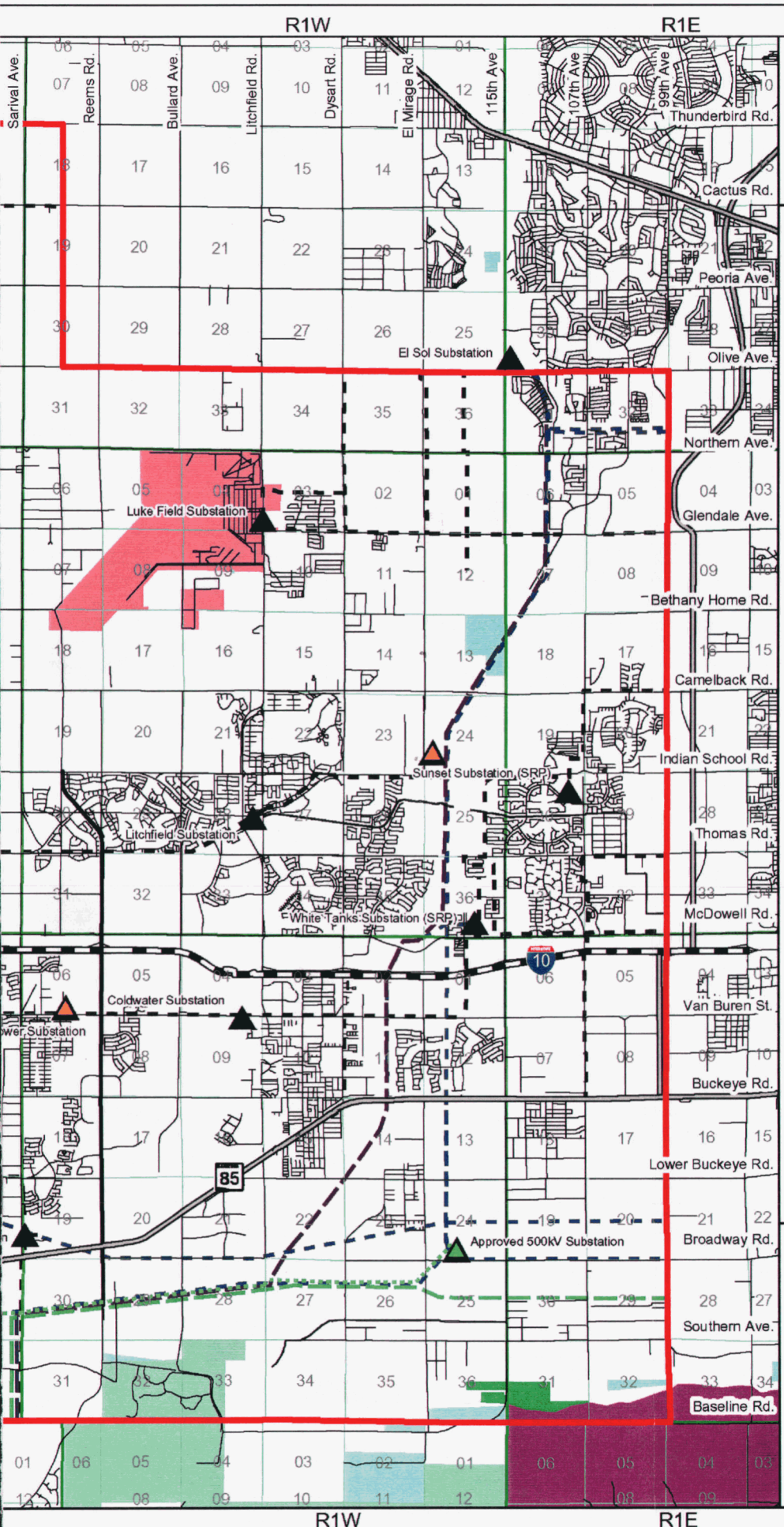

R4W
R3W
R2W
T3N
T2N
T1N
T1S
Citrus Rd.
Cotton Lane
Waddell Substation
303
Pima Substation
Tuthill Substation
10
Buckeye Substation
Watson Substation
Perryville Substation
Liberty Substation
Sarival Substatio
Wildfl
Turner Rd.
Oglesby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Airport Rd.
Jackrabbit Trl.
Perryville Rd.



Ownership

Figure 2-1

Last Modified 05/22/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Existing Substations
- Approved 500kV Substation
- Interstate Highways
- Estrella Parkway
- State Routes
- Minor Roads
- Township and Range Lines
- 13 Section Lines and Numbers

Ownership

- State Trust
- BLM
- Indian Reservation
- Military Reservation
- State and Regional Park
- AZ Game and Fish Dept.
- Private

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Scale In Miles

WEST VALLEY - SOUTH POWER LINE & SUBSTATION PROJECT

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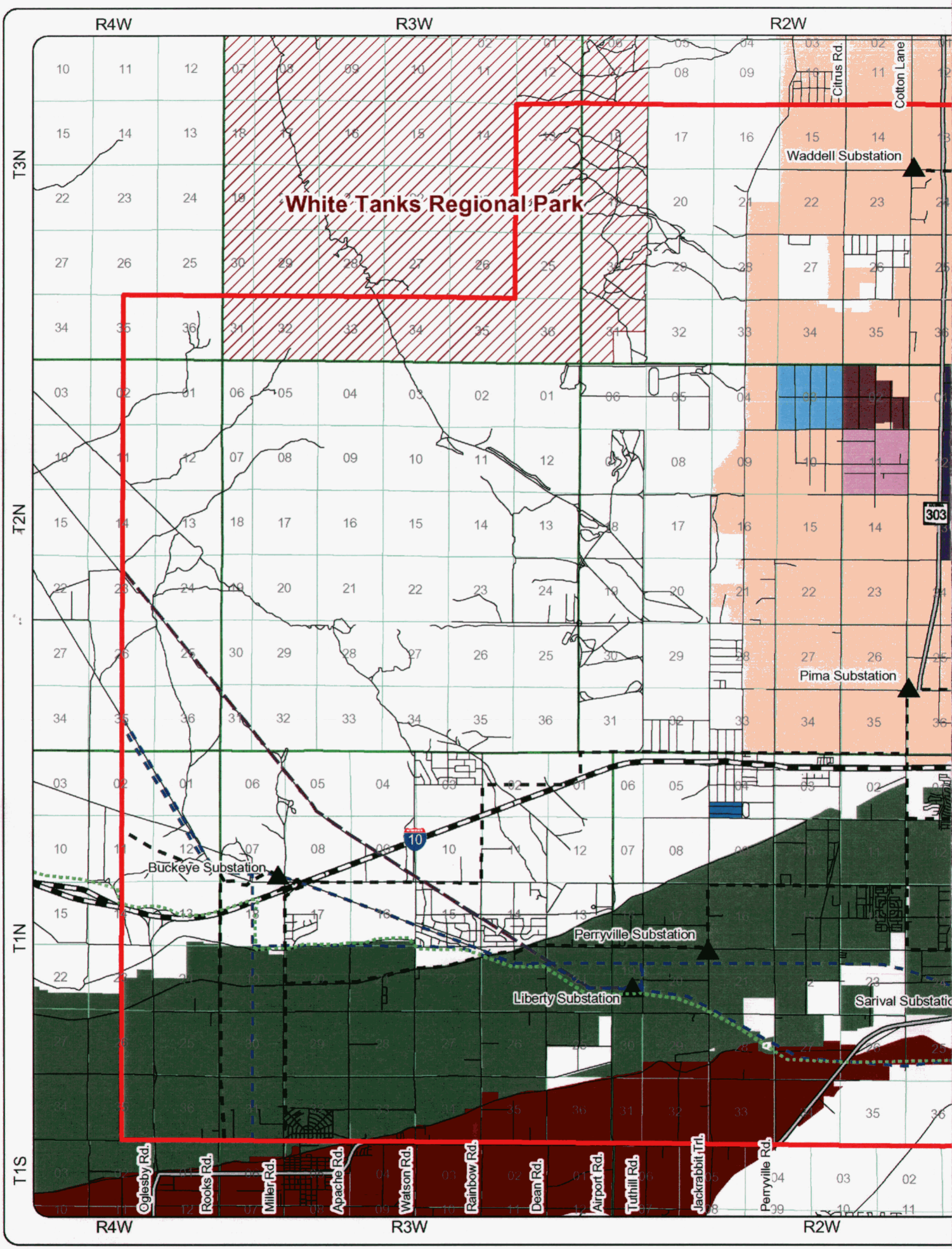
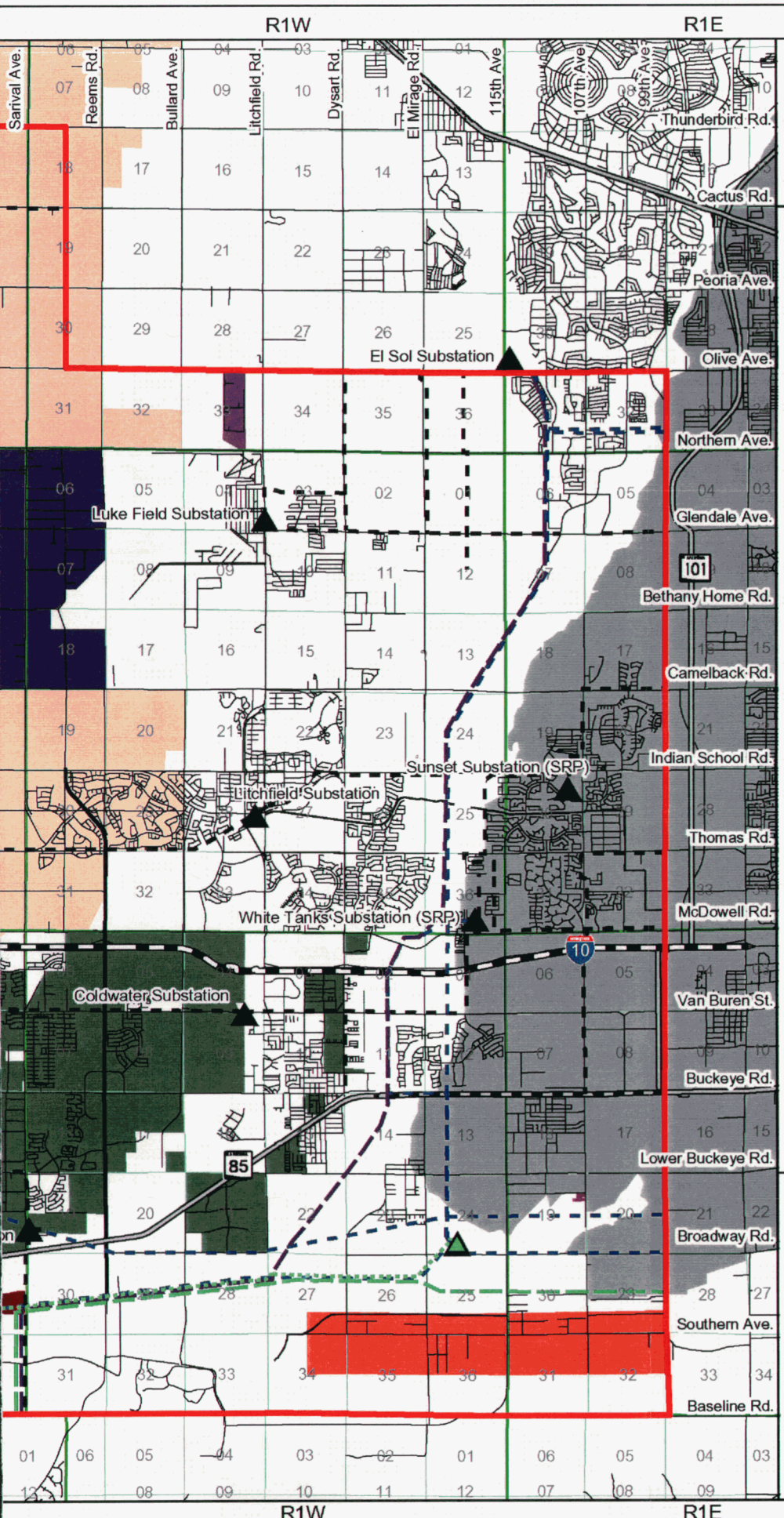

R4W
R3W
R2W
T3N
T2N
T1N
T1S
White Tanks Regional Park
Waddell Substation
Pima Substation
Buckeye Substation
Perryville Substation
Liberty Substation
Sarival Substation
Citrus Rd.
Cotton Lane
303
10
Oglesby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl.
Perryville Rd.



Irrigation Districts

Figure 2-2

Last Modified 10/28/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Existing Substations
- Approved 500kV Substation
- Interstate Highways
- Estrella Parkway
- State Routes
- Minor Roads
- Township and Range Lines
- 25 Section Lines and Numbers
- Adaman Irrigation Water Delivery District #36
- Buckeye Water Conservation & Drainage Dist.
- Citrus Glen Owners Association Inc.
- Clearwater Farms Unit I
- Clearwater Farms Unit II
- Estrella Meadow Water Coop
- Maricopa Water District
- Olive Avenue Homeowners Association
- Orangewood Farms
- Roosevelt Irrigation District
- Saint Johns Irrigation District
- Salt River Valley Water Users Association

Source: Arizona Water Providers, Version 2.0, ADWR, Feb. 2001

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Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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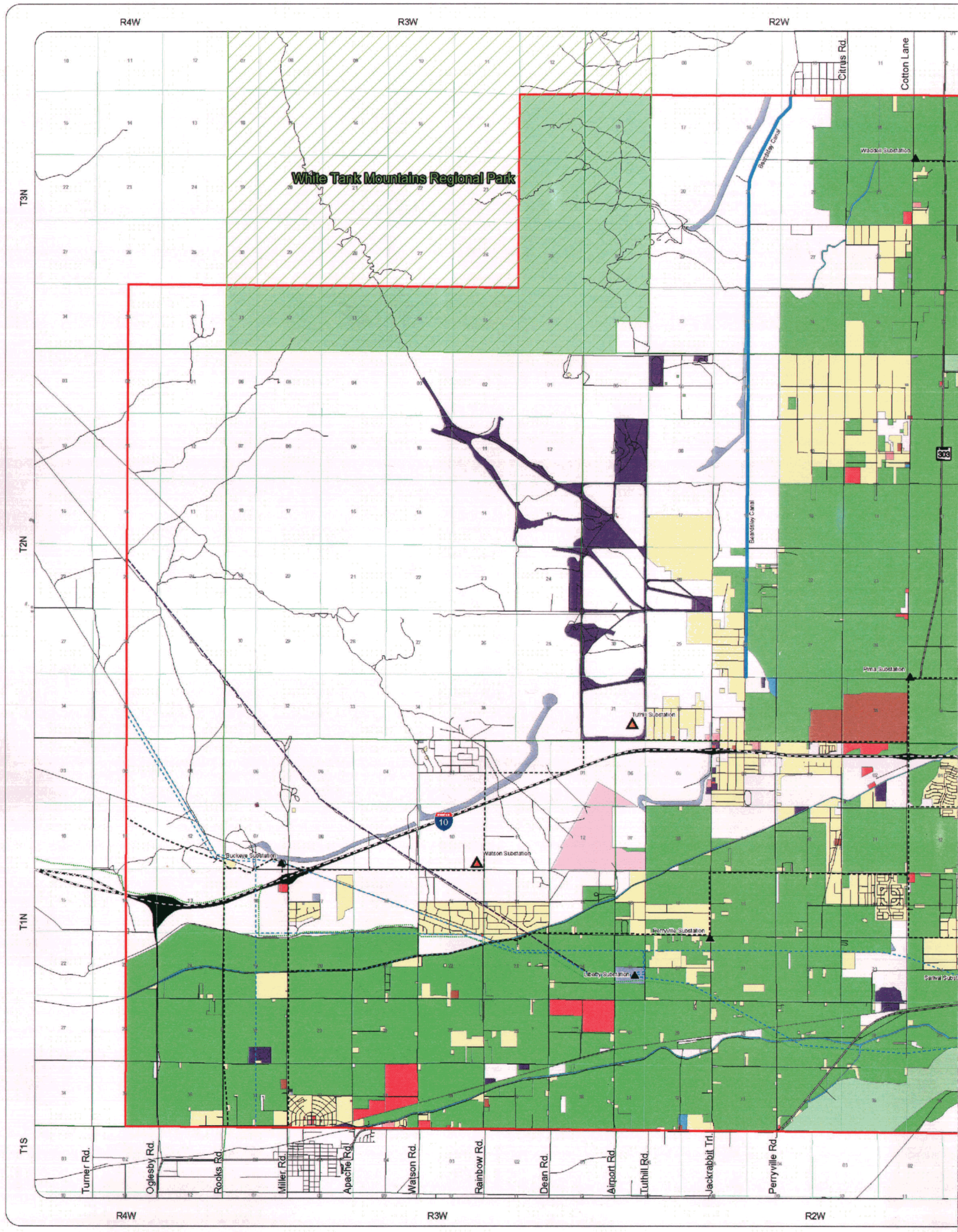
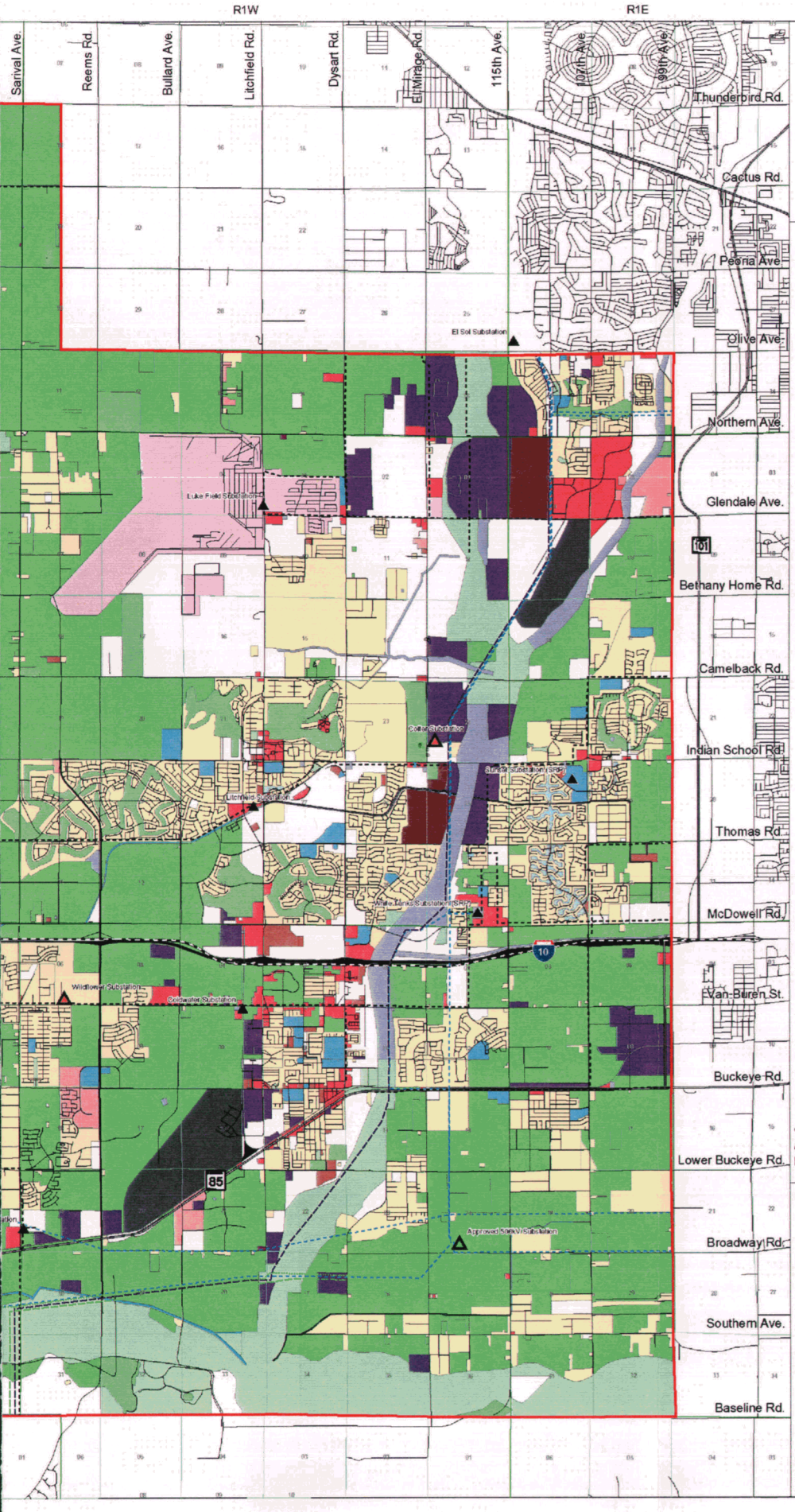

R4W
R3W
R2W
T3N
T2N
T1N
T1S
White Tank Mountains Regional Park
Citrus Rd.
Cotton Lane
Waddell Substation
Buckeye Canal
Buckeye Canal
303
Pima Substation
Tuthill Substation
10
Buckeye Substation
Watson Substation
Perryville Substation
Liberty Substation
Turner Rd.
Ogilesby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl.
Perryville Rd.
R4W
R3W
R2W



Existing Land Use

Figure 2-3

Last Modified 08/19/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 Section Lines and Numbers

Land Use

- Residential
- Commercial
- Mixed Use
- Industrial
- Landfill
- Public or Quasi-Public
- School or Educational
- Air Facilities
- Military
- Agriculture
- Canal
- Utilities
- Communication Facilities
- Transportation
- General Recreation
- Lake/ Water
- Parks/ Preservation
- Vacant/ Undeveloped

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

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Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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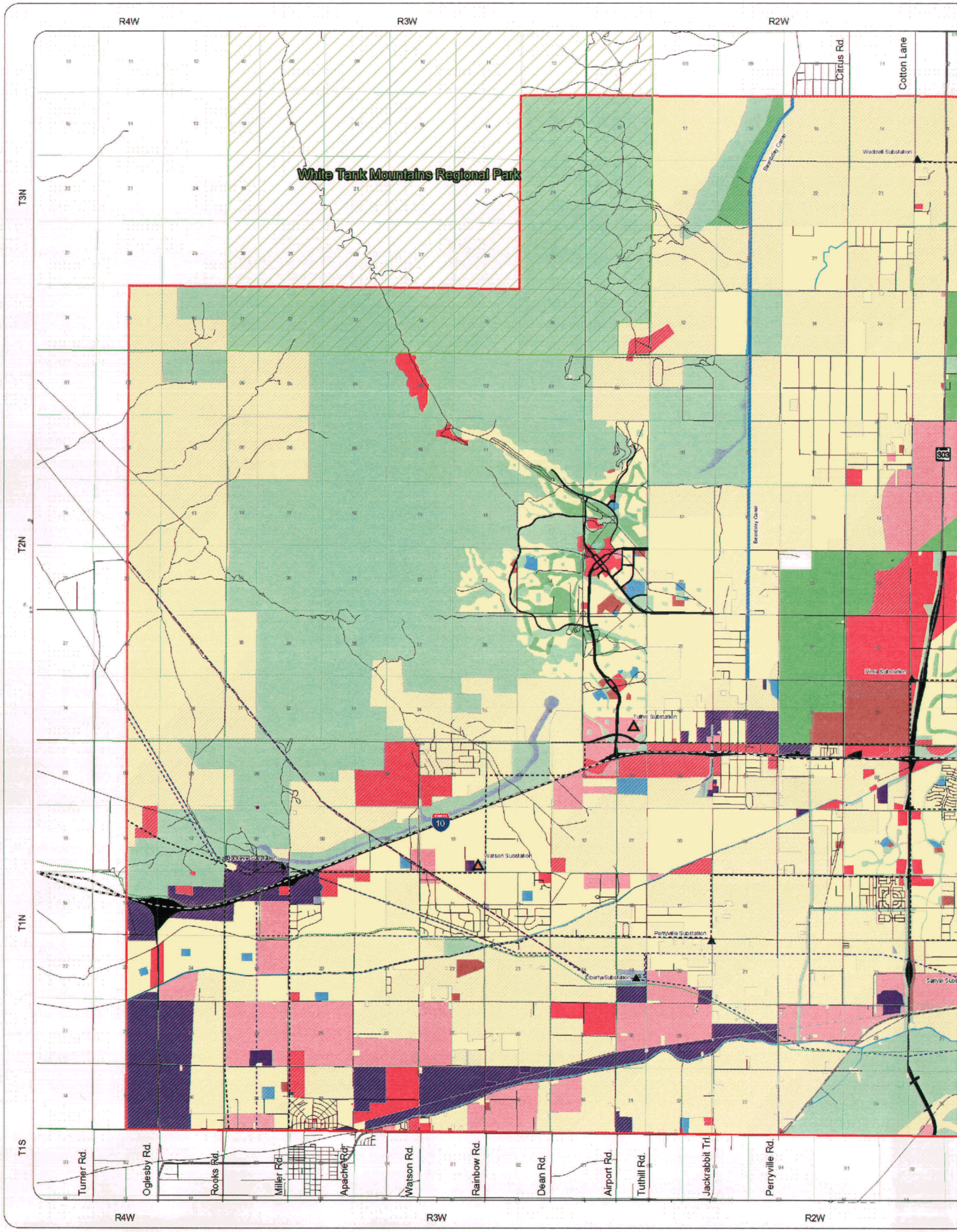
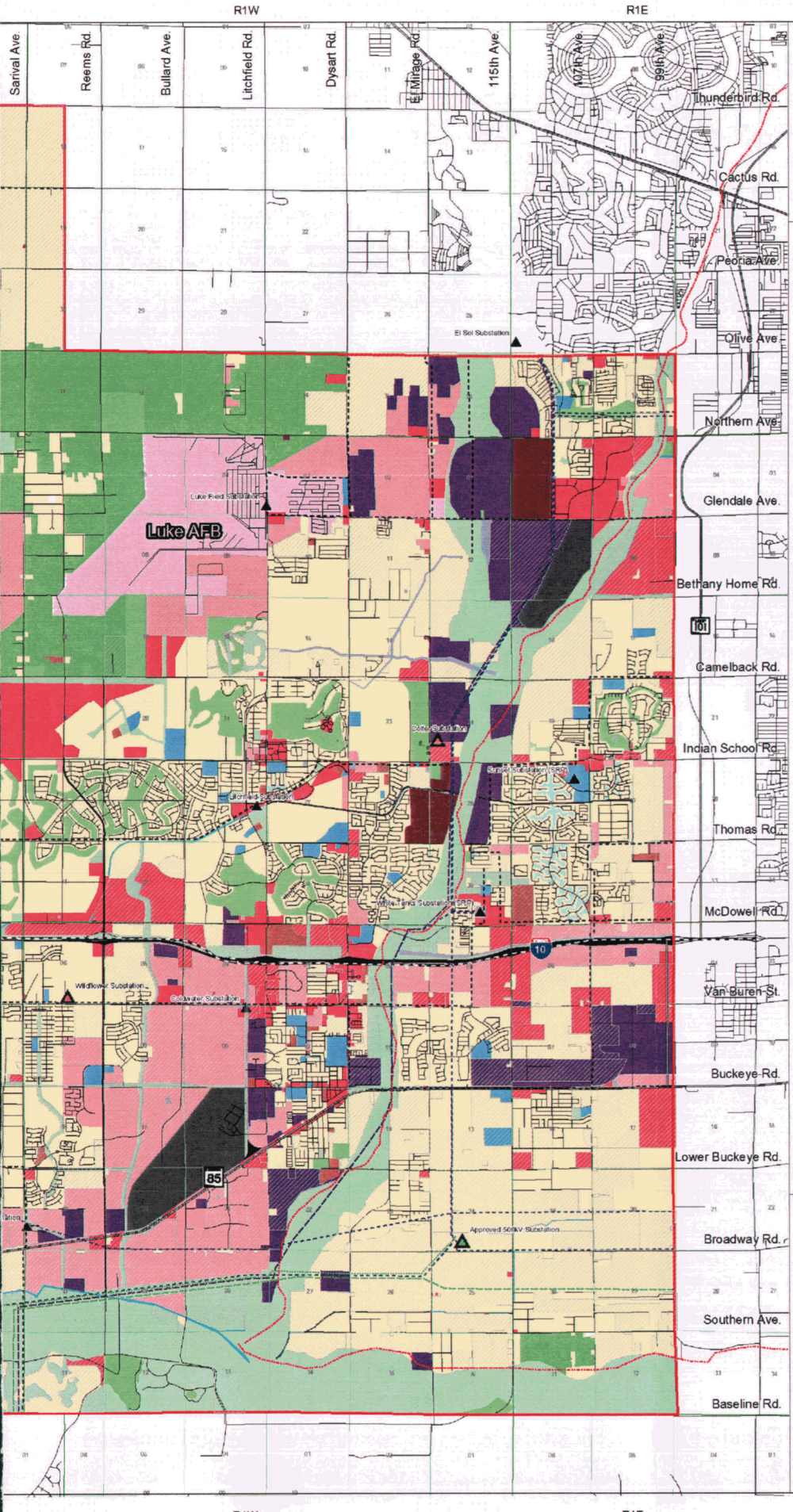

R4W
R3W
R2W
T3N
T2N
T1N
T1S
White Tank Mountains Regional Park
Cotton Lane
Waddell Substation
Beardsley Canal
Pima Substation
Tuthill Substation
Watson Substation
Perryville Substation
Liberty Substation
Turner Rd.
Ogelsby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl.
Perryville Rd.



Future Land Use

Figure 2-4

Last Modified 08/19/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation*
- Interstate Highway
- State Route
- Minor Road
- Future Trail
- Township and Range Lines
- 13 Section Lines and Numbers

Land Use

- Residential
- Commercial
- Mixed Use
- Industrial
- Landfill
- Public or Quasi-Public
- School or Educational
- Air Facilities
- Military
- Agriculture
- Canal
- Utilities
- Communication Facilities
- Transportation
- General Recreation
- Lake/ Water
- Parks/ Preservation
- Vacant/ Undeveloped
- General Plan Land Use

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

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Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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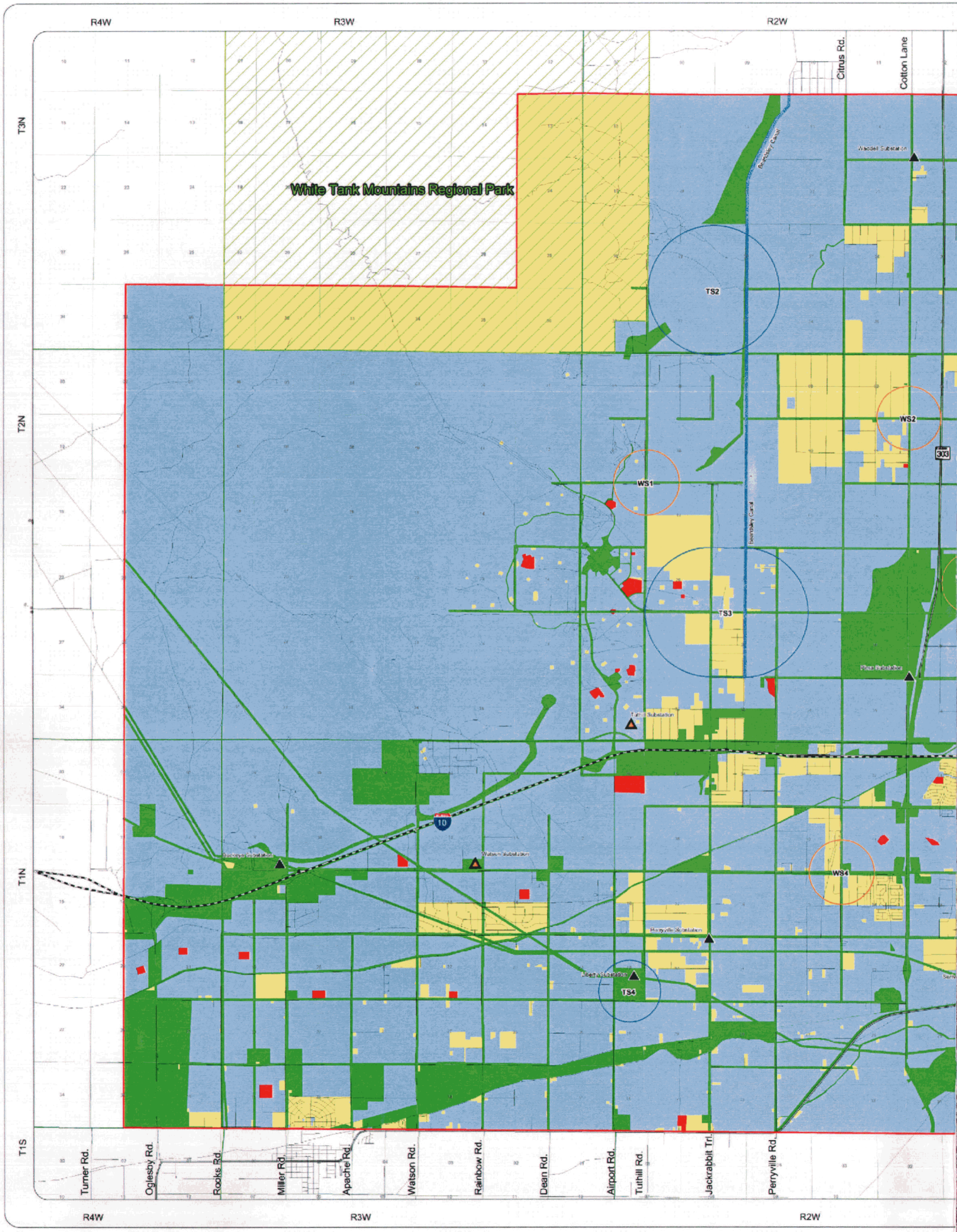
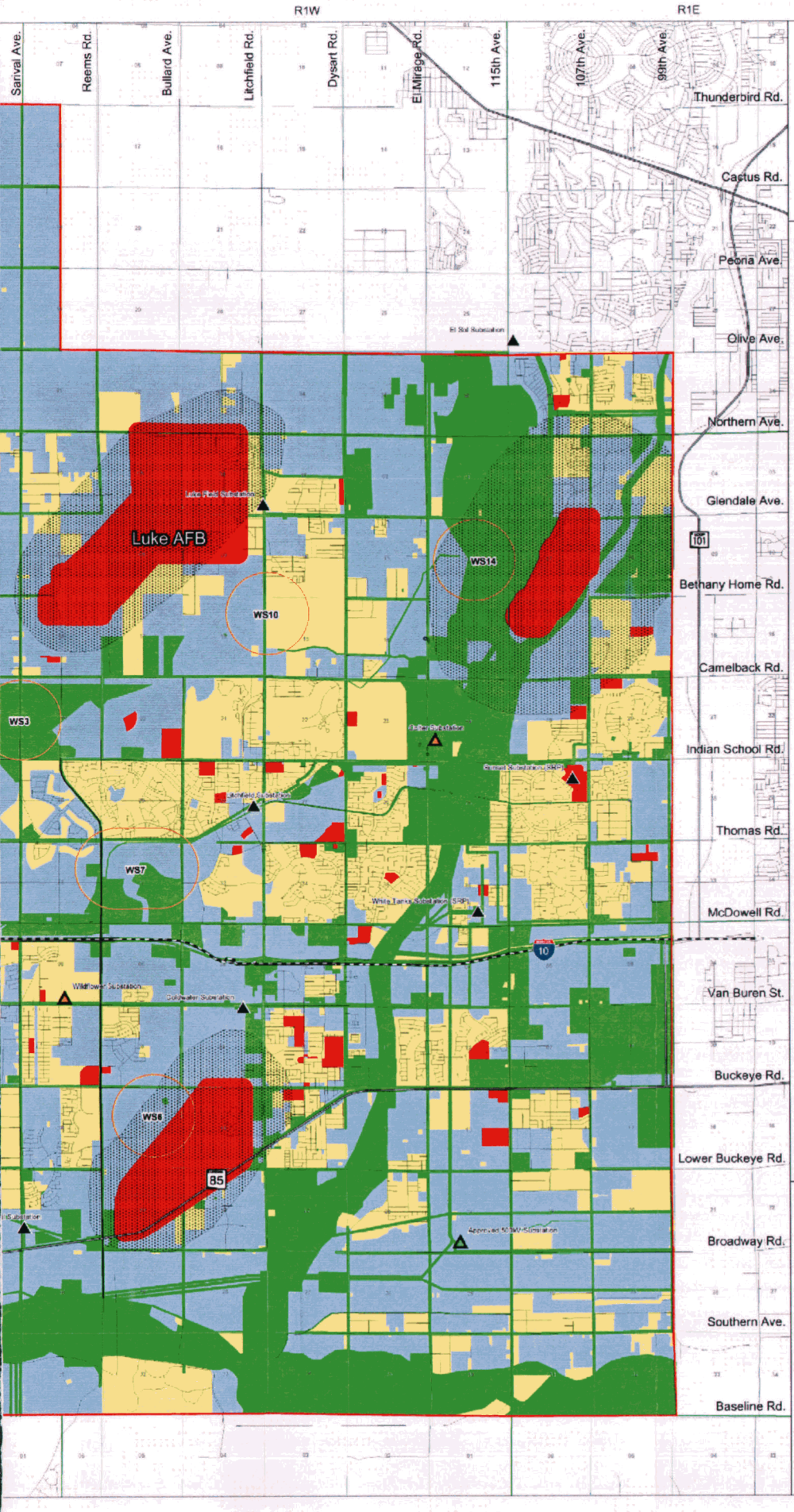

R4W
R3W
R2W
T3N
T2N
T1N
T1S
White Tank Mountains Regional Park
Citrus Rd.
Cotton Lane
Waddell Substation
Beardsley Canal
TS2
WS2
303
WS1
Boundary Canal
TS3
Tuthill Substation
10
Watson Substation
WS4
Perryville Substation
TS4
Turner Rd.
Ogelsby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl.
Perryville Rd.



Compatibilty Analysis

Figure 2-5

Last Modified 08/19/02

Legend

- Study Area Boundary
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 23 Section Lines and Numbers

Compatibility

- High
- Moderate
- Low
- Incompatible
- Airport Restriction Area/Would Require FAA Review

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

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Scale In Miles

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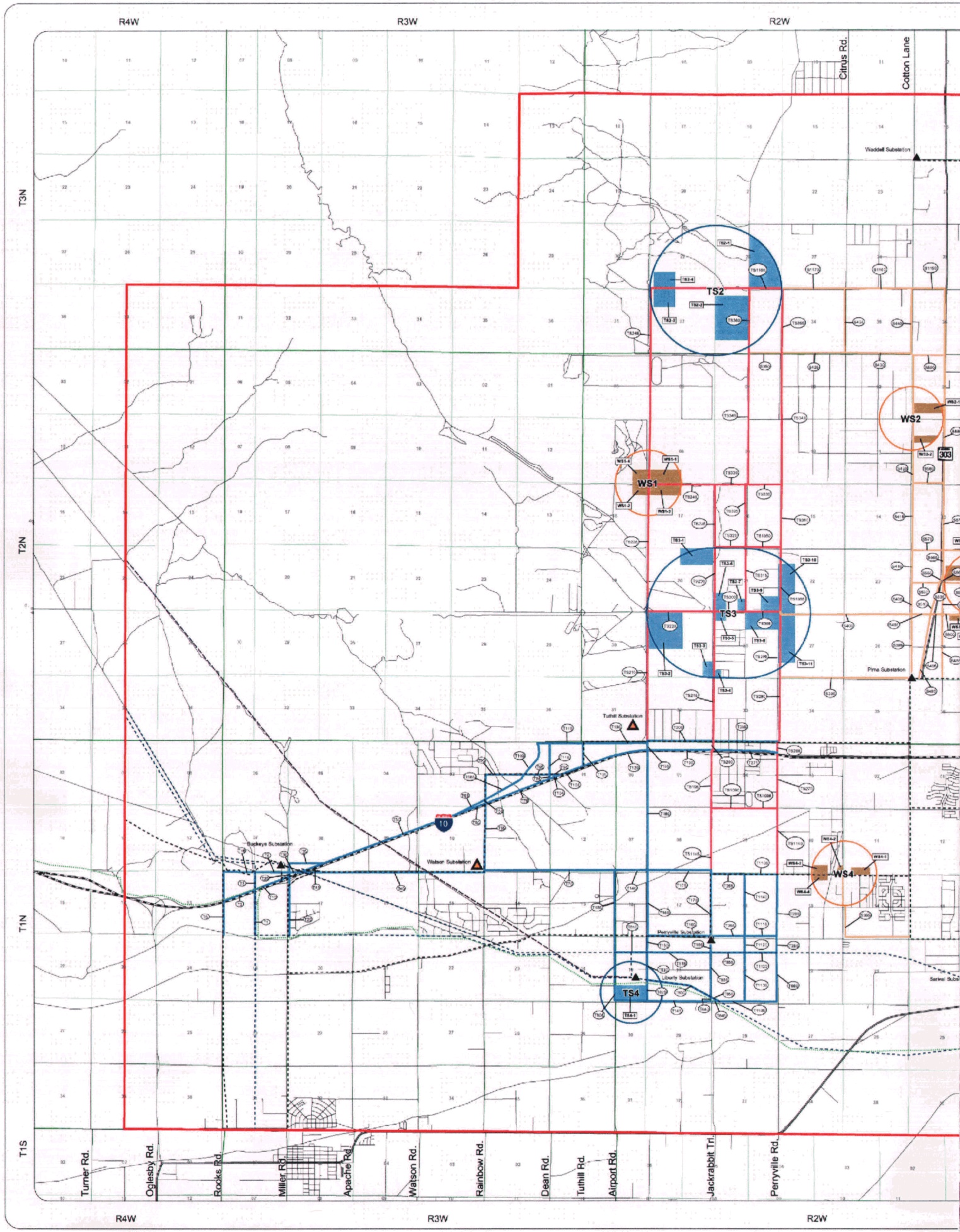
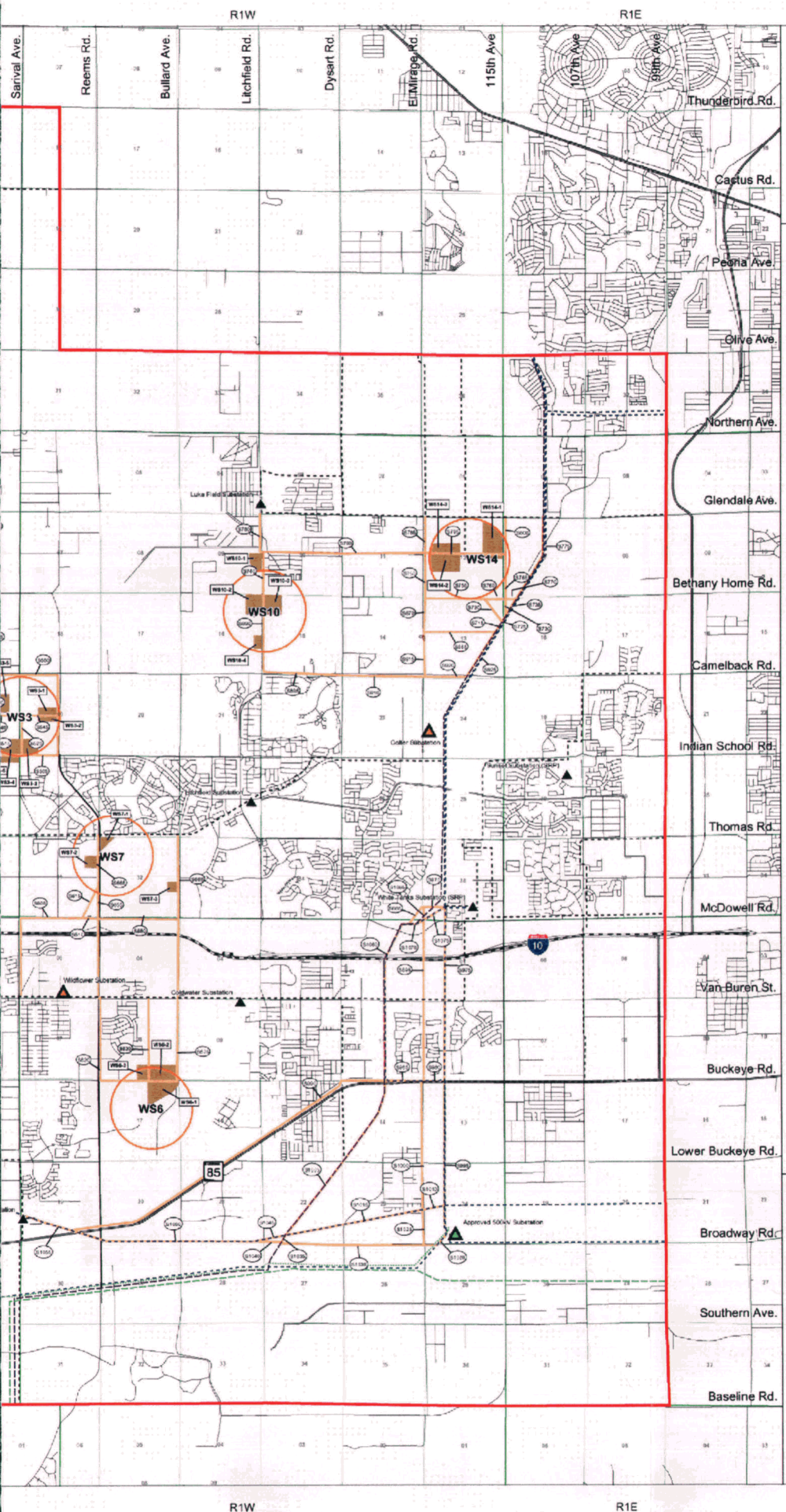

R4W
R3W
R2W
T3N
T2N
T1N
T1S
Citrus Rd.
Cotton Lane
Waddell Substation
TS2
WS2
WS1
TS3
Pima Substation
Tuthill Substation
Buckeye Substation
Watson Substation
WS4
Perryville Substation
Liberty Substation
TS4
Turner Rd.
Ogilesby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Tuthill Rd.
Airport Rd.
Jackrabbit Trl.
Perryville Rd.



Alternative Substation Sites and Power Line Connections

Figure 2-6

Last Modified 03/07/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Potential 230kV Transmission Line
- Potential 230/69kV Transmission Line
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Existing Substations
- Approved 500kV Substation
- Identified 69kV Substation Site*
- Interstate Highways
- Estrella Parkway
- State Routes
- Minor Roads
- Township and Range Lines
- 13 — Section Lines and Numbers
- T30 — Link Identification Number
- WS3-1 — Potential Substation Identification Number

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/ developers.

N W E S

0 1 2 4

Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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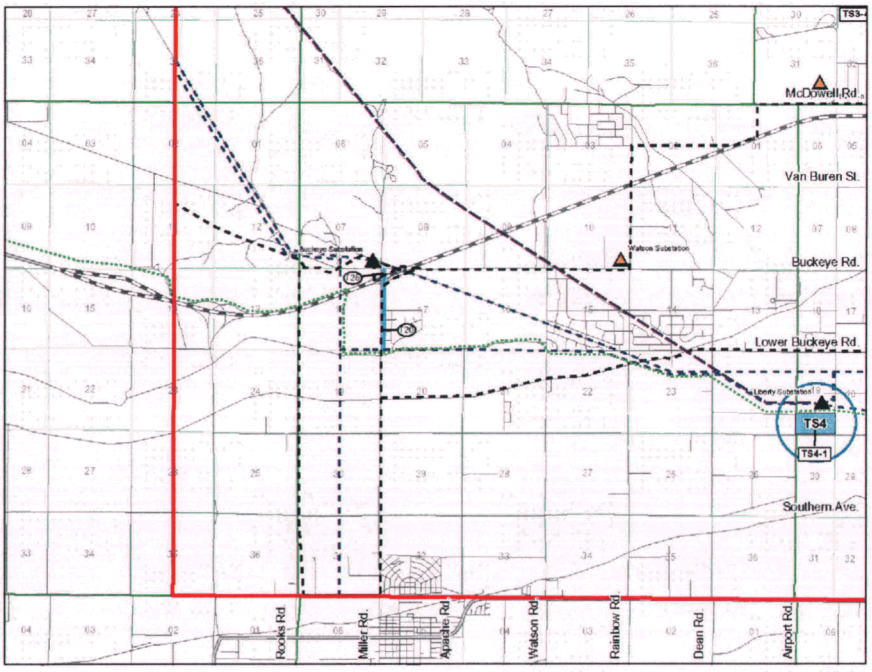
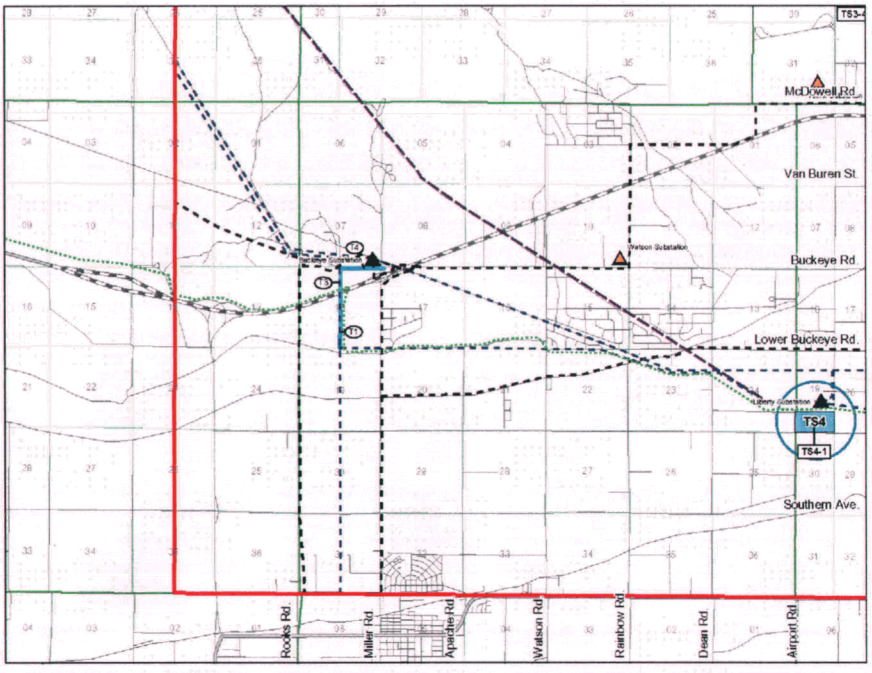
230kV Route
Buckeye Substation to Existing 230kV

Buckeye Substation to Existing Southern 230kV Corridor Route A



Buckeye Substation to Existing Southern 230kV Corridor Route B



Last Modified 05/12/02

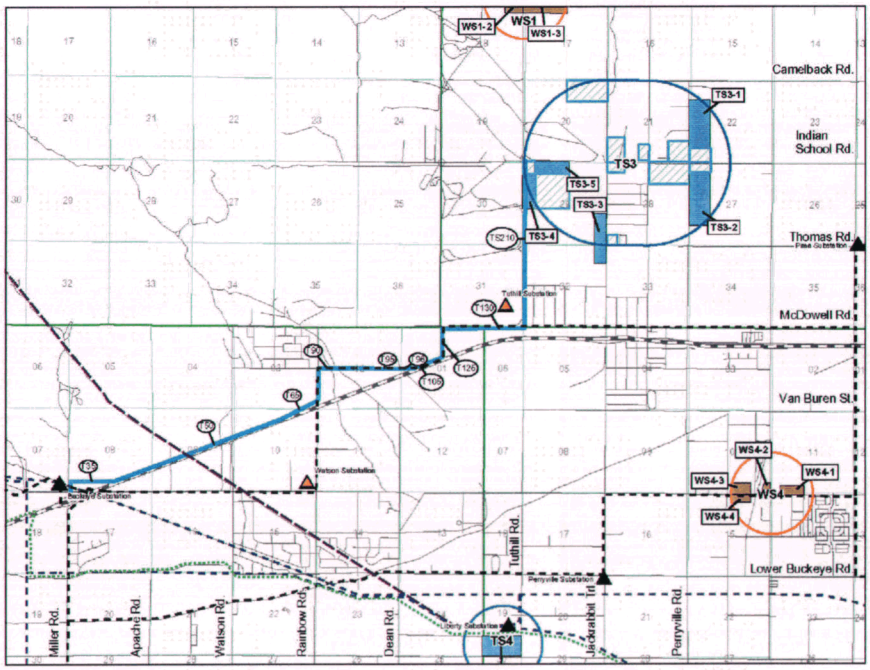
Legend

- Study Area Boundary
- 230kV Route Alternative
- T30 — Link Identification Number
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination based on engineering and land use considerations.
- Existin
- Existin
- Existin
- Existin
- Approv

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Alternatives
Corridor and Buckeye Substation to TS3

Buckeye Substation to TS3 Route A



Buckeye Substation to TS3 Route B

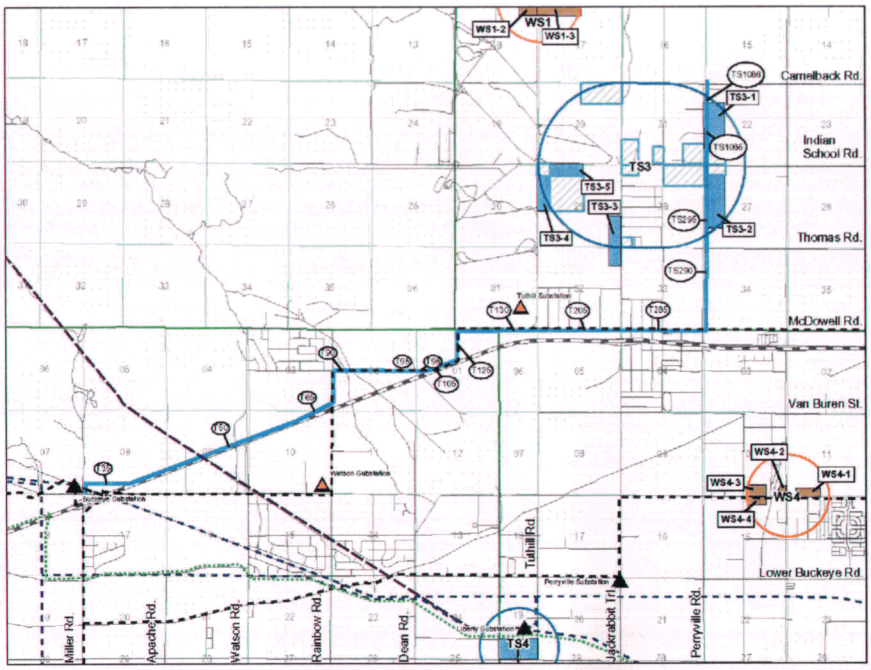


Figure 2-7

g 500kV Transmission Line
g 345kV Transmission Line
g 230kV Transmission Line
g 69kV Transmission Line
ved 500kV Transmission Line Alignment

Existing Substation
Approved 500kV Substation
Identified 69kV Substation Site
Interstate Highway
State Route

Minor Road
Township and Range Lines
13 Section Lines and Numbers

0 1 2 4
Scale In Miles

N
W E
S

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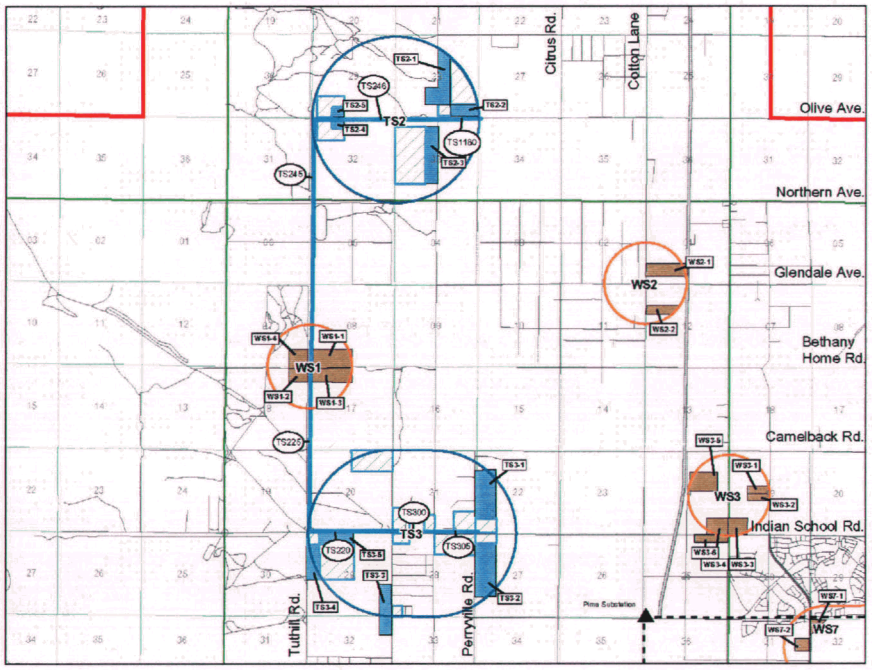
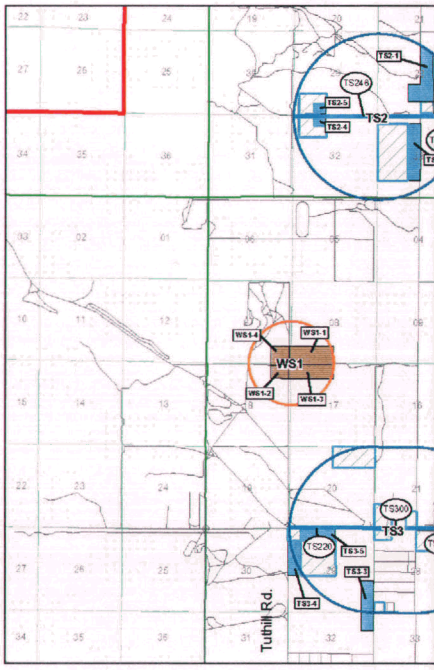
230kV Route
TS2 to

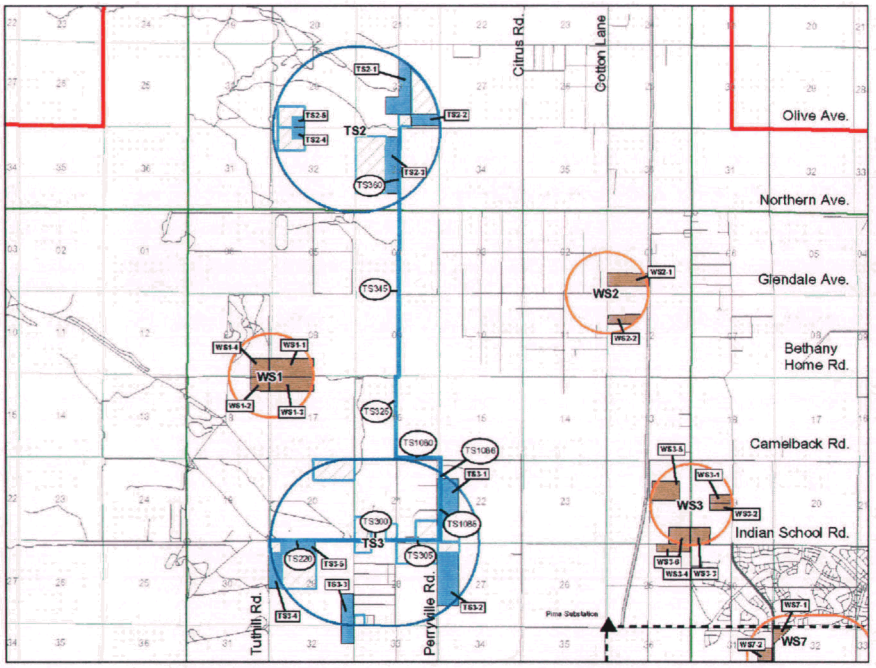
TS2 - TS3 Route A



TS2 - TS3



TS2 - TS3 Route D



Last Modified 05/13/02

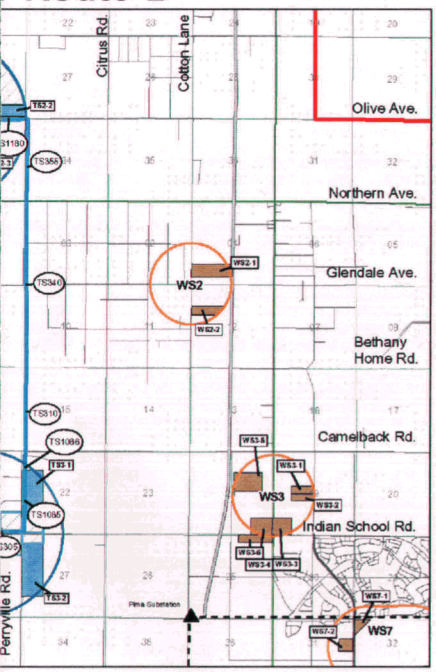
Legend

WEST VALLEY - SOUTH POWER LINE & SUBSTATION PROJECT

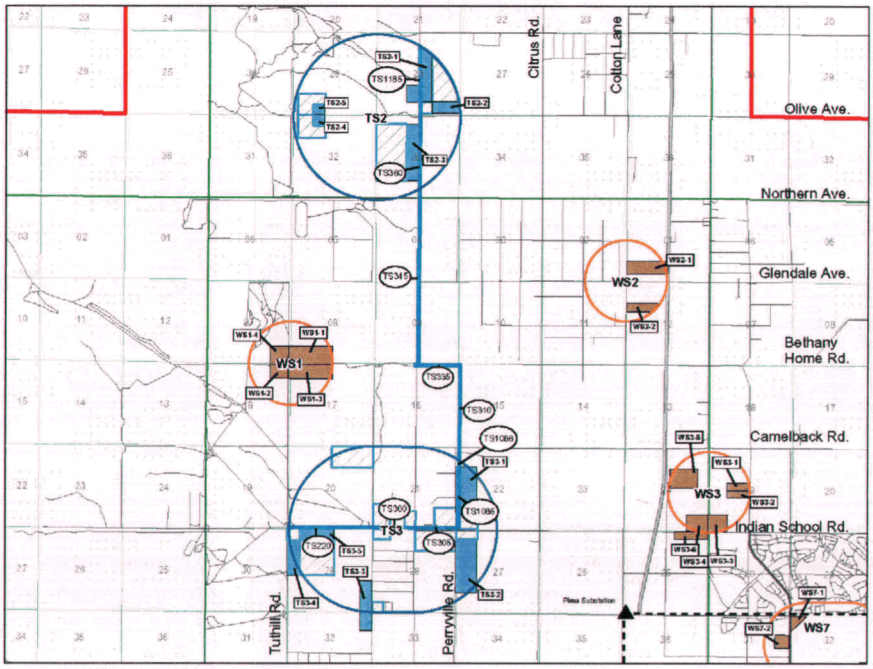
- Study Area Boundary
- 230kV Route Alternative
- T30 — Link Identification Number
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination based on engineering and land use considerations.
- Existing
- Existing
- Existing
- Existing
- Approve

Alternatives
o TS3

3 Route B



TS2 - TS3 Route C



TS2 - TS3 Route E

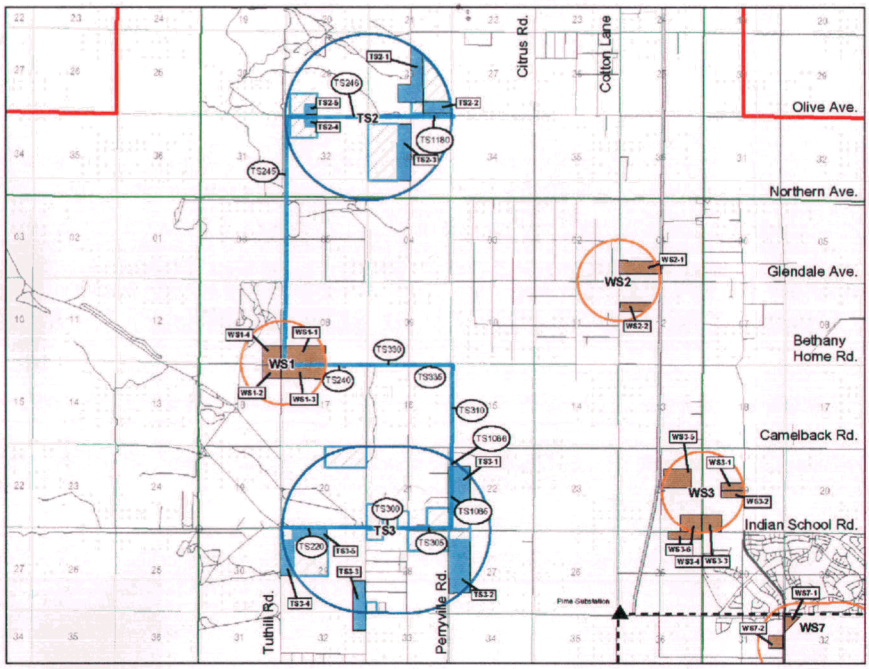


Figure 2-8

500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
69kV Transmission Line
ed 500kV Transmission Line Alignment

Existing Substation
Approved 500kV Substation
Identified 69kV Substation Site
Interstate Highway
State Route

Minor Road
Township and Range Lines
13 Section Lines and Numbers

0 1 2 4
Scale In Miles

N
W E
S

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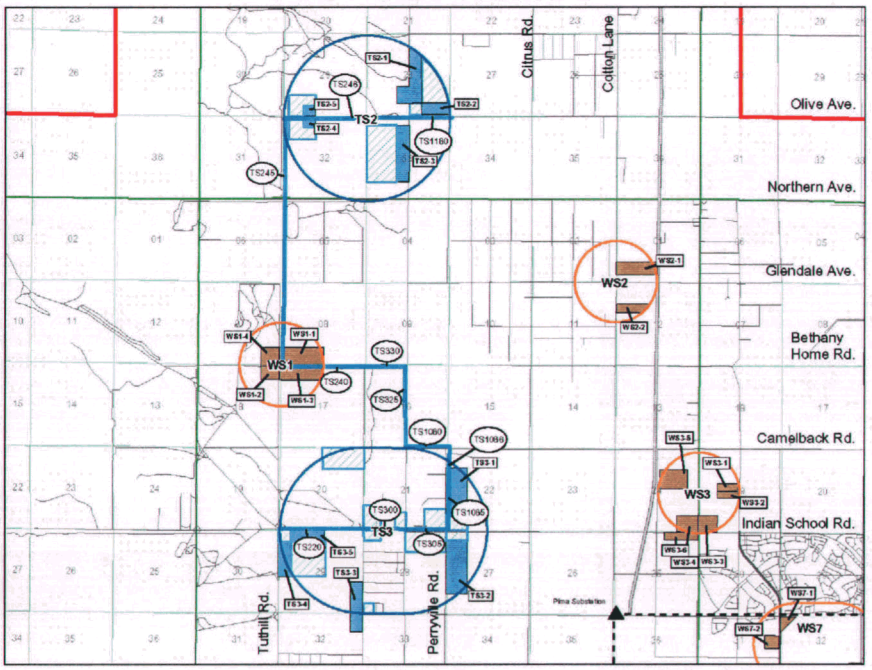
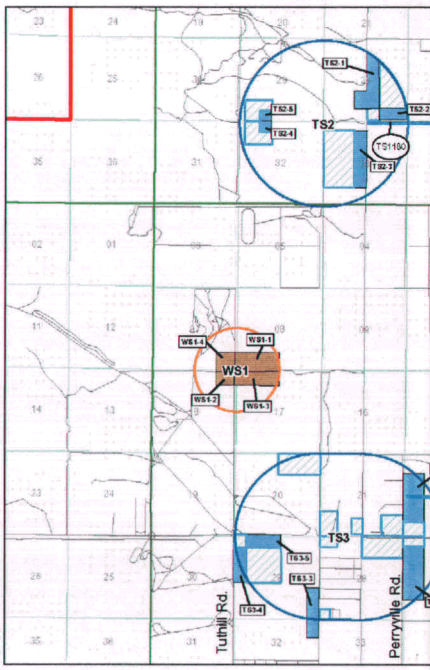
230kV Route
TS2 t

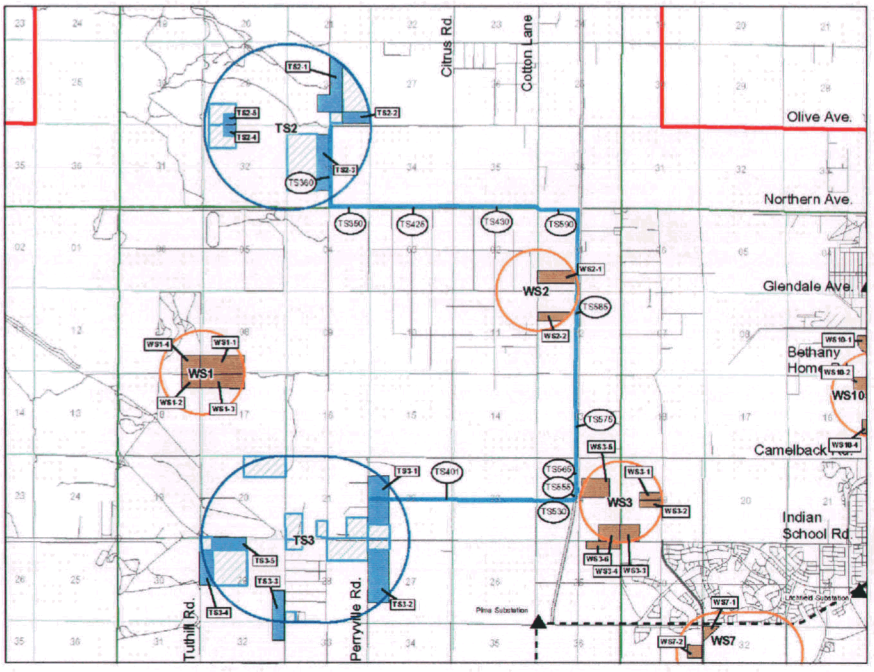
TS2 - TS3 Route F



TS2 - TS



TS2 - TS3 Route I



Last Modified 05/13/02

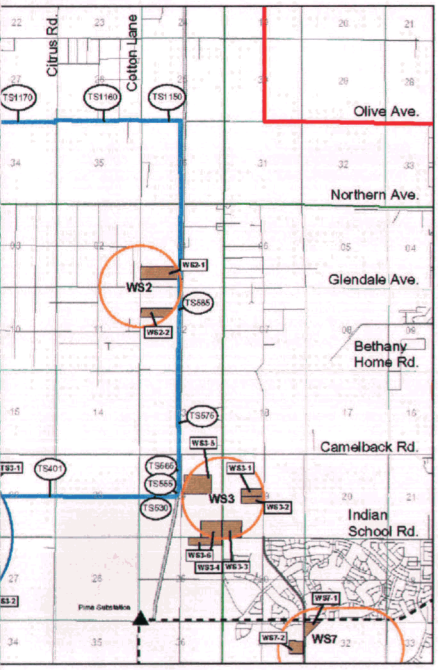
Legend

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

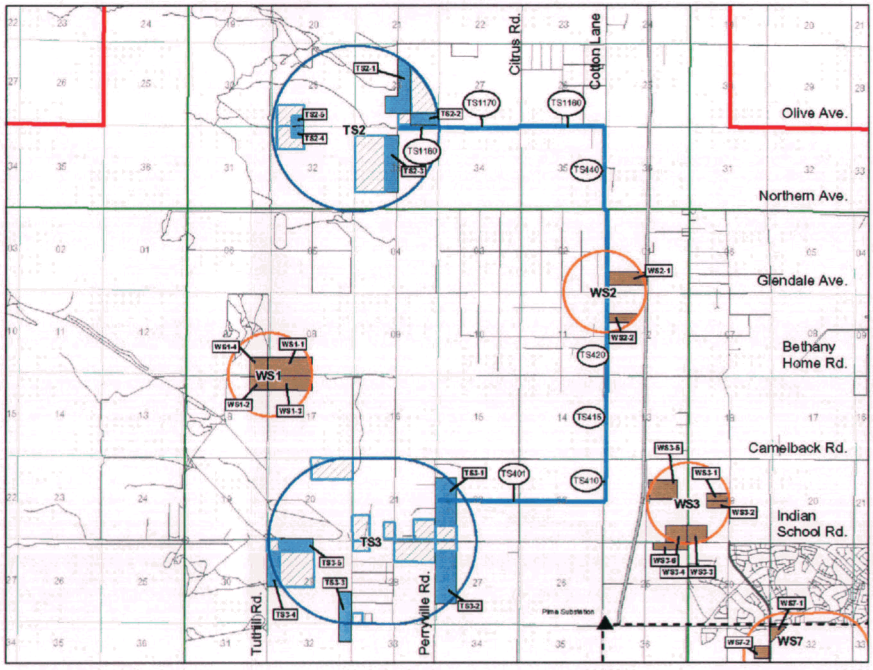
- Study Area Boundary
- 230kV Route Alternative
- T30 — Link Identification Number
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination based on engineering and land use considerations.
- Existing
- Existing
- Existing
- Existing
- Approv

Alternatives
o TS3

3 Route G



TS2 - TS3 Route H



TS2 - TS3 Route J

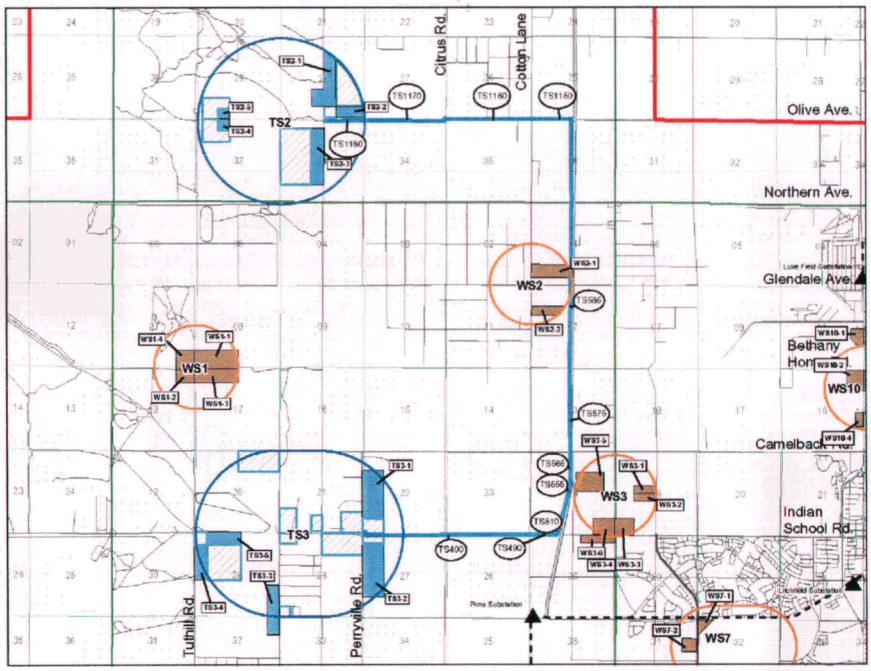


Figure 2-9

- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- ed 500kV Transmission Line Alignment
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation Site
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 Section Lines and Numbers

0 1 2 4
Scale In Miles

N W E S

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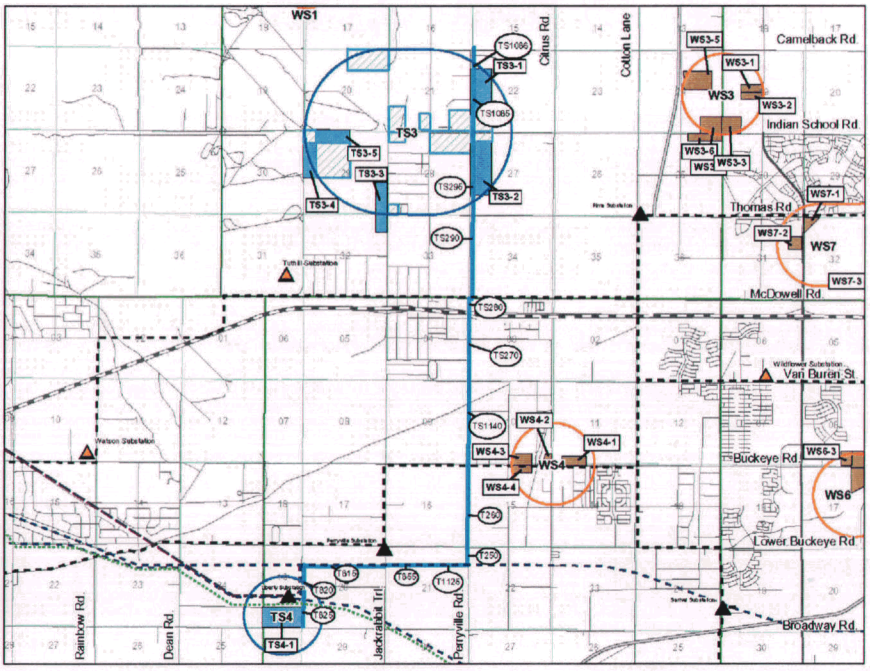
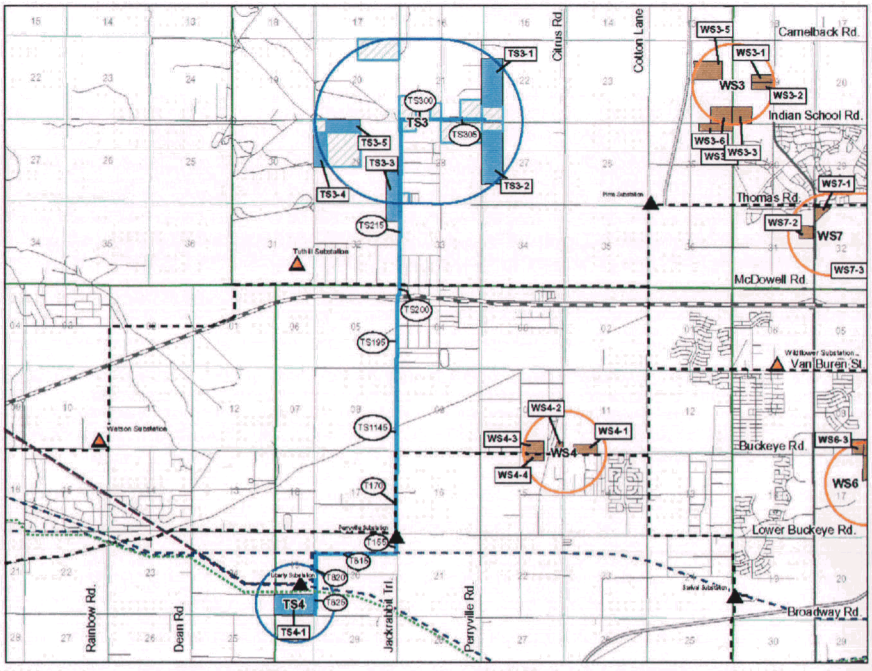
230kV Route
TS3 t

TS3 - TS4 Route A



TS3 - TS4 Route D



Last Modified 05/13/02

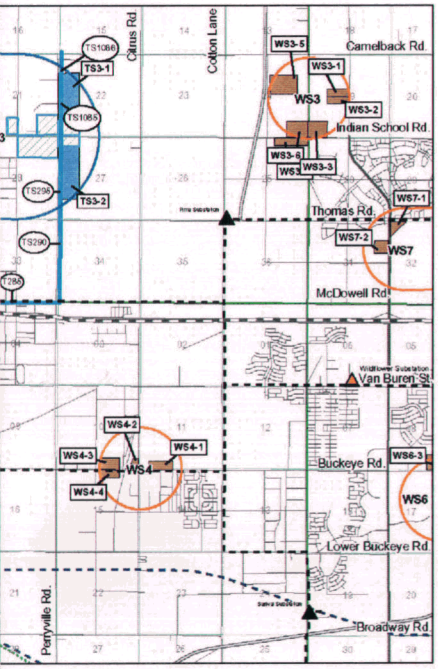
Legend

WEST VALLEY - SOUTH POWER LINE & SUBSTATION PROJECT

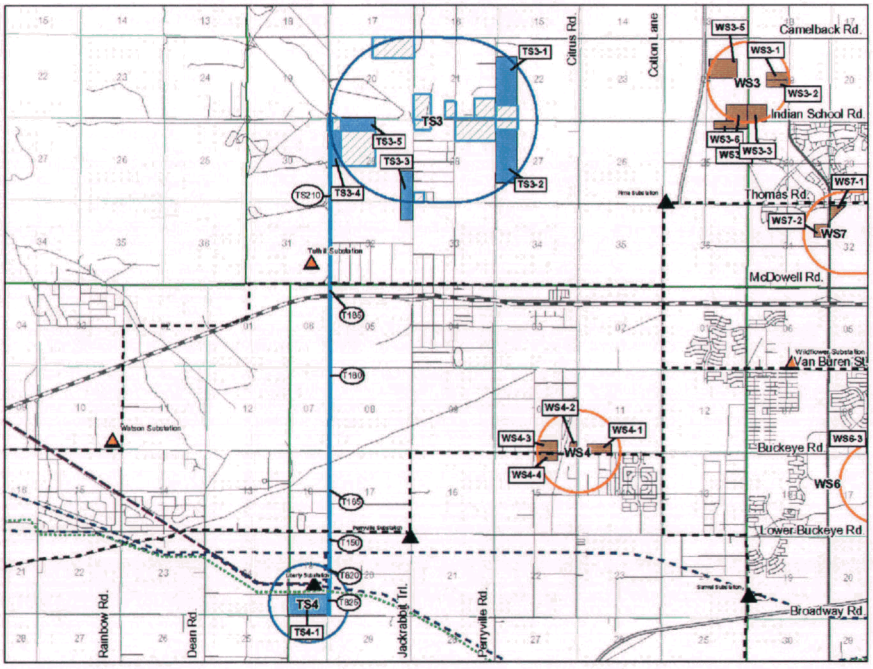
- Study Area Boundary
- 230kV Route Alternative
- T30 — Link Identification Number
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination based on engineering and land use considerations.
- Existing
- Existing
- Existing
- Existing
- Approv

Alternatives
o TS4

4 Route B



TS3 - TS4 Route C



TS3 - TS4 Route E

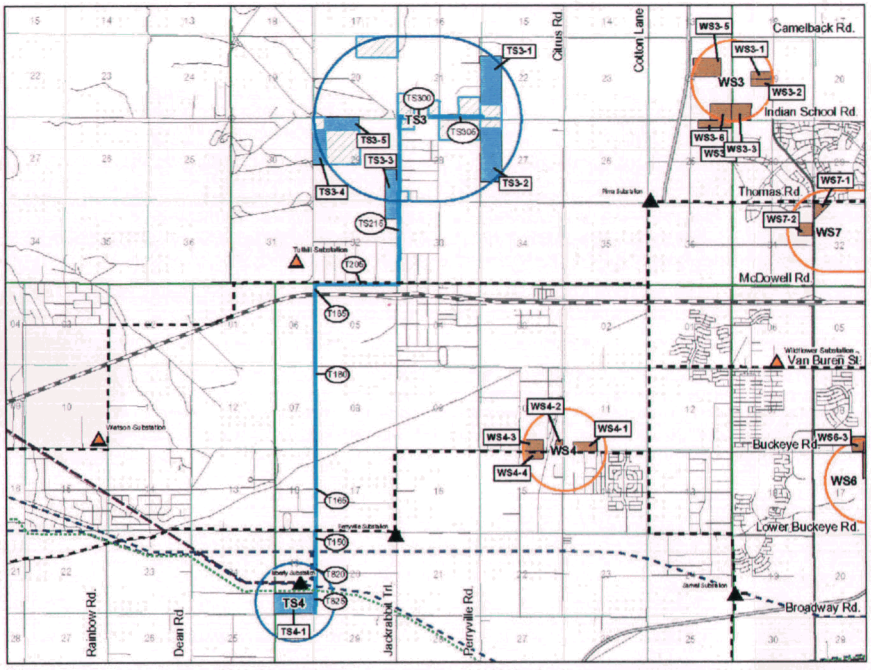


Figure 2-10

500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
69kV Transmission Line
ed 500kV Transmission Line Alignment

Existing Substation
Approved 500kV Substation
Identified 69kV Substation Site
Interstate Highway
State Route

Minor Road
Township and Range Lines
13 Section Lines and Numbers

0 1 2 4
Scale In Miles

N
W E
S

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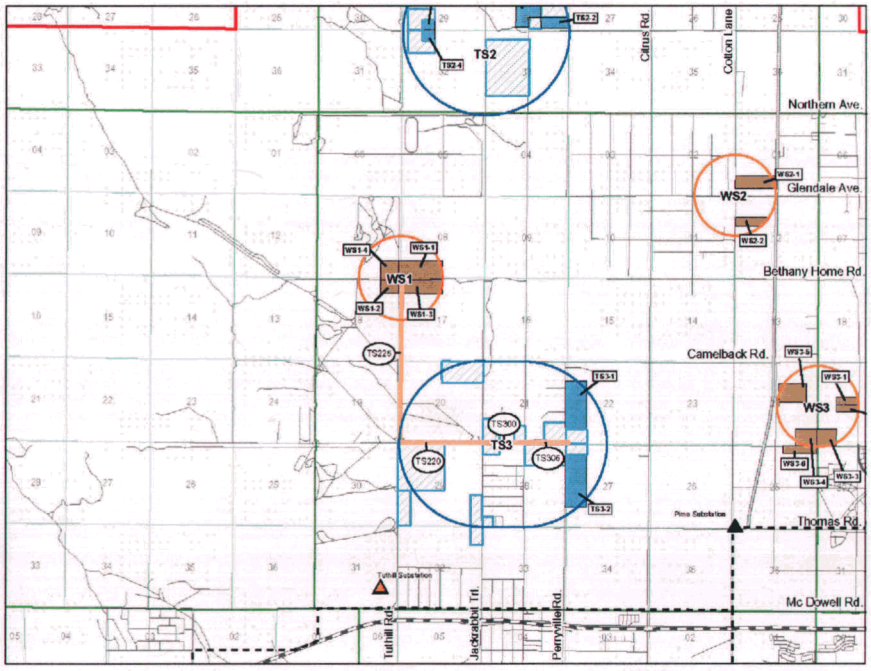
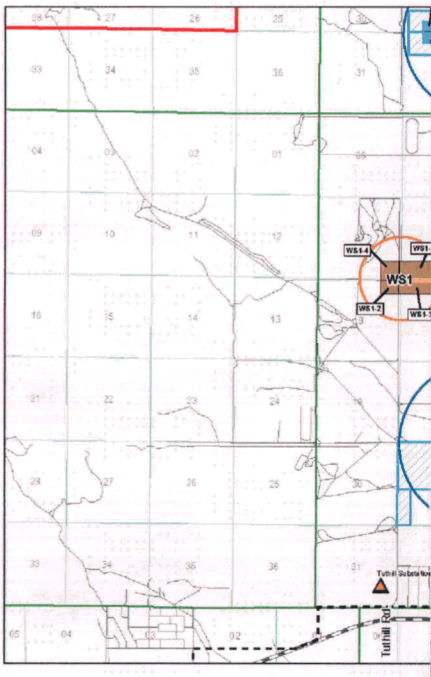
69kV Route
WS1 to TS3 a

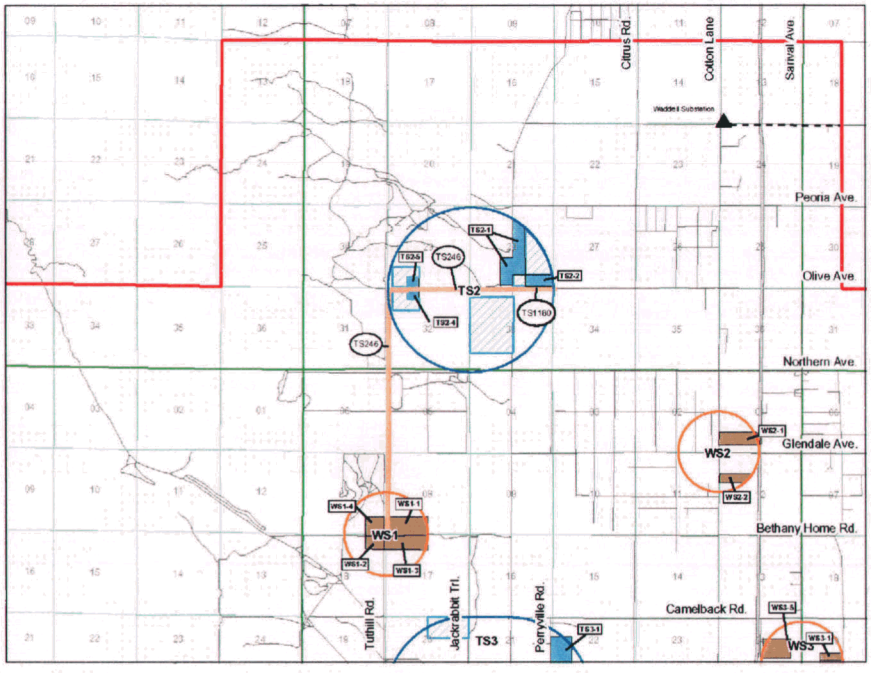
WS1 - TS3 Route A



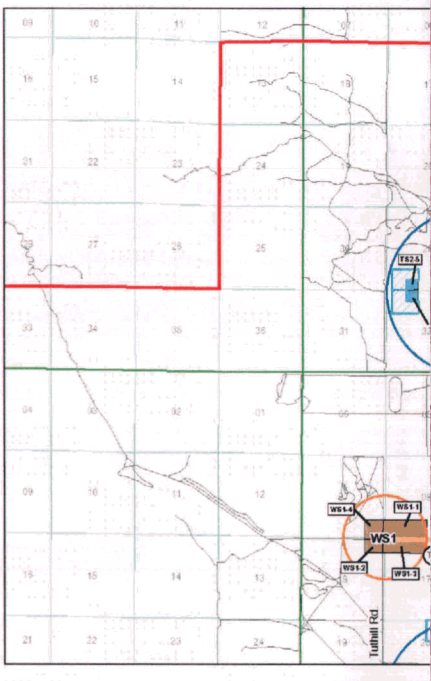
WS1 - TS



WS1 - TS2 Route A



WS1 - TS



Working Draft 05/16/02

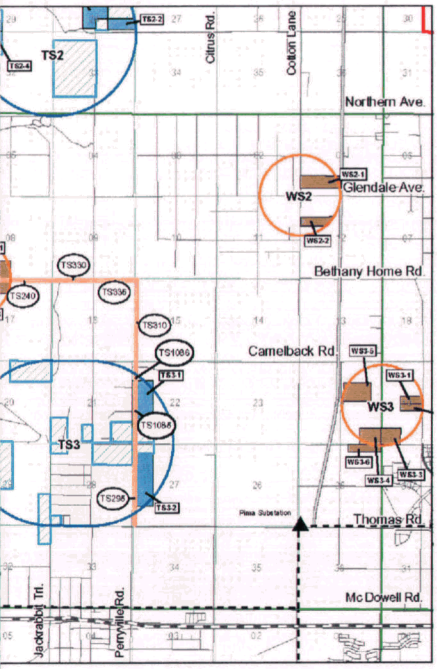
Legend

- Study Area Boundary
- 69kV Route Alternative
- Rebuild Existing Transmission Line
- T30 — Link Identification Number
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination based on engineering and land use considerations.
- Existing
- Existing
- Existing
- Existing
- Approv

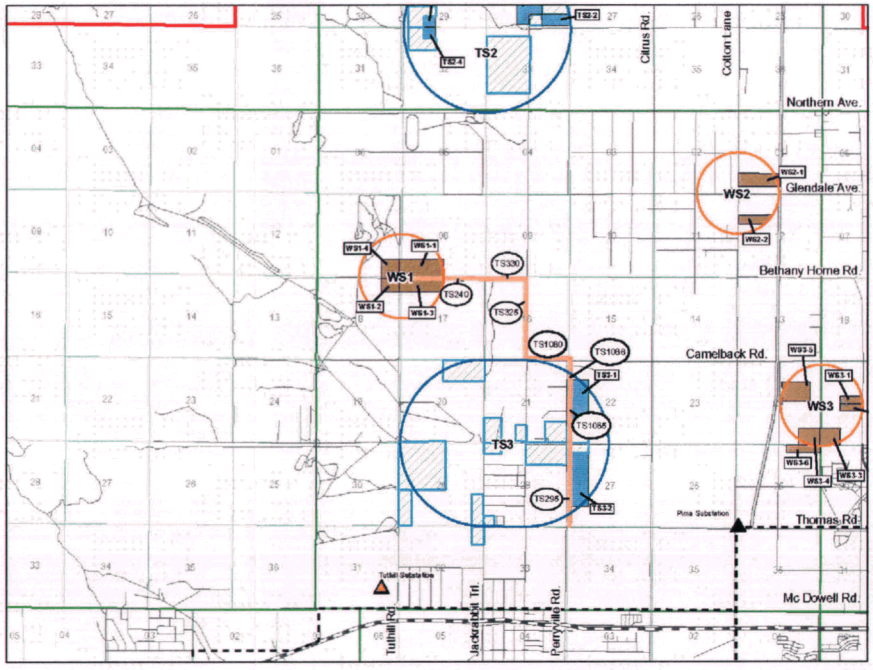
WEST VALLEY - SOUTH POWER LINE & SUBSTATION PROJECT

Alternatives
nd WS1 to TS2

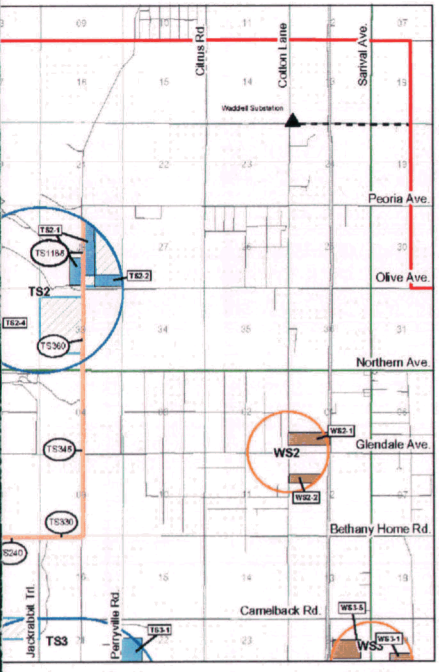
3 Route B



WS1 - TS3 Route C



2 Route B



WS1 - TS2 Route C

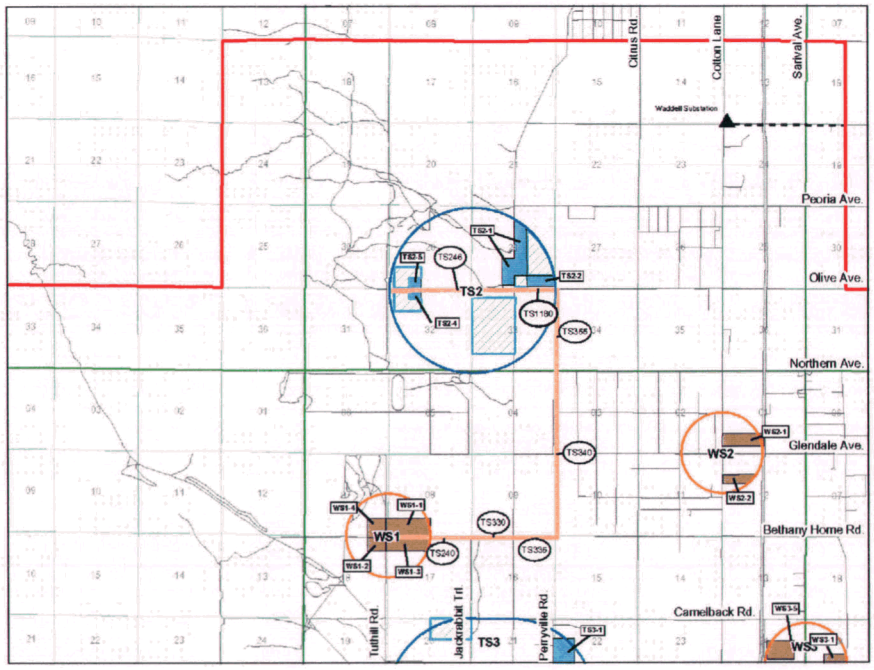


Figure 2-11

500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
69kV Transmission Line
ed 500kV Transmission Line Alignment

Existing Substation
Approved 500kV Substation
Identified 69kV Substation Site
Interstate Highway
State Route

Minor Road
Township and Range Lines
13 Section Lines and Numbers

0 1 2 4
Scale In Miles

N
W E
S

APS
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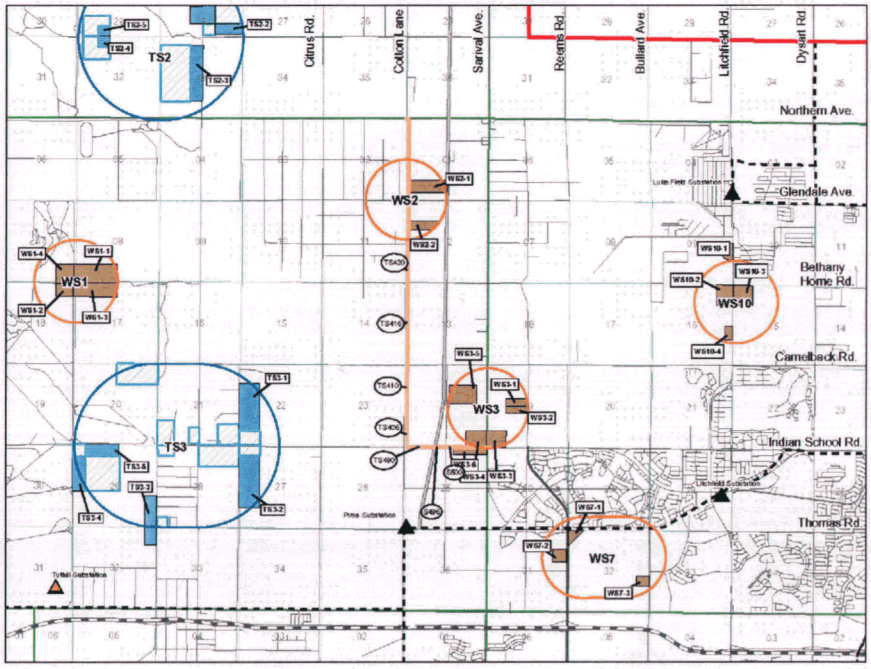
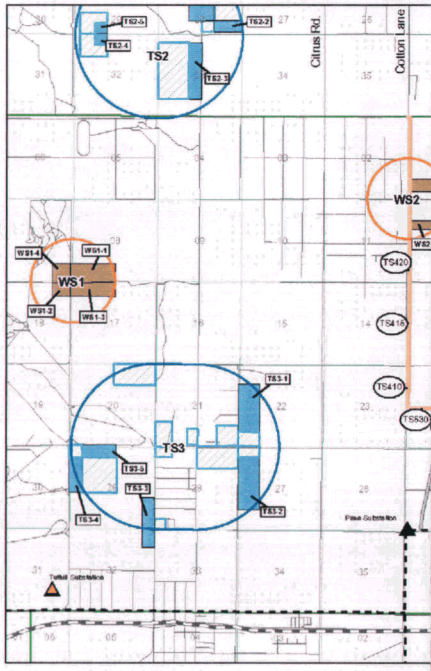
69kV Route
WS2 to WS3 and WS6 t

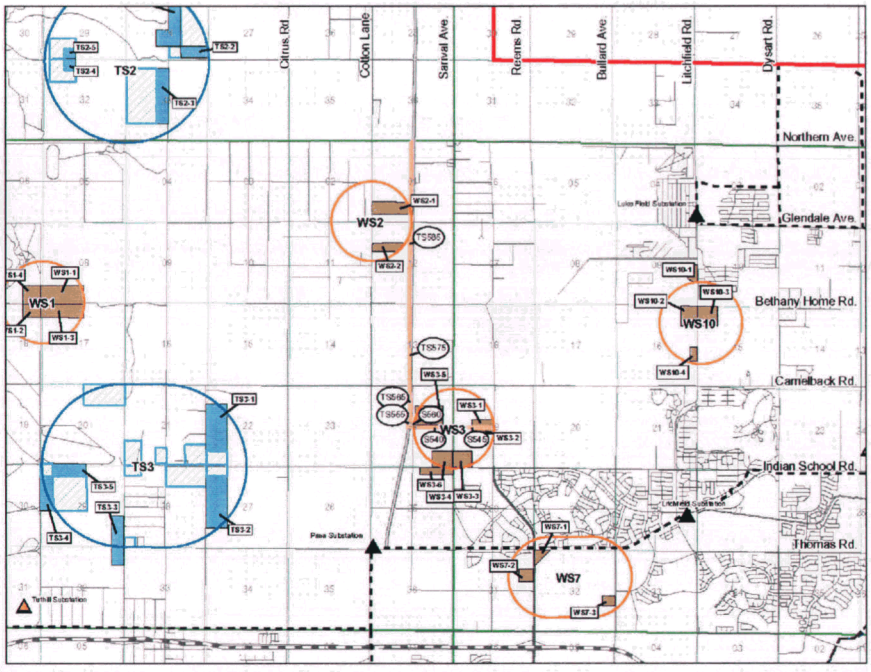
WS2 - WS3 Route A



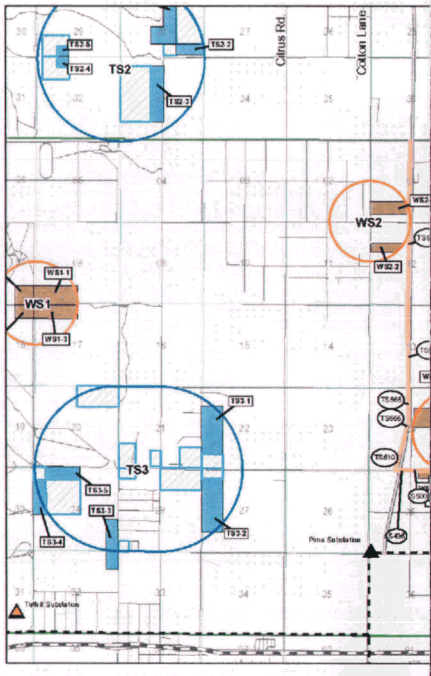
WS2 - WS



WS2 - WS3 Route C



WS2 - WS



Last Modified 05/13/02

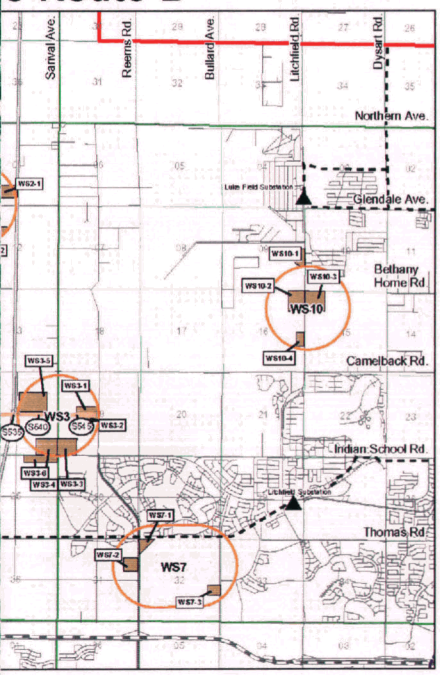
Legend

- Study Area Boundary
- 69kV Route Alternative
- T30 — Link Identification Number
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination based on engineering and land use considerations.
- Existing
- Existing
- Existing
- Existing
- Approv

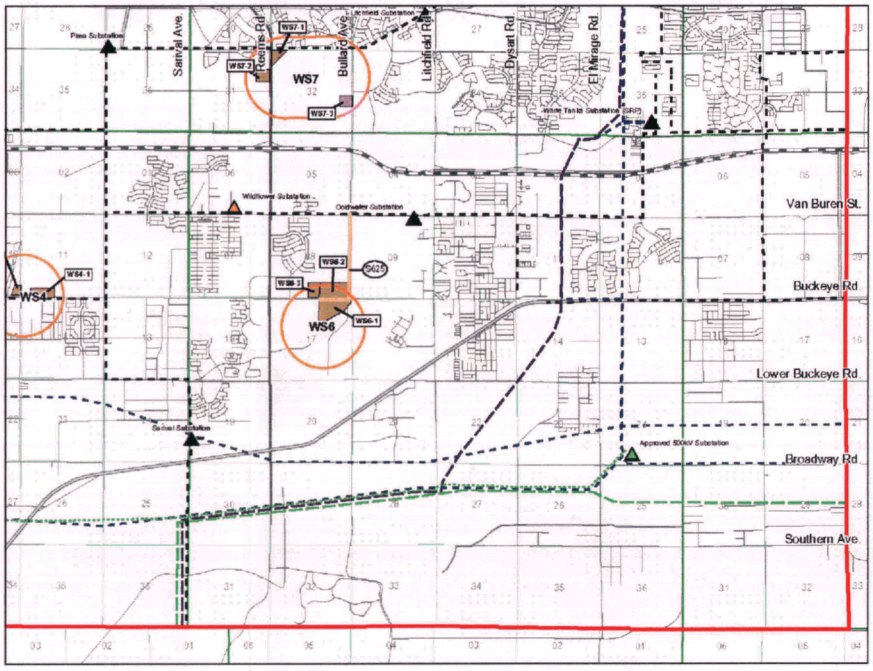
WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Alternatives
o Wildflower Substation

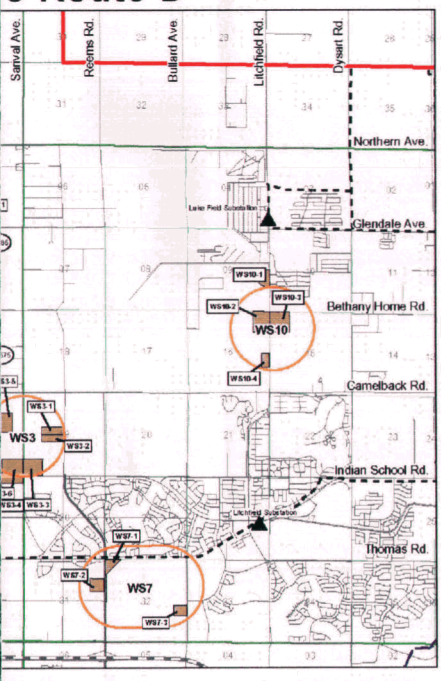
3 Route B



WS6 - Wildflower Substation Route A



3 Route D



WS6 - Wildflower Substation Route B

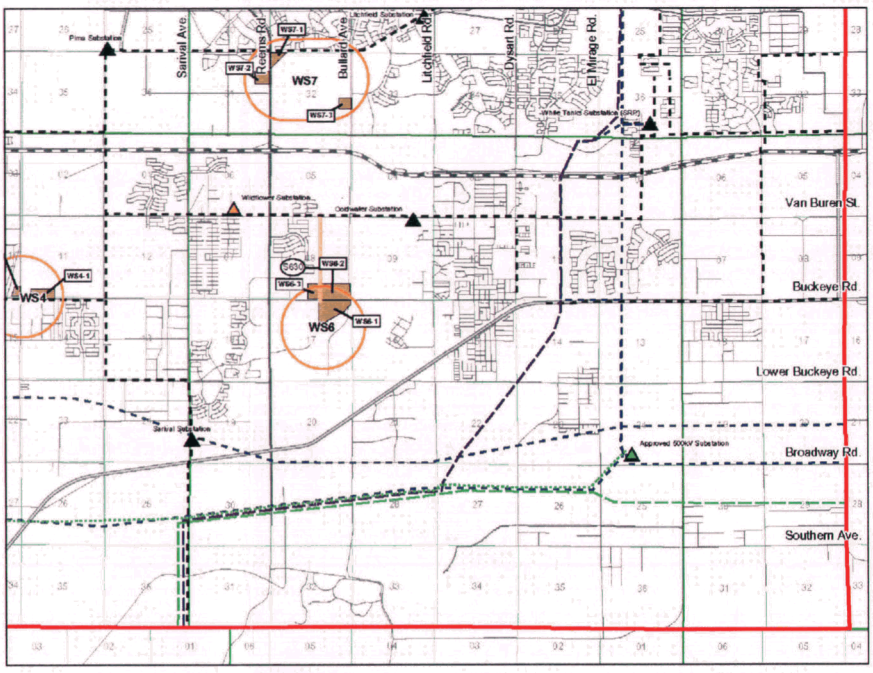


Figure 2-12

g 500kV Transmission Line
g 345kV Transmission Line
g 230kV Transmission Line
g 69kV Transmission Line
ed 500kV Transmission Line Alignment

Existing Substation
Approved 500kV Substation
Identified 69kV Substation Site
Interstate Highway
State Route

Minor Road
Township and Range Lines
13 Section Lines and Numbers

0 1 2 4
Scale In Miles

N
W E
S

APS
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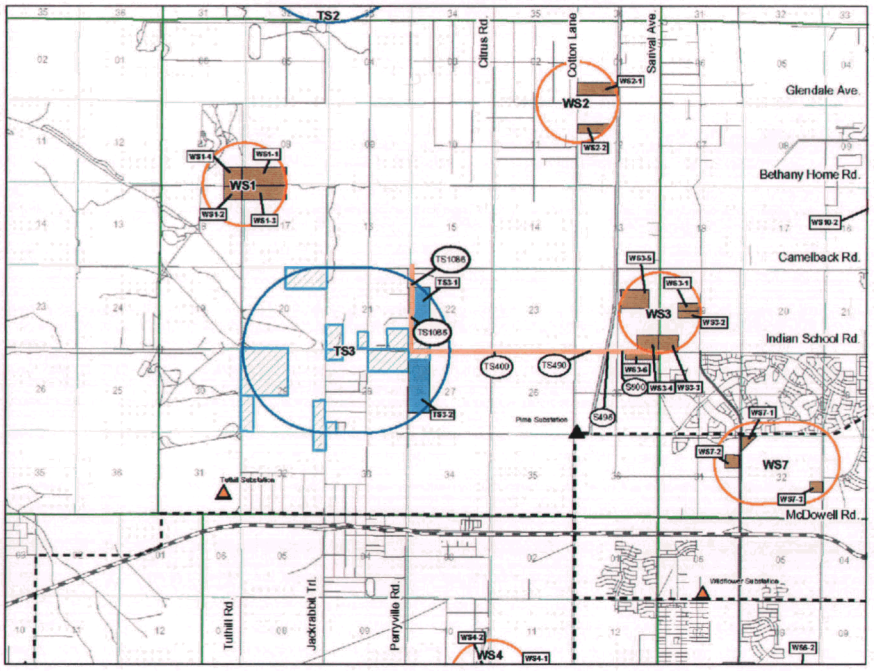
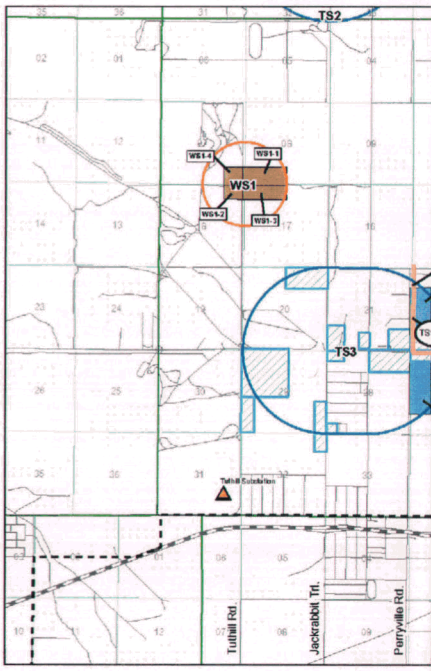
69kV Route
WS3 to TS3 and WS7 t

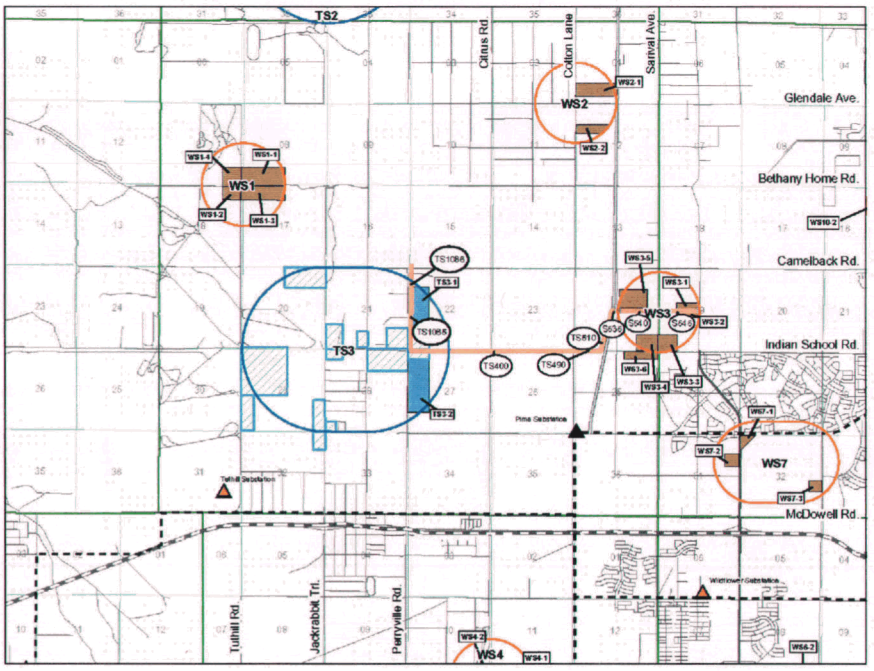
WS3 - TS3 Route A



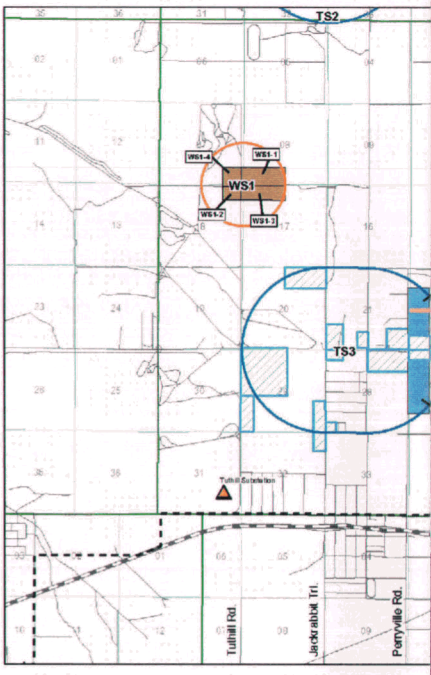
WS3 - TS



WS3 - TS3 Route C



WS3 - TS



Working Draft 05/16/02

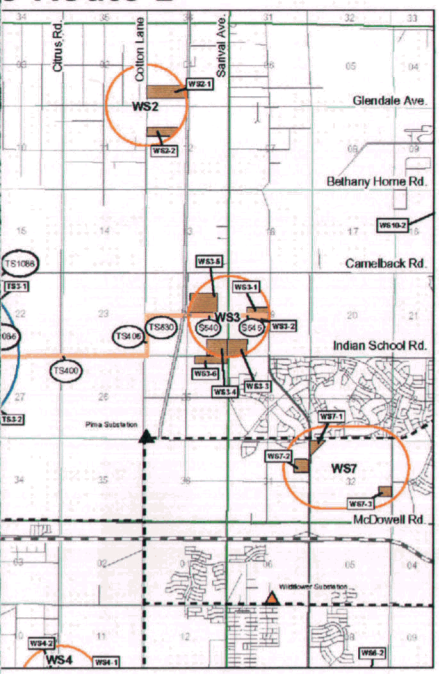
Legend

- Study Area Boundary
- 69kV Route Alternative
- Rebuild Existing Transmission Line
- T30 — Link Identification Number
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination based on engineering and land use considerations.
- Existing
- Existing
- Existing
- Existing
- Approv

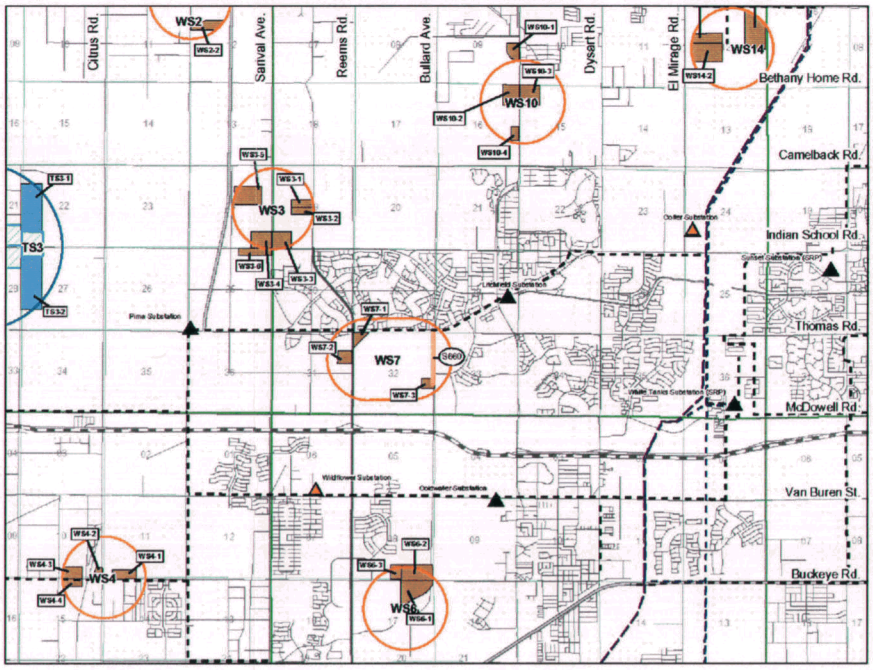
WEST VALLEY - SOUTH POWER LINE & SUBSTATION PROJECT

Alternatives
o Litchfield Substation

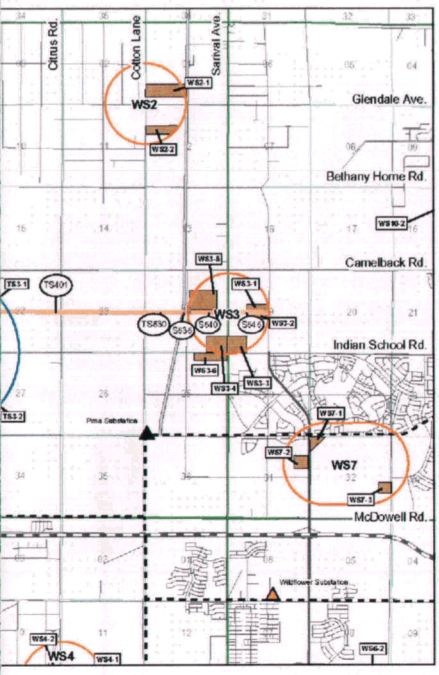
3 Route B



WS7 - Litchfield Substation Route A



3 Route D



WS7 - Litchfield Substation Route B

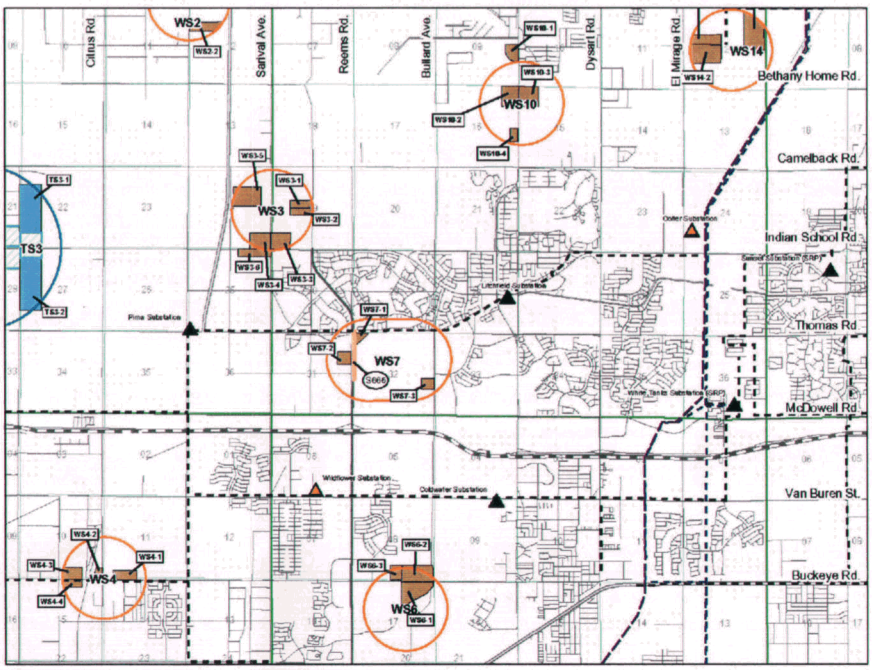


Figure 2-13

- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- ed 500kV Transmission Line Alignment
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation Site
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 Section Lines and Numbers

0 1 2 4

Scale In Miles

N W E S

APS

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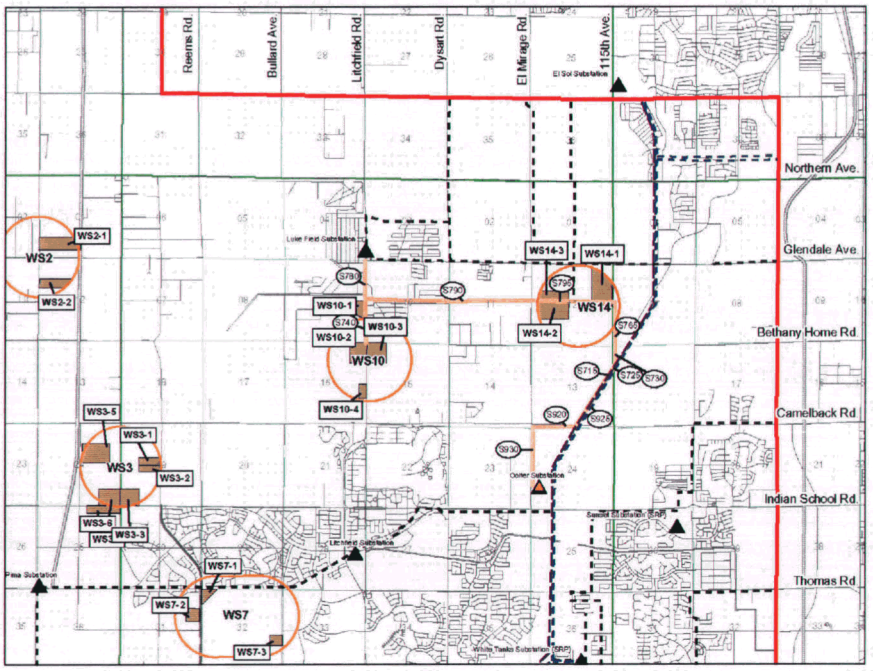
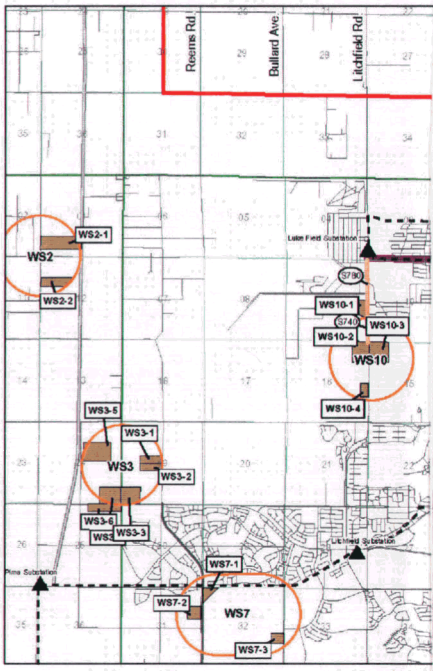
69kV Route
WS10 to Colter Subst

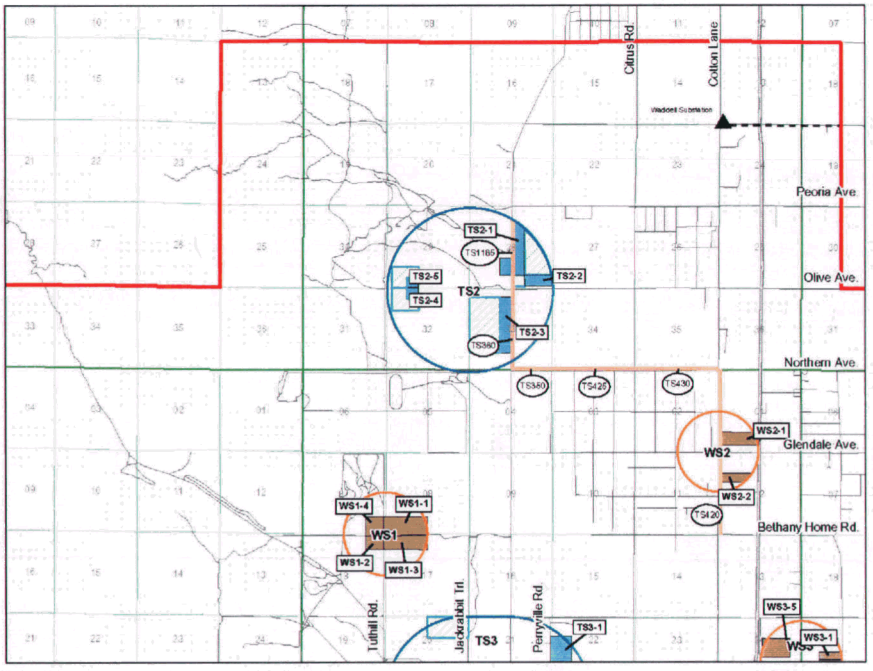
WS10 - Colter Substation Route A



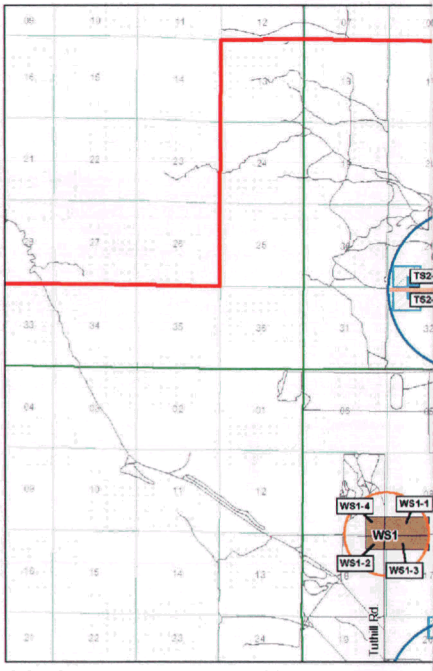
WS10 - Colter Su



WS2 - TS2 Route A



WS2 - TS



Last Modified 05/16/02

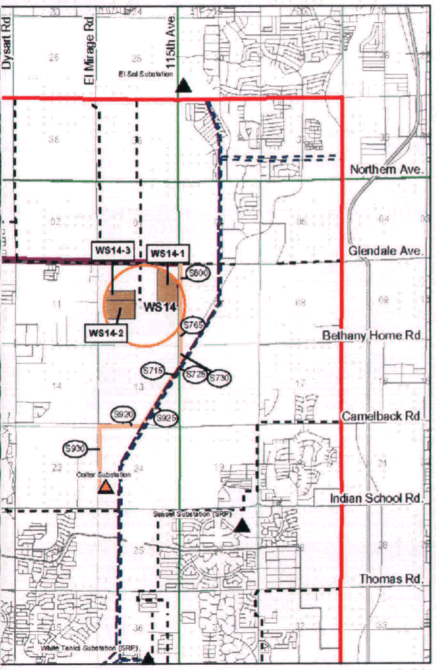
Legend

- Study Area Boundary
- 69kV Route Alternative
- Rebuild Existing Transmission Line
- T30 — Link Identification Number
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination based on engineering and land use considerations.
- Existing
- Existing
- Existing
- Existing
- Approv

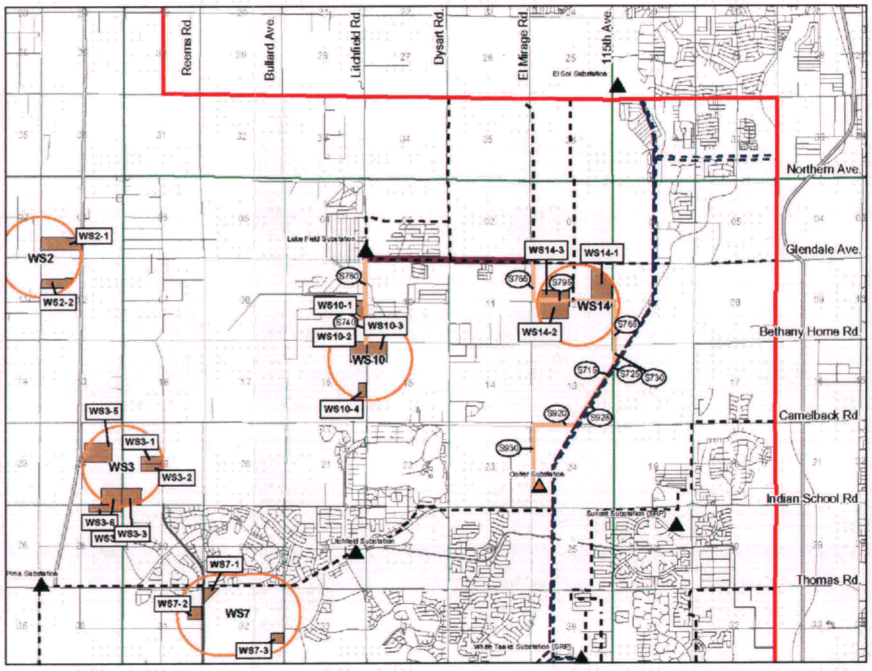
WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Alternatives
ation and WS2 to TS2

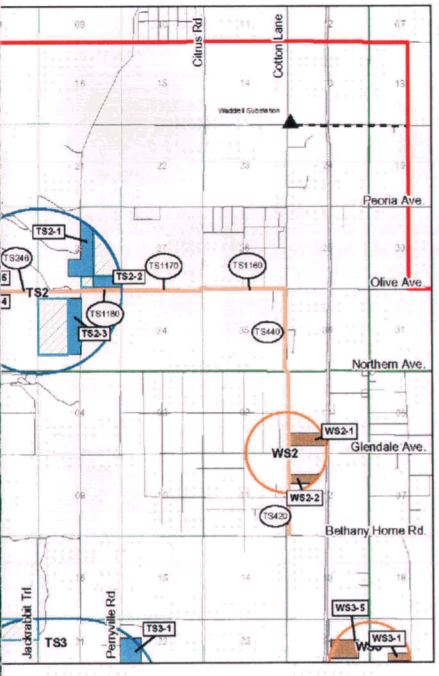
bstation Route B



WS10 - Colter Substation Route C



2 Route B



WS2 - TS2 Route C

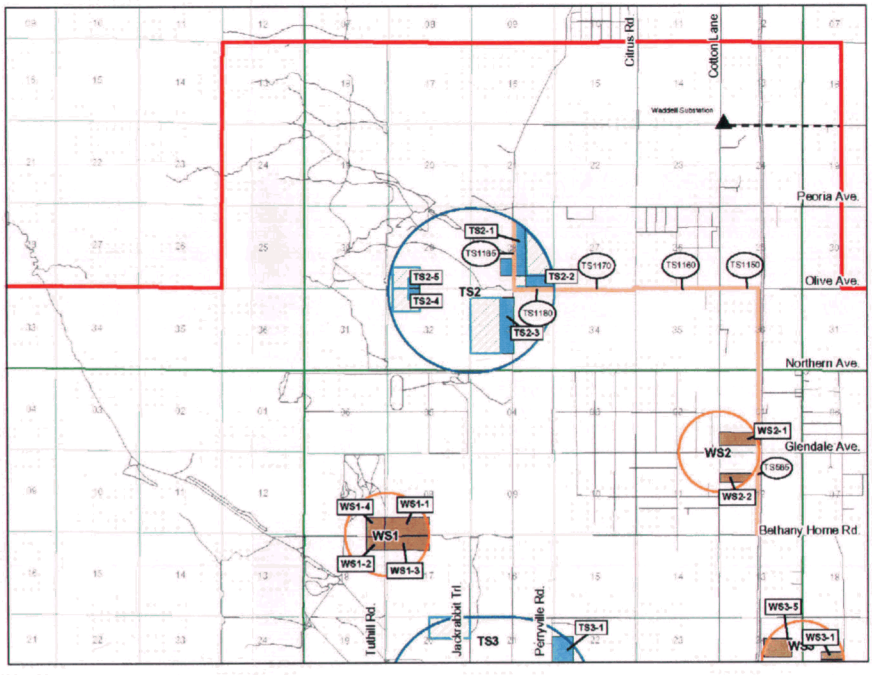


Figure 2-14

500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
69kV Transmission Line
ed 500kV Transmission Line Alignment

Existing Substation
Approved 500kV Substation
Identified 69kV Substation Site
Interstate Highway
State Route

Minor Road
Township and Range Lines
13 Section Lines and Numbers

0 1 2 4
Scale In Miles

N
W E
S

APS
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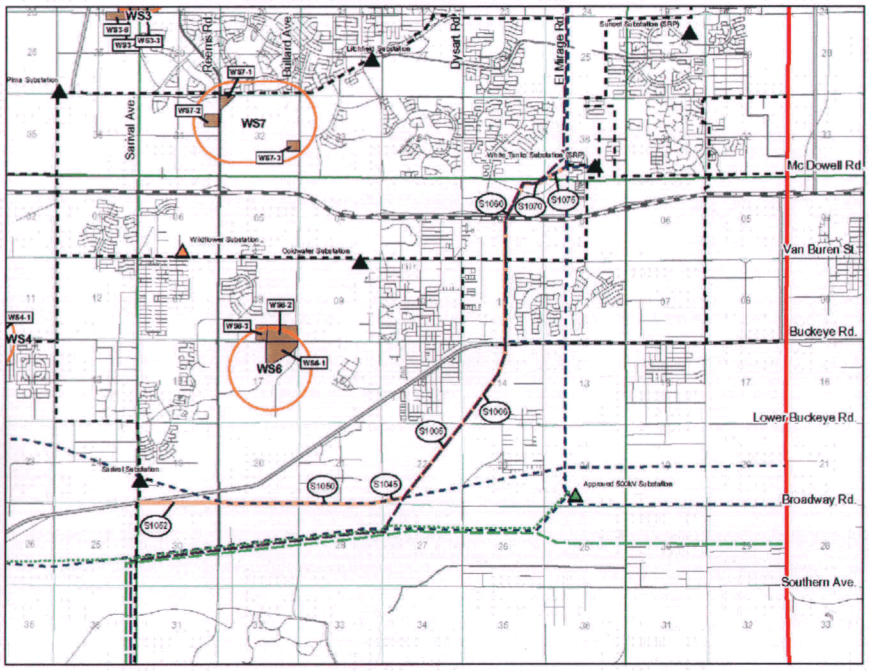
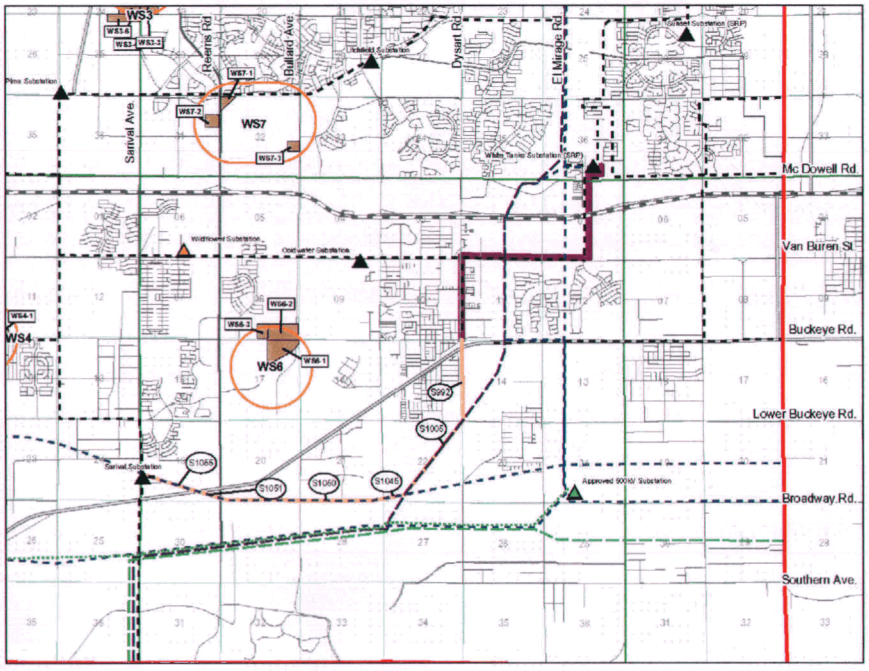
69kV Route
White Tanks Substation to Sarival Sub

White Tanks Substation - Sarival Substation Route A



White Tanks Substation - Sarival Substation Route C



Last Modified 05/16/02

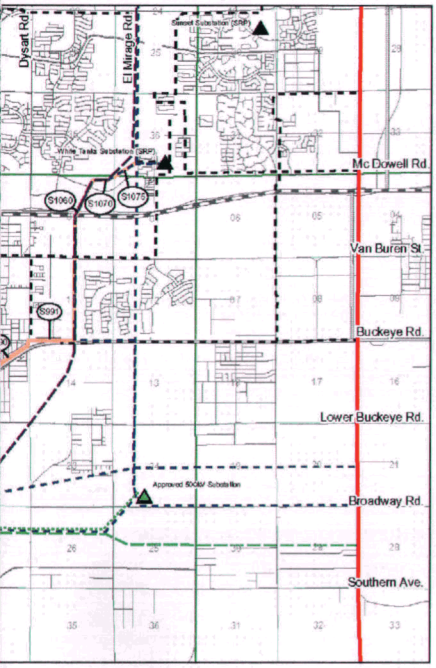
Legend

- Study Area Boundary
- 69kV Route Alternative
- Rebuild Existing Transmission Line
- T30 — Link Identification Number
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination based on engineering and land use considerations.
- Existing
- Existing
- Existing
- Existing
- Approve

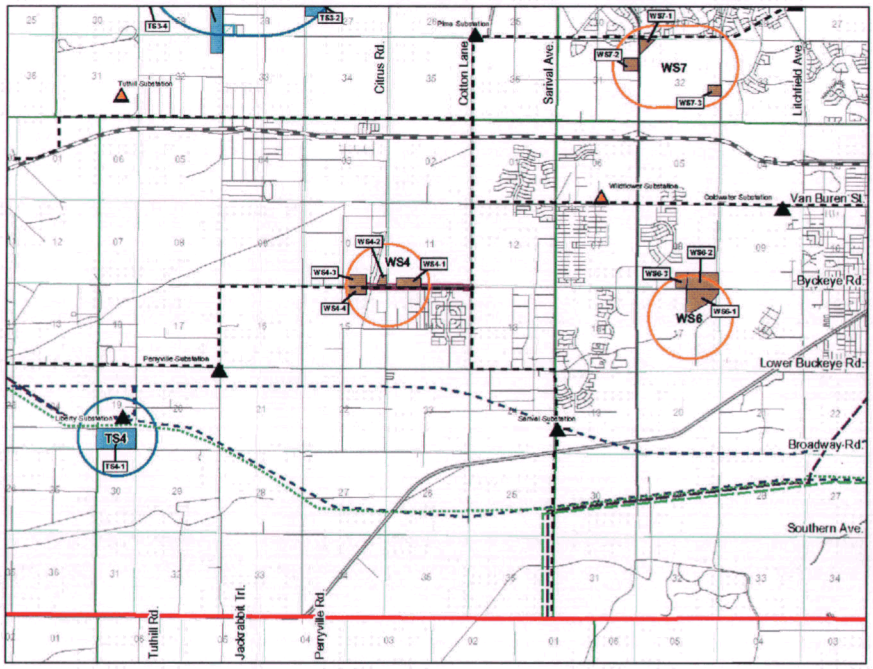
WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Alternatives
station and WS4 to Sarival Substation

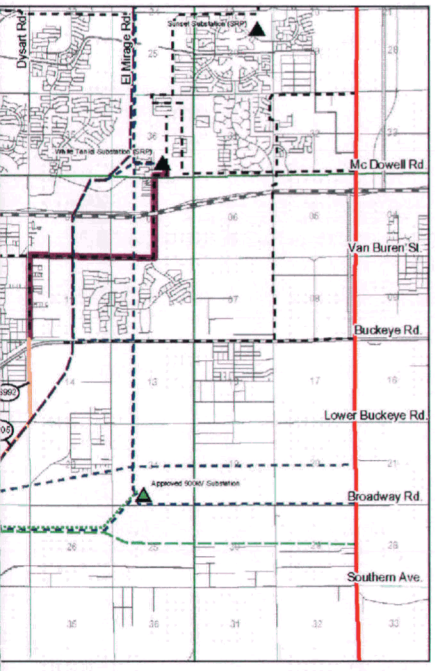
Substation -
ation Route B



WS4 - Sarival Substation Route A



Substation -
ation Route D



WS4 - Sarival Substation Route B

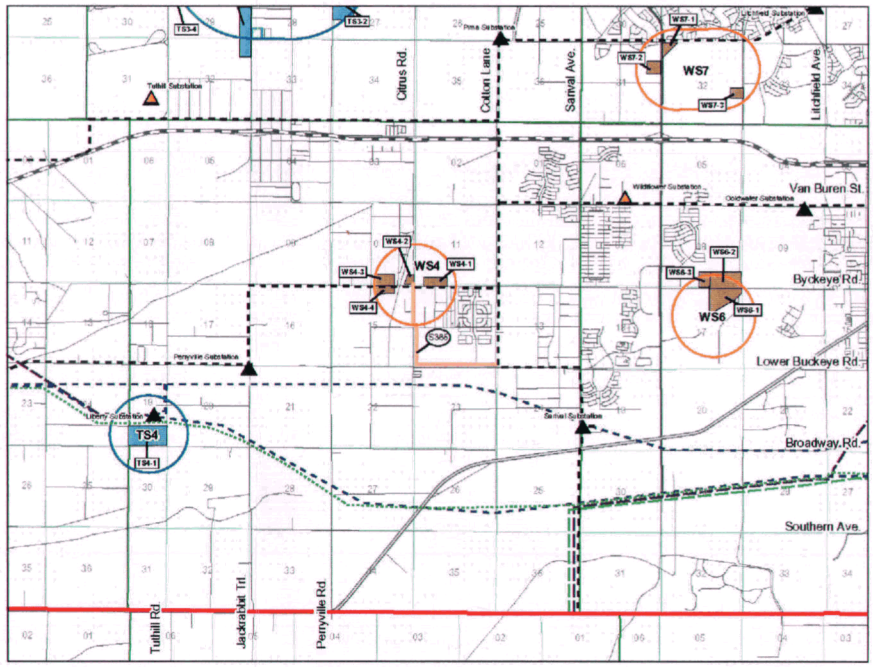


Figure 2-15

500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
69kV Transmission Line
ed 500kV Transmission Line Alignment

Existing Substation
Approved 500kV Substation
Identified 69kV Substation Site
Interstate Highway
State Route

Minor Road
Township and Range Lines
13 Section Lines and Numbers

0 1 2 4
Scale In Miles

N
W E
S

APS
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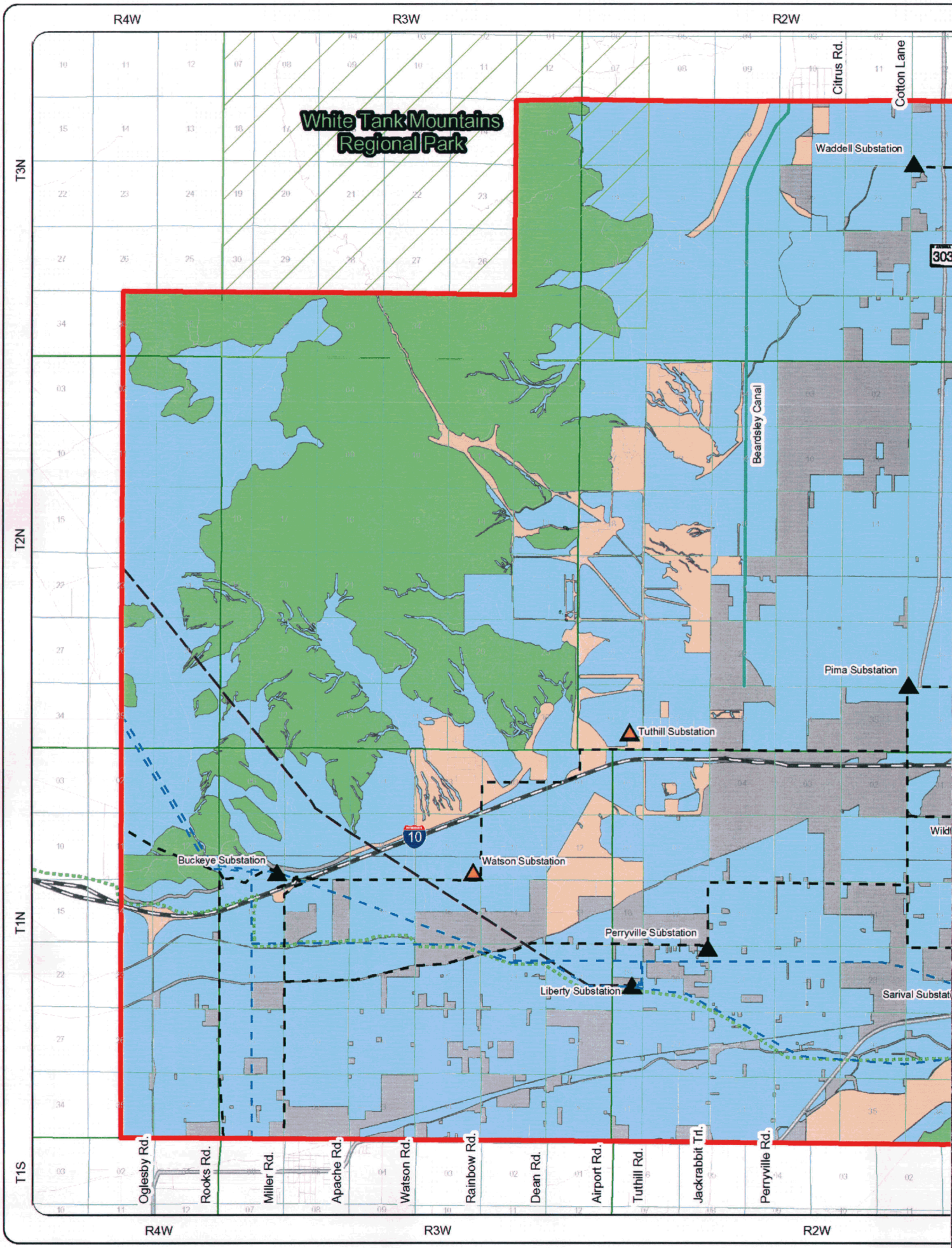
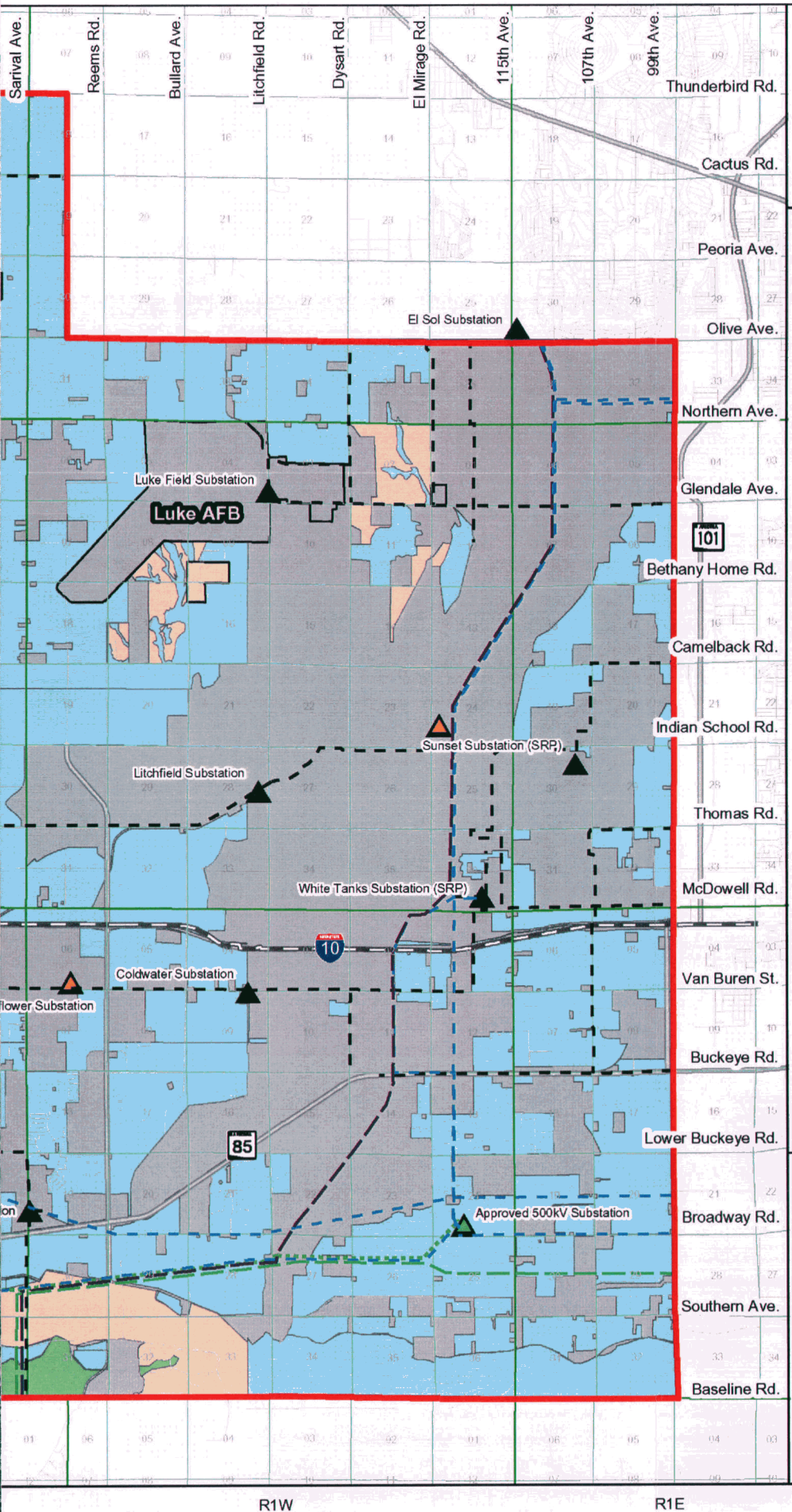

R4W
R3W
R2W
T3N
T2N
T1N
T1S
White Tank Mountains Regional Park
Citrus Rd.
Cotton Lane
Waddell Substation
Beardsley Canal
Pima Substation
Tuthill Substation
Buckeye Substation
Watson Substation
Perryville Substation
Liberty Substation
10
Oglesby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl.
Perryville Rd.



Scenic Quality

Figure 3-1

Last Modified 10/16/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 Section Lines and Numbers

Scenic Quality

- Class A
- Class B
- Class C
- Class D

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

N
W
E
S

0 1 2 4

Scale In Miles

WEST VALLEY - SOUTH POWER LINE & SUBSTATION PROJECT

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Existing Conditions: Viewing southwest from Perryville Road just south of Northern Avenue.

Simulation of the proposed 230kV transmission line along the east side of Perryville Road.

Simulation of the proposed 230kV transmission line along the 1/2 section line west of Perryville Road.

Simulation of the proposed 230kV transmission line along the Tuthill Road alignment.

230kV Power Line Simulation

Figure 3-2

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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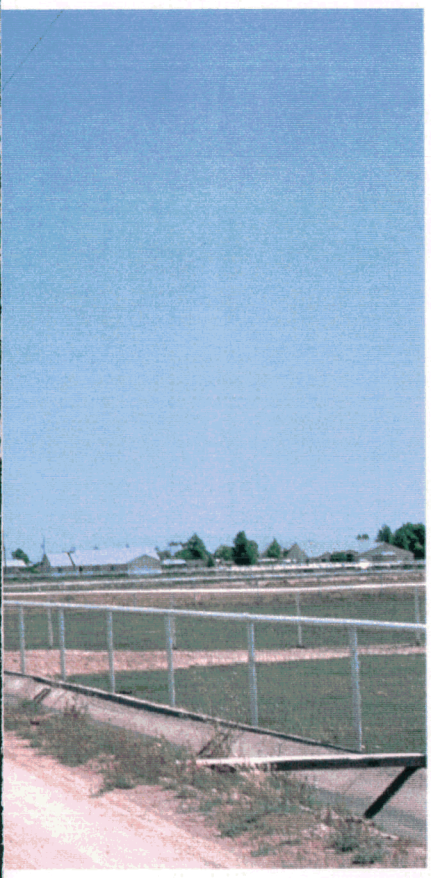
Existing Conditions: Viewing east along an access road 1/4 mile south of Lower Buckeye Road on Tuthill Road.

Simulation: Viewing east along an access road 1/4 mile south of Lower Buckeye Road on Tuthill Road.



230kV Power Line Simulation

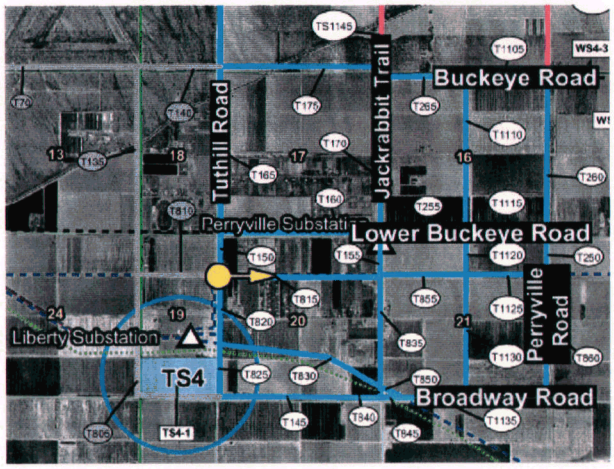


Figure 3-3

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

APS
THE POWER TO MAKE IT HAPPEN

Existing Conditions: Viewing north from the northeast corner of Indian School Road and Perryville Road.

Simulation: Viewing north from the northeast corner of Indian School Road and Perryville Road.

230kV Power Line and Substation Site Simulation

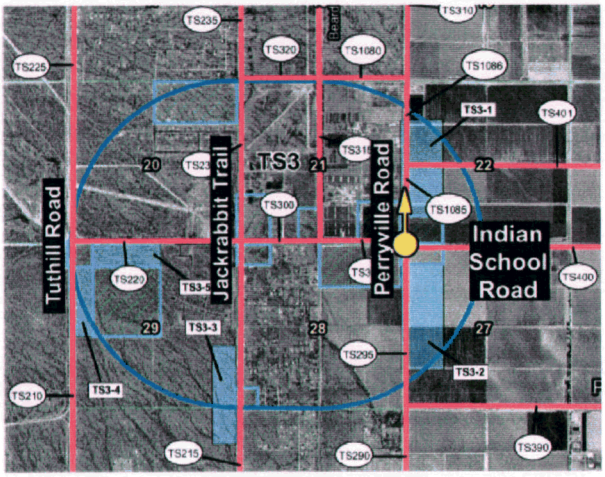


Figure 3-4

WEST VALLEY - SOUTH POWER LINE & SUBSTATION PROJECT

APS
THE POWER TO MAKE IT HAPPEN

Existing Conditions: Viewing east/southeast along Olive Avenue, just west of the Tuthill Road alignment (White Tan

Simulation: Viewing east/southeast along Olive Avenue, just west of the Tuthill Road alignment (White Tank Mount

230kV Power Line Simulation

hk Mountain Regional Park entrance).

ain Regional Park entrance).

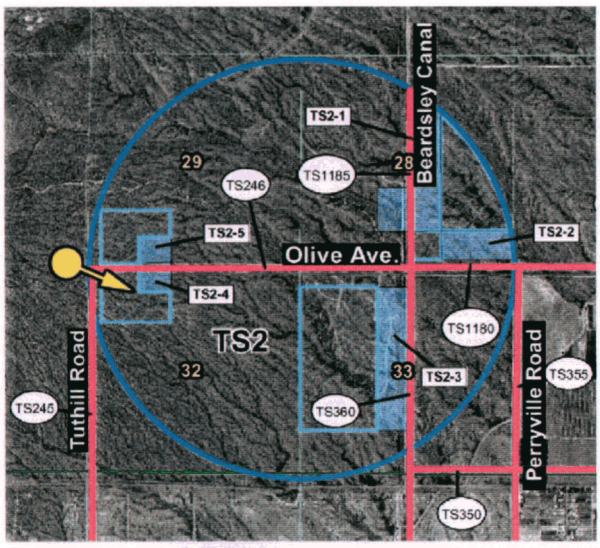
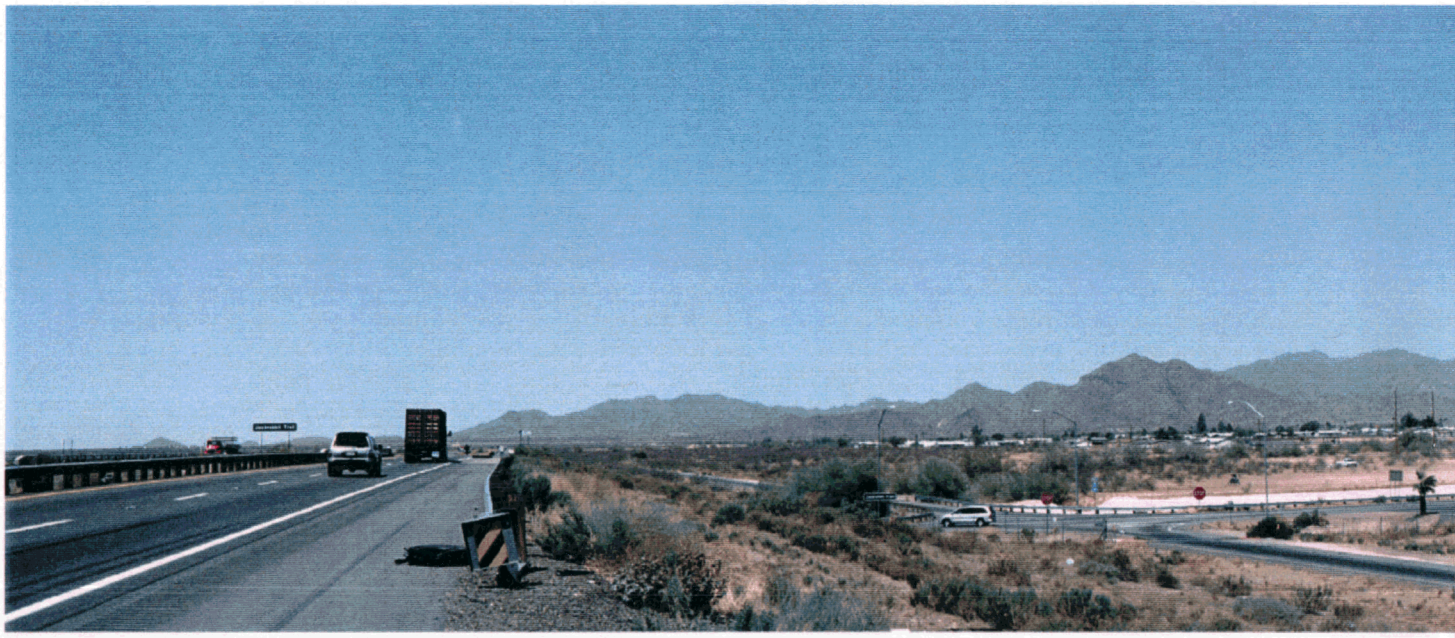


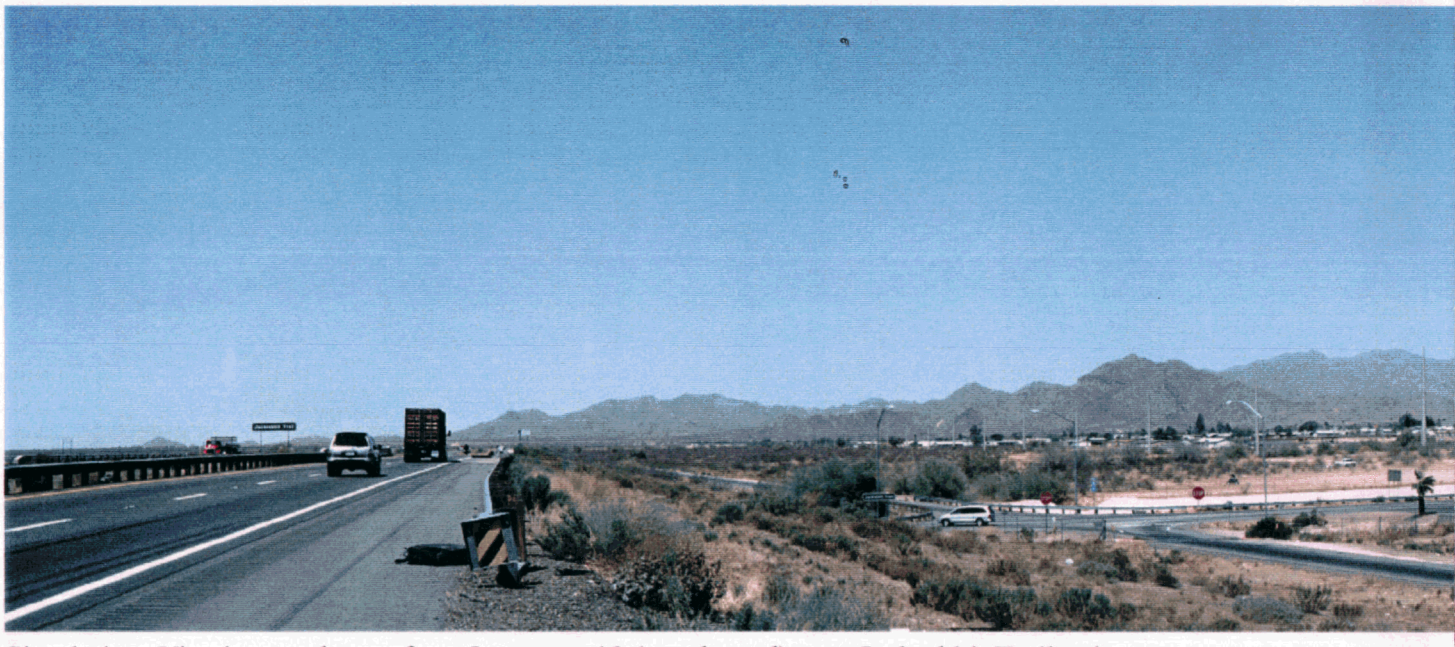
Figure 3-5

WEST VALLEY - SOUTH POWER LINE & SUBSTATION PROJECT

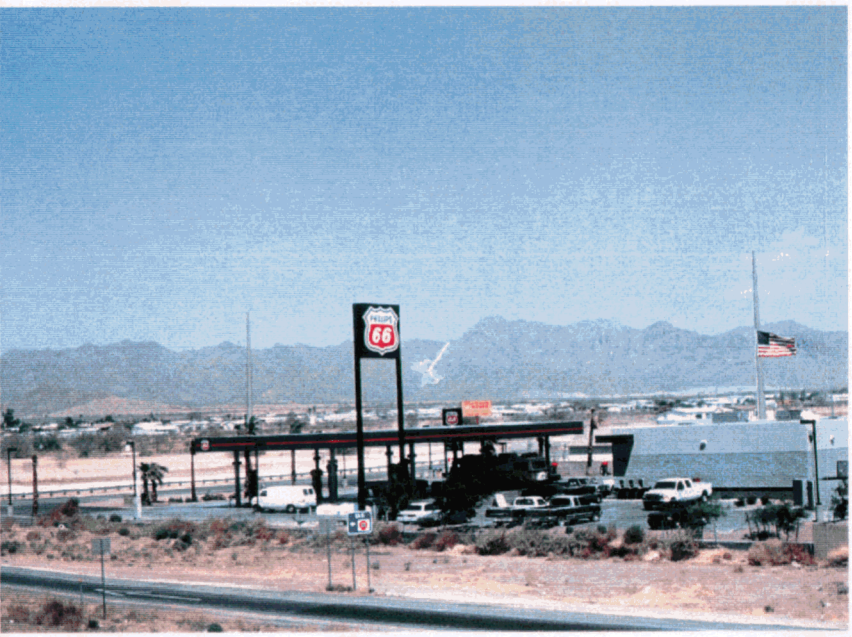
APS
THE POWER TO MAKE IT HAPPEN.



Existing Conditions: Viewing northwest from Interstate 10 (westbound) near Jackrabbit Trail exit.



Simulation: Viewing northwest from Interstate 10 (westbound) near Jackrabbit Trail exit.



230kV Power Line Simulation

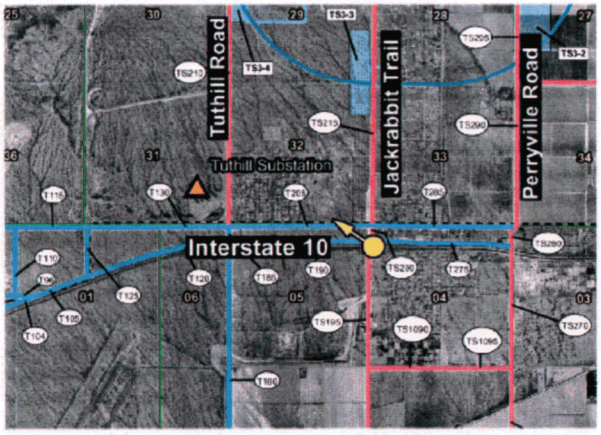
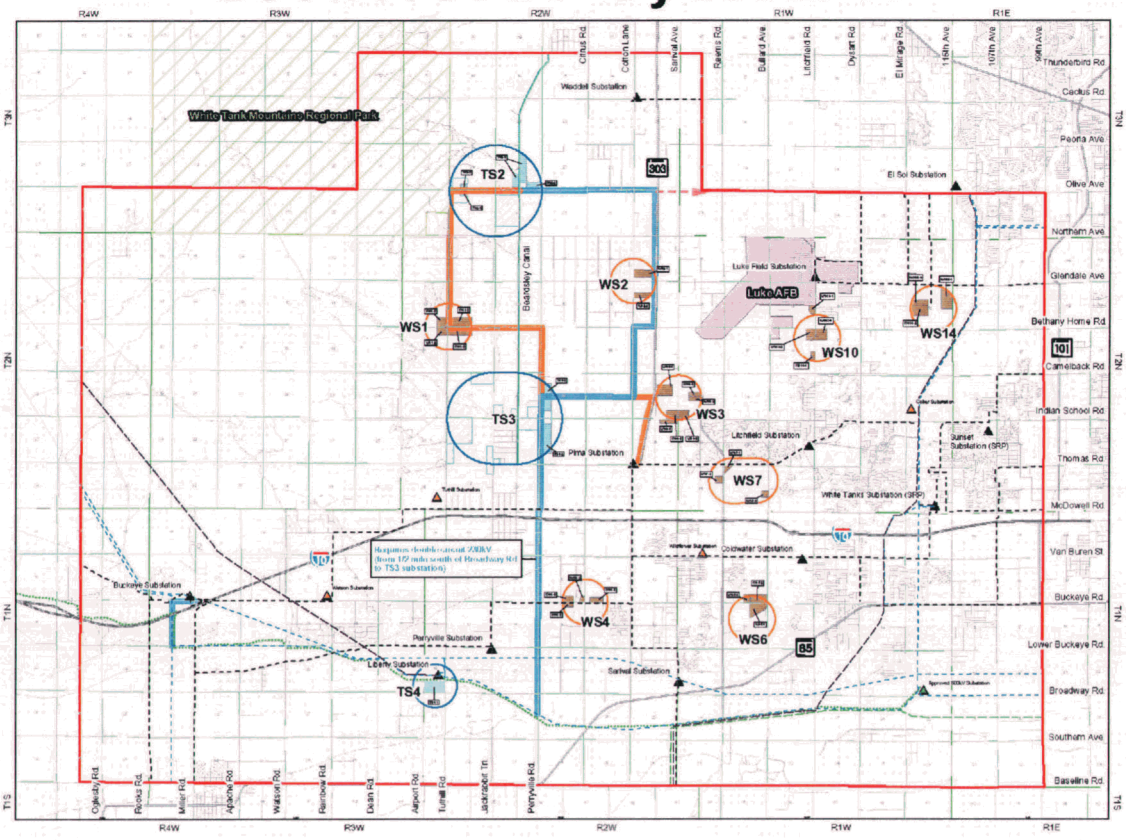


Figure 3-6

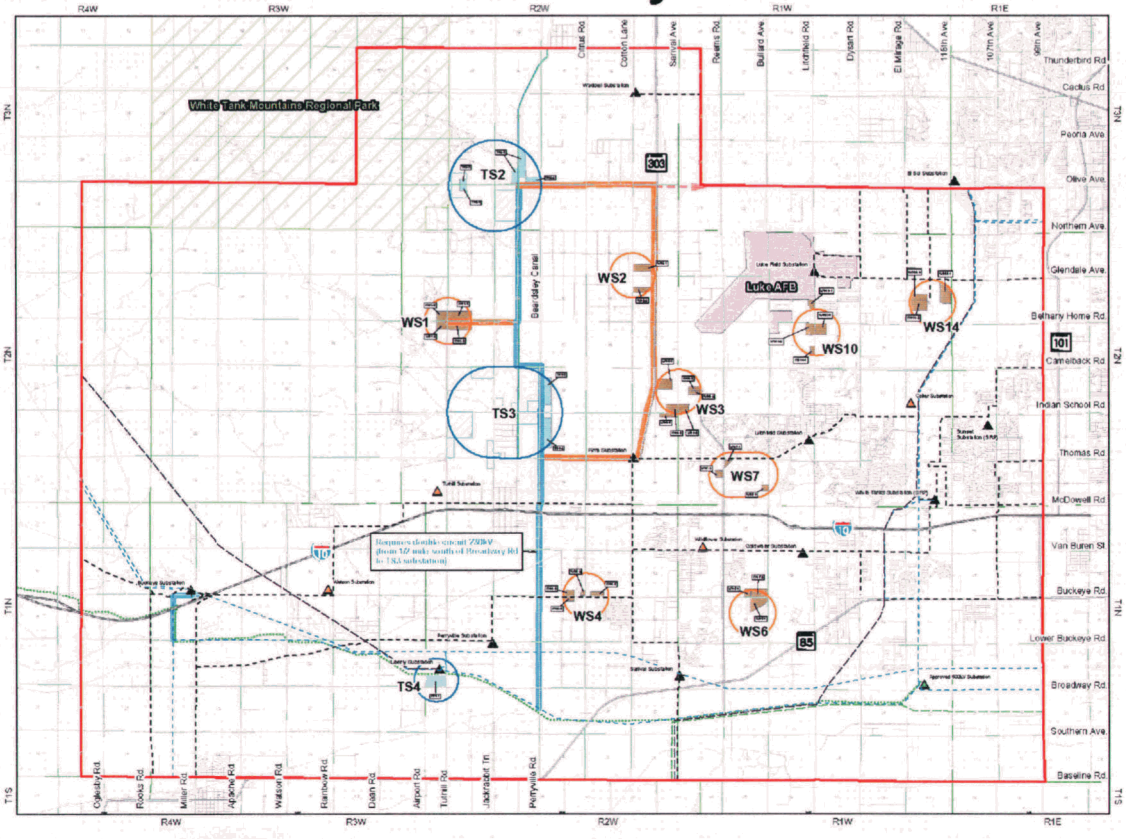
WEST VALLEY - SOUTH
POWER LINE & SUBSTATION PROJECT

APS
THE POWER TO MAKE IT HAPPEN.

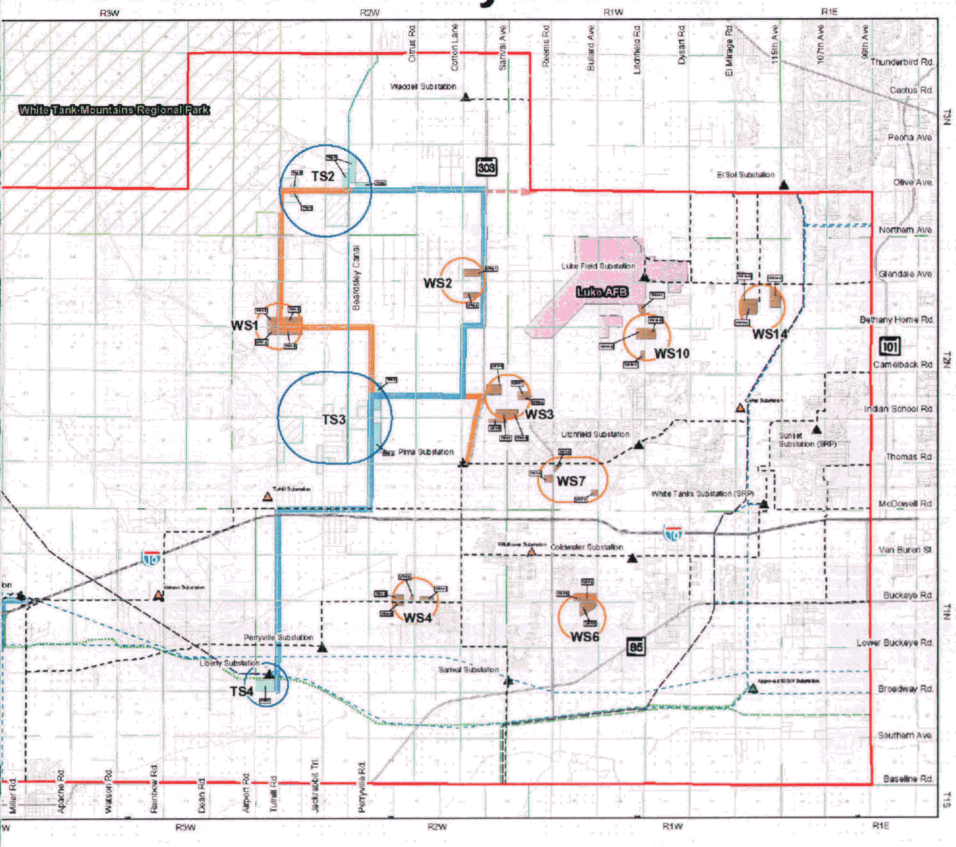
230kV/69kV System A



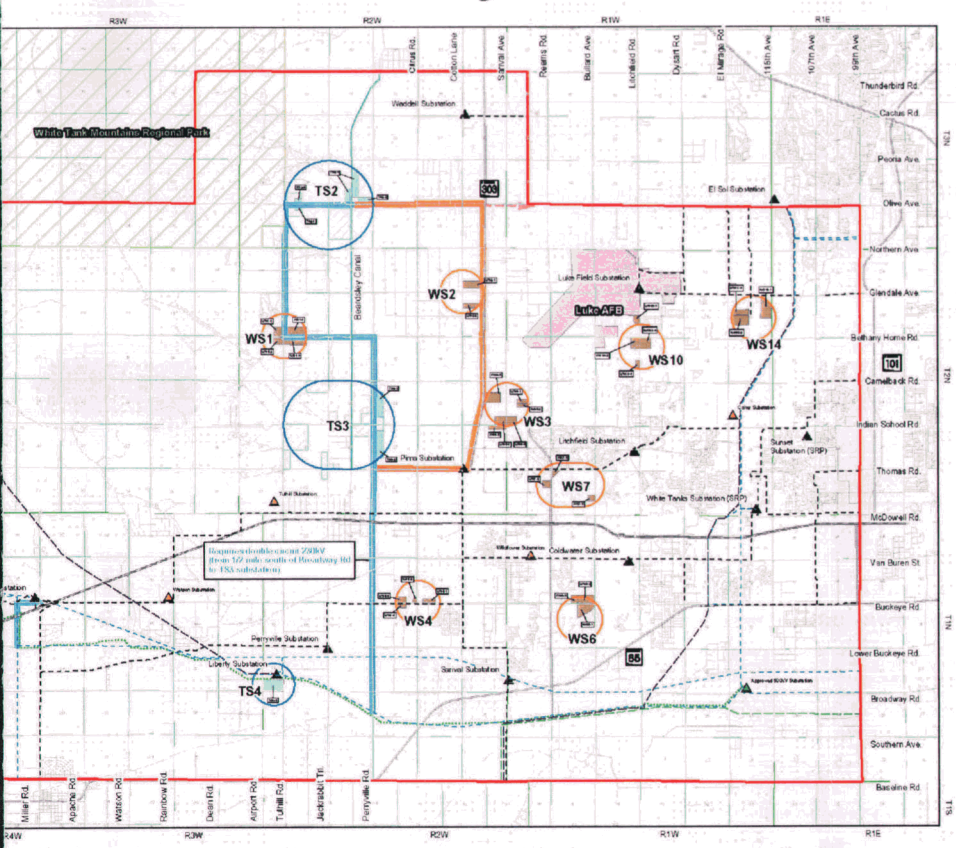
230kV/69kV System C



230kV/69kV System B



230kV/69kV System D



230kV and 69kV System Option Connections

Figure 7-1

Last Modified 08/13/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Potential 230kV Transmission Line
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation Site*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 Section Lines and Numbers
- WS3-1 Potential Substation Identification Number
- Potential 230kV Transmission Line Corridor for future study**

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

**The West Valley-North Project will evaluate alternative 230kV connections between TS2 and the existing El Sol Substation.

0 1 2 4

Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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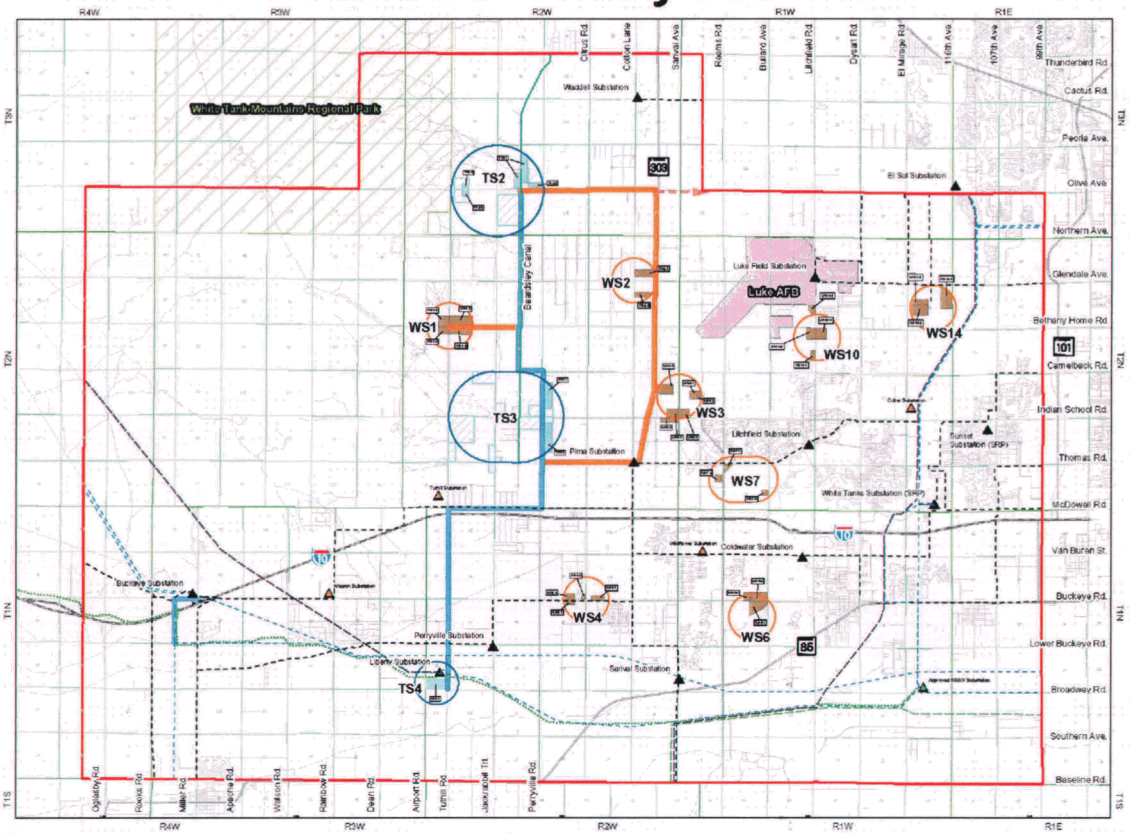
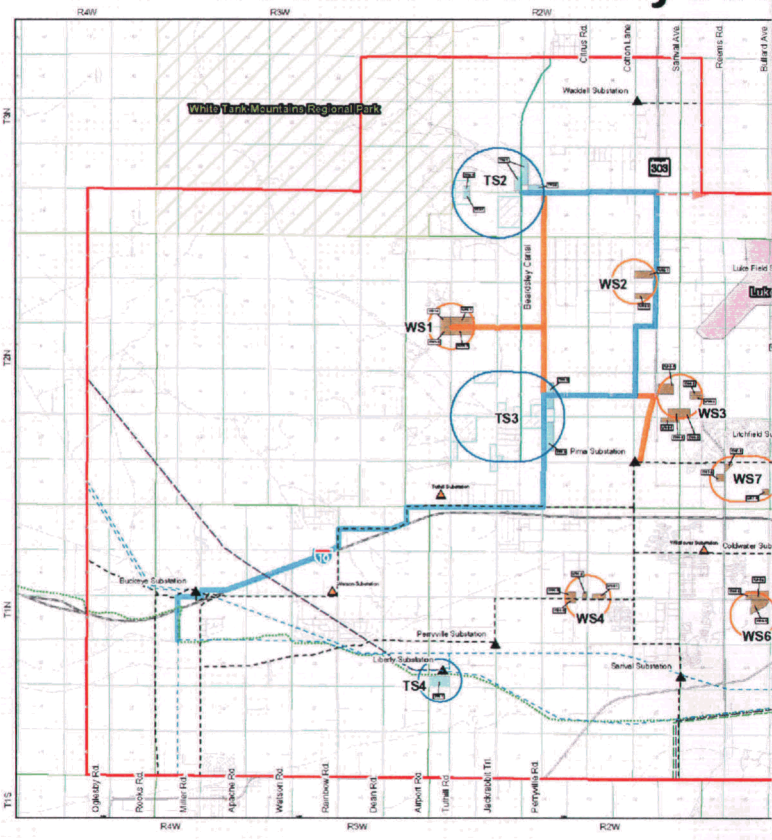
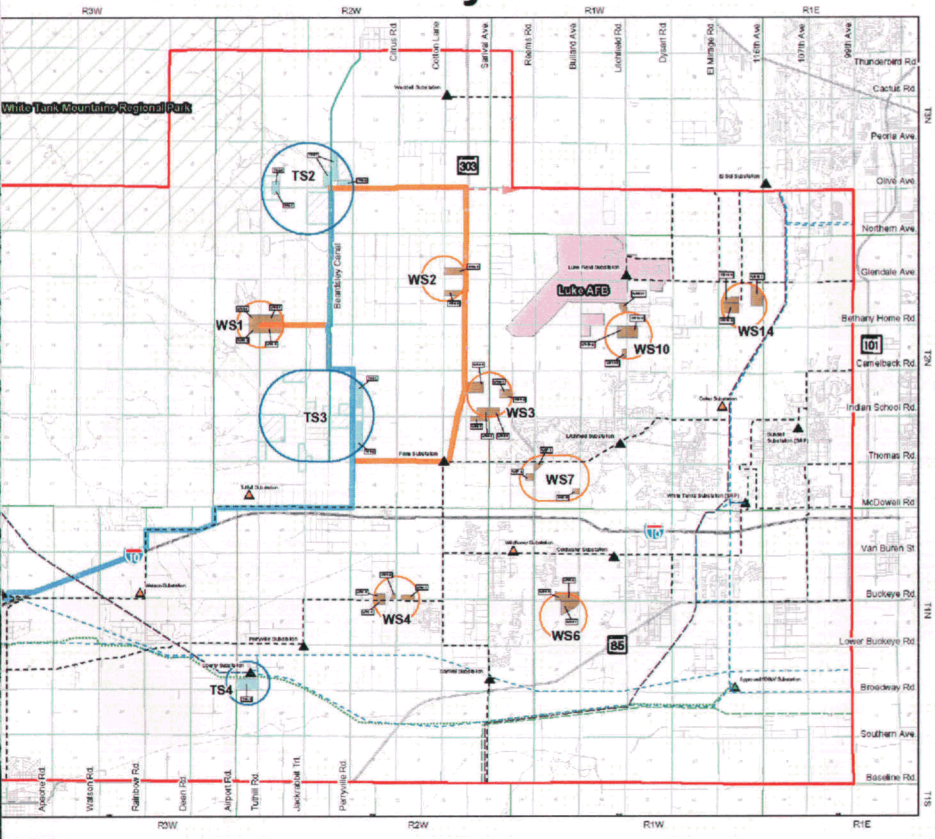
230kV/69kV System E



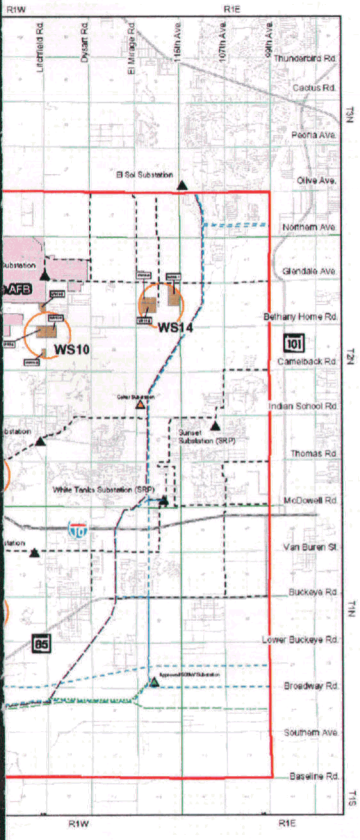
230kV/69kV Syste



230kV/69kV System F



m G



230kV and 69kV System Option Connections

Figure 7-2

Last Modified 08/13/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Potential 230kV Transmission Line
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation Site*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 — Section Lines and Numbers
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Transmission Line Corridor for future study**

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

**The West Valley-North Project will evaluate alternative 230kV connections between TS2 and the existing El Sol Substation.

0 1 2 4

Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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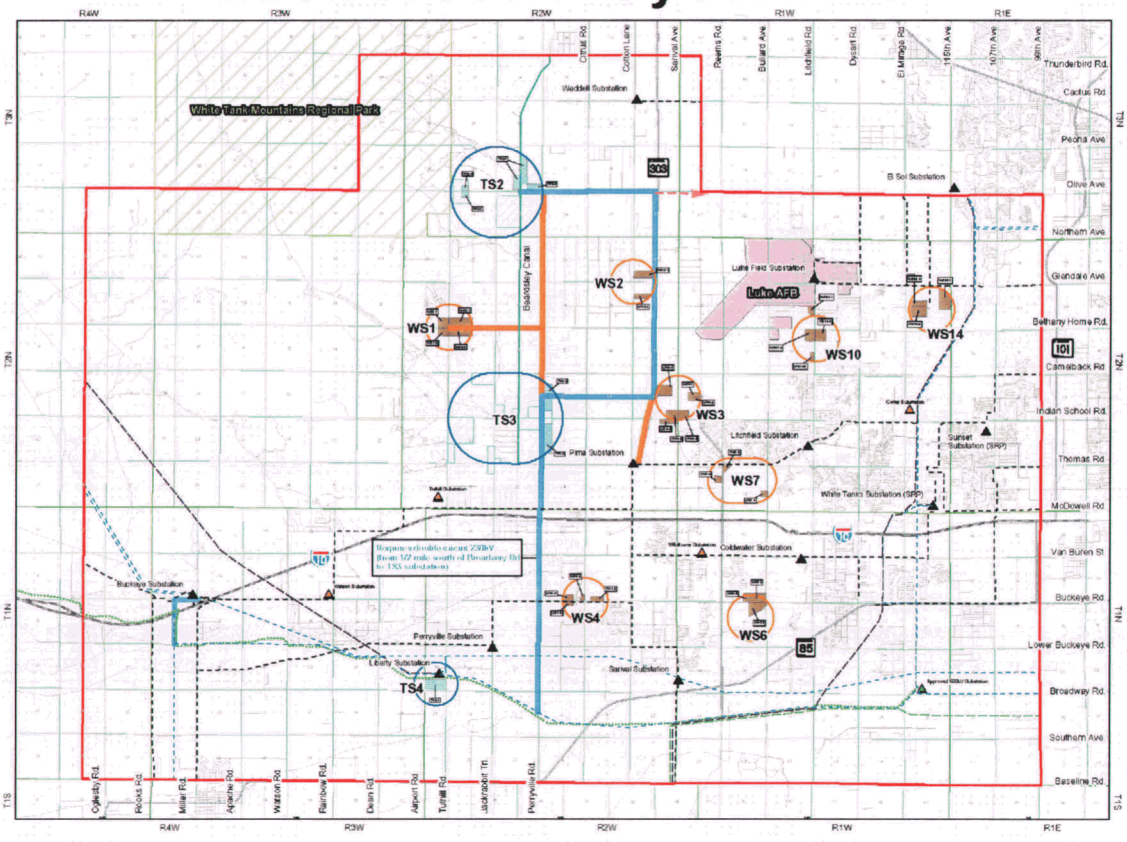
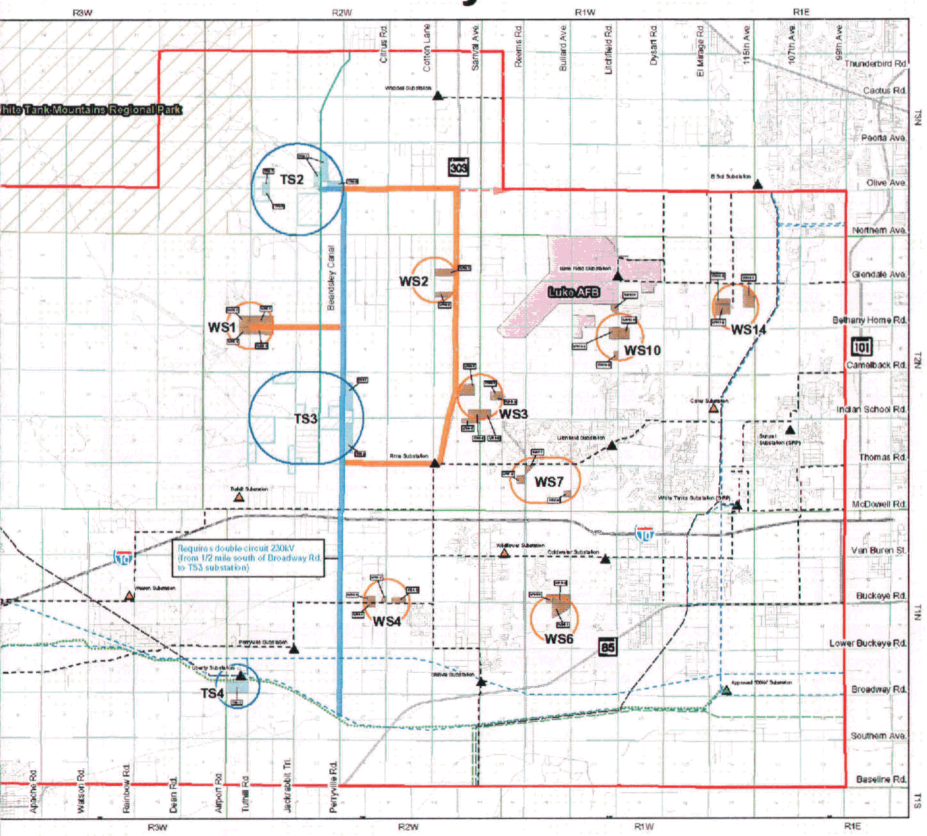
230kV/69kV System H



230kV/69kV System I



230kV and 69kV System Option Connections

Figure 7-3

Last Modified 08/13/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Potential 230kV Transmission Line
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation Site*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 — Section Lines and Numbers
- WS3-1 — Potential Substation Identification Number
- Potential 230kV Transmission Line Corridor for future study**

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

**The West Valley-North Project will evaluate alternative 230kV connections between TS2 and the existing El Sol Substation.

0 1 2 4

Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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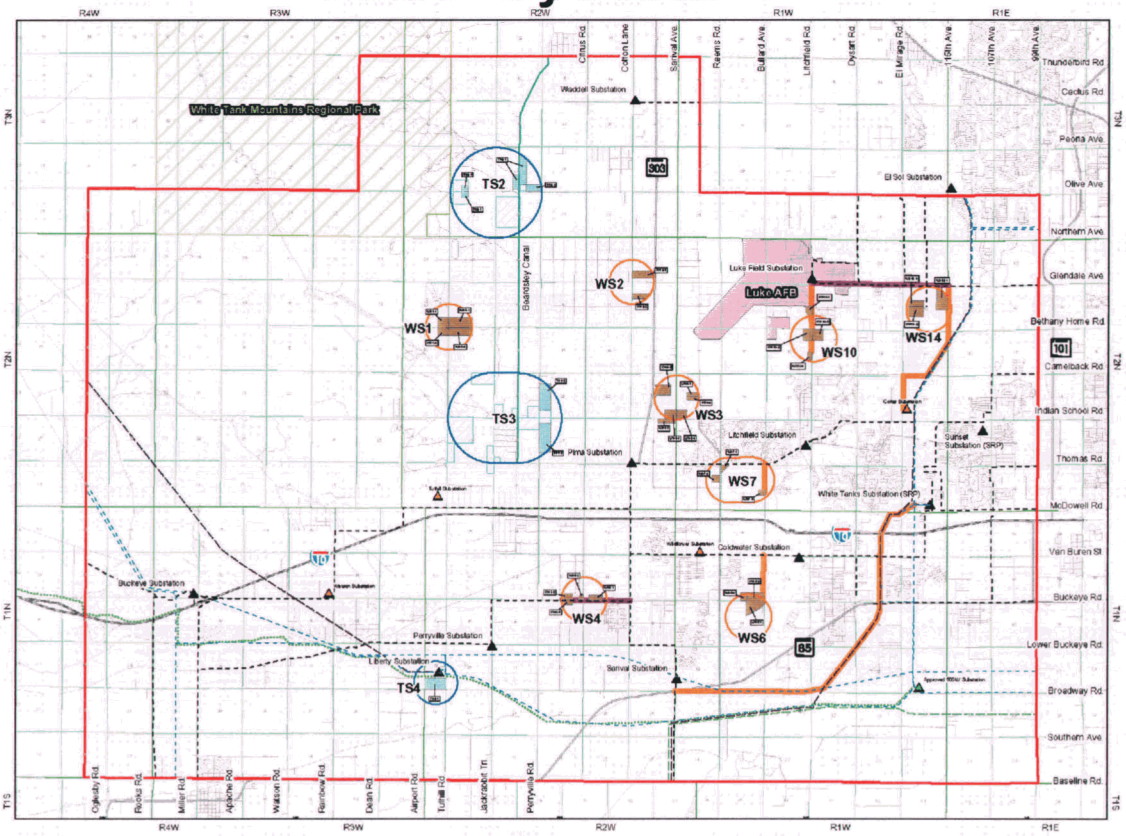
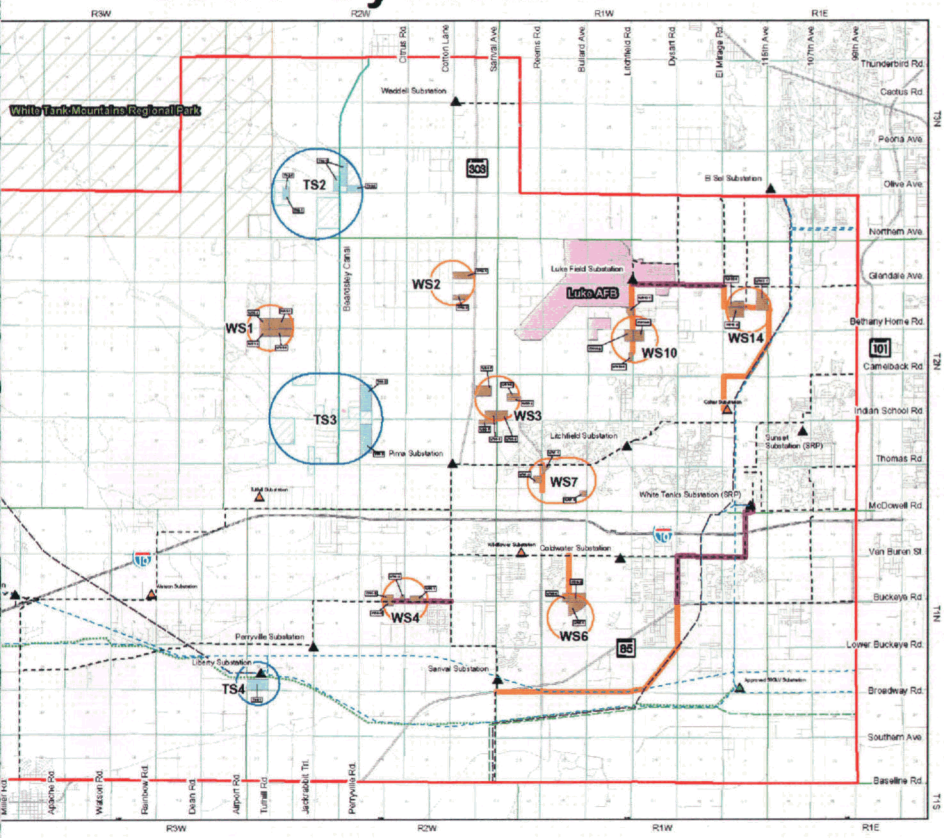
69kV System 1



Either system option 1 or system option 2 is required in additio
of the 230kV systems shown in options A through I. These alte
69kV systems are shown separately because neither option inf
the locations of the 230kV facilities, which are predominantly v
Loop 303.

69kV System 2



69kV System Option Connections

Figure 7-4

Last Modified 08/16/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Rebuild Existing 69kV (Possible double circuit)
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation Site*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 — Section Lines and Numbers
- WS3-1 — Potential Substation Identification Number

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

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Scale In Miles

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System Selection Factors

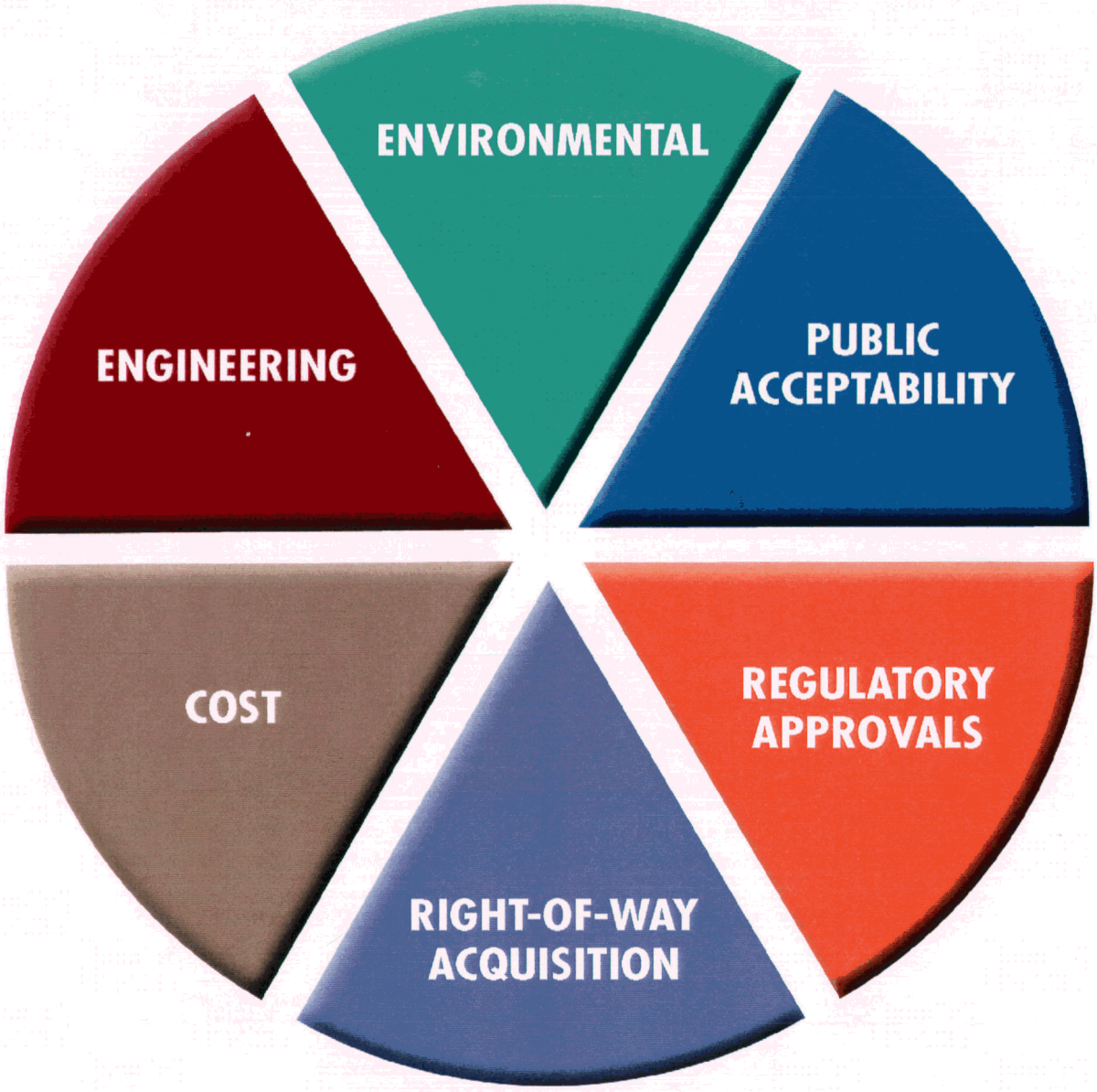
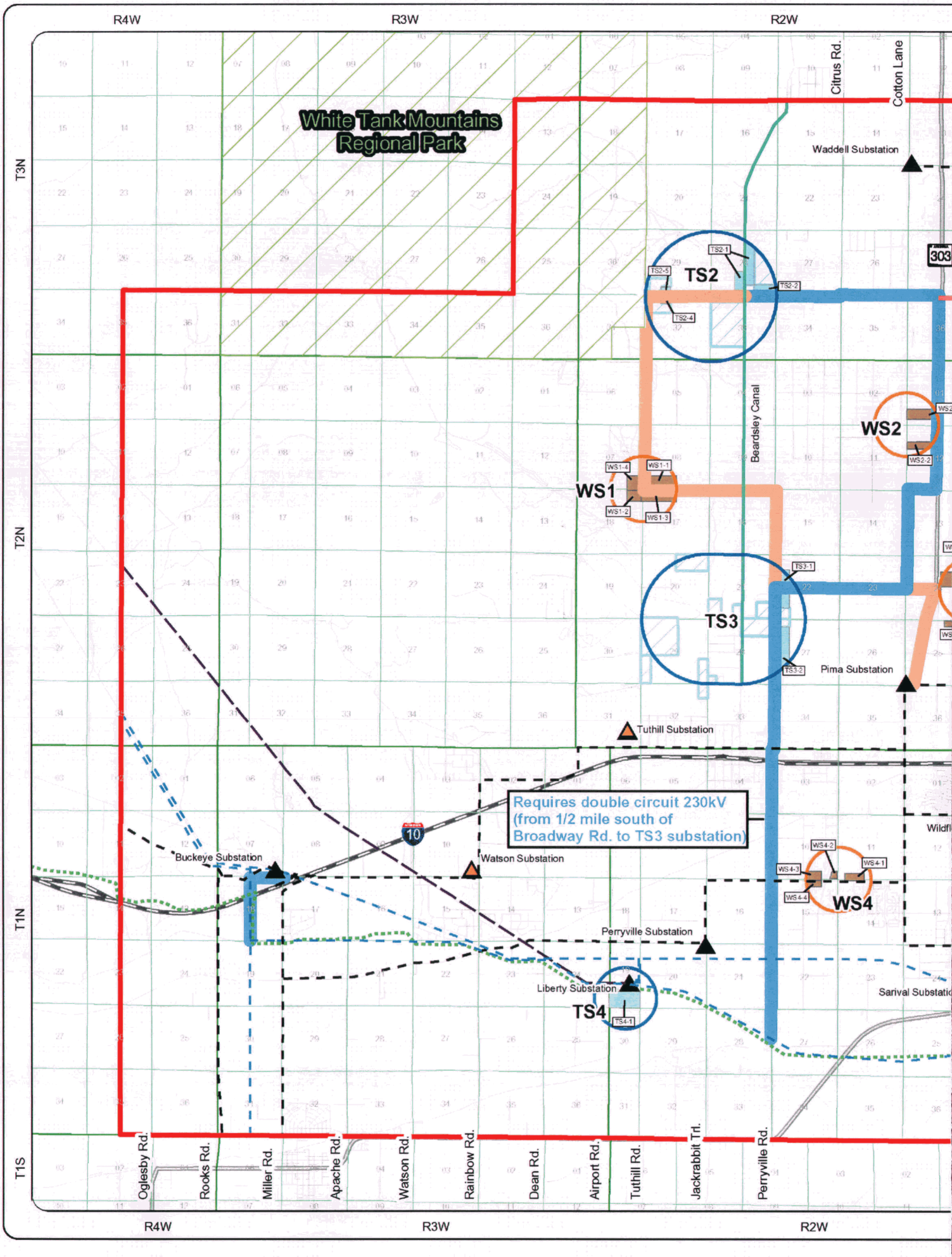
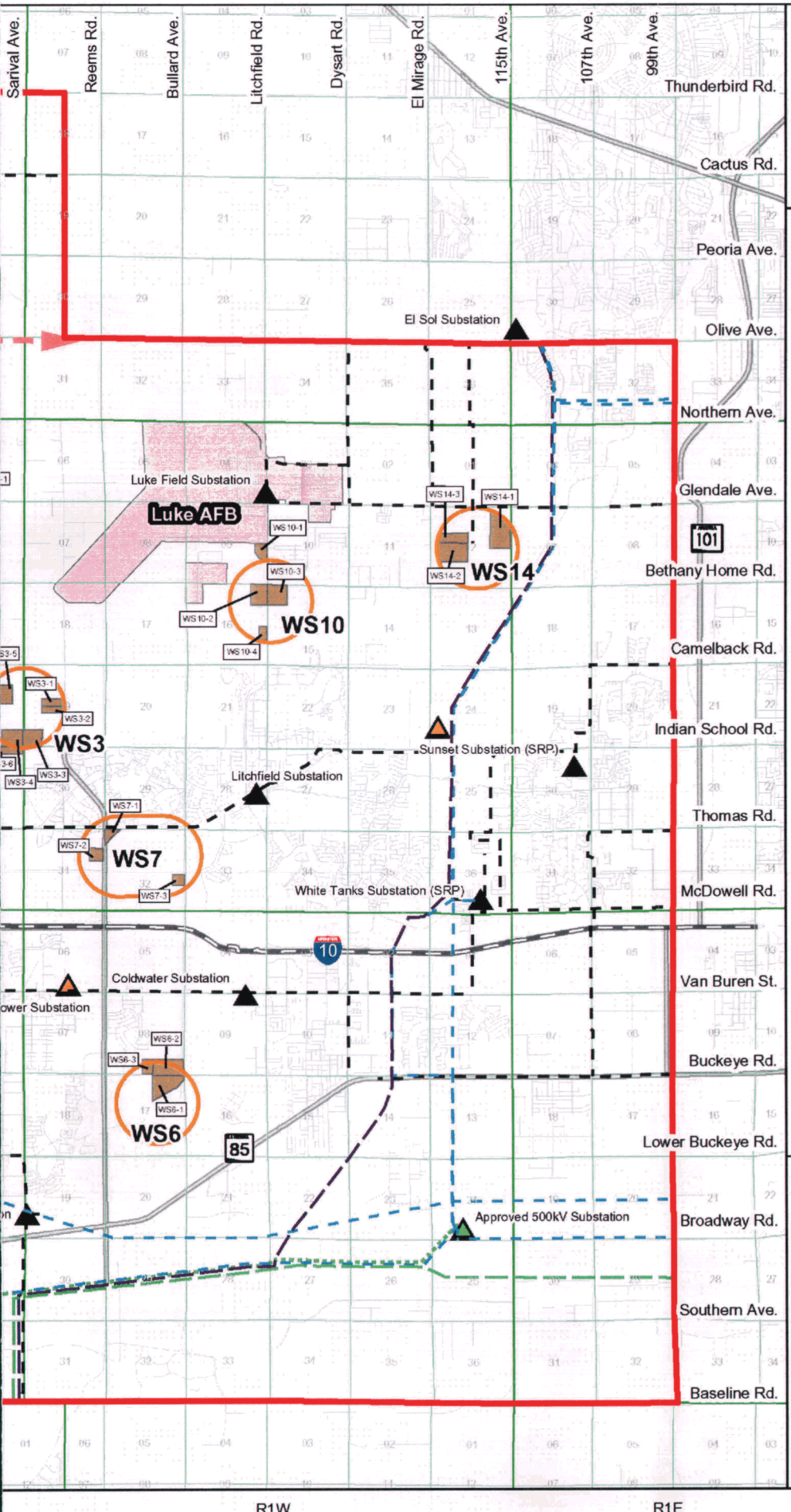


Figure 8-1

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

APS
THE POWER TO MAKE IT HAPPEN®


R4W
R3W
R2W
T3N
T2N
T1N
T1S
White Tank Mountains Regional Park
Citrus Rd.
Cotton Lane
Waddell Substation
303
TS2
TS2-1
TS2-2
TS2-4
TS2-5
WS2
WS2-2
Beardsley Canal
WS1
WS1-1
WS1-2
WS1-3
WS1-4
TS3
TS3-1
TS3-2
Pima Substation
Tuthill Substation
Requires double circuit 230kV (from 1/2 mile south of Broadway Rd. to TS3 substation)
10
Buckeye Substation
Watson Substation
WS4
WS4-1
WS4-2
WS4-3
WS4-4
Perryville Substation
Liberty Substation
TS4
TS4-1
Sarival Substatio
Wildfl
Oglesby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl.
Perryville Rd.



System A

230kV and 69kV System Option Connections

Figure 8-2

Last Modified 08/15/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Potential 230kV Transmission Line
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 — Section Lines and Numbers
- Potential 230kV Transmission Line Corridor for future study**

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

**The West Valley-North Project will evaluate alternative 230kV connections between TS2 and the existing El Sol Substation.

N W E S

0 1 2 4

Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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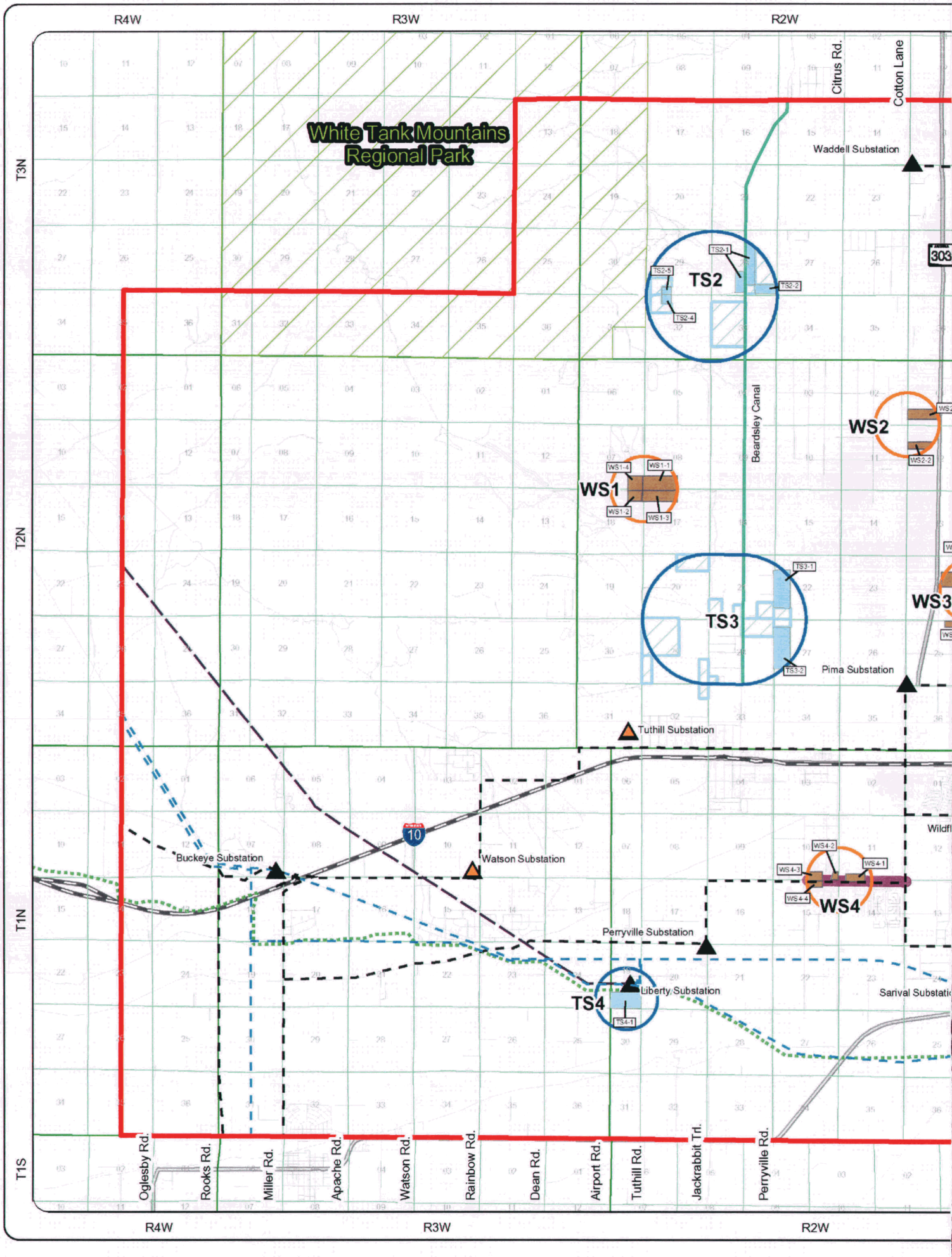
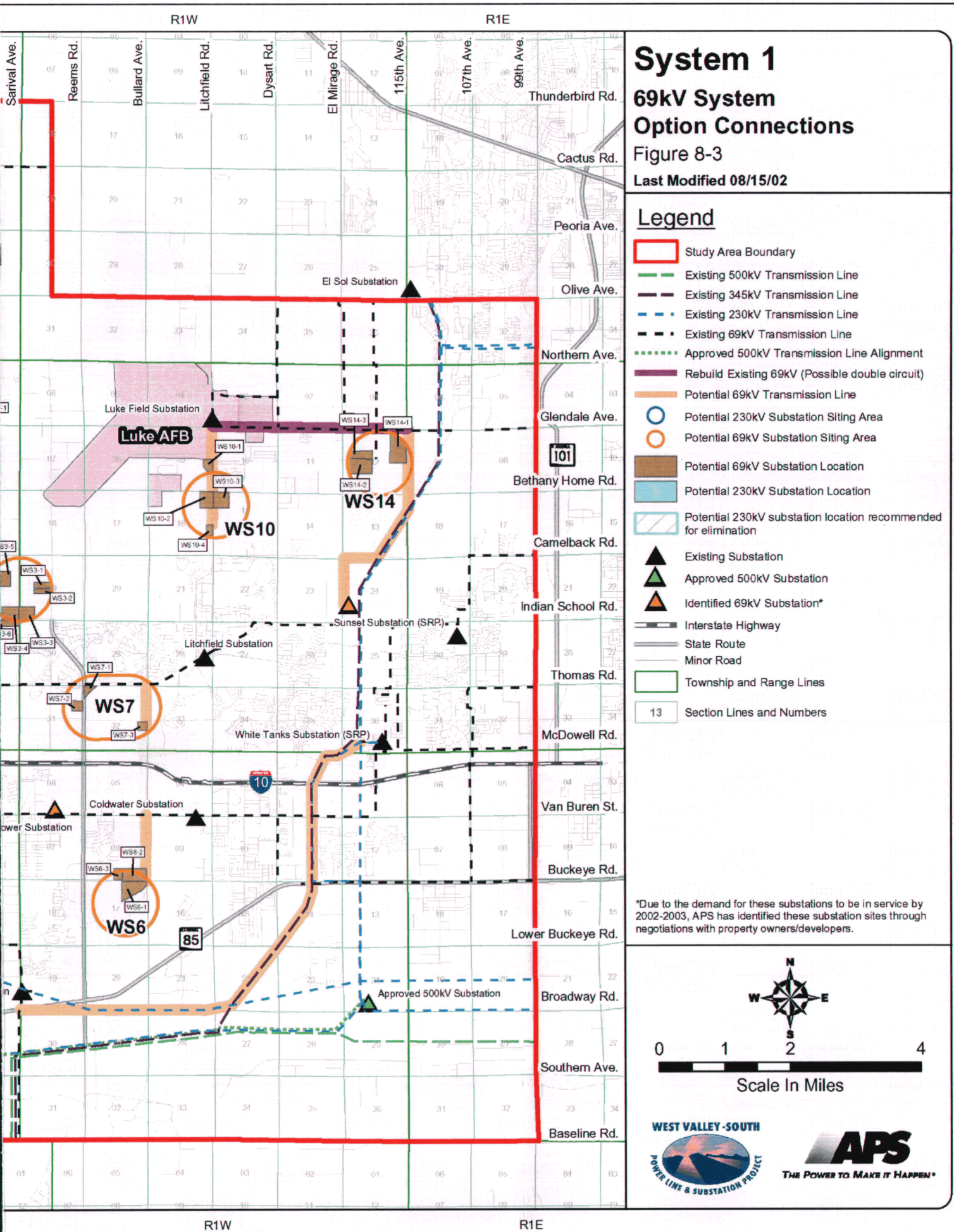

R4W
R3W
R2W
T3N
T2N
T1N
T1S
White Tank Mountains Regional Park
Citrus Rd.
Cotton Lane
Waddell Substation
TS2
TS2-1
TS2-2
TS2-4
TS2-5
303
Beardsley Canal
WS2
WS2-2
WS1
WS1-1
WS1-2
WS1-3
WS1-4
TS3
TS3-1
TS3-2
WS3
Pima Substation
Tuthill Substation
10
Buckeye Substation
Watson Substation
WS4
WS4-1
WS4-2
WS4-3
WS4-4
Perryville Substation
Liberty Substation
TS4
TS4-1
Sarival Substati
Wildfl
Oglesby Rd.
Rooks Rd.
Miller Rd.
Apache Rd.
Watson Rd.
Rainbow Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl.
Perryville Rd.



System 1

69kV System Option Connections

Figure 8-3

Last Modified 08/15/02

Legend

- Study Area Boundary
- Existing 500kV Transmission Line
- Existing 345kV Transmission Line
- Existing 230kV Transmission Line
- Existing 69kV Transmission Line
- Approved 500kV Transmission Line Alignment
- Rebuild Existing 69kV (Possible double circuit)
- Potential 69kV Transmission Line
- Potential 230kV Substation Siting Area
- Potential 69kV Substation Siting Area
- Potential 69kV Substation Location
- Potential 230kV Substation Location
- Potential 230kV substation location recommended for elimination
- Existing Substation
- Approved 500kV Substation
- Identified 69kV Substation*
- Interstate Highway
- State Route
- Minor Road
- Township and Range Lines
- 13 — Section Lines and Numbers

*Due to the demand for these substations to be in service by 2002-2003, APS has identified these substation sites through negotiations with property owners/developers.

N W E S

0 1 2 4

Scale In Miles

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

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WEST VALLEY-SOUTH

Power Line and Substation Project

EXHIBIT
A-6
admitted

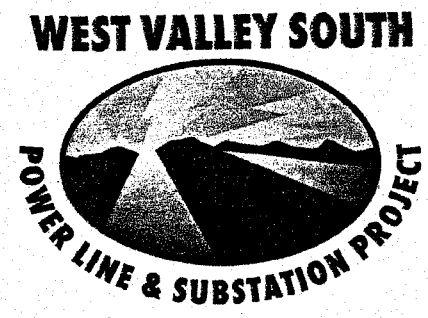
WEST VALLEY-SOUTH
POWER LINE & SUBSTATION PROJECT

Public Involvement Correspondence

Prepared for
APS

Prepared by
URS

August 2003



Correspondence Sent

Letters Sent			
Organization	**To**	**From**	**Date**
	Community Leaders	Steve Goodman	11/25/2002
	Community Leaders	Steve Goodman	8/14/2002
	Internal Distribution	Steve Goodman	11/25/2002
	Internal Distribution	Steve Goodman	3/4/2002
	Jurisdictional & Community Leader Committees	Steve Goodman	11/25/2002
Arizona Corporation Commission	ACC	Steve Goodman	8/4/2003
Arizona Corporation Commission	ACC	Steve Goodman	6/16/2003
Arizona Power Plant and Transmission Siting Committee	Laurie Woodall	Jana Van Ness	9/11/2002
Arizona Department of Corrections	D.C. Harkins	Steve Goodman	3/5/2003
Arizona Department of Transportation	John Hauskins	Steve Goodman	3/18/2003
Arizona Game and Fish Department	Bob Broscheid	Steve Goodman	6/19/2003
Arizona State Land Department	Gordon Taylor	Steve Goodman	3/1/2002
Arizona State Parks	James Garrison	Steve Goodman	6/19/2003
Avondale Development Services Department	Nathan Crane	Steve Goodman	3/1/2002
Buckeye Valley Chamber of Commerce	Connie Bailey	Steve Goodman	4/23/2002
City of Avondale	David Fitzhugh	Steve Goodman	4/23/2002
City of Avondale	Kristin Greene	Steve Goodman	4/23/2002
City of Avondale	Scott Schrader	Steve Goodman	4/23/2002
City of Avondale	Scott Schrader	Steve Goodman	1/8/2002
City of Glendale	Ed Beasley	Steve Goodman	4/23/2002
City of Glendale	Jim Colson	Steve Goodman	4/23/2002

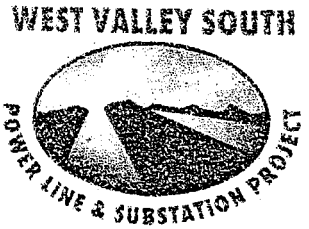
City of Glendale	Jon Froke	Steve Goodman	4/23/2002
City of Goodyear	Grant Anderson	Steve Goodman	6/19/2003
City of Goodyear	Grant Anderson - letter of transmittal	Steve Goodman	5/12/2003
City of Goodyear	Grant Anderson	Steve Goodman	5/9/2003
City of Goodyear	Grant Anderson	Steve Goodman	1/8/2002
City of Goodyear	Harvey Krauss	John Lawson	7/1/2003
City of Goodyear	Harvey Krauss	Steve Goodman	5/1/2003
City of Goodyear	Harvey Krauss	Steve Goodman	4/23/2002
City of Goodyear	Kevin Kugler	Larry Krueger	2/25/2003
City of Goodyear	Stephen Cleveland	Steve Goodman	4/23/2002
City of Litchfield	Horatio Skeete	Steve Goodman	4/23/2002
Congressman Bob Stump's Office	Lisa Atkins	Steve Goodman	4/23/2002
Electrical District 7	RD Justice	Steve Goodman	4/23/2002
Electrical District 7	RD Justice	Steve Goodman	1/25/2002
LAFB	Brigadier General (Select) Philip Breedlove	Larry Krueger	2/26/2003
LAFB	Colonel Dennis Rea	Steve Goodman	4/3/2003
LAFB	Colonel Dennis Rea	Steve Goodman	3/31/2003
LAFB	Colonel Robert Worley	Steve Goodman	4/23/2002
land owner	Dale Schultz	Jennifer Baker	3/18/2002
land owner	Dean Bleeker	Jennifer Baker	3/19/2002
land owner	Kathy Kovar	Steve Goodman	3/27/2002
land owner	Linda Kennedy	Steve Goodman	3/31/2002
Maricopa County Board of Supervisors	Max Wilson	Steve Goodman	6/19/2003
Maricopa County Board of Supervisors	Max Wilson	Steve Goodman	6/17/2003
Maricopa County, District 3	The Honarable Andrew Kunasek	Steve Goodman	5/7/2002
Maricopa County Flood Control	Gregory Jones	Steve Goodman	4/23/2002

Maricopa County Flood Control	Gregory Jones	Steve Goodman	1/25/2002
Maricopa County Flood Control	Valerie Swick	Steve Goodman	4/23/2002
Maricopa County Flood Control	Valerie Swick	Steve Goodman	1/25/2002
Maricopa County Parks and Recreation Department	William Scalzo	Steve Goodman	5/22/2002
Maricopa County Planning Department	Leo Trinidad	Steve Goodman	1/25/2002
Maricopa County Planning Department	Matthew Holm	Steve Goodman	4/23/2002
Maricopa County Planning Department	Matthew Holm	Steve Goodman	3/1/2002
Maricopa County Planning Department	Matthew Holm	Steve Goodman	1/25/2002
Maricopa Water District	James Sweeney	Steve Goodman	6/12/2003
Maricopa Water District	James Sweeney	Steve Goodman	7/18/2002
Maricopa Water District	James Sweeney	Steve Goodman	2/15/2002
Maricopa Water District	James Sweeney	Steve Goodman	4/23/2002
Maricopa Water District	James Sweeney	Steve Goodman	1/31/2002
McDOT	Bill Hahn	Steve Goodman	4/23/2002
McDOT	Bill Hahn	Steve Goodman	1/25/2002
McDOT	Leo Trinidad	Steve Goodman	4/23/2002
McDOT	Michael D Wilson	Steve Goodman	1/25/2002
McDOT	Wayne Butch	Steve Goodman	4/23/2002
McDOT	Wayne Butch	Steve Goodman	1/25/2002
Northwest Valley Chamber of Commerce	Debbie Wilden	Steve Goodman	4/23/2002
Roosevelt Irrigation District	Stan Ashby	Steve Goodman	7/24/2003
Roosevelt Irrigation District	Stan Ashby	Steve Goodman	6/19/2003
Salt River Project	Rob Kondziolka - letter of transmittal	Steve Goodman	7/18/2003
Salt River Project	Rob Kondziolka	Rex Stulting	12/6/2002
Southwest Valley Chamber of Commerce	Sharolyn Hohman	Jan Bennett	3/17/2003
Southwest Valley Chamber of Commerce	Sharolyn Hohman	Steve Goodman	3/17/2003
Southwest Valley Chamber of Commerce	Sharolyn Hohman	Steve Goodman	4/23/2002

Southwest Valley Chamber of Commerce	Sharolyn Hohman	Steve Goodman	1/31/2002
Town of Buckeye	James Crean	Steve Goodman	4/23/2002
Town of Buckeye	Joseph Blanton	Steve Goodman	6/19/2003
Town of Buckeye	Joseph Blanton	Steve Goodman	5/18/2003
Town of Buckeye	Joseph Blanton	Steve Goodman	4/23/2002
Town of Buckeye	Joseph Blanton	Steve Goodman	1/8/2002
WAPA	Jim Charters - letter of transmittal	Steve Goodman	7/18/2003
WAPA	Jim Charters	Bob Smith	1/8/2003
WAPA	Jim Charters	Rex Stulting	12/6/2002
White Tanks Concerned Citizens, Inc.	James Truman	Steve Goodman	4/23/2002
White Tanks Concerned Citizens, Inc.	Kim Beneli	Steve Goodman	4/23/2002
	Bear Shimmin	Steve Goodman	4/23/2002
	Ron Mackey	Steve Goodman	4/23/2002
Agua Fria School District	James Howard	Steve Goodman	4/23/2002
Avondale Elementary District	Catherine Stafford	Steve Goodman	4/23/2002
Buckeye Union High School District	Henry Schmitt	Steve Goodman	4/23/2002
Litchfieled Elementary School District	Tom Heck	Steve Goodman	4/23/2002
Estrella Mountain Community College	Homero Lopez	Steve Goodman	4/23/2002
Goodyear Airport	Anne Quigley	Steve Goodman	4/23/2002
Beazer Home	Joseph Thompson	Steve Goodman	4/25/2002
Brown Family Communities	Michael Brown	Steve Goodman	4/25/2002
Camelot Homes	Mark Hancock	Steve Goodman	4/25/2002
Candlewood Homes	Bob Ballard	Steve Goodman	4/25/2002
Canterra Homes	Thomas Rietz	Steve Goodman	4/25/2002
Capital Pacific Holdings	Clyde Dinnell	Steve Goodman	4/25/2002
Centex Homes	Mike Trailor	Steve Goodman	4/25/2002
Cholla Homes	Bill Blair	Steve Goodman	4/25/2002

Continental Homes	Tom Davis	Steve Goodman	4/25/2002
Courtland Homes	Allen Hamberlin	Steve Goodman	4/25/2002
Cresleigh Homes Corporation	Wade Kempton	Steve Goodman	4/25/2002
Dehaven Companies	William Donahue	Steve Goodman	4/25/2002
Del Webb's Coventry Homes	Tom Kirk	Steve Goodman	4/25/2002
Del Webb Group	Anne Mariucci	Steve Goodman	4/25/2002
Del Webb Group	Ben Redman	Steve Goodman	4/25/2002
Dietz-Crane Homes	Phill Polich	Steve Goodman	4/25/2002
DMB Associates	Dave Nilsen	Steve Goodman	4/23/2002
DMB Associates	John Bradley	Steve Goodman	4/23/2002
DMB Associates	Terry DeQuina	Steve Goodman	4/25/2002
D.R. Horton Homes	Bill Peck	Steve Goodman	4/25/2002
Duncan Family Farms	Kathleen Duncan	Steve Goodman	4/23/2002
Earlie Homes	Dan Earlie	Steve Goodman	4/25/2002
Elliot Homes, Inc	Jeff Klem	Steve Goodman	4/25/2002
Engle Homes	Mark Upton	Steve Goodman	4/25/2002
Estrella Mountain Ranch Homeowners' Association	Mary Westwood	Steve Goodman	4/23/2002
Fox & Jacobs Homes by Centex	Tim Simanse	Steve Goodman	4/25/2002
Fulton Homes	Douglas Fulton	Steve Goodman	4/25/2002
Geoffrey H. Edmunds/Toll Brothers	Chalire Bowie	Steve Goodman	4/25/2002
Goldon Heritage Homes	Duane Black	Steve Goodman	4/25/2002
Greystone Homes	Barry Grant	Steve Goodman	4/25/2002
Goodyear Estates Neighborhood Association	Mark Brown	Steve Goodman	4/23/2002
H & W Properties	Mr. Hamid	Steve Goodman	4/25/2002
Hacienda Builders	David Cohen	Steve Goodman	4/25/2002
Hallcraft Homes	Chris Ellis	Steve Goodman	4/25/2002
Hancock Communities	Greg Hancock	Steve Goodman	4/25/2002
Journey Homes	Pat Moroney	Steve Goodman	4/25/2002
KB Homes	Steve Bavis	Steve Goodman	4/25/2002
Lennar Homes	Barry Grant	Steve Goodman	4/25/2002
Maracay Homes	David Bessey	Steve Goodman	4/25/2002
Marlor Homes	Mark Hardy	Steve Goodman	4/25/2002
MB Group	Mark Barushko	James Dugan	5/12/2003
Morrison Homes	John Napolitan	Steve Goodman	4/25/2002
Palm Valley Homeowners' Association		Steve Goodman	4/23/2002

Palm Valley Country Club	Shannon Letcher	Steve Goodman	4/23/2002
Pebblecreek Homeowners' Association	Sue Linney	Steve Goodman	4/23/2002
Pinnacle Builders	Roger Williams	Steve Goodman	4/25/2002
Principal - Water Resources/Bookman-Edmonston	David Iwanski	Steve Goodman	4/23/2002
Principal - Water Resources/Bookman-Edmonston	David Iwanski	Steve Goodman	1/31/2002
Pulte Homes	Randy Bury	Steve Goodman	4/25/2002
Regal Homes Inc	Tom Brown	Steve Goodman	4/25/2002
Richmond American Homes	Ron French	Steve Goodman	4/25/2002
Rising Star Homes	R. Barry Tull	Steve Goodman	4/25/2002
Robson Communities	Edward Robson	Steve Goodman	4/25/2002
Royce Homes LP	Steve Sasso	Steve Goodman	4/25/2002
Ryland Homes	Jim Joyce	Steve Goodman	4/25/2002
Sequoia Homes		Steve Goodman	4/25/2002
Shea Homes	Ken Peterson	Steve Goodman	4/25/2002
Sivage Thomas Homes of AZ	Mike Nuessle	Steve Goodman	4/25/2002
Sonoran Ridge Estates LLC	Ross Wilson	Steve Goodman	7/30/2003
Southwest Homebuilders	Bruce Agenter	Steve Goodman	4/25/2002
Standard Pacific Homes	Steven Scarbrough	Steve Goodman	4/25/2002
Suggs Homes	Randy Suggs	Steve Goodman	4/25/2002
SunCor Development Company	Bella Forsythe	Steve Goodman	4/25/2002
SunCor Development Company	Donna Phillips	Steve Goodman	4/23/2002
The Globe Corporation	Raymond Carter	James Dugan	5/12/2003
T.W. Lews Company	Tom Lewis	Steve Goodman	4/25/2002
U.S. Home Corporation	Barry Grant	Steve Goodman	4/25/2002
WESTMARC	Dian McCarthy	Steve Goodman	4/23/2002
WESTMARC	Jay Ellingson	Steve Goodman	4/23/2002
Wildflower Ranch Homeowners' Association	Christie Birdsell	Steve Goodman	4/23/2002
William Lyon Homes	Tom Hickocx	Steve Goodman	4/25/2002
Woodside Homes	Gene Morrison	Steve Goodman	4/25/2002



DATE: Nov. 25th, 2002

TO: Community Leaders

FROM: Steve Goodman, APS Project Manager Steve

RE: West Valley - South Facility Siting Project

On behalf of the Transmission & Facility Siting Department, we are pleased inform you that APS has selected its preferred system option for 230- and 69- kV facilities in the southwest valley. These facilities will provide power lines and substations to accommodate your rapidly growing communities.

APS made its decisions based on environmental analysis and much input from the public, community and jurisdictional representatives. We believe this input led to better decision-making. The enclosed newsletter provides more details on the overall project.

We are in the process of mailing the newsletter to 72,000 customers within the project area and informing leaders, such as you, about APS' preferred system option.

The recommendations on the 230 kV facilities will now be carried forward and included in a filing for a Certificate of Environmental Compatibility in January 2003. Hearings on the project before the Arizona Power Plant and Transmission Line Siting Committee will begin soon thereafter.

If you have any questions, or would like a full briefing on the project, please do not hesitate to call me at (602) 493-4448. We appreciate your interest.

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

Date: August 14, 2002

To: Community Leader

From: Steve Goodman, APS Project Manager

Re: West Valley South Facilities Siting Project

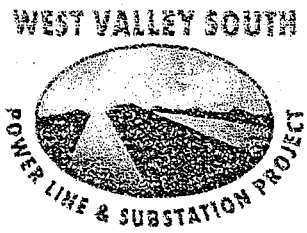
Please consider this an overview and update on the APS West Valley – South Facility Siting Study. We are sending this letter and the enclosed material to community leaders such as yourself who may have an interest in the west valley. The purpose of this letter is to provide a project status and to solicit your input on the project.

At this time, we are in the process of rolling out another phase of our public outreach efforts. This consists of mailing 75,000 project newsletters, hosting a series of meetings, advertising those meetings in the local press, and meeting with reporters to update them on the project.

Our objective with these efforts is to solicit the last round of public input on narrowed down options on power line routes and substation locations. At this point, these options are based on public input and environmental analysis. The enclosed newsletter details some of these options. We have also enclosed an updated chart illustrating the time frame of our siting process.

Please call me should you need additional information. I can be reached at 602-493-4448.

Thank you for your interest.



DATE: Nov. 25th, 2002

TO: Internal Distribution

FROM: Steve Goodman and Maria Arellano

SUBJ: West Valley - South Facility Siting Project

The purpose of this letter is to inform you of the APS Transmission and Facility Siting Project recommendations regarding the locations of future 230- and 69-kV power lines and substations in the southwest valley. The facilities are needed to directly serve the growing areas of Buckeye, Goodyear, Avondale, Glendale, Litchfield Park and some unincorporated areas of Maricopa County.

These recommendations were made after 12 months of environmental analysis, public participation, and internal and external coordination with many entities. The enclosed newsletter provides more details on the overall project.

The newsletter is being widely distributed: a mailing to 72,000 customers will go out this week, one-to-one briefings with community leaders and jurisdictional representatives began last week and continue this week. Briefings with the press will occur within a week.

The recommendations on the 230 kV facilities will now be carried forward and included in a filing for a Certificate of Environmental Compatibility in January 2003. Hearings on the project before the Arizona Power Plant and Transmission Line Siting Committee will begin soon thereafter.

Should you have any questions, please call us at 874-409. As always, we appreciate your referring any external inquiries to us as well. In advance, thank you for your interest and cooperation.

DATE: March 4, 2002

TO: Internal Distribution

FROM: Steve Goodman and Maria Arellano

RE: West Valley - South Siting Project Update

This is an update on the APS West Valley - South Facility Siting Study.

Since introducing the project to you in early January, we wanted you to be aware that over the past couple of weeks, we have moved into the public phase of this project. You may recall that it includes twelve 69 kV substations, three 230 kV substations and associated power lines. The information enclosed provides more details.

At this time, we are preparing to host three open houses, and are mailing 71,000 newsletters. We are also advertising the open houses in the West Valley press, and are briefing reporters on the project. Our project information is also available on our siting Web site, http://siting.apsc.com. We have also established a telephone information line for our customers' convenience (623) 932-6636.

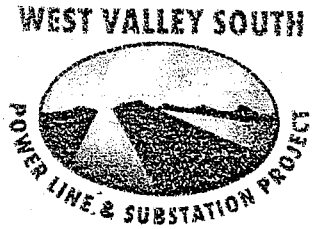
Since December, we have been briefing West Valley leaders, city managers, planners and elected officials to inform them of the project and solicit their input. The outreach to date has led to constructive dialogue with our cities and towns.

The higher profile on the project may raise questions or concerns from APS' numerous external audiences. Please refer these to us so that we address them in a consistent and timely manner.

We appreciate your interest and cooperation.

Thank you.

Cc: Larry Kreuger



DATE: Nov. 25th, 2002

TO: Jurisdictional and Community Leader Committees

FROM: Steve Goodman, APS Project Manager

RE: West Valley - South Facility Siting Project

On behalf of APS Transmission & Facility Siting Department, I want to thank you for all the time and effort you devoted to giving us input on the West Valley - South Facility Siting Project. These facilities will provide power lines and substations to accommodate your rapidly growing communities. We believe your input throughout the life of the project guided APS to better decision-making.

We are pleased to inform you that APS has selected its preferred system option for the 230- and 69-kV facilities. The enclosed newsletter provides more details on the overall project. These recommendations were made after 12 months of environmental analysis, public participation, and external coordination with many entities.

We are in the process of mailing the newsletter to 72,000 customers within the project area and informing leaders, such as you, about APS' preferred system option.

The recommendations on the 230 kV facilities will now be carried forward and included in a filing for a Certificate of Environmental Compatibility in January 2003. Hearings on the project before the Arizona Power Plant and Transmission Line Siting Committee will begin soon thereafter.

If you have any questions, or would like a full briefing on the project, please do not hesitate to call me at (602) 493-4448. Again, thank you for your valuable input and taking the time to attend the project committee meetings.

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, AZ. 85072-3933
Email: steven.goodman@aps.com

August 4, 2003

Arizona Corporation Commission
Docket Control
1200 West Washington
Phoenix, Arizona 85007

Re: *Arizona Public Service Company*
Docket No. L-00000D-03-0122

With this letter, Arizona Public Service Company (APS) files a Supplemental Packet containing five items:

1. The slide presentations for APS' four witnesses to be presented at the APS West Valley South line siting hearing beginning August 11, 2003;
2. Existing condition photographs and visual simulations of the proposed facilities;
3. Letters received by APS after submittal of the Certificate of Environmental Compatibility (CEC) Application on June 16, 2003;
4. The tour itinerary of the Proposed and Alternative system options; and
5. A draft Form of Order.

Pursuant to the instructions of Ms. Laurie Woodall, APS is filing the original and 15 copies of this supplemental packet and distributing 11 copies to members of the line siting committee.

Legal notices or other communications concerning the Exhibit Book should be directed to:

Thomas Campbell
Lewis and Roca LLP
40 North Central Avenue
Phoenix, Arizona 85004

Sincerely,

Steven Goodman
Project Manager, APS

Original and 15 copies filed this
Date with Docket ControlCOPY of the foregoing sent this
4th day of August, 2003 to:

David M. Ronald
Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Ernest Johnson
Director
Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Laurie Woodall
Line Siting Committee Chair
Office of the Attorney General
1275 West Washington Street
Phoenix, Arizona 85007

Ray Williamson
Economics and Research Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Richard Tobin II
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

Mark McWhirter
Arizona Department of Commerce Energy Office
1700 West Washington Street, 2nd Floor North, Suite 220
Phoenix, Arizona 85007

Greg Houtz
Arizona Department of Water Resources
500 North 3rd Street
Phoenix, Arizona 85004-3903

A. Wayne Smith
6106 South 32nd Street
Phoenix, Arizona 85040

Margaret Trujillo
Maricopa County RBHA
444 North 44th Street, Suite 400
Phoenix, Arizona 85008

Honorable Sandie Smith
Pinal County Board of Supervisors
575 North Idaho Road, #101
Apache Junction, Arizona 85219

Mike Palmer
604 Hovland
Bisbee, Arizona 85603

Jeff McGuire
P.O. Box 1046
Sun City, Arizona 85372

Honorable Mike Whalen
Mesa City Council
P.O. Box 1466
Mesa, Arizona 85211

Roger Ferland
Quarles & Brady Streich Lang LLP
One Renaissance Square
Two North Central Avenue
Phoenix, Arizona 85004-2391
Counsel for Camelback LLC

Karrin Taylor, Esq.
Biskind, Hunt & Taylor
11201 North Tatum Boulevard, Suite 330
Phoenix, Arizona 85028
Counsel for DMB, Inc.

Jordan Rose
Jorden, Bischoff, McGuire & Rose, P.L.C.
7272 E. Indian School Road, Suite 205
Scottsdale, Arizona 85251
Counsel for Citrus & Northern LLC

William Meek
AUIA
2100 North Central Avenue, Suite 210
Phoenix, Arizona 85004

APS

RECEIVED

2003 JUN 16 P 1:44

AZ CORP COMMISSION
DOCUMENT CONTROL

June 16, 2003

Arizona Corporation Commission
Docket Control
1200 West Washington
Phoenix, Arizona 85007

L-00000D-03-0122

Re: Siting Committee Application of Arizona Public Service for a Certificate of Environmental Compatibility

Dear Sir/Madam:

Enclosed and filed this date are 25 copies and 1 original of the Application of Arizona Public Service for a Certificate of Environmental Compatibility.

Legal notices or other communications concerning the Application should be directed to:

Thomas Campbell
Lewis and Roca LLP
40 North Central Avenue
Phoenix, Arizona 85004

Very truly yours,

APS

Steven Goodman

cc: Laurie Woodall (w/encl., via hand delivery)
Office of the Attorney General
1275 West Washington
Phoenix, Arizona 85007

VIA HAND DELIVERY

PINNACLE WEST
CAPITAL CORPORATION

Mail Station 9905
Tel. 602-250-2310
Fax 602-250-3399
e-mail Jana.Vanness@pinnaclewest.com

Jana Van Ness
Manager
Regulatory Compliance

September 11, 2002

Ms. Laurie Woodall, Chairwoman
Arizona Power Plant and Transmission Siting Committee
Attorney General's Office
1275 West Washington Street
Phoenix, AZ 85040

RE: APS West Valley – South Facility Siting Study

Dear Ms. Woodall:

I am following up on your previously expressed interest in the APS West Valley South Facility Siting Study. Enclosed please find APS' latest newsletter on the project, distributed several weeks ago. I have also enclosed several copies of the previous two newsletters.

You may recall the project includes plans to build twelve 69kV substations, three 230kV substations, and a network of power lines to connect these substations. The planned facilities are needed to meet the load growth in the Southwest Valley.

The enclosed newsletter was mailed to approximately 75,000 people within the project area or affected by it. APS also hosted community leader meetings, made several presentations to community organizations and hosted an open house for the public, which was well attended. APS advertised the open house in three west-side newspapers, and met with reporters to update them on the project. The objective of this last round of public participation was to solicit more input on the options under consideration.

APS is continuing to gather public input through the project hotline, the project web site and telephone calls. Over the next several weeks, APS is meeting with internal departments to gather their input and analysis on the facility options. APS will then make its recommendations, and inform the public.

Please call me should you need additional information. I can be reached at 602-250-2310.

Sincerely,

Jana Van Ness
Manager
Regulatory Compliance

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX,-ARIZONA 85072-3933
Email: steven.goodman@aps.com

March 5, 2003

D.C. Harkins
Deputy Warden,
Complex Operations
Arizona State Prison Complex – Perryville
2014 N. Citurs Rd.
P.O. Box 3000 .
Goodyear, Arizona 85338-0901

Dear Mr. Harkins:

On behalf of APS, I would like to thank you for the recent opportunity to present the proposed West Valley South Transmission Line Project. I found your comments, concerns and observations extremely beneficial.

One key project goal is to respond to the region's growth, while remaining sensitive to community concerns. In our telephone conversation this week, you indicated that the Department of Corrections does not lease the north half of Section 34, Township 2 North Range 2 West, but has present lease agreements with Arizona State Land Department on Section 35 and the South half of Section 34.

Per our meeting and subsequent telephone conversation, APS requests your written position as it relates to the APS preferred and alternate routes as shown on our newsletter dated November 2002.

We request that you submit this letter by March 25, 2002.

Thank you again for opportunity to meet and discuss this project.

Sincerely,

Steve Goodman
Project Manager

cc: Lawrence Krueger
Stuart Goodman

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, AZ 85072-3933
Email: steven.goodman@aps.com

March 18, 2003

Mr. John Hauskins
District Maintenance Engineer
Arizona Department of Transportation
2140 W. Hilton
Mail Drop PM 00
Phoenix, Arizona 85009

Re: APS West Valley-South Facility Siting Project

Dear Mr. Hauskins:

APS recently completed a public process to locate three 230 kV substations and approximately 20 miles of 230 kV transmission lines in the West Valley. These facilities, along with a network of 69 kV substations and power lines, are needed in response to the region's growth. The transmission lines and substations will provide the area with a reliable transmission system and strengthen the electrical system network in the greater metropolitan area. Through our environmental and technical analyses and evaluation of public input, APS has selected four potential routes for the 230 kV transmission line; these are shown in the enclosed newsletter. The 230 kV line will be built on single, steel monopoles, approximately 125 feet high. The 69 kV lines will also be built on single, steel monopoles at a height of approximately 65 feet.

As you may be aware, APS must receive approval of the 230 kV facilities from the Arizona Corporation Commission (ACC) through a Certificate of Environmental Compatibility (CEC). APS is currently preparing the application and intends to file it in April.

APS requests that ADOT provide written comments to us on the four routes depicted in the enclosed newsletter. Please note that Alternative 3 parallels the I-10 freeway and an existing 69 kV line immediately north of I-10 from approximately Miller Road to Perryville Road. APS will include ADOT's comments in our CEC application.

Please know that information on this project is available on our web site at http://siting.apsc.com through the link to the "West Valley-South" project. If you have any questions, please contact me at (602) 493-4448. Thank you for your prompt attention.

Sincerely,

Steve Goodman, Project Manager

Enclosures

Cc: Larry Krueger, APS

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

June 19, 2003

Mr. Bob Broscheid
Project Evaluation Program Supervisor
Arizona Game and Fish Department
Habitat Branch – Project Evaluation Program
2221 W. Greenway Road
Phoenix, Arizona 85023

Re: West Valley-South Siting Project

Dear Mr. Broschied:

Enclosed please find the notice of hearing for the above mentioned project.

Sincerely,

Steve Goodman, Project Manager

Enclosure

cc: Larry Krueger

APS

March 1, 2002

Gordon Taylor
Arizona State Land Department
1616 West Adams Street
Phoenix, Arizona 85007

Subject: West Valley-South Power Line and Substation Project

Dear Mr. Taylor:

As promised during our meeting with you on February 21, 2002, I am enclosing a map of the potential alternative power line alignments (links) and substation sites. This map shows land ownership along the alternative links (i.e., State Trust lands) and around the substation sites. Any concerns your agency has regarding these links and potential substation sites would be important for APS to consider during the siting process. I have also included the comment form that our team has distributed to representatives of affected municipalities/jurisdictions.

Additionally, you indicated that State Trust lands near potential facilities have been master planned areas by the Arizona State Land Department. Our project team would like to contact you within the next several weeks to acquire any pertinent land use plans for our project area to incorporate these plans in the assessment of compatibility for proposed facilities. Jennifer Baker (with URS Corporation) will contact you regarding this information.

I have also enclosed a copy of the advertisement that will announce public open houses for the project.

Thank you for your input on our project. If you have any questions, please contact me at (602) 493-4448, or Jennifer Baker at (602) 861-7406.

Sincerely,

Steven Goodman
Project Manager

attachments

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

June 19, 2003

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

Re: West Valley-South Siting Project

Dear Mr. Garrison:

Enclosed please find the notice of hearing for the above mentioned project.

Sincerely,

Steve Goodman, Project Manager

Enclosure

cc: Larry Krueger

APS

March 1, 2002

Nathan Crane
Avondale Development Services Department
1211 South Fourth Street
Avondale, Arizona 85323

Subject: West Valley-South Power Line and Substation Project

Dear Mr. Crane:

As you know, APS hosted a meeting of jurisdictional representatives on February 21, 2002 to discuss the West Valley-South Power Line and Substation Project. At that meeting, APS presented the preliminary alternatives for each substation (sites) and transmission line alignments (links). I have enclosed a map of the potential alternative sites and links for your review. This map shows jurisdiction along the alternative links (i.e., city and county lands). Any concerns your agency has regarding these links and potential substation sites would be important for APS to consider during the siting process. I have also included the comment form that our team has distributed to representatives of affected municipalities/jurisdictions.

I have also enclosed a copy of the advertisement that will announce public open houses for the project.

Thank you for your input on our project. If you have any questions, please contact me at (602) 493-4448.

Sincerely,

Steven Goodman
Project Manager

attachments

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Ms. Connie Bailey, Director
Buckeye Chamber of Commerce
508 E. Monroe Ave.
Buckeye, AZ 85326

Dear Ms. Bailey:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

Because of your role in the community, we want to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

David Fitzhugh
City Engineer, City of Avondale
1225 S. Fourth Ave.
Avondale, AZ 85323

Dear Mr. Fitzhugh:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

Because of your role in planning, APS wants to ensure that we continue to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Kristin Greene
Intergovernmental Affairs Officer
City of Avondale
1225 S. Fourth Ave.
Avondale, AZ 85323

Dear Ms. Greene:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

Because of your role in planning, APS wants to ensure that we continue to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Mr. Scott Schrader
City Manager, City of Avondale
525 N. Central Avenue
Avondale, AZ 85323

Dear Mr. Schrader:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

Because of your role in planning, APS wants to ensure that we continue to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

January 8, 2002

Mr. Scott K. Schrader
City Manager
City of Avondale
525 North Central Avenue
Avondale, Arizona 85323-1999

Dear Mr. Schrader:

On behalf of APS, I would like to thank you for the recent opportunity to present the proposed West Valley South Transmission Line Project. We all found your comments, concerns and observations extremely beneficial.

One key project goal is to respond to the region's growth, while remaining sensitive to community concerns. As this the project unfolds, we hope to conduct a number of additional meetings and discussions with you, your staff and the elected officials of Avondale.

In addition, our line siting team is committed to an inclusive process that also involves business interests, landowners and interested members of the public.

I have enclosed an information packet for your use.

We look forward to working with you on this project.

Sincerely,

Steve Goodman
Project Manager

cc: Lawrence Krueger
Stuart Goodman

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Mr. Ed Beasley
City Manager, City of Glendale
5850 W. Glendale Avenue
Glendale, AZ 85301

Dear Mr. Beasley:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

Because of your role in planning, APS wants to ensure that we continue to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Mr. Jim Colson
Economic Development Director, City of Glendale
5850 W. Glendale Avenue
Glendale, AZ 85301

Dear Mr. Colson:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

Because of your role in planning, APS wants to ensure that we continue to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Jon Froke
Planning Director, City of Glendale
6201 W. Myrtle Avenue #121
Glendale, AZ 85301-1700

Dear Mr. Froke:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

June 19, 2003

Mr. Grant Anderson, P.E.
Deputy City Manager
City Manager's Office
City of Goodyear
P.O. Box 5100

Dear Mr. Anderson:

Re: West Valley-South Siting Project

Enclosed please find the notice of hearing for the above mentioned project.

Thank you for your time and involvement in this important project. We look forward to continuing to work with you and meeting the growing electrical needs of Goodyear.

Sincerely,

Steve Goodman, Project Manager

Enclosure

cc: Larry Krueger

Arizona Public Service Company
P. O. Box 53933 • PHOENIX, ARIZONA 85072-3933

Job Number:

Date: 5-12-03

LETTER OF TRANSMITTAL

TO: GRANT ANDERSON
DEPUTY CITY MANAGER
CITY OF GOODYEAR
190 N. LITCHFIELD RD.
GOODYEAR, AZ. 85338

RE: WEST VALLEY SOUTH
FACILITY SITING PROJECT
230 KV

WE ARE FORWARDING TO YOU:

- ☐ Estimates
- ☐ Plans
- ☐ Calculations
- ☒ Copy of letter
- ☒ diskette -
- ☐ Progress Report
- ☐ Schedule
- ☐ Samples
- ☐ Details
- ☐ Technical Memorandum
- ☐ Administrative Memorandum
- ☐ Specifications
- ☐ Report
- ☐ Under separate cover via: _____

NO. OF COPIES	IDENTIFICATION NUMBER	LAST DATED	DESCRIPTION
1		5/9/03	- letter to Grant Anderson
1		5/9/03	- floppy disk - APS Proposed 230KV Route
1	(7-3)	12/02	- from Goodyear General Plan - with APS edits
1		5/9/03	- Working draft - hard copy of info. contained on above mentioned disk (APS approved route)
1		5/9/03	- APS Recommendations to be included in Goodyear General Plan (2 pages)

THESE ARE TRANSMITTED

- ☒ For approval
- ☒ For your use
- ☒ As requested
- ☒ For review and comment
- ☒ For Action
- ☐ For information only
- ☐ For Use as Guideline only
- ☐ _____
- ☐ No exception taken
- ☐ Make corrections noted
- ☐ Amend and resubmitt

PLEASE NOTE: GRANT - FOR YOU.

BY: S. Goodman

ACKNOWLEDGEMENT OF RECEIPT REQUESTED ☐

cc:

RECEIVED BY: [signature] DATE: 5/12/03 10:40 AM

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

May 9, 2003

Mr. Grant Anderson
Deputy City Manager
City of Goodyear
190 North Litchfield Road
Goodyear, Arizona 85338

Re: West Valley South Facility Siting Project – Goodyear General Plan

Dear Mr. Anderson:

Please consider this a follow-up to your meeting with Larry Krueger, APS Siting Department Manager, on April 23, 2003.

Enclosed is a disc that shows APS' proposed route for our 230 kV facilities. We have also enclosed a revised copy of your map # 7-3. This correctly depicts APS' existing facilities, as well as other existing electrical facilities within the City of Goodyear.

In addition, we have included some proposed additions and changes to the Electrical Facilities portion of your proposed plan that we think will further your objectives and ours in terms of keeping key stakeholders apprised of ongoing electrical system plans.

APS believes that your proposed general plan offers tremendous opportunity for the City to establish stronger policies and processes that strengthen city government's role and relationship with its constituency. To this overall end, APS requests that our recommendations be included in the General Plan. We look forward to hearing from Goodyear on the status of APS' input.

Sincerely,

Steve Goodman
Project Manager

cc: Larry Krueger

GOODYEAR GENERAL PLAN UPDATE 2002 - 2012

APS RECOMMENDATIONS
2/24/03

Arizona Public Service Co. recommends the following for inclusion in Goodyear's General Plan Update, 2002 - 2012:

7.2 Public Services Goals, Objective and Policies, Objective A-5: Coordinate with private utility providers to promote compatible land uses through the enhancement of their facilities and services:

REPLACE Policy A-5a: THE CITY SHALL BE ACTIVE PARTICIPANTS WITH PRIVATE UTILITIES ON NEW PROJECTS TO ENSURE THAT THE UTILITIES' PLANS ARE COMPATIBLE WITH THE CITY'S MOST CURRENT LAND USE/ZONING PLANS.

REPLACE Policy A-5b: THE CITY SHALL COORDINATE COMMUNICATIONS WITH UTILITY PROVIDERS TO ENSURE ONGOING AND TIMELY DISCLOSURE OF PROPOSED OR NEWLY APPROVED PROJECTS TO AFFECTED STAKEHOLDERS.

INSERT NEW POLICY: POLICY A-5c (current Policy A-5c becomes A-5d, and Policy A-5e becomes Policy A-5f): THE CITY SHALL REQUIRE THE HOMEBUILDING AND DEVELOPMENT COMMUNITY TO REVIEW UPDATED UTILITY PLANS, AND REQUIRES THAT ANY APPROVED PROJECTS BE DISCLOSED IN THEIR RESPECTIVE PLANS.

AMEND CURRENT POLICY A-5e: The City shall implement the use of Geographic Information System (GIS) and other technologies for mapping utility and infrastructure, AND WILL UPDATE THIS INFORMATION ON A REGULAR BASIS. IN ADDITION, THE CITY SHALL HAVE AVAILABLE FOR PUBLIC REVIEW AT LEAST ONE PAPER COPY IN A CITY FACILITY.

7.3: Private Utilities

CORRECTION TO SECOND PARAGRAPH: Arizona Public Service CO., (APS), SALT RIVER PROJECT (SRP), and Tucson Electric Power (TEP) PROVIDE ELECTRICAL SERVICE WITHIN THE CITY, OR HAVE FACILITIES RUNNING THROUGH THE CITY.

ADDITION TO 7.3, ADD TO END OF SECOND PARAGRAPH: APS IN PARTICULAR HAS NUMEROUS FACILITIES WITHIN GOODYEAR. A PORTION OF A NEW PROPOSED 500 KV TRANSMISSION LINE IS UNDER CONSTRUCTION, AND WILL BE COMPLETED BY JUNE 2003.

APS ALSO HAS 230 - AND 69- KV FACILITIES THROUGHOUT THE CITY, (SEE FIGURE 7-3).

ADD NEW THIRD PARAGRAPH TO 7.3: APS WILL SOON SEEK PERMISSION FROM THE ARIZONA CORPORATION COMMISSION FOR FACILITIES TO BE SITED UNDER THE WEST VALLEY - SOUTH POWERLINE AND SUBSTATION PROJECT (SEE NEW FIGURE 7-4) THAT WILL HELP ADDRESS THE CITY GROWING ELECTRICAL NEEDS.

7.4: Public Services Element Implementation Activities

Near-Term Implementation Activities

NEW: IDENTIFY CITY AND UTILITY PERSONNEL TO STRENGTHEN COORDINATION AND PARTICIPATION ON NEW UTILITY PROJECTS.

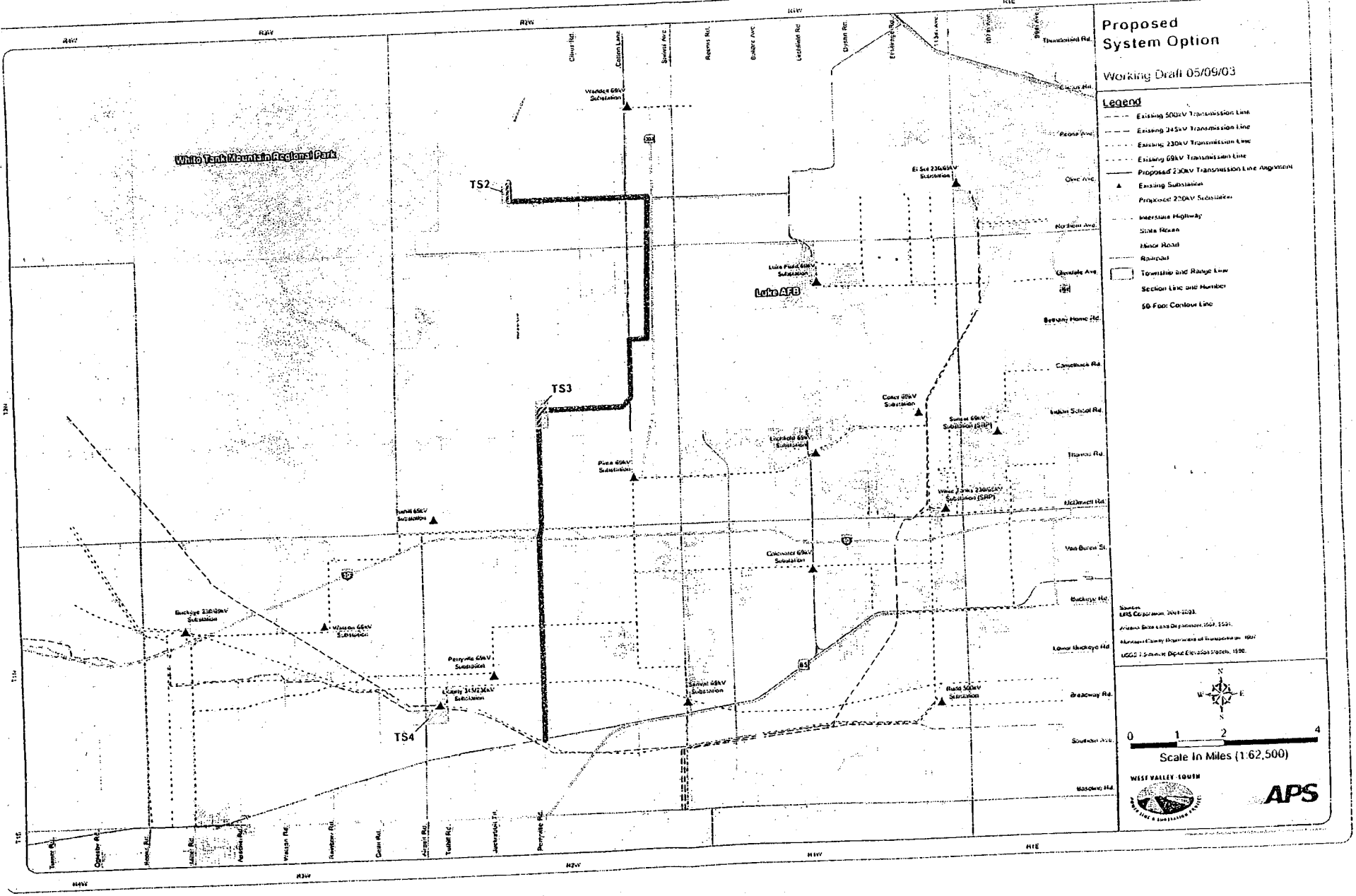
Long-term Implementation Activities

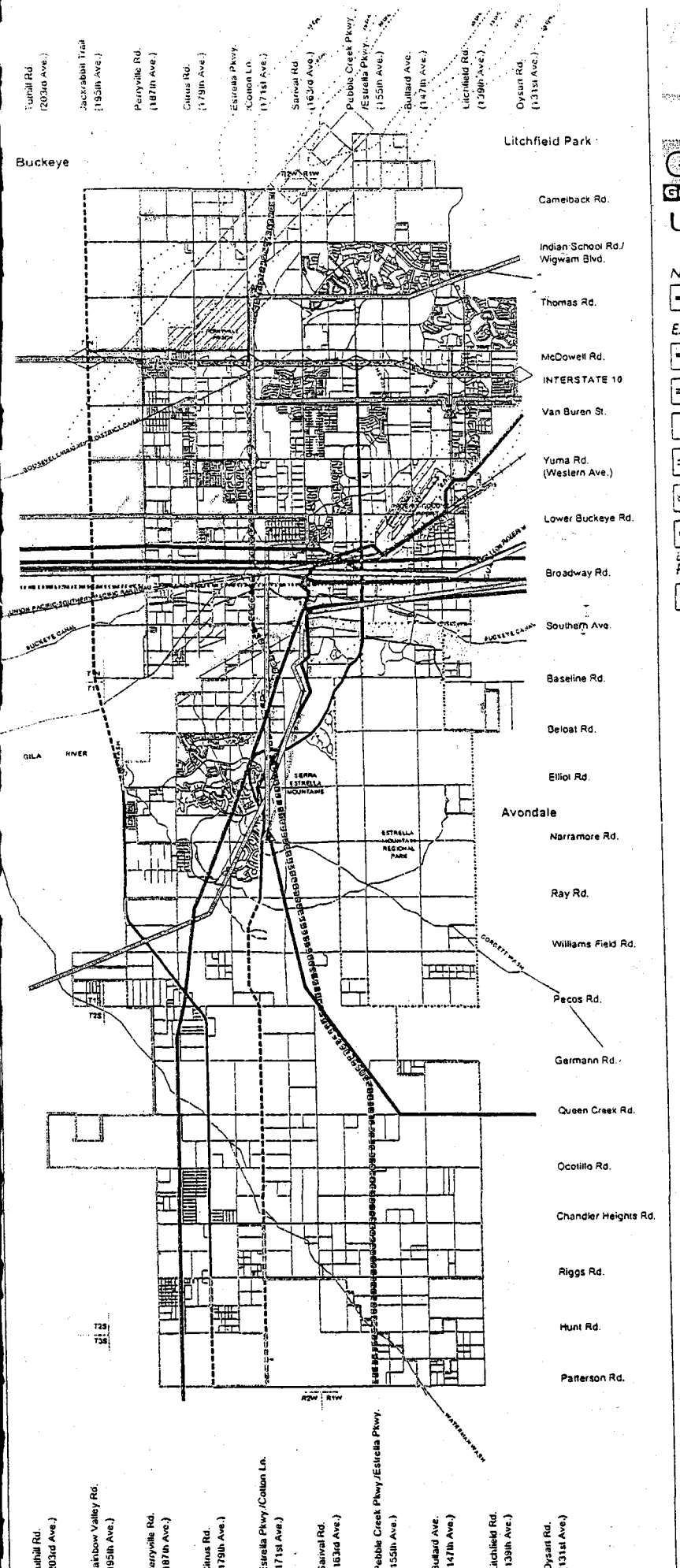
NEW: ESTABLISH A FORMAL MECHANISM ALLOWING FOR REGULAR, UPDATED EXCHANGE OF INFORMATION BETWEEN UTIITIES AND THE CITY.

NEW: STRENGHTEN OR ESTABLISH NEW REQUIRMENTS FOR TIMELY DISCLOSURE BY THE HOMEBUILDING AND DEVELOPMENT COMMUNITY OF NEW PROJECTS.

REPLACE CURRENT FIGURE 7-3: Goodyear General Plan Update, UTILITIES; with updated APS facilities.

ADD NEW FIGURE 7-4: APS WEST VALLEY - SOUTH POWERLINE AND SUBSTATION PROJECT PROPOSED ROUTES/SUBSTATION LOCATIONS.


Proposed
System Option
Working Draft 05/09/03
Legend
Existing 500kV Transmission Line
Existing 345kV Transmission Line
Existing 230kV Transmission Line
Existing 69kV Transmission Line
Proposed 230kV Transmission Line Alignment
Existing Substation
Proposed 230kV Substation
Interstate Highway
State Route
Minor Road
Railroad
Township and Range Line
Section Line and Number
50 Foot Contour Line
White Tank Mountain Regional Park
Luke AFB
TS2
TS3
TS4
Wardell 69kV Substation
El Sol 230/69kV Substation
Luke Field 69kV Substation
Cotton Lane
Sunol Ave.
Reems Rd.
Butler Ave.
Litchfield Rd.
Dysart Rd.
Ellsworth Rd.
Thunderbird Rd.
Cactus Rd.
Peoria Ave.
Olive Ave.
Northern Ave.
Glendale Ave.
Bethany Home Rd.
Camelback Rd.
Indian School Rd.
Thomas Rd.
McDowell Rd.
Van Buren St.
Buckeye Rd.
Lower Buckeye Rd.
Broadway Rd.
Southern Ave.
Baseline Rd.
Cotner 69kV Substation
Sunset 69kV Substation (SRP)
Litchfield 69kV Substation
Pima 69kV Substation
West Phoenix 230/69kV Substation (SRP)
Sunol 69kV Substation
Colorado 69kV Substation
Buckeye 230/69kV Substation
Watson 69kV Substation
Perryville 69kV Substation
Liberty 345/230kV Substation
Sunnyl 69kV Substation
Rudd 500kV Substation
Sources:
LRS Corporation, 2001-2003.
Arizona State Land Department, 1997, 1991.
Maricopa County Department of Transportation, 1997.
USGS 1:24,000 Digital Elevation Models, 1990.
0 1 2 4
Scale in Miles (1:62,500)
WEST VALLEY - SOUTH
APS



GOODYEAR

General Plan Update 2002 - 2012

UTILITIES

Natural Gas Service

- *High Pressure Distribution Line*

Existing Overhead Electrical Service

- *230kv (Arizona Public Service)*
- *69kv (Arizona Public Service)*
- *APS Substation*
- *230kv (Salt River Project)*
- *500kv (Salt River Project)*
- *345kv (Tucson Electric Power)*

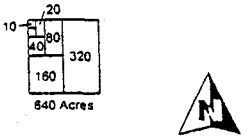
EXISTING *~~Proposed~~* *Overhead Electrical Service*

- *SW Valley 500kv (Arizona Public Service/SALT RIVER PROJECT)*

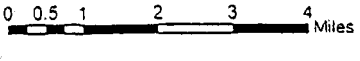
APS PROPOSED 230KV

APS PROPOSED 230 KV SUBSTATION

- *Freeway (Existing)*
- *Freeway (Proposed)*
- *Parkway (Existing)*
- *Parkway (Proposed)*
- *Arterial Roads*
- *City Incorporated Area*
- *Canals*
- *Regional Park*
- *Aviation Noise Contours*
- *Parcel Boundary*



7-3



Goodyear

URS

Source: APS, Southwest Natural Gas, and 1998 Metropolitan Phoenix and Vicinity Joint Service; December, 2002

w:\projects\goodyear\gis\projects\final maps\GY_Utilities_121702_mjm.mxd

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

January 8, 2002

Mr. Grant Anderson
Deputy City Manager
City of Goodyear
190 North Litchfield Road
Goodyear, Arizona 85338

Dear Grant:

On behalf of APS, I would like to thank you for the recent opportunity to present the proposed West Valley South Transmission Line Project. We all found your comments, concerns and observations extremely beneficial.

One key project goal is to respond to the region's growth, while remaining sensitive to community concerns. As this project unfolds, we hope to conduct a number of additional meetings and discussions with you, your staff and the elected officials of Goodyear.

In addition, our line siting team is committed to an inclusive process that also involves business interests, landowners and interested members of the public.

I have enclosed an information packet for your use.

We look forward to working with you on this project.

Sincerely,

Steve Goodman
Project Manager

cc: Lawrence Krueger
Stuart Goodman

A subsidiary of Pinnacle West Capital Corporation

John B. Lawson
Consultant
Land Services Department

Tel. 602-371-7880
Fax 602-371-6586
e-mail John.Lawson@aps.com

Mail Station 3016
PO Box 53933
Phoenix, Arizona 85072-3933

July 1st, 2003

Harvey Krauss, Director
City of Goodyear
190 N. Litchfield Rd.
Goodyear, AZ.

Dear Mr. Krauss,

As you will recall, APS is negotiating with Goodyear Investors, LLC for the purchase of a site for a new electric substation to serve their proposed mall development. Although we have not yet established an escrow, we have a general agreement as to location, size, price, etc.

Ray Carter has some questions as to landscaping, access, gate locations, and the general layout we plan to use. Our engineers have not begun the plans at this time, and they also have some questions regarding required setbacks, landscape requirements, architectural compatibility with the walls that we will construct, as well as requirements for the access road to the site.

If at all possible, could you give me any general information regarding the requirements that will be necessary in relationship to our planning and construction, and most likely stipulations for our building permit? I have attached a copy of our survey and the legal description for the property that we propose to acquire, and any such information would be very helpful as we proceed.

Thank you for your help, and if I can provide you with any additional details, please call me at your convenience.

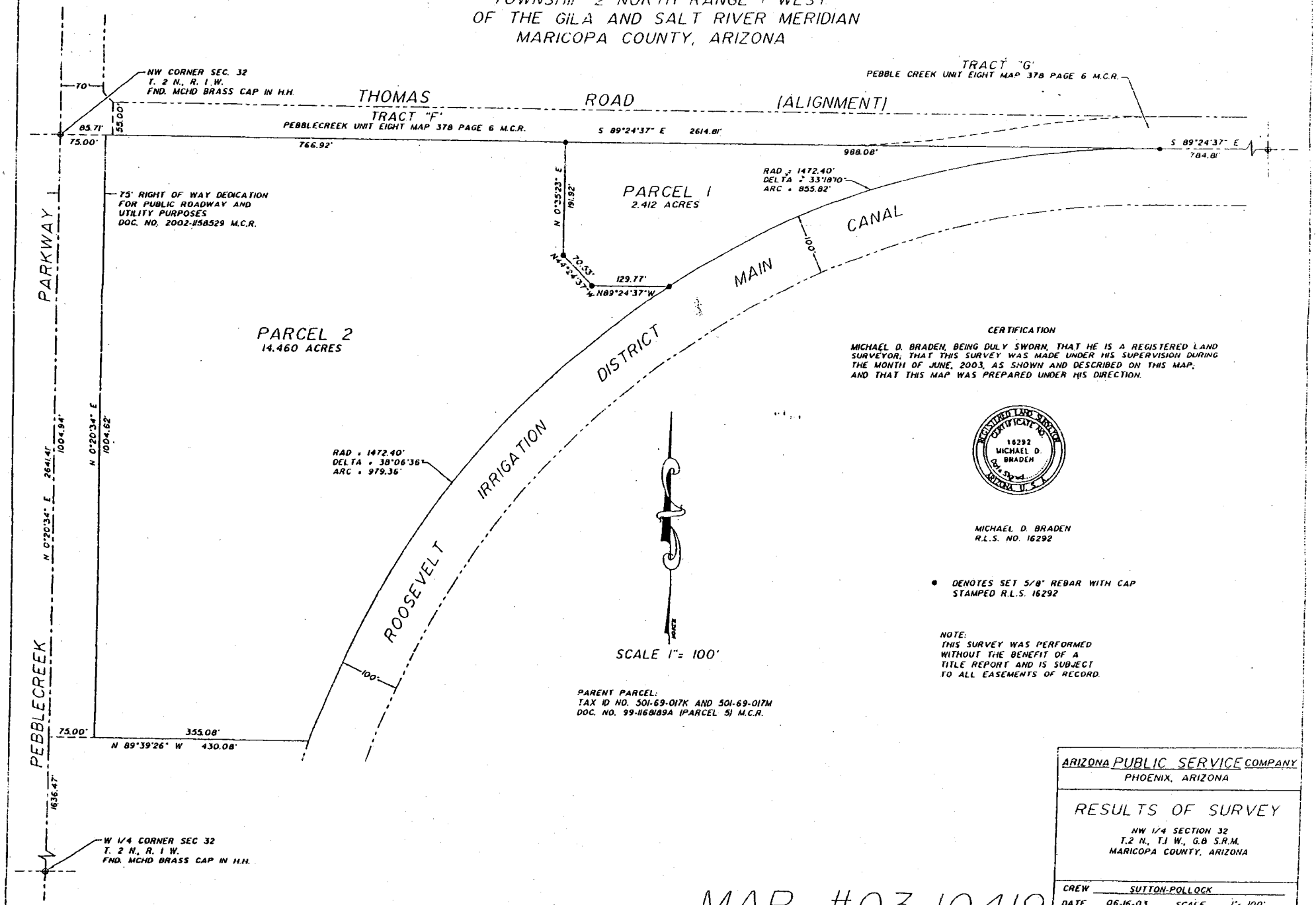
Sincerely,

John B. Lawson
Consultant

Cc: Steve Goodman

RESULTS OF SURVEY

OF A PORTION OF THE NW 1/4 OF SECTION 32
TOWNSHIP 2 NORTH RANGE 1 WEST
OF THE GILA AND SALT RIVER MERIDIAN
MARICOPA COUNTY, ARIZONA



PARENT PARCEL:
TAX ID NO. 501-69-017K AND 501-69-017M
DOC. NO. 99-1168189A (PARCEL 5) M.C.R.

CERTIFICATION

MICHAEL D. BRADEN, BEING DULY SWORN, THAT HE IS A REGISTERED LAND SURVEYOR; THAT THIS SURVEY WAS MADE UNDER HIS SUPERVISION DURING THE MONTH OF JUNE, 2003, AS SHOWN AND DESCRIBED ON THIS MAP; AND THAT THIS MAP WAS PREPARED UNDER HIS DIRECTION.

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
16292
MICHAEL D.
BRADEN
ARIZONA U.S.A.

MICHAEL D. BRADEN
R.L.S. NO. 16292

• DENOTES SET 5/8" REBAR WITH CAP STAMPED R.L.S. 16292

NOTE:
THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ALL EASEMENTS OF RECORD.

ARIZONA PUBLIC SERVICE COMPANY
PHOENIX, ARIZONA

RESULTS OF SURVEY

NW 1/4 SECTION 32
T.2 N., T.1 W., G.&S.R.M.
MARICOPA COUNTY, ARIZONA

CREW SUTTON-POLLOCK
DATE 06-16-03 SCALE 1"= 100'
DRAWN BY W.A. W183413

MAP #03-10419

Legal Description

That portion of the Northwest quarter of Section 32, Township 2 North, Range 1 West of the Gila and Salt River Meridian, Maricopa County, Arizona, more particularly described as follows:

Commencing at the Northwest Corner of Section 32;

Thence South 89 degrees 24 minutes 37 seconds East along the North line of the Northwest quarter of Section 32, a distance of 841.92 feet to the **True Point of Beginning**;

Thence continuing South 89 degrees 24 minutes 37 seconds East a distance of 988.08 feet to the point of tangency of the Northwesterly Right-of-way line of the Roosevelt Irrigation District Canal;

Thence Southwesterly along said Northwesterly Right-of-way line and along a curve tangent to the North line of the Northwest Quarter of Section 32, having a radius of 1472.40 feet, and a central angle of 33 degrees 18 minutes 10 seconds, a distance of 855.82 feet;

Thence North 89 degrees 24 minutes 37 seconds West, a distance of 129.77 feet;

Thence North 44 degrees 24 minutes 37 seconds West, a distance of 70.53 feet;

Thence North 00 degrees 35 minutes 23 seconds East, a distance of 191.92 feet to the **True Point of Beginning**.

Containing 2.412 Acres more or less.

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, AZ 85072-3933
Email: steven.goodman@aps.com

May 1, 2003

Mr. Harvey Krauss, AICP
Community Development Director
City of Goodyear
PO Box 5100
Goodyear, Arizona 85338

Re: APS West proposed 69/12kv substation (WS7)

Dear Mr. Krauss:

Thank you for meeting with our team yesterday regarding the above-mentioned substation site, and for reviewing the issues associated with it. We appreciate your time. Please consider this letter a restatement of commitments made by APS to the City at our meeting.

APS will remove the overhead power line on the west side of Bullard Road from Thomas to McDowell roads once the following conditions are met:

- A signed agreement regarding the purchase price and the substation site parameters between APS and the developer of the property (MB Group) is completed.
- The substation site must be approved and certified by the City of Goodyear and include off site and roadway improvements.
- An easement granting APS access to the substation site must be approved and finalized by the City of Goodyear.

Please know that APS is committed to finalizing the details with the MB Group immediately. Our Substation Construction staff will then begin the application process with the City.

We look forward to working with you and all affected parties to help ensure that APS can deliver safe, reliable power in a timely manner.

Sincerely,

Steve Goodman, Project Manager

Cc: Brad Larsen, APS Substation Construction
James Dugan, APS Land Services
Mark Gawlitta, APS Homebuilder West
Mark Barushko, MB Group
Ray Carter, Globe Corporation

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Harvey Krauss
Community Development Director
City of Goodyear
120 E. Western Avenue
Goodyear, AZ 85338

Dear Mr. Krauss:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

February 25, 2003

Mr. Kevin J. Kugler, Planning Manager
Community Development Department
City of Goodyear
P.O. Box 5100
Goodyear, AZ 85338

RE: Draft General Plan Review and Comment/Public Services Element

Dear Mr. Kugler:

We are in receipt of your Draft City of Goodyear General Plan Update, 2002 - 2012, and are pleased to provide suggestions to the plan, as suggested by City Manager, Steve Cleveland during our meeting with him on 1/23/03.

First, thank you for providing this opportunity. We are encouraged that City staff has already proposed inclusion of objectives and policies pertaining to electric utilities. We believe our suggestions simply expand or strengthen your overall Objective A-5 (page 7-7) in the Draft Plan. Our suggestions are attached for your consideration.

The greatest accomplishments associated with the general plan may have already occurred. Many positive tactics in the draft are clearly designed to better serve the citizens of Goodyear. Hopefully, the same citizenry will formally approve the plan so collectively, we can all move forward to quickly realize our mutual goals.

Should you have any questions, or need clarification on APS' suggestions, please call Maria Arellano of my staff at 602-493-4478.

Sincerely,

Larry Krueger, Manager
Transmission & Facility Siting Dept.

Attachments

Cc: Mr. Steve Cleveland
Steve Goodman

GOODYEAR GENERAL PLAN UPDATE 2002 - 2012

APS RECOMMENDATIONS
2/24/03

Arizona Public Service Co. recommends the following for inclusion in Goodyear's General Plan Update, 2002 - 2012:

7.2 Public Services Goals, Objective and Policies, Objective A-5: Coordinate with private utility providers to promote compatible land uses through the enhancement of their facilities and services:

REPLACE Policy A-5a: THE CITY SHALL BE ACTIVE PARTICIPANTS WITH PRIVATE UTILITIES ON NEW PROJECTS TO ENSURE THAT THE UTILITIES' PLANS ARE COMPATIBLE WITH THE CITY'S MOST CURRENT LAND USE/ZONING PLANS.

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INSERT NEW POLICY: POLICY A-5c (current Policy A-5c becomes A-5d, and Policy A-5e becomes Policy A-5f): THE CITY SHALL REQUIRE THE HOMEBUILDING AND DEVELOPMENT COMMUNITY TO REVIEW UPDATED UTILITY PLANS, AND REQUIRES THAT ANY APPROVED PROJECTS BE DISCLOSED IN THEIR RESPECTIVE PLANS.

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CORRECTION TO SECOND PARAGRAPH: Arizona Public Service CO., (APS), SALT RIVER PROJECT (SRP), and Tucson Electric Power (TEP) PROVIDE ELECTRICAL SERVICE WITHIN THE CITY, OR HAVE FACILITIES RUNNING THROUGH THE CITY.

ADDITION TO 7.3, ADD TO END OF SECOND PARAGRAPH: APS IN PARTICULAR HAS NUMEROUS FACILITIES WITHIN GOODYEAR. A PORTION OF A NEW PROPOSED 500 KV TRANSMISSION LINE IS UNDER CONSTRUCTION, AND WILL BE COMPLETED BY JUNE 2003.

APS ALSO HAS 230 - AND 69- KV FACILITIES THROUGHOUT THE CITY. (SEE FIGURE 7-3).

ADD NEW THIRD PARAGRAPH TO 7.3: APS WILL SOON SEEK PERMISSION FROM THE ARIZONA CORPORATION COMMISSION FOR FACILITIES TO BE SITED UNDER THE WEST VALLEY - SOUTH POWERLINE AND SUBSTATION PROJECT (SEE NEW FIGURE 7-4) THAT WILL HELP ADDRESS THE CITY GROWING ELECTRICAL NEEDS.

7.4: Public Services Element Implementation Activities

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NEW: IDENTIFY CITY AND UTILITY PERSONNEL TO STRENGTHEN COORDINATION AND PARTICIPATION ON NEW UTILITY PROJECTS.

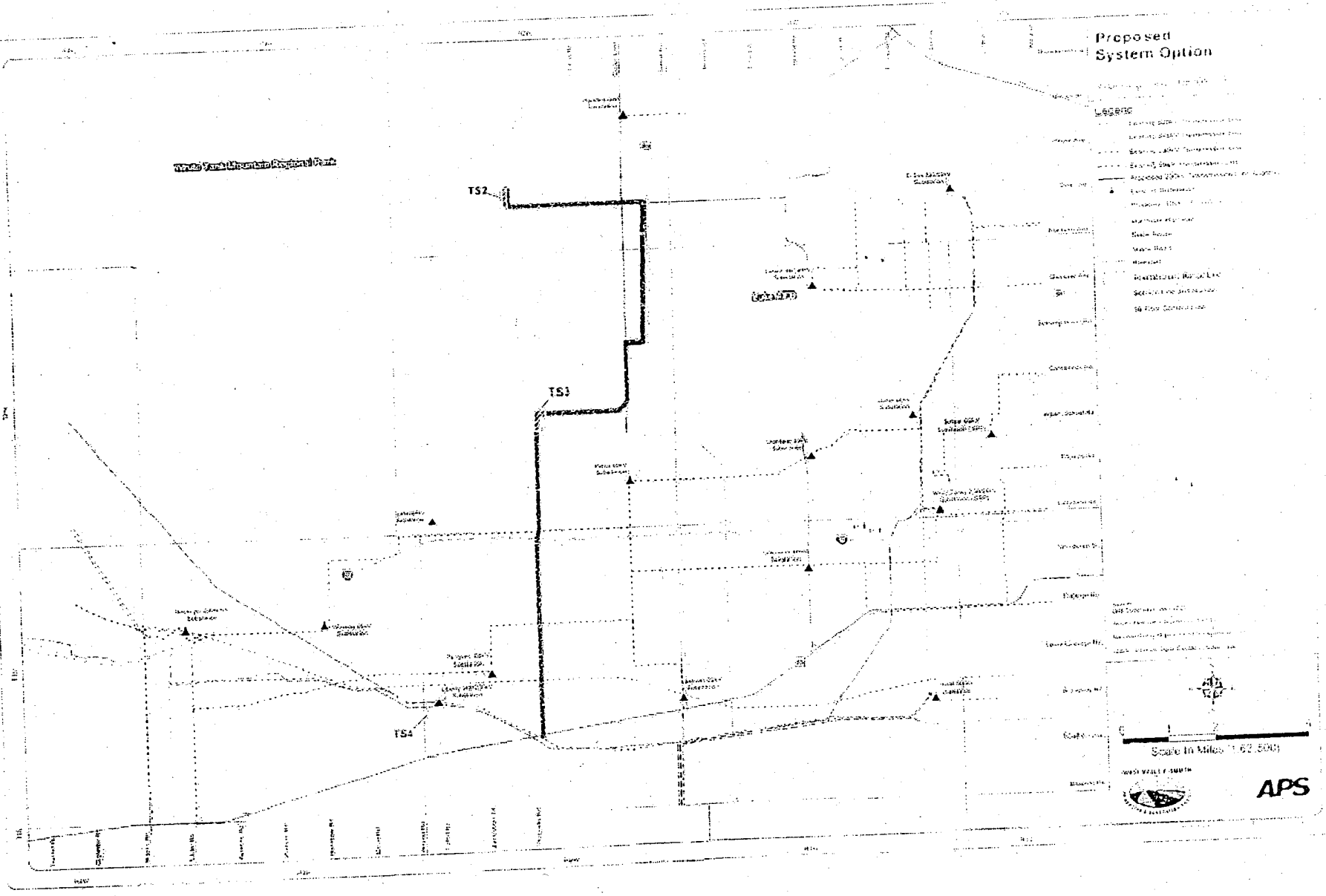
Long-term Implementation Activities

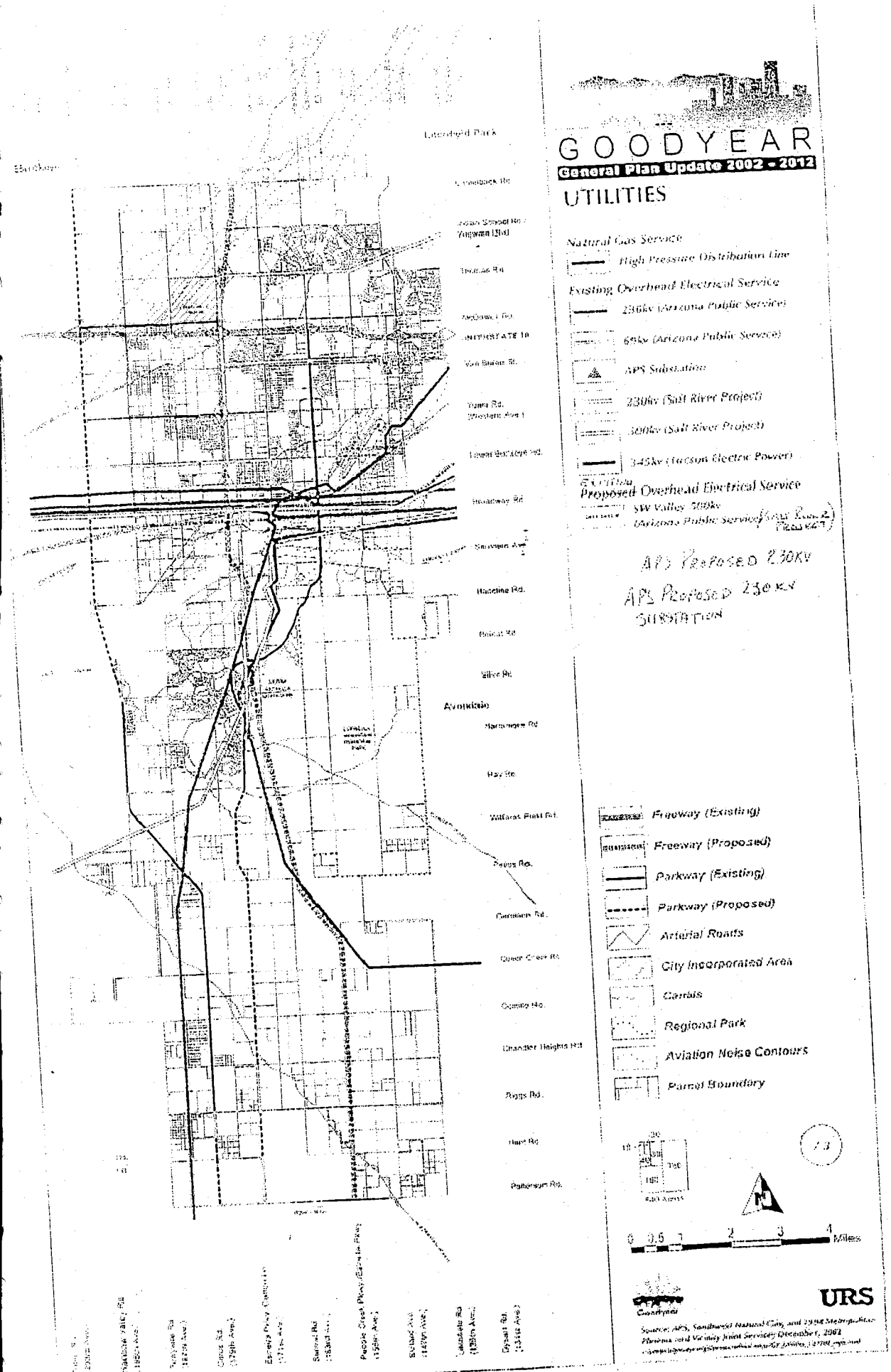
NEW: ESTABLISH A FORMAL MECHANISM ALLOWING FOR REGULAR, UPDATED EXCHANGE OF INFORMATION BETWEEN UTIITIES AND THE CITY.

NEW: STRENGHTEN OR ESTABLISH NEW REQUIRMENTS FOR TIMELY DISCLOSURE BY THE HOMEBUILDING AND DEVELOPMENT COMMUNITY OF NEW PROJECTS.

REPLACE CURRENT FIGURE 7-3: Goodyear General Plan Update, UTILITIES; with updated APS facilities.

ADD NEW FIGURE 7-4: APS WEST VALLEY - SOUTH POWERLINE AND SUBSTATION PROJECT PROPOSED ROUTES/SUBSTATION LOCATIONS.


Proposed
System Option
Legend
TS2
TS3
TS4
Scale In Miles (1:62,500)
APS


GOODYEAR
General Plan Update 2002 - 2012
UTILITIES
Natural Gas Service
High Pressure Distribution Line
Existing Overhead Electrical Service
230kv (Arizona Public Service)
69kv (Arizona Public Service)
APS Substation
230kv (Salt River Project)
500kv (Salt River Project)
345kv (Tucson Electric Power)
Existing
Proposed Overhead Electrical Service
SW Valley 500kv
(Arizona Public Service/New Route)
APS Proposed 230KV
APS Proposed 230 KV
SUBSTATION
Freeway (Existing)
Freeway (Proposed)
Parkway (Existing)
Parkway (Proposed)
Arterial Roads
City Incorporated Area
Canals
Regional Park
Aviation Noise Contours
Parcel Boundary
0 0.5 1 2 3 4 Miles
URS
Source: APS, Southwest Natural Gas, and Local Municipalities
Planning and Facility Joint Services December 1, 2002
Yuma Rd.
Van Buren St.
Lower Buckeye Rd.
Broadway Rd.
Southern Ave.
Baseline Rd.
Elliot Rd.
Harmony Rd.
Ray Rd.
Williams Field Rd.
Pecos Rd.
Germann Rd.
Queen Creek Rd.
Ocotillo Rd.
Chandler Heights Rd.
Riggs Rd.
Hunt Rd.
Patterson Rd.

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Mr. Stephen S. Cleveland
City Manager, City of Goodyear
119 N. Litchfield Road
Goodyear, AZ 85338

Dear Mr. Cleveland:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

Because of your role in planning, APS wants to ensure that we continue to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Mr. Horatio Skeete
City Manager, City of Litchfield
214 West Wigwam Blvd.
Litchfield, AZ 85340

Dear Mr. Skeete:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Ms. Lisa Atkins, Executive Assistant
Congressman Bob Stump's Office
401 W. Washington Suite 280
Phoenix, AZ 85003-2199

Dear Ms. Atkins:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

Because of your role in the community, we want to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

R. D. Justice, Vice Chairman - Manager
Electrical District #7
14629 West Peoria Ave
Waddell, AZ 85355-9617

Dear Mr. Justice:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

01/25/02

RD Justice
ED7
14629 W. Peoria Ave
Wadell, AZ 85355-9617

Dear Mr. Justice:

It was a pleasure meeting with you this week. As I mentioned in our meeting, I am forwarding our first information packet on the West Valley-South project. The project includes 12 new 69 kV and three 230 kV substations along with associated power lines in the Southwest Valley.

These local facilities are needed to serve local electric power needs. Plans for the West Valley – South took shape in early 2001. Because the Southwest Valley is growing so rapidly, the project was expanded to include more substations and power lines over the past year.

Briefings with community leaders and elected officials are underway, and we are working with several developers in the affected areas. Over the next seven months, we will decide on locations for these facilities using a comprehensive environmental and public outreach process.

We will solicit input from the public in a variety of ways. A 'jurisdictional committee," comprised of representatives from affected cities and towns will provide overall project input throughout our siting process. We will also host several public meetings to disseminate and gather information. We will also keep our customers informed via distribution of newsletters, our web site, advertising, news stories and a telephone information line.

We will also continue to meet and send out updates such as these throughout the life of the project. Please feel free to call me any time should you have any questions or concerns.

Sincerely,

Steve Goodman
Project Manager, APS Facility and Transmission Siting Dept.

Encl.

February 26, 2003

Brigadier General (Select) Philip Breedlove
Commander, 56th Fighter Wing
Luke Air Force Base
Luke AFB, AZ 85309

Dear Brigadier General Breedlove:

We want to thank your staff for meeting with us on Feb. 21, 2003, to further discuss the APS West Valley-South Powerline & Substation Project. Please consider the meeting as a continuation of two previous meetings in 2002 on this project.

First, based on environmental analysis and public input, APS desires to construct its Preferred Route or Alternative 1, as presented in our November, 2002 newsletter. Based on feedback from you at our last meeting, APS requests a written response from Luke AFB by March 14 as to whether the Preferred Route and Alternative 1 are acceptable to Luke AFB. APS would build only one of the routes.

Second, as a result of our latest meeting, we would like to restate our understanding of previously outstanding issues:

- To address Luke AFB's concerns regarding pole height, APS proposes to reduce its 230 kV transmission pole heights to 95 feet from the typical 125 feet height, in specific areas, as necessary.

- Luke AFB reiterates its previous position via written correspondence to APS that building electrical facilities, such as those in the West Valley-South Project, are permissible under Arizona Revised Statutes §28-8481.K, footnote 16.

- Preliminary evaluation by Luke AFB shows that communications interference by APS' proposed West Valley-South facilities is unlikely.

Please know that APS remains committed to working in an open and cooperative manner on this and future transmission siting projects.

I can be reached at 602-493-4200, should you have any questions. Again, thank you for your time; we appreciate our working relationship with you and members of your staff.

Sincerely,

Larry Krueger, Manager
APS Transmission & Facility Siting Dept.

Cc: Terry Hanson
Steve Goodman

Attachment

COPY

April 3, 2003

Colonel Dennis A. Rea
Vice Commander, 56th Fighter Wing
14185 West Falcon Street
Luke Air Force Base, AZ 85309-1629

RE: West Valley - South Power Line and Substation Project

Dear Colonel Rea:

Thank you for your March 25th response on APS' preferred route and Alternative Route 1 of the West Valley - South Power Line and Substation Project. We appreciate your timely response.

APS' goal is to ensure we do our part to protect the mission viability of the Base. To this end, and in response to your concerns, APS will no longer pursue certification of our Preferred Route. You make it clear it would pose too many obstacles for the Base.

We are pleased with your assessment that APS' Alternative Route 1 would have minimal impact to Luke's flight operations. At your request, we have further studied the feasibility of erecting utility poles outside of the Accident Potential Zone 2 (APZ 2) and are able to do so near Cotton Lane and the future Campbell Avenue. We have enclosed a map showing this modification to Alternative Route 1.

After careful review, we determined that it simply was not feasible to move outside the APZ 2 on Perryville Road near McDowell Road. However, we understand from our numerous contacts with your staff that the Base has no concerns with our project in this southern portion of the route.

With or without the small modification noted above near Cotton Lane and future Campbell Avenue, we understand Alternative Route 1 will require Luke AFB to raise the minimum descent altitude from 1440 feet to 1460 feet, and that you find this acceptable.

Having specifically addressed your concerns, we are optimistic that you will support modified Alternative Route 1 and respectfully request your final written response regarding modified Alternative Route 1 by April 10th, 2003.

Again, thank you for the opportunity to work in partnership with you and your staff on this and future projects.

Sincerely

Steve Goodman

Steve Goodman, Project Manager

Cc: Larry Krueger
Brigadier General (Select) Philip Breedlove
Terry Hansen

Enclosure

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

March 31, 2003

Colonel Dennis A. Rea
Vice Commander, 56th Fighter Wing
14185 West Falcon Street
Luke AFB AZ 85309-1629

Re: Your letter received in our office March 25, 2003 – West Valley South Power Line and Substation Project

Dear Colonel Rea:

Thank you for your response to our request for information relating to the above mentioned project.

APS will no longer bring forward our preferred route as shown in our November 2002 newsletter. We are also willing to locate our facilities outside of the Accident Potential Zone (APZ) as you requested until item b. of your letter.

APS asks that you provide a follow-up letter giving stating that you do not oppose our project. We ask that you specifically address the following:

1 – that you will not oppose the proposed line in the southernmost areas of the APZ – 2 in the area of Perryville Rd., and north of Interstate 10.

2 – that you will not oppose the proposed line as shown on alternative 1, with the condition that the poles are not installed within the APZ –2 at the approximate area of Cotton Lane and the ½ section line of section 23, Township 2N Range 2W.

3 – that you will agree to raise the minimum decent altitude from 1440 feet to 1460 feet. (check with Randy on this).

Sincerely,

Steve Goodman
Project Manager
Transmission & Facility Siting

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Col. Robert Worley
Luke Air Force Base
13960 W. Eagle Street
Luke Air Force Base, AZ 85309

Dear Col. Worley:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

Because of your role in the community, we want to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

March 18, 2002

Mr. Dale Schultz
19708 W. Minnezona Avenue
Litchfield Park, AZ 85340

RE: West Valley-South Substation and Power Line Project

Dear Mr. Schultz:

On behalf of Arizona Public Service Corporation, I am sending you a map of the alternative power line segments and substation sites presented at the public open houses on March 12, 13, and 14, 2002. Please understand that this map is a working draft, as new information (with respect to land use plans as an example) and public input can influence the alternatives.

We appreciate your interest in the project and hope to receive your comments on potential substation sites and alternative power line alignments. Thank you.

Sincerely,

Jennifer Baker
URS Corporation

enclosure

March 19, 2002

Mr. Dean Bleeker
7117 N. Perryville Road
Waddell, AZ 85355

RE: West Valley-South Substation and Power Line Project

Dear Mr. Bleeker:

On behalf of Arizona Public Service Corporation, I am sending you a map of the alternative power line segments and substation sites presented at the public open houses on March 12, 13, and 14, 2002. Please understand that this map is a working draft, as new information (with respect to land use plans as an example) and public input can influence the alternatives.

We appreciate your interest in the project and hope to receive your comments on potential substation sites and alternative power line alignments. Thank you.

Sincerely,

Jennifer Baker
URS Corporation

enclosure

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Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

March 27, 2002

KATHY KOVAR
10350 W. MCDOWELL RD. # 1181
AVONDALE, AZ 85353

Re: West Valley South Siting Project

Dear Ms. Kovar

Thank you for your interest in the APS West Valley South Siting Project. One of the items you requested additional information on was the possible location/locations of substation site designated WS 10.

I have enclosed a more detailed map of the area, showing the possible sites per your request. All of the four sites, WS 10-1 through WS 10-4, are under consideration. This substation site will be approximately 1.5 acres in size. I have enclosed a photo of similar 69/12 kv substation for your reference.

If you require further information, please call me.

Sincerely,

Steve Goodman
Project Manager

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

March 31, 2002

Ms. Linda Kennedy
19631 W. Meadowbrook Ave.
Litchfield Park, Arizona 85340

Dear Ms. Kennedy:

Thank you for your letter dated May 22, 2002 regarding the possibility of a substation being sited near Jackrabbit Trail and Indian School Rd. Please be aware that no decisions have been made. We are trying to locate our facilities in areas that will be least disruptive and at the same time ensure safe and reliable power to this rapidly growing area.

We have incorporated your comments and suggestions for substation locations into our overall-siting project. Our next open house is scheduled for July 10, 2002 at Scott Libby Elementary School from 5:30PM to 7:30PM. We will be mailing another newsletter as well to keep you updated on the progress of our project. You can also get updated information from our web site @ http://siting.apsc.com. Click on the West Valley South link.

Again, thank you for your input.

Sincerely,

Steve Goodman
Project Manager

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Ron Mackey
20233 N. Shadow Mountain Dr.
Surprise, AZ 85374

Dear Mr. Mackey:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

Because of your role in the community, we want to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

June 19, 2003

Mr. Max Wilson
Supervisor – District 4
Maricopa County Board of Supervisors
301 W. Jefferson
Phoenix, AZ 85003

Re: West Valley-South Siting Project

Dear Supervisor Wilson:

Enclosed please find the notice of hearing for the above mentioned project. Thank you for your continued interest in our project.

Sincerely,

Steve Goodman

Steve Goodman, Project Manager

Enclosure

cc: Larry Krueger

APS

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

June 17, 2003

Mr. Max Wilson
Supervisor – District 4
Maricopa County Board of Supervisors
301 W. Jefferson
Phoenix, AZ 85003

Dear Mr. Wilson:

Thank you for meeting with us on May 27, 2003 to discuss our updated proposed and alternative routes for the West Valley-South Transmission Line Project.

As was stated in the meeting, APS has modified our proposed route slightly to satisfy Luke Air Force Base concerns. At this time, we are continuing our briefings with key leaders to advise them of this slight change. We are also seeking support on our proposed route as filed in our application for a Certificate of Environmental Compatibility.

To address the concerns of various Maricopa County government departments regarding the Olive Avenue corridor, APS has submitted a request for our power line corridor that would extend 3000 feet north and 3000 feet south of the centerline of Olive Avenue.

We are asking that you respond to our latest proposal in writing by July 1, 2003.

Sincerely,

Steve Goodman,
Project Manager

cc. William Scalzo – Maricopa County Parks
Bill Hahn – MCDOT
Greg Jones – FCDMC
Matt – Holm – Maricopa County Planning Commission
Larry Krueger – APS

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

May 7, 2002

The Hon. Andrew Kunasek, Supervisor
District 3, Maricopa County
301 West Jefferson, 10th Floor
Phoenix, AZ 85003

Dear Supervisor Kunasek:

Enclosed is information pertaining to the West Valley-South project, per your request during your May 7th meeting with Larry Krueger and Michael DeWitt.

I will be contacting you soon for follow up on some of the issues referenced in your meeting with Larry and Michael. Thank you for your interest. I look forward to meeting with you in the future.

Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Encl.

Cc: Lawrence Krueger
Michael DeWitt

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Gregory L. Jones, P.E.
Regional Planning Manager
Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, AZ 85009

Dear Mr. Jones:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

01/25/02

Gregory L. Jones, P.E., Regional Planning Manager
Planning and Project Management Division
2801 W. Durango Street
Phoenix, AZ 85009

Dear Mr. Jones:

It was a pleasure meeting with you this week. As I mentioned in our meeting, I am forwarding our first information packet on the West Valley-South project. The project includes 12 new 69 kV and three 230 kV substations along with associated power lines in the Southwest Valley.

These local facilities are needed to serve local electric power needs. Plans for the West Valley – South took shape in early 2001. Because the Southwest Valley is growing so rapidly, the project was expanded to include more substations and power lines over the past year.

Briefings with community leaders and elected officials are underway, and we are working with several developers in the affected areas. Over the next seven months, we will decide on locations for these facilities using a comprehensive environmental and public outreach process.

We will solicit input from the public in a variety of ways. A 'jurisdictional committee," comprised of representatives from affected cities and towns will provide overall project input throughout our siting process. We will also host several public meetings to disseminate and gather information. We will also keep our customers informed via distribution of newsletters, our web site, advertising, news stories and a telephone information line.

We will also continue to meet and send out updates such as these throughout the life of the project. Please feel free to call me any time should you have any questions or concerns.

Sincerely,

Steve Goodman
Project Manager, APS Facility and Transmission Siting Dept.

Encl.

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Valerie A. Swick
Project Manager
Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, AZ 85009

Dear Ms. Swick:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

01/25/02

Valerie A. Swick, Project Manager
Planning and Project Management Division
2801 W. Durango Street
Phoenix, AZ 85009

Dear Ms. Swick:

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These local facilities are needed to serve local electric power needs. Plans for the West Valley – South took shape in early 2001. Because the Southwest Valley is growing so rapidly, the project was expanded to include more substations and power lines over the past year.

Briefings with community leaders and elected officials are underway, and we are working with several developers in the affected areas. Over the next seven months, we will decide on locations for these facilities using a comprehensive environmental and public outreach process.

We will solicit input from the public in a variety of ways. A 'jurisdictional committee," comprised of representatives from affected cities and towns will provide overall project input throughout our siting process. We will also host several public meetings to disseminate and gather information. We will also keep our customers informed via distribution of newsletters, our web site, advertising, news stories and a telephone information line.

We will also continue to meet and send out updates such as these throughout the life of the project. Please feel free to call me any time should you have any questions or concerns.

Sincerely,

Steve Goodman
Project Manager, APS Facility and Transmission Siting Dept.

Encl.

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

May 22, 2002

William Scalzo, Director
Maricopa County Parks and Recreation Department
411 North Central Avenue, Suite 470
Phoenix, Arizona 85004

Subject: West Valley-South Power Line and Substation Project Simulations

Dear Mr. Scalzo:

Thank you for meeting with us on May 17, 2002 and for providing input on our project. We look forward to receiving any additional concerns of the Parks Department, which you indicated would be provided in writing.

As promised to Bill VanAusdal following our meeting, I have enclosed a large print of the photographic simulations that have been generated as part of the West Valley-South Power Line and Substation Project. The photograph and simulation show the view from the park entry road toward the southeast, where one alternative alignment has been proposed across State Trust and private land (Tuthill Road alignment). As I mentioned during our meeting, this is one of five north-south alignments being considered between proposed 230kV substations.

We would appreciate your participation, or a designated representative from the Parks Department, in an upcoming workshop with other jurisdictional representatives. We anticipate this workshop to occur in early July. We will send you more information soon.

If you have any questions, please contact me at (602) 493-4448. Again, thank you again for your time.

Sincerely,

Steve Goodman
Project Manager

Attachment

01/25/02

Leo E. Trinidad, P.E., Project Manager
Transportation Planning
2901 W. Durango Street
Phoenix, AZ 85009-6357

Dear Mr. Trinidad:

It was a pleasure meeting with you this week. As I mentioned in our meeting, I am forwarding our first information packet on the West Valley-South project. The project includes 12 new 69 kV and three 230 kV substations along with associated power lines in the Southwest Valley.

These local facilities are needed to serve local electric power needs. Plans for the West Valley - South took shape in early 2001. Because the Southwest Valley is growing so rapidly, the project was expanded to include more substations and power lines over the past year.

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Sincerely,

Steve Goodman
Project Manager, APS Facility and Transmission Siting Dept.

Encl.

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Matthew Holm, AICP
Principal Planner, Maricopa County Flood Control
411 N. Central, 3rd Floor
Phoenix, AZ 85004-2191

Dear Mr. Holm:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

Because of your role in planning, APS wants to ensure that we continue to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS

March 1, 2002

Matthew Holm
Maricopa County Planning Department
411 N. Central Avenue, 3rd Floor
Phoenix, Arizona 85004-2191

Subject: West Valley-South Power Line and Substation Project

Dear Mr. Holm:

As you know, APS hosted a meeting of jurisdictional representatives on February 21, 2002 to discuss the West Valley-South Power Line and Substation Project. At that meeting, APS presented the preliminary alternatives for each substation (sites) and transmission line alignments (links). I have enclosed a map of the potential alternative sites and links for your review. This map shows jurisdiction along the alternative links (i.e., city and county lands). Any concerns your agency has regarding these links and potential substation sites would be important for APS to consider during the siting process. I have also included the comment form that our team has distributed to representatives of affected municipalities/jurisdictions.

I have also enclosed a copy of the advertisement that will announce public open houses for the project.

Thank you for your input on our project. If you have any questions, please contact me at (602) 493-4448.

Sincerely,

Steven Goodman
Project Manager

attachments

01/25/02

Matthew Holm, AICP, Principal Planner
Planning and Development Department
411 N. Central, 3rd Floor
Phoenix, AZ 85004-2191

Dear Mr. Holm:

It was a pleasure meeting with you this week. As I mentioned in our meeting, I am forwarding our first information packet on the West Valley-South project. The project includes 12 new 69 kV and three 230 kV substations along with associated power lines in the Southwest Valley.

These local facilities are needed to serve local electric power needs. Plans for the West Valley – South took shape in early 2001. Because the Southwest Valley is growing so rapidly, the project was expanded to include more substations and power lines over the past year.

Briefings with community leaders and elected officials are underway, and we are working with several developers in the affected areas. Over the next seven months, we will decide on locations for these facilities using a comprehensive environmental and public outreach process.

We will solicit input from the public in a variety of ways. A 'jurisdictional committee," comprised of representatives from affected cities and towns will provide overall project input throughout our siting process. We will also host several public meetings to disseminate and gather information. We will also keep our customers informed via distribution of newsletters, our web site, advertising, news stories and a telephone information line.

We will also continue to meet and send out updates such as these throughout the life of the project. Please feel free to call me any time should you have any questions or concerns.

Sincerely,

Steve Goodman
Project Manager, APS Facility and Transmission Siting Dept.

Encl.

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, AZ 85072-3933
Email: steven.goodman@aps.com

June 12, 2003

Mr. Jim Sweeney
General Manager
Maricopa Water District
PO Box 900
Waddell, AZ 85355-0900

Re: APS West Valley South Siting Project

Dear Mr. Sweeney:

Thank you and your staff for meeting with us on June 3, 2003 to discuss our project. As you are aware, we are filing our application for a Certificate of Environmental Compatibility with the Arizona Corporation Commission on June 16, 2003. One of the items we discussed was the width of the proposed Olive Avenue corridor. We are filing our application to ask for the corridor width to be 3000 feet both north and south of Olive Avenue.

We would like your input regarding the position of the Maricopa Water District on our proposed and alternative routes.

I am attaching a draft response letter for your use.

Sincerely,

Steve Goodman, Project Manager

cc: Larry Krueger, - APS

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

July 18, 2002

Mr. James Sweeney
General Manager
Maricopa Water District
P.O. Box 900
Waddell, AZ 85355-0900

Dear Mr. Sweeney:

It was a pleasure meeting with you, KoKo Kvistad and Glen Vortherms regarding the West Valley South Siting Project on July 12, 2002.

As we discussed, the proposed routes in our project that would cross MWD jurisdiction include 230- and 69-kv lines in the Beardsley Canal corridor, from approximately Camelback/Indian School roads to approximately Olive Avenue. Another proposed route for the 230- and 69-kv lines runs east and west in the Olive Avenue corridor. In addition, a proposed 230 kv substation would be located somewhere just east or west of the Beardsley Canal.

To follow up on your suggestion, APS requests that you discuss the possible locations of these facilities in the MWD-owned property with your Board of Directors at your August 13, 2002 meeting. Specifically APS requests:

- Your position regarding APS' request to locate these facilities in your areas of jurisdiction.
- Your position regarding any routes or locations of these facilities that you may favor.
- We request this information in writing.

As you requested, six more maps showing the proposed locations and routes for our facilities have been mailed to you for your use in preparing a packet of information for your August 13th Board of Directors meeting.

Again, thank you for the opportunity to meet with you and your staff.

Sincerely,

Steve Goodman
Project Manager
Transmission & Facility Siting

APS

THE POWER TO MAKE IT HAPPEN℠

February 15, 2002

Mr. James Sweeney
General Manager
Maricopa Water District
P.O. Box 900
Waddell, AZ 85355-0900

Dear Mr. Sweeney:

As you may know, APS is in the process of planning the electrical infrastructure needed for the West Valley. To help us continue to understand your community's growth plans, and to ensure that our plans for electrical improvements are acceptable, APS invites you to meet with our "West Valley-South" project management team on Thursday, February 21st from 2:30 to 4:30 p.m. at the Wigwam Resort. We are inviting other area City and Town Managers to participate as well, so this can be a synergistic exchange of ideas and information.

Municipal managers and planners in Arizona face a difficult task: planning ahead for the future infrastructure needs of your growing communities. APS understands that growth predictions vary from jurisdiction to jurisdiction, and that professionals and policy makers such as you are responsible for planning this growth.

Because of your role, APS wants to ensure that we receive your input on our project, and that it is well coordinated with all affected cities and towns. Another goal of this jurisdictional planning meeting is to keep you informed of the project as we proceed through the community outreach.

We would also appreciate your extending this invitation to Glen Vortherms and Koko Kvistad from your office, as this project information will be of interest to him as well.

Please join us on February 21st. To RSVP, call Maria Arellano at 602-493-4478. An APS representative will also call you within the next week to confirm your reply.

Thank you for your continued cooperation. As always, we look forward to working with you.

Sincerely,

Steve Goodman
Project Manager
Transmission & Facility Siting

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Mr. Jim Sweeney, General Manager
Maricopa Water District
PO Box 900
Waddell, AZ 85355-0900

Dear Mr. Sweeney

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

Because of your role in the community, we want to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

January 31, 2002

Mr. James R. Sweeney
General Manager
Maricopa Water District
P O Box 900
Waddell, AZ 85355-0900

Dear Mr. Sweeney:

On behalf of APS, I would like to thank you for the opportunity to present the proposed West Valley South Transmission Line Siting Project to you on Jan. 30, 2002. We found your comments, concerns and observations extremely beneficial.

One key project goal is to respond to the region's growth, while remaining sensitive to community concerns. As this the project unfolds, we hope to conduct a number of additional meetings and discussions with you and your staff.

In addition, our line siting team is committed to an inclusive process that also involves business interests, landowners and interested members of the public.

We look forward to working with you on this project.

Sincerely,

Steve Goodman
Project Manager

cc: Lawrence Krueger
Stuart Goodman
Pam Buol

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Bill Hahn
Project Manager, MCDOT
2901 W. Durango Street
Phoenix, AZ 85009
Dear Mr. Hahn:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

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We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

01/25/02

Bill Hahn, Project Manager
Community & Government Relations Division
2901 W. Durango Street
Phoenix, AZ 85009

Dear Mr. Hahn:

It was a pleasure meeting with you this week. As I mentioned in our meeting, I am forwarding our first information packet on the West Valley-South project. The project includes 12 new 69 kV and three 230 kV substations along with associated power lines in the Southwest Valley.

These local facilities are needed to serve local electric power needs. Plans for the West Valley – South took shape in early 2001. Because the Southwest Valley is growing so rapidly, the project was expanded to include more substations and power lines over the past year.

Briefings with community leaders and elected officials are underway, and we are working with several developers in the affected areas. Over the next seven months, we will decide on locations for these facilities using a comprehensive environmental and public outreach process.

We will solicit input from the public in a variety of ways. A 'jurisdictional committee," comprised of representatives from affected cities and towns will provide overall project input throughout our siting process. We will also host several public meetings to disseminate and gather information. We will also keep our customers informed via distribution of newsletters, our web site, advertising, news stories and a telephone information line.

We will also continue to meet and send out updates such as these throughout the life of the project. Please feel free to call me any time should you have any questions or concerns.

Sincerely,

Steve Goodman
Project Manager, APS Facility and Transmission Siting Dept.

Encl.

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Leo E. Trinidad, P.E.
Project Manager, Transportation Planning
MCDOT
2901 W. Durango Street
Phoenix, AZ 85009

Dear Mr. Trinidad:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

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Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

01/25/02

Michael D. Wilson, Manager
Maricopa County Department of Transportation
2801 W. Durango Street
Phoenix, AZ 85009

Dear Mr. Wilson:

It was a pleasure meeting with you this week. As I mentioned in our meeting, I am forwarding our first information packet on the West Valley-South project. The project includes 12 new 69 kV and three 230 kV substations along with associated power lines in the Southwest Valley.

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Sincerely,

Steve Goodman
Project Manager, APS Facility and Transmission Siting Dept.

Encl.

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Wayne R. Butch
Transportation Improvement Program/Policy Manager
MCDOT
2901 W. Durango Street
Phoenix, AZ 85009

Dear Mr. Butch:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

01/25/02

Wayne R. Butch, Manager
Transportation Improvement Program & Policy Branch
2901 W. Durango Street
Phoenix, AZ 85009

Dear Mr. Butch:

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We will also continue to meet and send out updates such as these throughout the life of the project. Please feel free to call me any time should you have any questions or concerns.

Sincerely,

Steve Goodman
Project Manager, APS Facility and Transmission Siting Dept.

Encl.

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Ms. Debbie Wilden
Northwest Valley Chamber of Commerce
12425 W. Bell Rd.
Surprise, AZ 85374

Dear Ms. Wilden:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

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We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

July 24, 2003

Mr. Stan Ashby, General Manager
Roosevelt Irrigation District
103 W. Baseline Road
Buckeye, AZ 85326

Re: APS West Valley South Siting Project

Dear Mr. Ashby:

On behalf of APS, thank you for meeting with me on July 22, 2003 and providing an opportunity for me to update you on the West Valley - South Transmission Line Project.

As a result of our meeting, I understand that the Roosevelt Irrigation District will not be formally involved during the hearing phase of the project. I committed that APS will continue to work with you to determine locations of any proposed facility that could impact the District. We are pleased to commit to this, as one of our primary goals on any new project is to respond to a region's growth, while remaining sensitive to community and jurisdictional concerns.

Thank you for your continued cooperation.

Sincerely,

Steve Goodman

Steve Goodman, Project Manager

cc: Lawrence Krueger, APS
Bill Hanna, APS

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, AZ 85072-3933
Email: steven.goodman@aps.com

June 19, 2003

Mr. Stan Ashby, General Manager
Roosevelt Irrigation District
103 W. Baseline Road
Buckeye, AZ 85326

Re: APS West Valley South Siting Project

Dear Mr. Ashby:

Enclosed is a map showing the proposed and alternative route for our proposed 230 kV power lines, as well as the proposed 230/69 kV substation locations. We filed our application for a Certificate of Environmental Compatibility with the Arizona Corporation Commission on June 16, 2003.

We are formally requesting that you comment in writing on the proposed and alternative routes by July 1, 2003.

Also, for your information, please know that the hearing dates on the project were confirmed yesterday, and scheduled for August 11th beginning at 1:00 p.m. and continuing on August 12th at 9:30 a.m. at the Wigwam Resort, 300 Wigwam Boulevard, Litchfield Park.

Sincerely,

Steve Goodman, Project Manager

Cc: Larry Krueger, APS

Arizona Public Service Company
P. O. Box 53933 • PHOENIX, ARIZONA 85072-3933

Job Number:

Date: 7-18-03

LETTER OF TRANSMITTAL

TO: Rob Kondziolka
Salt River Project
MS POB 100
P.O. Box 52025
Phoenix, Az. 85072-2025

RE: West Valley South Powerline + Substation Siting Project
Application for CEC

WE ARE FORWARDING TO YOU:

- ☐ Estimates
- ☐ Plans
- ☐ Calculations
- ☐ Copy of letter
- ☒ CEC Application
- ☐ Progress Report
- ☐ Schedule
- ☐ Samples
- ☐ Details
- ☐ Technical Memorandum
- ☐ Administrative Memorandum
- ☐ Specifications
- ☐ Report
- ☐ Under separate cover via: _____

NO. OF COPIES	IDENTIFICATION NUMBER	LAST DATED	DESCRIPTION
1	CD	—	CEC Application

THESE ARE TRANSMITTED

- ☐ For approval
- ☒ For your use
- ☐ As requested
- ☐ For review and comment
- ☐ For Action
- ☒ For information only
- ☐ For Use as Guideline only
- ☐ No exception taken
- ☐ Make corrections noted
- ☐ Amend and resubmitt
- ☐ _____

PLEASE NOTE:

BY: S. Goodman

ACKNOWLEDGEMENT OF RECEIPT REQUESTED ☐

cc:

RECEIVED BY: _____ DATE: _____

214-14A Rev. 8-94

A subsidiary of Pinnacle West Capital Corporation

Rex Stulting
Manager
Interconnections Development

Tel. 602-250-1644
Fax 602-250-1674
e-mail rex.stulting@aps.com

Mail Station 2259
PO Box 53999
Phoenix, Arizona 85072-3999

December 6, 2002

Rob Kondziolka
Salt River Project
Transmission Planning Manager
Mail Station POB100
P.O. Box 52025
Phoenix, Arizona 85072-2025

Rob,

In our continuing efforts to work with SRP in sharing information, coordination of plans, and exploring potential joint participation in projects I've attached a copy of the APS West Valley-South project update newsletter that was mailed everyone who has participated in our public siting process. This project will include new 230kV lines as well as 69kV lines and substations. The blue shaded area near Buckeye is where we plan to cut our Liberty-Gila River 230kV line into Buckeye. The plans are to string one of the in and out legs on the 500kV towers for the PV-Rudd line. If you have questions, please give Bob Smith a call at 602-250-1144 or I can try and get answers for you. If you have questions about the public process that has taken place, please contact Steve Goodman at 602-493-4448, or check the web site listed on the newsletter http://siting.apsc.com.

Sincerely,

Rex Stulting

Cc: Bob Smith
Steve Goodman, w/o attachment
file

APS

A subsidiary of Pinnacle West Capital Corporation

Jan H. Bennett
Vice President
Customer Service

TEL 602/250-3331
FAX 602/250-3002

Mail Station 9086
P.O. Box 53999
Phoenix, AZ 85072-3999

March 17, 2003

Ms. Sharolyn Hohman, President & CEO
Southwest Valley Chamber of Commerce
289 N. Litchfield Road
Goodyear, AZ 85338

RE: West Valley - South Facility Siting Project

Dear Ms. Hohman:

Thank you for your March 11, 2003 letter expressing overall support of the West Valley - South Facility Siting Project.

As the Southwest Valley continues to grow, so does APS' obligation to provide, safe, reliable electricity to your communities. Helping plan for this infrastructure is never easy, but we know that your participation in this project, and that of other Southwest Valley leaders, has resulted in a better end product.

Our siting staff continues to work with Luke Air Force Base and others to address details of our preferred and alternative routes. Please know that APS also remains committed to maintaining the mission viability of the Base. It is with this mutual goal that we are pursuing our discussions.

Again, thank you for your interest and for your continued involvement in the West Valley - South Facility Siting Project.

Sincerely,

Jan Bennett
Vice President, Customer Service

JHB/ma

Cc: Larry Krueger
Steve Goodman

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

March 17, 2003

SHERILYN HOHMAN
PRESIDENT/CEO
SOUTHWEST VALLEY CHAMBER OF COMMERCE
289 NORTH LITCHFIELD ROAD
GOODYEAR, ARIZONA 85338

Re: West Valley South Siting Project

Dear Ms. Hohman

Thank you for your letter dated March 11, 2003 supporting our project. Please be assured that we will continue to work with you and all other affected entities in a proactive manner to ensure safe and reliable power to the West Valley.

We have involved Luke Air Force Base in the earliest stages of this project and will continue to work with them. APS supports the Southwest Valley Chamber's efforts to maintain and preserve the mission viability of Luke AFB.

Again, thank you for your assistance and involvement in our project.

Sincerely,

Steve Goodman
Project Manager

cc. Jan Bennett – APS
Larry Krueger – APS
Maria Arellano - APS

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Ms. Sharolyn Hohman, President/CEO
Southwest Valley Chamber of Commerce
289 N. Litchfield Rd.
Goodyear, AZ 85338

Dear Ms. Hohman:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

Because of your role in the community, we want to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

January 31, 2002

Ms. Sharolyn Hohman
President-CEO
Southwest Valley Chamber of Commerce
289 N. Litchfield Road
Goodyear, AZ 85338

Dear Ms. Hohman:

On behalf of APS, I would like to thank you for the opportunity to present the proposed West Valley South Transmission Line Project today. Stuart Goodman and I found your comments, concerns and observations extremely beneficial.

One key project goal is to respond to the region's growth, while remaining sensitive to community concerns. As this the project unfolds, we hope to conduct a number of additional meetings and discussions with you.

In addition, our line siting team is committed to an inclusive process that also involves business interests, landowners and interested members of the public.

We look forward to working with you on this project.

Sincerely,

Steve Goodman
Project Manager

cc: Lawrence Krueger
Stuart Goodman

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

James Crean
Town of Buckeye
100 N. Apache, Ste. A
Buckeye, AZ 85326

Dear Mr. Crean:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

Because of your role in planning, APS wants to ensure that we continue to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

June 19, 2003

Mr. Joseph A. Blanton, Town Manager
Town of Buckeye
100 North Apache Road, Suite A
Buckeye, Arizona 85326

Re: West Valley-South Siting Project

Dear Mr. Blanton:

Enclosed please find the notice of hearing for the above mentioned project.

Thank you for your time and involvement in this important project. We look forward to continuing to work with you and meeting the growing electrical needs of Buckeye.

Sincerely,

Steve Goodman, Project Manager

Enclosure

cc: Larry Krueger

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

May 18, 2003

Mr. Joseph A. Blanton, Town Manager
Town of Buckeye
100 North Apache Road, Suite A
Buckeye, Arizona 85326

Dear Mr. Blanton:

Thank you for having met with us on May 13, 2003 and allowing us to present our updated proposed and alternative routes for the West Valley-South Transmission Line Project.

As was stated in the meeting, APS has modified our proposed route slightly to satisfy Luke Air Force Base concerns. At this time, we are continuing our briefings with key leaders to advise them of this slight change. We are also seeking support on our proposed route as we continue moving toward filing our application for a Certificate of Environmental Compatibility.

Enclosed is a draft letter that you could use in stating the Town's support of the project. We respectfully request that the support letter be mailed no later than May 27th 2003.

Thank you for your time and involvement in this important project. We look forward to continuing to work with you and meeting the growing electrical needs of Buckeye.

Sincerely,

Steve Goodman, Project Manager

Enclosure

cc: Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Mr. Joseph Blanton
City Manager, Town of Buckeye
100 N. Apache, Ste. A
Buckeye, AZ 85326

Dear Mr. Blanton:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Meeting with you and other jurisdictional planners in February has helped us understand your community's growth plans, and how electrical infrastructure improvements can complement your plans.

In our continuing effort to ensure that the direction of our electrical improvement are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 3 to 4:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same group of city and town managers who participated last time so we can continue the exchange of ideas and information.

Because of your role in planning, APS wants to ensure that we continue to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

January 8, 2002

Mr. Joseph A. Blanton, AICP
Town Manager
Town of Buckeye
100 North Apache Road, Suite A
Buckeye, Arizona 85326

Dear Mr. Blanton:

On behalf of APS, I would like to thank you for the recent opportunity to present the proposed West Valley South Transmission Line Project. We all found your comments, concerns and observations extremely beneficial.

One key project goal is to respond to the region's growth, while remaining sensitive to community concerns. As this project unfolds, we hope to conduct a number of additional meetings and discussions with you, your staff and the elected officials of Buckeye.

In addition, our line siting team is committed to an inclusive process that also involves business interests, landowners and interested members of the public.

I have enclosed an information packet for your use.

We look forward to working with you on this project.

Sincerely,

Steve Goodman
Project Manager

cc: Lawrence Krueger
Stuart Goodman

Arizona Public Service Company P. O. Box 53933 • PHOENIX, ARIZONA 85072-3933	Job Number: Date: 7-18-03

LETTER OF TRANSMITTAL

TO: Jim Charters
Planning Mgr.
WAPA
615 S. 43RD Ave.
P.O. Box 6457
Phoenix, AZ 85005-6457

RE: West Valley South
Powerline & Substation Siting Project-
APPLICATION FOR CEC

WE ARE FORWARDING TO YOU:

- ☐ Estimates
- ☐ Progress Report
- ☐ Technical Memorandum
- ☐ Plans
- ☐ Schedule
- ☐ Administrative Memorandum
- ☐ Calculations
- ☐ Samples
- ☐ Specifications
- ☐ Copy of letter
- ☐ Details
- ☐ Report
- ☒ CEC APPLICATION
- ☐ Under separate cover via: _____

NO. OF COPIES	IDENTIFICATION NUMBER	LAST DATED	DESCRIPTION
1	CD	—	CEC Application

THESE ARE TRANSMITTED

- ☐ For approval
- ☐ For Action
- ☐ No exception taken
- ☒ For your use
- ☒ For information only
- ☐ Make corrections noted
- ☐ As requested
- ☐ For Use as Guideline only
- ☐ Amend and resubmitt
- ☐ For review and comment
- ☐ _____

PLEASE NOTE: Jim - FYI —

BY: L. Goodman

ACKNOWLEDGEMENT OF RECEIPT REQUESTED ☐

RECEIVED BY: _____ DATE:

I-14A Rev. 8-94

A subsidiary of Pinnacle West Capital Corporation

Name: Bob Smith
Title: Trans. Plng. Mngr.
Department: Trans. Plng.

Tel: 602-250-1144
Fax 602-250-1155
e-mail: robert.smith@aps.com

Mail Station 2259
PO Box 53999
Phoenix, Arizona 85072-3999

January 8, 2003

Mr. Jim Charters
Planning Manager
Western Area Power Administration
615 W. 43rd Avenue
PO Box 6457
Phoenix, AZ 85005-6457

Re: WAPA 230kv Parker to Liberty transmission line – west of Miller Rd. – north and south of Interstate 10 – Buckeye, Arizona – APS West Valley South 230kv Siting Project

Dear Mr. Charters:

Thank you for meeting with Paul Herndon, Mike Dewitt and Steve Goodman on November 8, 2002 regarding APS use of the WAPA corridor West of Miller Road North and South of I-10. Please consider this as APS' formal request to install a new 230kv line in your corridor. Specifically, APS is requesting that WAPA replace lattice type structures # 112-1, 112-2, 112-3, 112-4, 112-5 and 112-6 to a single mono type pole, and allow APS to occupy one side of the new mono poles structures with a proposed 230kv circuit. This proposed line would tie the APS Gila Bend substation to the APS Buckeye Substation.

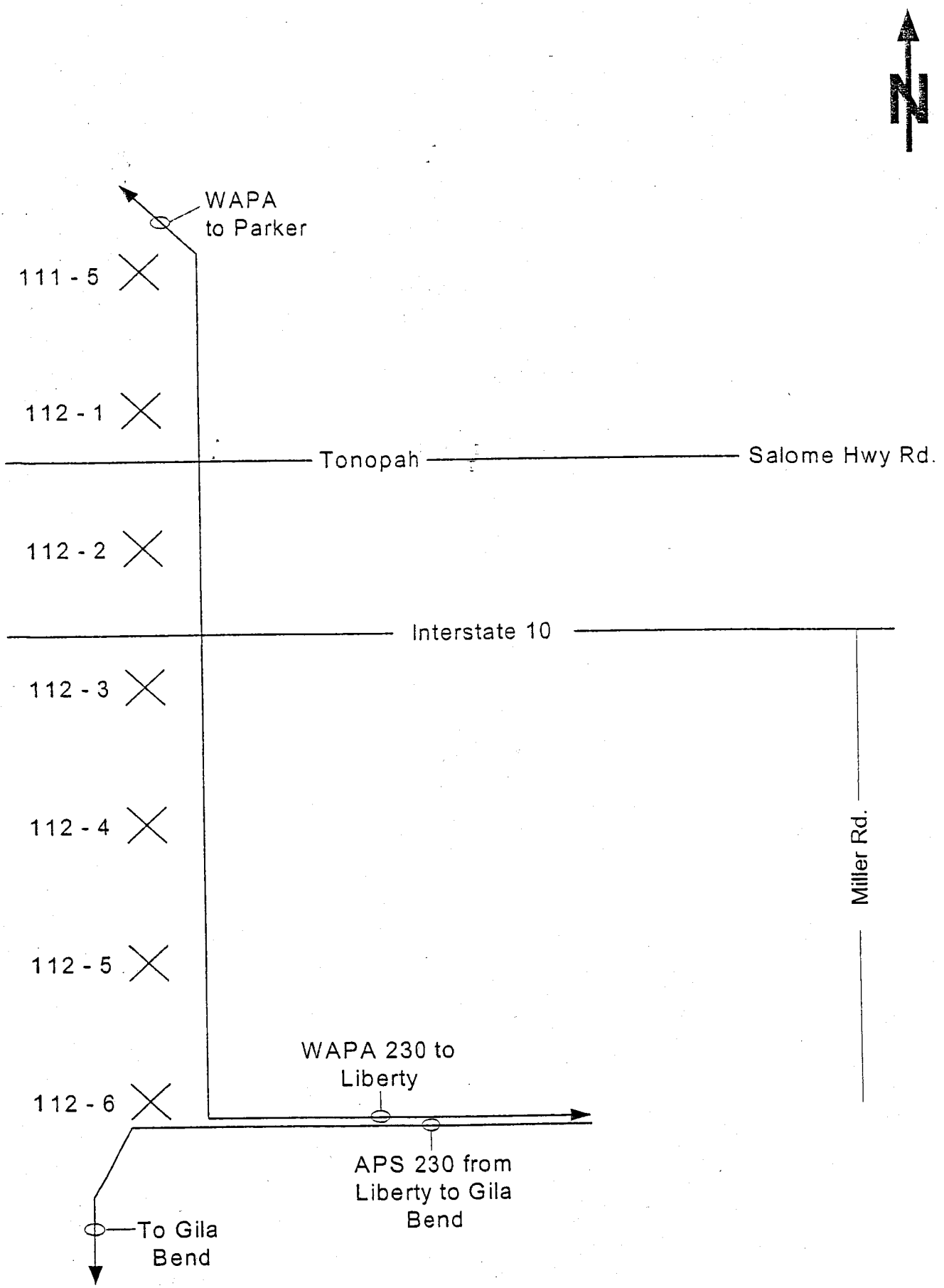
This tie is scheduled to be in service June 2006.

Enclosed is a drawing showing the proposed location of the facilities described above.

Thanks,

Bob Smith/CBS

Bob Smith
Manager, Transmission Planning
Arizona Public Service


N
WAPA
to Parker
111 - 5
112 - 1
Tonopah
Salome Hwy Rd.
112 - 2
Interstate 10
112 - 3
112 - 4
Miller Rd.
112 - 5
WAPA 230 to
Liberty
112 - 6
APS 230 from
Liberty to Gila
Bend
To Gila
Bend

A subsidiary of Pinnacle West Capital Corporation

Rex Stulting
Manager
Interconnections Development

Tel. 602-250-1644
Fax 602-250-1674
e-mail rex.stulting@aps.com

Mail Station 2259
PO Box 53999
Phoenix, Arizona 85072-3999

December 6, 2002

Jim Charters
Western Area Power Admin, DSW
Planning Manager
P.O. Box 6457
Phoenix, Arizona 85005-6457

Jim,

In our continuing efforts to work with WAPA in sharing information, coordination of plans, and exploring potential joint participation in projects I've attached 3 copies of the APS West Valley-South project update newsletter that was mailed everyone who has participated in our public siting process. This is the newsletter I mentioned to you this past Tuesday. The blue shaded area at the Buckeye substation is the part of the project we mentioned which would involve working with WAPA to assist in getting new 230kV lines constructed. If you have questions, please give Bob Smith a call at 602-250-1144 or I can try and get answers for you. If you have questions about the public process that has taken place, please contact Steve Goodman at 602-493-4448, or check the web site listed on the newsletter http://siting.apsc.com.

Sincerely,

Rex Stulting

Cc: Bob Smith
Steve Goodman, w/o attachment
file

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Mr. James Truman
White Tanks Concerned Citizens, Inc.
P.O. Box 1908
Surprise, AZ 85378

Dear Mr. Truman:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

Because of your role in the community, we want to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Ms. Kim Beneli
White Tanks Concerned Citizens, Inc.
P.O. Box 1908
Surprise, AZ 85378

Dear Ms. Beneli:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Dr. James Howard, Superintendent
Agua Fria School District
530 E. Riley Dr.
Avondale, AZ 85323

Dear Dr. Howard:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Dr. Catherine Stafford, Superintendent
Avondale Elementary District
235 W. Western Ave.
Avondale, AZ 85323-1848

Dear Dr. Stafford:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Dr. Henry Schmitt, Superintendent
Buckeye Union High School District
902 Eason Ave
Buckeye, AZ 85326-2699

Dear Dr. Schmitt:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Mr. Tom Heck, Superintendent
Litchfield Elementary School District
553 E. Plaza Circle, Ste A
Litchfield Park, AZ 85340

Dear Mr. Heck:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Dr. Homero Lopez, President
Estrella Mountain Community College
3000 N. Dysart Rd.
Avondale, AZ 85323-1000

Dear Dr. Lopez:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Anne Quigley, Manager
Goodyear Airport
1658 S. Litchfield Rd.
Goodyear, AZ 85339

Dear Ms. Quigley:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen
Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Joseph Thompson, President
Beazer Homes
2005 W 14th St. Ste 100
Tempe, AZ 85281

Dear Mr. Thompson:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

As you will note from our enclosed newsletter, we are hosting our next round of open houses in May, where we will continue our public input process. We welcome your attendance at the meetings, but please know we are also available to meet with you or other company representatives, should you desire such a meeting.

Please take a few moments to review the enclosed newsletter. If you have any questions or concerns, please do not hesitate to call me.

Thank you for your time and attention.

Sincerely

Steve Goodman

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

APS
The Power To Make It Happen
Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Michael Brown, President
Brown Family Communities
2164 E Broadway Rd Ste 300
Tempe, AZ 85282

Dear Homebuilder Representative:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Thank you for your time and attention.

Sincerely

Steve Goodman

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

APS
The Power To Make It Happen
Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Mark Hancock, President
Camelot Homes
6607 N Scottsdale Rd. Ste H100
Scottsdale, AZ 85250

Dear Mr. Hancock:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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April 25, 2002

Bob Ballard, President
Candlewood Homes
11333 North Scottsdale Road
Scottsdale, AZ 85254

Dear Mr. Ballard:

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April 25, 2002

Thomas Rietz, President
Canterra Homes
8666 E San Alberto
Scottsdale, AZ 85258

Dear Mr. Rietz:

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April 25, 2002

Clyde Dinnell, President
Capital Pacific Holdings
1855 W Baseline Rd Ste 101
Mesa, AZ 85202

Dear Mr. Dinnell:

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April 25, 2002

Mike Trailor, President
Centex Homes
4711 N 12th St.
Phoenix, AZ 85014

Dear Mr. Trailor:

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April 25, 2002

Bill Blair, President
Cholla Homes
4333 N Civic Center Plaza
Scottsdale, AZ 85251

Dear Mr. Blair:

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April 25, 2002

Tom Davis, President
Continental Homes
7001 N Scottsdale Rd. Ste 2050
Scottsdale, AZ 85253

Dear Mr Davis:

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April 25, 2002

Allen Hamberlin, President
Courtland Homes
5333 N 7th St. Ste 305
Phoenix, AZ 85014

Dear Mr. Hamberlin:

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April 25, 2002

Wade Kempton, President
Cresleigh Homes Corporation
410 N 44th St. Ste 325
Phoenix, AZ 85008

Dear Mr. Kempton:

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April 25, 2002

William Donahue, President
Dehaven Companies
2632 S 24th St. Ste B
Phoenix, AZ 85034

Dear Mr. Donahue:

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April 25, 2002

Tom Kirk
Del Webb's Coventry Homes
6001 N. 24th St.
Phoenix, AZ 85016

Dear Mr. Kirk:

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April 25, 2002

Anne Mariucci, President
Del Webb Group
6001 N 24th St
Phoenix, AZ 85016

Dear Ms. Mariucci:

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Ben Redman, President
Del Webb Group
3701 W Anthem Way
Anthem, AZ 85086

Dear Mr. Redman:

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April 25, 2002

Phill Polich, President
Dietz-Crane Homes
8125 N 23rd Ave. Ste 100
Phoenix, AZ 85021

Dear Mr. Polich:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Dave Nilsen
DMB Associates, Inc
7600 E. Doubletree Ranch Rd., Ste. 300
Scottsdale, AZ 85258

Dear Mr. Nilsen:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

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Because of your role in the community, we want to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

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APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

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PHOENIX, ARIZONA 85072-3933
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April 23, 2002

John L. Bradley, General Manager
DMB Associates, Inc.
7600 E. Doubletree Ranch Rd., #300
Scottsdale, AZ 85358-2137

Dear Mr. Bradley:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

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Larry Krueger

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April 25, 2002

Terry DeQuina
DMB
7600 E Doubletree Ranch Rd #300
Scottsdale, AZ 85258

Dear Mr. DeQuina:

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April 25, 2002

Bill Peck, President
D.R. Horton Homes
4500 S Lakeshore Dr. Ste 205
Tempe, AZ 85282

Dear Mr. Peck:

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April 23, 2002

Ms. Kathleen Duncan, Owner
Duncan Family Farms
17203 W. Indian School Road
Goodyear, AZ 85338

Dear Ms. Duncan:

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April 25, 2002

Dan Earlie, President
Earlie Homes
4647 N 32nd St. Ste 210
Phoenix, AZ 85018

Dear Mr. Earlie:

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Jeff Klem, Purchasing Agent
Elliot Homes, Inc.
1400 E. Southern Ave. Ste 100
Tempe, AZ 85282

Dear Mr. Klem:

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Mark Upton, President
Engle Homes
3150 S 48th St. Ste 100
Phoenix, AZ 85040

Dear Mr. Upton:

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April 23, 2002

Ms. Mary Westwood
Estrella Mountain Ranch Homeowners' Association
9760 S. Estrella Pkwy.
Goodyear, AZ 85338

Dear Ms. Westwood:

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen
Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Tim Simanse, President
Fox & Jacobs Homes By Centex
4711 N 12th Street
Phoenix, AZ 85014

Dear Mr. Simanse:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

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April 25, 2002

Douglas Fulton, President
Fulton Homes
9140 S Kyrene Rd. Ste 202
Tempe, AZ 85284

Dear Mr. Fulton:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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April 25, 2002

Charlie Bowie, President
Geoffrey H. Edmunds/Toll Brothers
8901 E Mountain View Rd. Ste 200
Scottsdale, AZ 85258

Dear Mr. Bowie:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Phoenix, Arizona 85072-3933
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April 25, 2002

Duane Black, President
Golden Heritage Homes
7025 E Greenway Pkwy Ste 100
Scottsdale, AZ 85254

Dear Mr Black:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Transmission & Facility Siting Department

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Jan Bennett, APS
Larry Krueger, APS

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P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
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April 25, 2002

Barry Grant, President
Greystone Homes
2702 N 44th St. Ste 100A
Phoenix, AZ 85008

Dear Mr. Grant:

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P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Mr. Mark Brown
Goodyear Estates Neighborhood Association
125 Solano Drive
Goodyear, AZ 85338

Dear Mr. Brown:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

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April 25, 2002

Mr. Hamid, President
H & W Properties
8233 W Denton Lane
Glendale, AZ 85303

Dear Mr. Hamid:

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April 25, 2002

David Cohen, President
Hacienda Builders
4250 N Drinkwater Blvd Ste 360
Scottsdale, AZ 85251

Dear Mr. Cohen:

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April 25, 2002

Chris Ellis
Hallcraft Homes
16766 E Parkview Ave #201
Fountain Hills, AZ 85268

Dear Mr. Ellis:

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April 25, 2002

Greg Hancock, President
Hancock Communities
8501 E Princess Dr. Ste 200
Scottsdale, AZ 85255

Dear Mr. Hancock:

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April 25, 2002

Pat Moroney, President
Journey Homes
9201 E Mountain View Rd. Ste 12
Scottsdale, AZ 85258

Dear Mr. Moroney:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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April 25, 2002

Steve Bavis, President
KB Homes
432 N 44th St. Ste 200
Phoenix, AZ 85008

Dear Mr. Bavis:

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Lennar Homes
2702 N 44th St. Ste 100A
Phoenix, AZ 85008

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April 25, 2002

David Bessey, President
Maracay Homes
15160 N Hayden Rd. Ste 200
Scottsdale, AZ 85260

Dear Mr. Bessey:

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April 25, 2002

Mark Hardy, President
Marlor Homes
8160 E Butherus Dr. Ste 5
Scottsdale, AZ 85260

Dear Mr. Hardy:

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APS *A subsidiary of Pinnacle West Capital Corporation*

James W. Dugan
Section Leader
Land Services Department

Tel. 602-371-6949
Fax 602-371-6586
e-mail James.Dugan@aps.com

Mail Station 3016
PO Box 53933
Phoenix, Arizona 85072-3933

May 12, 2003

Mr. Mark Barushko
MB Group
4333 N. Civic Center Plaza
Suite 300
Scottsdale, AZ 85251

Gentleman:

RE: WS-7 PROPOSED SUBSTATION SITE LOCATION (PEBBLECREEK & THOMAS RD SE CORNER

In accordance with our recent meeting Arizona Public Service Company, MB Group, The Globe Corporation and The City of Goodyear recognize the need for a new substation referred to as (WS-7). As we discussed the acceptable location. From an electrical load standpoint would be the Southeast corner of Thomas Road and Pebble Creek Parkway. It is Arizona Public Service Company policy that the company driving the need for the substation would bear the burden of the substation including the cost. Arizona Public Service will however honor my commitment of $50,000/acre for approximately 1.5 acres or $75,000 total acquisition cost subject to the following.

1) Escrow for the substation purchase will close on or before January 12, 2004. With compliance of the APS standard escrow instructions for the purchase of real property.
2) APS will obtain all required approvals from the substation construction from The City of Goodyear.
3) APS will only acquire the minimum amount of land necessary for the substation.
4) The overhead power line on the West Side of Bullard Road from Thomas Road to McDowell Road will not be removed until the above conditions have been met.

If the above represents your understanding please let me know and we can proceed with the necessary paper work to make this happen.

Thank you for your help and cooperation. If you have any questions or desire additional information, please give me a call on 602-371-6949.

Sincerely,

James W. Dugan

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Phoenix, Arizona 85072-3933
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April 25, 2002

John Napolitan, President
Morrison Homes
6991 E Camelback Rd. Ste C158
Scottsdale, AZ 85251

Dear Mr. Napolitan:

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April 23, 2002

Palm Valley Homeowners' Association
6423 S. Ash Avenue
Tempe, AZ 85283

Dear Palm Valley Homeowners' Association:

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P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
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April 23, 2002

Mr. Shannon Letcher, Director of Golf
Palm Valley Country Club
2211 N. Litchfield Rd.
Goodyear, AZ 85338

Dear Mr. Letcher:

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April 23, 2002

Ms Sue Linney,
Pebblecreek Homeowners Association
14716 W. Earll Drive
Goodyear, AZ 85338

Dear Ms. Linney:

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April 25, 2002

Roger Williams, President
Pinnacle Builders
14614 N Kierland Blvd. Ste 190
Scottsdale, AZ 85254

Dear Mr. Williams:

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April 23, 2002

Mr. David Iwanski, Principal
Bookman-Edmonston
201 E. Washington Street, Ste. 340
Phoenix, AZ 85004

Dear Mr. Iwanski:

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The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

January 31, 2002

Mr. David Iwanski
Principal – Water Resources
Bookman-Edmonston
Collier Center, Su. 340
201 East Washington St.
Phoenix, AZ 85004

Dear Mr. Iwanski:

On behalf of APS, I would like to thank you for the opportunity to present the proposed West Valley South Transmission Line Project today. Stuart Goodman and I found your comments, concerns and observations extremely beneficial.

One key project goal is to respond to the region's growth, while remaining sensitive to community concerns. As this the project unfolds, we hope to conduct a number of additional meetings and discussions with you.

In addition, our line siting team is committed to an inclusive process that also involves business interests, landowners and interested members of the public.

We look forward to working with you on this project.

Sincerely,

Steve Goodman
Project Manager

cc: Lawrence Krueger
Stuart Goodman

APS
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P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Randy Bury, President
Pulte Homes
15333 N Pima Rd. Ste 300
Scottsdale, AZ 85260

Dear Mr. Bury:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

As you will note from our enclosed newsletter, we are hosting our next round of open houses in May, where we will continue our public input process. We welcome your attendance at the meetings, but please know we are also available to meet with you or other company representatives, should you desire such a meeting.

Please take a few moments to review the enclosed newsletter. If you have any questions or concerns, please do not hesitate to call me.

Thank you for your time and attention.

Sincerely

Steve Goodman

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

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April 25, 2002

Tom Brown, President
Regal Homes Inc.
2432 W Peoria Ave.
Bldg 9 Ste 1160
Phoenix, AZ 85029

Dear Mr. Brown:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Sincerely

Steve Goodman

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

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April 25, 2002

Ron French, President
Richmond American Homes
3010 E Camelback Rd. Ste 200
Phoenix, AZ 85016

Dear Mr. French:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

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Phoenix, Arizona 85072-3933
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April 25, 2002

R. Barry Tull, President
Rising Star Homes
5727 N 7th St Ste 208
Phoenix, AZ 85014

Dear Mr. Tully:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Transmission & Facility Siting Department

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Jan Bennett, APS
Larry Krueger, APS

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April 25, 2002

Edward Robson, President
Robson Communities
9532 E Riggs Rd
Sun Lakes, AZ 85248

Dear Mr. Robson:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Transmission & Facility Siting Department

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Jan Bennett, APS
Larry Krueger, APS

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April 25, 2002

Steve Sasso, President
Royce Homes LP
2920 E Camelback Rd Ste 200A
Phoenix, AZ 85016

Dear Mr. Sasso:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Transmission & Facility Siting Department

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Jan Bennett, APS
Larry Krueger, APS

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Phoenix, Arizona 85072-3933
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April 25, 2002

Jim Joyce, President
Ryland Homes
637 S 48th St Ste 203
Tempe, AZ 85281

Dear Mr. Joyce:

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Transmission & Facility Siting Department

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Jan Bennett, APS
Larry Krueger, APS

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Phoenix, Arizona 85072-3933
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April 25, 2002

Sequoia Homes
7010 E Cochise
Scottsdale, AZ 85253

Dear Homebuilder Representative:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

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Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Ken Peterson, Sales and Marketing
Shea Homes
8800 N Gainey Center Dr Ste 350
Scottsdale, AZ 85258

Dear Mr. Peterson:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

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Email: steven.goodman@aps.com

April 25, 2002

Mike Nuessle, Sales and Marketing
Sivage Thomas Homes of AZ
13253 N La Montana Dr. Ste 203
Fountain Hills, AZ 85268

Dear Mr. Nuessle:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

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P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

July 30, 2003

Mr. Ross A. Wilson, Sonoran Ridge Estates LLC
2720 E. Thomas Road, Suite C-250
Phoenix, AZ 85016

Re: APS West Valley - South Line Siting Project

Dear Mr. Wilson:

I am in receipt of your July 24th, 2003, letter sent to Ms. Lauire Woodall, Chairperson of the Arizona Power Plant and Transmission Line Siting Committee.

We understand that you favor APS' proposed system option and oppose the alternative proposed option. One of your stated concerns is that our proposed TS2 substation is planned east of the Jackrabbit Road/Olive Avenue intersection. Actually, we are proposing that the substation be located between ¼ mile and ½ mile north of Olive Avenue and just west of the Beardsley Canal.

While siting electrical facilities to provide power to projects such as yours, we strive to respond to the region's growth in a timely manner, while remaining sensitive to overall community concerns.

Please call me if I can further clarify any project information. I can be reached at 602-493-4448. Thank you for your interest in the project.

Sincerely,

Steve Goodman
Project Manager

cc: Laurie Woodall, Attorney General's office
Larry Krueger, APS

APS
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Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
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April 25, 2002

Bruce Agenter, President
Southwest Homebuilders
P.O. Box 6410
Scottsdale, AZ 85261

Dear Mr. Agenter:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Thank you for your time and attention.

Sincerely

Steve Goodman

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

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P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Steven Scarborough, President
Standard Pacific Homes
6710 N Scottsdale Rd Ste 150
Scottsdale, AZ 85253

Dear Mr. Scarborough:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

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P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Randy Suggs, President
Suggs Homes
8180 N Hayden Rd. Ste D-203
Scottsdale, AZ 85258

Dear Mr. Suggs:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

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Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
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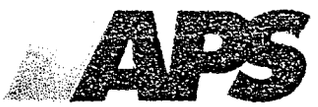

The Power To Make It Happen

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PHOENIX, ARIZONA 85072-3933
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April 23, 2002

Ms. Bear Shimmin
19791 N. Shadow Mt. Drive
Surprise, AZ 85374

Dear Ms. Shimmin:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

Because of your role in the community, we want to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

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P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Bella Forsythe
SunCor Development
3838 N. Central Ave. #1500
Phoenix, AZ 85012

Dear Ms. Forsythe:

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Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

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P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Ms. Donna Phillips
SunCor Devlopment Company
3838 N. Central Ave., Suite 1500
Phoenix, AZ 85012

Dear Ms. Phillips:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
A subsidiary of Pinnacle West Capital Corporation

James W. Dugan
Section Leader
Land Services Department

Tel. 602-371-6949
Fax 602-371-6586
e-mail James.Dugan@aps.com

Mail Station 3016
PO Box 53933
Phoenix, Arizona 85072-3933

May 12, 2003

Mr. Raymond H. Carter
Vice President Real Estate
The Globe Corporation
6730 N. Scottsdale Rd.
Suite 250
Scottsdale, AZ 85253

Gentleman:

RE: WS-7 PROPOSED SUBSTATION SITE LOCATION (PEBBLECREEK & THOMAS RD SE CORNER

In accordance with our recent meeting Arizona Public Service Company, MB Group, The Globe Corporation and The City of Goodyear recognize the need for a new substation referred to as (WS-7). As we discussed the acceptable location. From an electrical load standpoint would be the Southeast corner of Thomas Road and Pebble Creek Parkway. It is Arizona Public Service Company policy that the company driving the need for the substation would bear the burden of the substation including the cost. Arizona Public Service will however honor my commitment of $50,000/acre for approximately 1.5 acres or $75,000 total acquisition cost subject to the following.

1) Escrow for the substation purchase will close on or before January 12, 2004. With compliance of the APS standard escrow instructions for the purchase of real property.
2) APS will obtain all required approvals from the substation construction from The City of Goodyear.
3) APS will only acquire the minimum amount of land necessary for the substation.
4) The overhead power line on the West Side of Bullard Road from Thomas Road to McDowell Road will not be removed until the above conditions have been met.

If the above represents your understanding please let me know and we can proceed with the necessary paper work to make this happen.

Thank you for your help and cooperation. If you have any questions or desire additional information, please give me a call on 602-371-6949.

Sincerely,

James W. Dugan

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Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Tom Lewis, President
T.W. Lewis Company
850 W Elliot Rd Ste 101
Tempe, AZ 85284

Dear Mr. Lewis:

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April 25, 2002

Barry Grant, President
U.S. Home Corporation
1150 W Grove Pkwy Ste 110
Tempe, AZ 85283

Dear Mr. Grant

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Transmission & Facility Siting Department

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Jan Bennett, APS
Larry Krueger, APS

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April 23, 2002

Ms. Diane McCarthy, President
WESTMARC
9017 N. 57th Avenue
Glendale, AZ 85302

Dear Ms. McCarthy:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

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APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS

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P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Mr. Jay Ellingson
WESTMARC Executive Board
2025 N. Litchfield Rd.
Goodyear, AZ 85338

Dear Mr. Ellingson:

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Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen

Transmission & Facility Siting
P.O. Box 53933 Station 4030
PHOENIX, ARIZONA 85072-3933
Email: steven.goodman@aps.com

April 23, 2002

Ms. Christie Birdsell
Wildflower Ranch Homeowners' Association
16180 W. Sherman St.
Goodyear, AZ 85338

Dear Ms. Birdsell:

Thank you for participating and assisting APS in the process of planning the electrical infrastructure needed for the West Valley. Our initial meetings with you and other community leaders has helped us understand the West Valley's growth plans, and we truly appreciate your time and input.

In our continuing effort to ensure that the direction of our electrical improvements are clear to you, APS invites you to meet with our "West Valley-South" project management team on **Monday, May 13, from 1 to 2:30 p.m. in the Sachem West Ballroom** at the Wigwam Resort. Once again we have invited the same small group of community leaders so we can continue the exchange of ideas and information.

Because of your role in the community, we want to receive your input on our project. We also would like to keep you up to date on the status of the project from both the environmental and community outreach standpoints.

We hope to see you on May 13th. We appreciate your extending this invitation to a colleague you believe would benefit from the project information. To RSVP, please call Maria Arellano at 602-493-4478. An APS representative will call you within a week of the meeting to confirm your reply. Thank you for your continued cooperation. We look forward to working with you.

Sincerely,

Steve Goodman, Project Manager
APS Transmission & Facility Siting Department

Cc: Jan Bennett
Larry Krueger

APS
The Power To Make It Happen
Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Tom Hickocx, President
William Lyon Homes
8800 E Chaparral Rd Ste 260
Scottsdale, AZ 85250

Dear Mr. Hickocx:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

As you will note from our enclosed newsletter, we are hosting our next round of open houses in May, where we will continue our public input process. We welcome your attendance at the meetings, but please know we are also available to meet with you or other company representatives, should you desire such a meeting.

Please take a few moments to review the enclosed newsletter. If you have any questions or concerns, please do not hesitate to call me.

Thank you for your time and attention.

Sincerely

Steve Goodman

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS

APS
The Power To Make It Happen
Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933
Email: steven.goodman@aps.com

April 25, 2002

Gene Morrison, President
Woodside Homes
1204 E Baseline Rd. Ste 104
Tempe, AZ 85283

Dear Mr. Morrison:

APS is building electrical facilities in the West Valley to accommodate the tremendous growth there. Because you are an active and important member of the business community, we thought you might appreciate information on our West Valley-South Powerline & Substation Project. We also want to solicit your input on the project if you are a landowner, developer or homebuilder in the area.

As you will note from our enclosed newsletter, we are hosting our next round of open houses in May, where we will continue our public input process. We welcome your attendance at the meetings, but please know we are also available to meet with you or other company representatives, should you desire such a meeting.

Please take a few moments to review the enclosed newsletter. If you have any questions or concerns, please do not hesitate to call me.

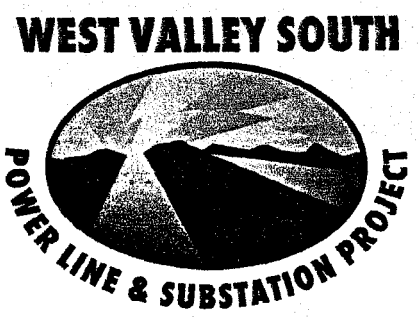
Thank you for your time and attention.

Sincerely

Steve Goodman

Steve Goodman, Project Manager
Transmission & Facility Siting Department

Cc: Ms. Connie Wilhelm-Garcia
Jan Bennett, APS
Larry Krueger, APS



Correspondence Received

Letters Received			
Organization	**From**	**Date of letter**	**Received by Steve**
ACC - noticeof hearing	Lorrie Woodall	6/17/2003	
Arizona Department of Corrections	D.C. Harkins	3/14/2003	3/27/2003
Arizona Department of Environmental (	Michele Robertson	6/27/2001	to Mr. Kammerle
Arizona Game and Fish Department	John Kennedy	7/17/2003	7/22/2003
Arizona Game and Fish Department	John Kennedy	7/14/2003	7/21/2003
Arizona House of Representatives	Phil Hanson	1/6/2003	
Arizona House of Representatives	Kathi Foster	12/18/2002	to Jan Bennet
Arizona House of Representatives	Richard Miranda	12/16/2002	to Jan Bennet
Arizona State Land Department	Linda Beals	7/15/2003	7/21/2003
Arizona State Land Department	Linda Beals	7/3/2003	7/9/2003
Arizona State Parks	Matthew Bilsbarrow	7/10/2003	7/14/2003
Arizona State Senate	Ed Cirillo	12/4/2002	12/9/2002 *received by Jan Bennett
Arizona State Senate	Mary Hartley	1/6/2002	to Jan Bennett
City of Glendale	Elain Scruggs	6/23/2003	6/27/2003 *received by Jan Bennett
City of Goodyear	Grant Anderson	4/28/2003	5/1/2003
City of Goodyear	Harvey Krauss	12/27/2002	1/6/2003
DMB Associates	John Bradley	5/30/2003	5/30/2003 (fax)
DMB Associates	John Bradley	3/24/2003	3/27/2003
DMB Associates	John Bradley	7/9/2002	
DMB Associates	John Bradley	6/20/2002	

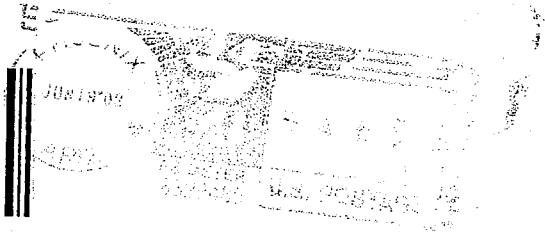
DMB Associates	David Nilsen	6/10/2002	to Jamie Wood @ URS
LAFB	Dennis Rea, Colonel		9/3/2002
LAFB	Dennis Rea, Colonel	4/15/2003	4/18/2003
LAFB	Dennis Rea, Colonel	3/25/2003	4/2/2003
land owners	Mr. and Mrs. Silvey	8/8/2003	8/8/2003 *sent to ACC first
land owners	Dr. Forrest Hill & Arnold Peters	6/29/2002	
Litchfield Elementary School District	Thomas Heck	9/11/2002	
Litchfield Elementary School District	Thomas Heck	8/14/2002	
Maricopa County Board of Supervisors	Max Wilson	6/24/2003	7/7/2003
Maricopa County Board of Supervisors	Max Wilson	12/19/2002	1/6/2003
Maricopa County Flood Control	Michael Wilson	9/3/2002	
Maricopa County Parks and Recreatior	William Scalzo	12/17/2002	1/6/2003
Maricopa County Parks and Recreatior	William Lanford	7/9/2002	
Maricopa Water District	James Sweeney	8/7/2003	8/11/2003
Maricopa Water District	James Sweeney	8/28/2002	
McDOT	Thomas Buick	7/16/2003	7/23/2003
McDOT	Wayne Butch	3/28/2003	4/2/2003
McDOT	Wayne Butch	5/28/2002	to BJ Communications
Southwest Valley Chamber of Commer	Sharolyn Hohman	3/11/2003	3/12/2003 *received by Jan Bennett
Town of Buckeye	Joseph Blanton	5/26/2003	5/29/2003
Town of Buckeye	Joseph Blanton	1/10/2003	1/16/2003
White Tanks Concerned Citizens	Kim Beneli	8/19/2002	

Land Solutions Perryville LLC	David Maguire	7/31/2003	8/15/2003
Sonoran Ridge Estates LLC	Ross Wilson	7/24/2003	7/30/2003
Quarles & Brady Streich Lang LLP	Roger Ferland	8/12/2003	8/13/2003
Quarles & Brady Streich Lang LLP	Roger Ferland	7/8/2003	
Quarles & Brady Streich Lang LLP	Roger Ferland	3/20/2003	3/27/2003
Francis J. Slavin, P.C.	Joseph Moritz, Jr.	8/1/2003	8/1/2003
Gammage & Burnham PLC	Michael King	1/10/2003	1/11/2003
Freeway West 85 Limited Partnership I	Terence Guerrant	6/27/2002	
KAX Group LLC	Kent Xander	4/28/2002	to Greg Jones - Maricopa County Flood Control
The Guard Ranch	Warren Guard	8/12/2003	8/14/2003 *to ACC
Russell Ranch	Daniel O'Connor	7/25/2003	8/6/2003
Beazer Homes	Kurt Hubbell	6/5/2003	6/9/2003
DMJM Harris	Joseph Pluta	2/25/2003	replied via email 2/28/2003
Recorp Management	Gary Lane	8/29/2002	
SunCor Development Company	Jay Ellingson	6/3/2002	

ARIZONA CORPORATION COMMISSION
1200 W. Washington - Hrg. Div./Docket
Phoenix, Arizona 85007-2996

Fold at line over top of envelope to the right of the return address

UNITED STATES POSTAL SERVICE



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CERTIFIED MAIL

Steve Goodman
Project Manager
Mail Station 4030
P.O. Box 53933
Phoenix, Arizona 85072-3933

85072+3933 02

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 WEST VALLEY-SOUTH 230 KV TRANSMISSION LINE PROJECT, INCLUDING THE CONSTRUCTION OF APPROXIMATELY 18 MILES OF 230 KV TRANSMISSION LINES AND THREE 230 KV SUBSTATIONS IN MARICOPA COUNTY, ARIZONA, ORIGINATING SOUTH OF BROADWAY ROAD AT AN EXISTING 230KV TRANSMISSION LINE IN SECTION 28, TOWNSHIP 1 NORTH, RANGE 2 WEST, G&SRB&M THAT WILL INTERCONNECT WITH THE PROPOSED TS4 SUBSTATION IN SECTION 19, TOWNSHIP 1 NORTH, RANGE 2 WEST AND CONTINUING TO THE PROPOSED TS3 SUBSTATION IN SECTION 22, TOWNSHIP 2 NORTH, RANGE 2 WEST, G&SRB&M AND TERMINATING AT THE PROPOSED TS2 SUBSTATION IN SECTION 28, TOWNSHIP 3 NORTH, RANGE 2, WEST, G&SRB&M

Docket No: L-00000D-03-0122

Case No: _____

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2003 JUN 17 P 3:42
AZ CORP COMMISSION
DOCUMENT CONTROL

NOTICE OF HEARING

A PUBLIC HEARING WILL BE HELD BEFORE THE Arizona Power Plant and Transmission Line Siting Committee ("Committee") at the Wigwam Resort, 300 Wigwam Boulevard, Litchfield Park, Arizona 85340, beginning on August 11, 2003 at 1:00 p.m. and continuing on August 12, 2003 at 9:30 a.m., or as soon as the matter can be heard, regarding the Application of Arizona Public Service Company ("APS" or "Company"), for a Certificate of Environmental Compatibility authorizing the West Valley – South Project in Maricopa County, Arizona. The hearing will adjourn at approximately 5:00 p.m. on August 11, 2003 and then reconvene at 6:00 p.m. that evening to allow for public comment. Public comment will also be taken at the beginning of each hearing. The Committee may conduct a tour of the route and/or alternate route. The itinerary for the tour will be available at the hearing. Members of the

public may follow the Committee in their own private vehicles. During such tour, the Committee will not discuss or delineate in any manner concerning the application. The West Valley – South Project includes 230 kV transmission lines, substations, associated facilities and interconnections as further described in the Application.

The Company's Application includes a proposed route ("Proposed system option") and an alternative route. The Proposed system option would originate south of Broadway Road at an existing 230kV transmission line, which travels east to west in Sections 27 and 28, Township 1 North, Range 2 West. The Proposed system option would parallel the west side of Perryville Road to McDowell Road, and then continue north along the east side of Perryville Road to the proposed TS3 substation site located at the corner of Perryville Road and 0.5 miles north of Indian School Road, in Section 22, Township 2 North, Range 2 West. The line then would extend east from the proposed TS3 substation toward Cotton Lane, through Section 23, Township 2 North, Range 2 West. Approximately 1,000 feet west of Cotton Lane, the line would angle to the northeast to avoid the Luke Air Force Base ("LAFB") accident potential zone ("APZ"). The line would follow this angle for approximately 1,500 feet where it would reach Cotton Lane. The line would extend north along the east side of Cotton Lane to Bethany Home Road, in Sections 13 and 24, Township 2 North, Range 2 West. At that point, the line would extend east on the south side of Bethany Home Road to Loop 303, in Section 13, Township 2 North, Range 2 West. The line would extend north along the west side of Loop 303 to Olive Avenue, in Sections 1 and 12, Township 2 North, Range 2 West, and Section 36, Township 3 North, Range 2 West. At the intersection of Loop 303 and Olive Avenue, the line would turn west and travel along the north side of Olive Avenue to the west side of the Beardsley Canal, through Sections 25, 26, 27 and 28, Township 3 North, Range 2 West. The line would extend along the Beardsley Canal north for up to 0.5 miles to the proposed TS2 substation in Section 28, Township 3 North, Range 2 West. The Applicant is requesting a corridor of 3,000 feet on each side of the system option centerline. A map generally showing the Proposed and Alternative system options for the

West Valley - South Project is provided below.

The Application, including detailed maps of the proposed West Valley - South Project, is on file with Docket Control Center of the Arizona Corporation Commission, 1200 West Washington, Suite #108, Phoenix, Arizona 85007, and the Commission's Tucson Office at 400 West Congress, Suite #218, Tucson, Arizona 85701.

Depending upon the issues raised and the number of intervenors appearing during the hearing, the Committee may deem it appropriate at some point to recess the hearing to a time and place to be announced during the hearing, or to be determined after the recess. At the discretion of the Committee, such resumed hearing may be held at a date, time and place designated by the Committee or its Chairman.

NOTE: NOTICE OF SUCH RESUMED HEARING WILL BE GIVEN. PUBLISHED NOTICE OF SUCH RESUMED HEARING IS NOT REQURIED.

Each county and municipal government and state agency interested in the proposed facilities and desiring to become a party to the certificate proceeding, shall, not less than ten (10) days before the date set for hearing, file with the Director of Utilities, Arizona Corporation Commission, 1200 West Washington, Phoenix, Arizona 85007, a notice of its intent to be a party.

Any domestic, non-profit corporation or association, formed in whole or in part to promote conservation of natural beauty, to protect the environment, personal health or other biological values, to preserve historical sites, to promote consumer interests, to represent commercial and industrial groups, or to promote the orderly development of the area in which the facilities are to be located and desiring to become party to the certification proceeding, shall, not less than ten (10) days before the date set for hearing, file with the Director of Utilities, Arizona Corporation Commission, 1200 West Washington, Phoenix, Arizona 85007, a notice of its intent to be a party.

The Committee or its Chairman, at any time deemed appropriate, may make other persons parties to the proceedings. The Committee will take public comment on the

application at the hearing.

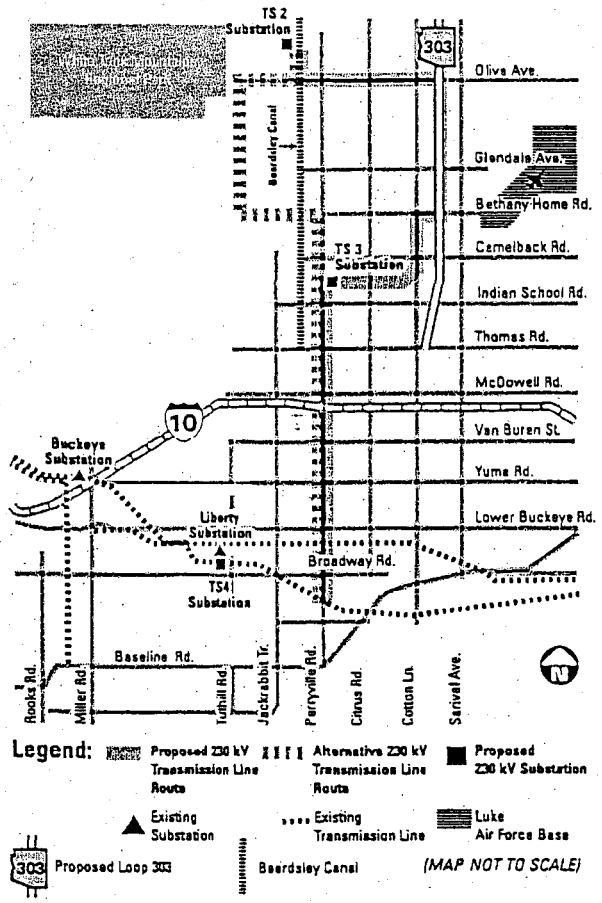
Any person may make a limited appearance at the hearing by filing a statement in writing with the Director of Utilities, Arizona Corporation Commission, 1200 West Washington, Phoenix, Arizona 85007, not less than five (5) days before the date set for hearing. A person making a limited appearance shall not be a party or have the right to present testimony or cross-examine witnesses.

This proceeding is governed by Arizona Revised Statutes Sections 40-360 to 40-360.13 and Arizona Administrative Code Rules R14-3-201 to R14-3-219. The written decision of the Committee shall be submitted to the Arizona Corporation Commission pursuant to Arizona Revised Statutes Section 40-360.07. Any person intending to be a party before the Arizona Corporation Commission must be a party to the certification proceedings before the Committee.

ORDERED this 17 day of June, 2003

Laurie A. Woodall
Assistant Attorney General
Chairman, Arizona Power Plant and
Transmission Line Siting Committee

239911/cg


TS 2 Substation
303
Olive Ave.
Glendale Ave.
Bethany Home Rd.
Camelback Rd.
TS 3 Substation
Indian School Rd.
Thomas Rd.
McDowell Rd.
10
Van Buren St.
Buckeye Substation
Yuma Rd.
Liberty Substation
Lower Buckeye Rd.
Broadway Rd.
TS4 Substation
Baseline Rd.
Rooks Rd.
Miller Rd.
Tuthill Rd.
Jackrabbit Tr.
Perryville Rd.
Cirrus Rd.
Cotton Ln.
Sarival Ave.
N
Legend:
Proposed 230 kV Transmission Line Route
Alternative 230 kV Transmission Line Route
Proposed 230 kV Substation
Existing Substation
Existing Transmission Line
Luke Air Force Base
303
Proposed Loop 303
Beardsley Canal
(MAP NOT TO SCALE)

Arizona Department of Corrections

1601 WEST JEFFERSON
PHOENIX, ARIZONA 85007
(602) 542-5536

Janet Napolitano
Governor

Charles L. Ryan
Acting Director

RECEIVED
MAR 27 2003
BY: SG

March 14, 2003

Mr. Steve Goodman
Project Manager
APS
P.O. Box 53933 Station 4030
Phoenix, AZ 85072-3933

Dear Mr. Goodman:

Thank you for your letter dated March 5, 2003 regarding the proposed West Valley South Transmission Line Project.

After our meeting and telephone conversations the decision has been made that we will not oppose placing a 230 kilovolt line along Perryville Road on the West side of Section 34. Please feel free to contact me with any further questions or concerns at 623-853-0304 ext. 6102.

Sincerely,

D.C. Harkins
Deputy Warden, Complex Operations

DH/cs

Jane Dee Hull
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

3033 North Central Avenue • Phoenix, Arizona 85012-2809
(602) 207-2300 • www.adeq.state.az.us

[illegible] Schafer
Director

RECEIVED
JUN 28 2001
BRANCH
FIELD OFFICE

June 27, 2001

Applicant: DMB White Tank, L.L.C.
Attn: Robert F. Kammerle
7600 East Doubletree Ranch Road
Suite 300
Scottsdale, Arizona 85258

Agent: Wood, Patel & Associates, Inc
Attn: Jack K. Moody, P.E.
2051 West Northern, Suite 100
Phoenix, Arizona 85021

Subject: CWA 401 Water Quality Certification for: Whitestone, (Sections 3, 10, 11, 12, 13, 23, 24 and 25, T2N, R3W; Sections 7, 18, 19, 20, 30 and 31, T2N, R2W; Section 1, T1N, R3W; and Section 6, T1N, R2W), Buckeye, Maricopa County, Arizona, U.S. Army Corps of Engineers Public Notice/Application No. 974-0218-RWF

Dear Mr. Kammerle:

The Arizona Department of Environmental Quality (ADEQ), Water Quality Division, has reviewed information submitted for water quality certification pursuant to Section 401 of the Clean Water Act (CWA) for Whitestone, a master planned residential subdivision. Section A of this document describes the activities to be certified. The references listed in Section B were used as the basis for certification. Section C lists the Approval Conditions.

ADEQ's review has determined that when the applicant adheres to the Conditions in Section C.1 through C.9, the certified activities should comply with State surface water quality standards. Subject to these conditions, this letter certifies that the activities in the Whitestone development should not have a negative impact to the chemical, physical or biological integrity of jurisdictional waters of the U.S. (WUS).

A. DESCRIPTION OF ACTIVITIES TO BE CERTIFIED

1. The proposed Whitestone master planned community is a 8,800 acre mixed use development located on the former Caterpillar Proving Grounds (Project Site Map). The purpose of the proposed development is to develop a community consisting of residential, recreational, public and commercial facilities and light industrial uses in the West Valley of the Phoenix Metropolitan area.

The property was initially used by Caterpillar, Inc. as a proving ground for large earth-moving equipment. Use and development of the site by Caterpillar, Inc. resulted in some physical disturbance of washes. The previous impacts to WUS resulting from operations of the proving grounds pre-dated regulation under Section 404.

2. Construction of the Whitestone master planned community will require the discharge of dredged and/or fill material for the construction of drainage and flood control facilities, roads, paths, trails, driveways, utility installation and building pad fills. The activities associated with the construction of the Whitestone development will impact a total of 41.4 acres of jurisdictional ephemeral WUS. Of the 41.4 acres of impacts to jurisdictional waters, 31.2 acres of impact will be from the construction of drainage and flood control features. Construction of roads, paths, trails, driveways, utility lines and building pads will result in 10.2 acres of impacts to jurisdictional waters.

3. Fill material will consist of native on-site soils, clean imported soil, concrete, bituminous asphalt, offsite engineered fill and other building materials.

4. The applicant has proposed mitigation of 46.2 acres to compensate for the loss of 41.4 acres of WUS. The proposed mitigation includes the following:

   a. Planting of xeroriparian vegetation along 9,300 feet of Tuthill Dike Wash.
   b. Restoration of hydrology and planting/enhancement of xeroriparian vegetation along 2,200 feet of Lower Osborn Wash. Dedication and preservation of all areas within the floodway of Lower Osborn Wash as open space.
   c. Restoration of hydrology along 10,000 feet of Tractor Wash. Dedication and preservation of all areas within the floodway of Tractor Wash as natural open space (except road crossings and bank stabilization/erosion protection).

B. BASIS FOR CONDITIONAL STATE 401 WATER QUALITY CERTIFICATION

1. State of Arizona Water Quality Standards for Surface Waters, Arizona Administrative Code (A.A.C.) Title 18, Chapter 11, Section 108, Narrative Water Quality Standards, Section 109 Numeric Water Quality Standards, Appendix A. Designated Uses include: Aquatic and Wildlife, ephemeral (A&We) and Partial Body Contact (PBC) (A.A.C. R18-11-104, Appendix B).

2. ADEQ Water Quality Division Form 404-015, CWA 401 Certification Application signed May 23, 2001, and received by ADEQ on May 31, 2001 from Robert F. Kammerle representing DMB White Tank, L.L.C. Additional documents submitted with the application include the following:

   a. Applicant's Response to ADEQ Policy for Protecting Water Quality During Facility Construction.
   b. Maps and design drawings.

3. U.S. Army Corps of Engineers Public Notice/Application No. 974-0218-RWF Comment period June 1, 2001 through June 30, 2001, and received by ADEQ on May 23, 2001.

C. CONDITIONS FOR STATE 401 WATER QUALITY CERTIFICATION

This State Water Quality Certification is issued by the ADEQ under the authority of Section 401(a) of the federal CWA (33 U.S.C. §1251 et seq.). The conditions listed below are in addition to conditions in CWA 404 Permit No. 974-0218-RWF issued by the U.S. Army Corps of Engineers (ACOE). These conditions are enforceable by the U.S. Environmental Protection Agency and ACOE. Civil penalties up to a maximum of $25,000 per day of violation may be levied if these certification conditions are violated. Criminal penalties may also be levied if a person knowingly violates any provision of the federal Clean Water Act. The following conditions are in addition to any special conditions developed by the ACOE for 404 Permit No. 974-0218 RWF.

1. General Conditions

   a. This Certification is only for the activities described in Section A of this Certification for 41.4 acres of impact to WUS within the Whitestone development and is valid for the same period as the ACOE 404 permit. If project construction has not been started by the time specified in the ACOE 404 permit, the applicant shall notify as follows:

      Arizona Department of Environmental Quality
      Water Quality Division
      Federal Permits and Program Development Unit
      Attention: Surface Water Quality 401 Certification
      3033 North Central Avenue, Phoenix, Arizona 85012
      ADEQ File No. 4869, ACOE PN# 974-0218-RWF

ADEQ will have the option of extending, modifying or denying this Certification.

b. DMB White Tank, L.L.C. shall provide a copy of these State 401 Water Quality Certification Conditions to all appropriate contractors and subcontractors. The applicant shall also post a copy of these conditions in a water resistant location at the construction site where it may be seen by the workers.

c. This Certification is void if the construction is not consistent with the activities described in Section A of this Certification.

d. DMB White Tank, L.L.C. is responsible for the construction and maintenance of the project and any adverse cumulative impacts that it may cause.

2. Necessary Permits

DMB White Tank, L.L.C. is responsible for obtaining all other permits, certifications and licenses that may be required by federal, state or local authorities. Activities which may require other approvals include: construction activities disturbing greater than five acres of land [NPDES Stormwater Permit], use of reclaimed wastewater for dust control or irrigation [Reclaimed Water Permit], or dewatering of construction sites to a surface waterbody [NPDES Process Wastewater Permit].

3. Erosion Protection Measures

a. Erosion control and/or bank protection features (e.g., silt fences, straw bales, rip-rap, or mulching) shall be used, where appropriate, to minimize channel or bank erosion and soil loss. These features shall be maintained, as necessary, during pre-construction and construction periods. Denuded areas shall be revegetated as soon as possible with native plants and seed.

b. All pipe outlets and box culverts shall have end sections or headwalls that dissipate the waters energy to control erosion.

c. If construction operations are likely to create an erosion problem, operations shall cease until the problem is resolved or until reasonable control measures have been undertaken.

d. Earthen fill placed in locations subject to scour shall contain not more than ten percent (10%) of particles finer than 0.25 mm diameter (passing a No. 60 sieve, on a dry weight basis).

e. Upon completion of construction, the work area shall restore or maintain the stability of upstream and downstream segments of washes with respect to erosion and sedimentation.

4. Contaminated Soils and Materials

a. DMB White Tank, L.L.C. is responsible for ensuring construction material and/or fill, placed within the ordinary high water mark (OHWM), is free from substances that can cause or contribute to pollution of a surface water.

b. Debris (such as soil, silt, sand, rubbish, cement, asphalt, oil or petroleum products, organic materials, tires or batteries) derived from construction activities shall not be deposited at any site where it may be washed into WUS and shall be properly disposed of after completion of the work.

c. If water, other than reclaimed wastewater, is used for dust suppression, it shall not contain contaminants that could violate Surface Water Quality Standards.

5. Chemicals and Materials Handling

a. DMB White Tank, L.L.C. shall use designated areas for chemical and petroleum storage, solid waste containment, and equipment washing. These designated areas shall be located entirely outside of jurisdictional waters.

b. DMB White Tank, L.L.C. shall have a spill containment plan and an equipment maintenance plan available on site at all times.

c. Chemicals and fertilizers, especially when used for revegetation and enhancement of areas within jurisdictional waters of the proposed development, shall not cause or contribute to a violation of State Water Quality Standards.

d. Fertilizer, herbicide and insecticide chemicals used for maintenance of revegetated areas within the proposed development shall be selected based on minimum environmental impacts (i.e., low residence times, low leachability, and maximum feasible biodegradability). The process of selection of chemicals cannot be based solely on cost. Application rates printed on the product labels shall be strictly followed. Excess chemicals shall not be applied on recently treated areas and must either be stored (as directed) for later use or transported to another site for immediate use.

6. Runoff

Runoff and seepage from roadways, embankments and other alterations of the natural environment shall not cause a violation of Water Quality Standards.

7. Conditions Related to Flow Events

a. Work shall be performed during low water conditions when the area is naturally dewatered. When there is water flow within the construction area, construction activity shall cease and construction equipment relocated outside the OHWM of the watercourse.

b. Building pads which have been created by converting wash areas to dry land shall not be located within jurisdictional waters after completion of construction except as allowed by the 404 Permit. To the extent that pads are located in washes, provisions will be made to convey stormwater around the pads.

8. Construction Related Activities

a. Construction materials, including concrete, asphalt, and piping, shall consist of materials that do not leach pollutants into surface waters. Activities shall be conducted and monitored to ensure that pollution from concrete formation and equipment washing does not drain into the washes.

b. At bridged roadway crossings, only concrete pilings, concrete supporting walls, galvanized steel culverts, or aluminum shall be used in jurisdictional waters.

c. After construction, the work area and all disturbed areas along the bank and streambed shall be restored to an environmentally acceptable

condition. All construction residues, equipment and non-native materials shall be removed from and properly disposed of outside the OHWM.

d. Rip-rap shall be washed outside of the OHWM of jurisdictional waters prior to placement to remove fines which may cause or contribute to a violation of the turbidity and/or narrative standards.

9. Standard Issues

Any discharge occurring as a result of activities certified for the construction of the Whitestone development shall not cause a violation of Surface Water Quality Standards. Applicability of this condition is as defined in A.A.C. R18-11-102.

ADEQ CWA 401 Water Quality Certification of these activities to operate under the terms of the ACOE Individual CWA 404 Permit does not effect or modify in any way the obligations or liability of any person for any damages, injury, or loss, resulting from an impacted area discharge. The Department may modify or withdraw its determination if the information relied upon is inaccurate or not implemented as proposed. If, in the future, the Department determines that the terms and conditions of the Certification have been violated, or discharges from the activities have caused or contributed to a violation to the surface water quality standards, the Director may revoke the Certification. This Certification is not intended to waive any other federal, state or local laws.

Thank you for your cooperation and efforts to protect our finite and precious water resources.

Sincerely,

Authorized ADEQ Signature: _____ June 27, 2001

Michele Robertson, R.G. Date
Water Permits Section Manager
Water Quality Division

Enclosure: Regional Location Map (1 page)

cc: U.S. Army Corps of Engineers, Regulatory Branch, Attn: Ron Fowler,(974-0218-RWF), 3636 North Central Avenue, Suite 760, Phoenix, Arizona 85012
Mr. Tim Vendlinski, Manager, Wetlands Regulatory Office, USEPA (WTR-8)

FPPDU01:0195 - ADEQ 401/404 File No. 4869

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
(602) 942-3000 • AZGFD.COM

GOVERNOR
JANET NAPOLITANO
COMMISSIONERS
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DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL

July 17, 2003

RECEIVED
JUL 22 2003
L. A. Woodall

Ms. Laurie A. Woodall, Chairman
Power Plant and Transmission Line Siting Committee
Office of the Attorney General
1275 West Washington
Phoenix, Arizona 85007

Re: Case Number 122, Docket number L-00000 D-03-0122; Application for Certificate of Environmental Compatibility; Arizona Public Service West Valley- South Power Line and Substation Project

Dear Chairman Woodall:

The Arizona Game and Fish Department (Department) reviewed the above-referenced application and provided a letter, dated July 14, 2003, that included our general comments on the project. The Department would like to take this opportunity to clarify our previous comments in that letter.

Proposed Alignment
Based on the application, it appears that the proposed route will be located along existing roadways. We support this alignment option since it is located in previously disturbed areas (roadways), areas of high human disturbance, and will not result in the removal of native desert vegetation. As a result, the Department does not anticipate any significant adverse impacts to wildlife or wildlife habitats as a result of the proposed alignment.

Alternative Alignment
Under the alternative alignment, APS is proposing to follow the same route as the Proposed alignment from SR 85 to the proposed TS3 substation. The route diverts west towards the base of the White Tank Mountains, then north along the Regional Park boundary to the proposed TS2 substation. The Department believes the construction of a transmission line (e.g., vegetation clearing, ground disturbance, etc.) through this area has the potential to directly impact habitat for several wildlife species, including the Sonoran desert tortoise. If this alternative route is selected, the Department recommends that APS follow the attached Sonoran desert tortoise handling guidelines if tortoises are encountered in the project area. In addition, the Department is providing additional information regarding the Sonoran desert tortoise for the Committee's consideration (see attachment).

Additionally, access and/or maintenance roads that are developed during the construction of transmission lines can provide access for trespass Off-Highway Vehicles (OHV). Illegal and/or unregulated OHV use has the potential to negatively impact wildlife and their habitats through

direct mortality, harassment, increased soil erosion, and degradation of habitat through the loss of vegetation. Based on the potential negative impacts to wildlife, the Department does not support the location of the alternative alignment option.

General Comments for Both Alignments

Based on the application, APS explains that the design of the 230KV transmission structures provide adequate spacing between electrified and grounded parts to prevent electrocution of raptors. However, it is unclear in the application whether additional minimization measures, as identified in APS's Raptor Protection Program, will be utilized or are necessary for these types of structures (e.g., mounting Polyvinyl Chloride (PVC) triangles on pole crossarms, and placing rubberized "bird guards" over the wires entering into transformers).

Again, the Department appreciates the opportunity to provide additional comments on this application. We look forward to working closely with the Committee in the future during the review of future powerplant and transmission line projects. If you have any questions or require any additional information regarding this letter, please contact Mr. Bob Broscheid, Project Evaluation Program Supervisor, at (602) 789-3605.

Sincerely,

John Kennedy
Habitat Branch Chief

cc: Steve Goodman, Project Manager, Arizona Public Service
Russ Haughey, Habitat Program Manager, Region VI, Mesa

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
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GOVERNOR
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JOE MELTON, YUMA
MICHAEL M. GOLIGHTLY, FLAGSTAFF
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL

July 14, 2003

RECEIVED
JUL 21 2003
BY: S. Goodman

Ms. Laurie A. Woodall, Chairman
Power Plant and Transmission Line Siting Committee
Office of the Attorney General
1275 West Washington
Phoenix, Arizona 85007

Re: Certificate of Environmental Compatibility Application; Arizona Public Service West Valley- South Power Line and Substation Project

Dear Chairman Woodall:

The Arizona Game and Fish Department (Department) reviewed the above-referenced Certificate of Environmental Compatibility (CEC) for potential impacts to fish and wildlife resources. We understand that APS is proposing to install a 230KV transmission line and associated substations to provide reliable electricity to current and future customers in the West Valley. The Department provides the following comments for your consideration.

Based on the application, it appears that the majority of proposed route will be located along roadways and other areas of previously disturbed or low value wildlife habitats. We support locating transmission lines along previously disturbed routes to minimize any impacts to wildlife habitat. Since various raptor species may use transmission line support structures for perching and/or nesting, the Department recommends that APS incorporate, if necessary, the established guidelines within their Raptor Protection Program to ensure that necessary preventative measures are incorporated into the project to minimize the potential for electrocution to raptors.

The Department appreciates the opportunity to review this CEC application prior to consideration by the Power Plant and Transmission Line Siting Committee. We look forward to working closely with the Committee in the future during the review of future powerplant and transmission line projects. If you have any questions or require any additional information regarding this letter, please contact Mr. Bob Broscheid, Project Evaluation Program Supervisor, at (602) 789-3605.

Sincerely,

John Kennedy
Habitat Branch Chief

cc: Steve Goodman, Project Manager, Arizona Public Service
Russ Haughey, Habitat Program Manager, Region VI, Mesa

PHILIP J HANSON
1700 WEST WASHINGTON, SUITE H
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phanson@azleg.state.az.us

DISTRICT 9

COMMITTEES:
CHAIRMAN, COMMERCE AND MILITARY AFFAIRS
PUBLIC INSTITUTIONS AND COUNTIES
HEALTH
NATURAL RESOURCES, AGRICULTURE, WATER AND NATIVE AMERICAN AFFAIRS

Arizona House of Representatives
Phoenix, Arizona 85007

January 6, 2003

Mr. Jan Bennett
Vice President, Customer Service
Arizona Public Service
P.O. Box 53999
Phoenix, Arizona 85072-3999

Dear Mr. Bennett:

On behalf of my constituents, I have continued to monitor the progress of the public participation process presently underway regarding the APS West Valley South Transmission Line Project.

While the siting of transmission lines is never an easy task, I understand that the need for the project is based on the existing energy demands and projected population growth of the West Valley. Certainly, reliable energy is critical to the region's ability to attract new employment centers as well as meet the electricity demands of current and future residents.

As I have received several updates on the project's status, I am aware that residents were given the opportunity to express their concerns on the proposed routes and corridors. It is my understanding that most residents who had this opportunity preferred the route ultimately selected. Accordingly, I appreciate that APS, when feasible, lessened the impacts on communities within the study area.

Therefore, based on APS' commitment to genuine public participation, I remain in support of the West Valley South Transmission Line Project.

Sincerely,

Phil Hanson

Phil Hanson
State Representative
District 9

ph/am

KATHI FOSTER
1700 WEST WASHINGTON, SUITE H
PHOENIX, ARIZONA 85007-2844
CAPITOL PHONE: (602) 542-5160
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kfoster@azleg.state.az.us

COMMITTEES:
EDUCATION,
RANKING DEMOCRAT
HUMAN SERVICES
JUDICIARY

DISTRICT 20

Arizona House of Representatives

Phoenix, Arizona 85007

December 18, 2002

Mr. Jan Bennett
Vice President, Customer Service
Arizona Public Service
P.O. Box 53999
Phoenix, Arizona 85072-3999

Dear Mr. Bennett:

For the past year, I have received periodic updates on the proposed APS West Valley South Transmission Line Project.

As the project's study area encompasses a portion of my legislative district, I have been impressed with APS' ongoing commitment to soliciting and implementing public input on the proposed routes. While I appreciate that not all of the issues raised can be accommodated, it is my understanding that the preferred route, along with three alternative routes, will cause the least amount of impact on the community.

Based on APS' approach to public outreach, along with the commitment to keep working with impacted parties as issues arise, I am able to offer my support for the proposed project, which will provide reliable electricity to a growing region.

Sincerely,

Kathi Foster

Kathi Foster
State Representative

RICHARD MIRANDA
1700 WEST WASHINGTON, SUITE H
PHOENIX, ARIZONA 85007-2844
CAPITOL PHONE: (602) 542-3392
TOLL FREE: 1-800-352-8404
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rmiranda@azleg.state.az.us

DISTRICT 22

COMMITTEES:
ENVIRONMENT,
RANKING DEMOCRAT
HEALTH
HUMAN SERVICES

Arizona House of Representatives
Phoenix, Arizona 85007

December 16, 2002

Mr. Jan Bennett
Vice President, Customer Service
Arizona Public Service
P.O. Box 53999
Phoenix, Arizona 85072-3999

Dear Mr. Bennett:

Recently, I received an update on the planned APS West Valley South Transmission Line Project that is to be located within my legislative district.

Recognizing the projected growth for the West Valley region, I appreciate the need for developing a transmission line infrastructure that can meet the electricity demands of today as well as those in the future. From an economic development perspective, the importance of developing reliable electrical facilities cannot be overstated, particularly in terms of quality of life and the ability to support current and future development.

Consequently, in view of the economic development considerations, I support the proposed transmission line project and I understand that the proposed routes are the most responsible and efficient corridors of all of the options considered.

Sincerely,

Richard Miranda
Arizona State Representative

Janet Napolitano
Governor

Mark Winkleman
State Land
Commissioner

Arizona
State Land Department

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

July 15, 2003

RECEIVED
JUL 21 2003
BY: A. Goodman

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

Re: West Valley - South Facility Siting Project

Dear Mr. Goodman:

This letter is intended as a followup to the July 3, 2003 letter provided to Arizona Public Service regarding the West Valley - South Facility Siting Project. We have recently received a copy of the Certificate of Environmental Compatibility Application for this project. Upon review of this application we noticed there have been a changes regarding the Preferred and Alternate alignments. The letter I provided was prepared as a response to the November 2002 alignments. The Department would like to clarify that we have no objections to the Preferred Alignment as depicted in the CEC Application in Figure 1 and Figure 2. However, we are strongly opposed to the Alternative Alignment in Figure 2. The Alternative Alignment would bisect the State Trust Land from Northern Avenue to Olive Avenue and would severely impact the view corridor along airport road from Bethany Home Road to Olive Avenue. Both of these items which would impact the value of the State Trust Land in a negative manner. If the Department were even willing to grant the right of way required for this alignment, we would require compensation for the significant loss in value.

Therefore, as previously stated the Arizona State Land Department will continue to work with Arizona Public Service with regard to the Preferred Alignment and objects to the Alternate Alignment as proposed in the June 2003 CEC Application

If you have any questions or need any further information, please do not hesitate to contact me at 602-542-2654.

Sincerely,

Linda R. Beals, Manager
Right of Way Section

Janet Napolitano
Governor

Mark Winkleman
State Land
Commissioner

Arizona
State Land Department

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

July 3, 2003

RECEIVED
JUL 09 2003
BY: A. Goodman

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

Re: West Valley - South Facility Siting Project

Dear Mr. Goodman:

The Arizona State Land Department, would like to thank you for your continued efforts to include the Department throughout the siting process on the West Valley-South Project. We have reviewed the various alternatives provided by APS and determined that the Department would prefer either the "APS Preferred Alignment" or "Alternate 1".

These two alignments both directly impact State Trust Land and will require easement acquisitions. However, these alignments will minimize impact to a level where the Trust Land is not bearing an unreasonable portion of the burden. In all of the scenarios APS will be placing a 230 KV substation on the northern portion of the alignment at approximately the Beardsley Canal and Olive Ave. The other proposed 230kv substation will be placed on private ownership. This would seem to be fair and reasonable. The major difference in the alternatives is with the alignment of the 230kv electrical lines. The preferred alternatives have the least impact on the State Trust Land while still proposing approximately 2 linear miles of easement area to be acquired from the Trust for 230kv electrical lines.

It is our understanding that due to constraints placed on APS by Luke Air Force Base, Alternative No. 1 is currently the preferred route. The Department is in concurrence with this alignment.

As previously requested by APS, we have been asked to address the alternative of moving the electrical lines from the proposed section line alignment to an offset alignment. The Department has addressed this concept before and does not consider any aesthetic benefit derived along the arterial roadways to outweigh the potential damage to the impacted State Trust Land. There may be exceptions to our policy of siting major transmission lines along sections lines and major arterial roadways when the Department has completed the level of planning necessary to designate alternate corridors, however, this is not typically the case.

The easements required for this facility must be obtained through the Department and prior to issuing the necessary easements, the Department will require the easement to be sited within an alignment that minimizes the impact to the surrounding trust land and is consistent with our fiduciary duty to the Land Trust.

We appreciate the opportunity to work with Arizona Public Service in the siting of this alignment and look forward to working together on future alignments.

Sincerely,

Linda R. Beals, Manager
Right of Way Section

Arizona State Parks

"Managing and conserving natural, cultural, and recreational resources"

RECEIVED
JUL 14 2003
BY: J. Goodman

In reply, please refer to
SHPO-2003-1296 (16131)
more information requested

FAXED
7/10/03
to G-REURS

July 10, 2003

Laurie A. Woodall, Chairperson
Power Plant and Transmission Line Siting Committee
Assistant Attorney General, Environmental Enforcement Section,
Office of the Attorney General
1275 West Washington
Phoenix, Arizona 85007

RE: Arizona Public Service (APS) West Valley-South Power Line and Substation Project, Maricopa County, Arizona; Docket No. L-00000D-03-0112

Dear Ms. Woodall:

Thank you for having the committee's applicant (i.e., APS) consult with this office regarding the above-mentioned state plan and associated certificate of environmental compatibility. We received both a cultural resources survey report and the certificate application. The proposed plan entails the construction of 17.4 miles of overhead utility lines, three substations, and access roads as needed. The plan involves mainly private land, although some Arizona State Land Department (ASLD) lands are present. 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 resources survey inspected 60 percent of the proposed corridor and portions of other alternatives; an alignment within the corridor has not been fixed at this time. The remaining 40 percent the proposed corridor was unavailable for archaeological survey at the time of the study, because of lack of permission from landowners or the presence of crops. The examined subset is sufficient for planning purposes. The applicant should be aware that ASLD may require a 100 percent survey of the proposed right-of-way located on its lands, and our acceptance of the survey report at this time should not be construed to foreclose on ASLD's views on identification measures.

The cultural resource survey of the proposed corridor identified two historical archaeological sites (AZ T:11:160 & 161 ASM) and three historic-period structures. The report was professionally prepared and well written. We agree that Site AZ T:11:160(ASM) may be eligible for inclusion in the State and National Register of Historic Places (S&NRHP), but requires further archival research to establish an appropriate historic context; we recommend treating it is if it were eligible for purposes of this consultation. We agree that Site AZ T:11:161(ASM) is not eligible

Janet Napolitano
Governor

State Parks
Board Members

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Suzanne Pfister
Phoenix

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Yarnell

Elizabeth Stewart
Tempe

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William Cordasco
Flagstaff

Mark Winkleman
State Land
Commissioner

Kenneth E. Travous
Executive Director

Arizona State Parks
1300 W. Washington
Phoenix, AZ 85007

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800.285.3703 from
(520 & 928) area codes

General Fax:
602.542.4180

Director's Office Fax:
602.542.4188

for inclusion in the S&NRHP under any criterion. We agree that the Beardsley Canal (AZ T:3:55ASM), Roosevelt Irrigation District Canal (AZ T:10:83ASM), and Southern Pacific Phoenix Main Line (AZ T:10:84ASM) are Register eligible.

However, further identification efforts are needed to determine the Register eligibility status of a vernacular landscape of possible historic age located along Perryville Road, the most prominent element of which is a row of 80-foot-tall eucalyptus trees. A photograph of the trees is shown in the application's Exhibit E-1, and a brief description is given on Page E-8. How old are these non-native trees and the human-created landscape in general? Who planted the trees and why? What is their importance or value to the local community? Are they an important landmark to the local residents? The National Park Service's published guidance on historic-period landscapes (Preservation Brief No. 36) may be helpful.

We agree in principle that avoidance and preservation-in-place is an appropriate treatment for Register-eligible properties; in fact, the transmission line may help protect historic properties by inhibiting other kinds of development within the proposed corridor. However, the location of the poles and access roads is unknown at this time, and thus it is unclear if avoidance of all eligible properties present is feasible. Avoidance of archaeological sites usually entails the taking positive steps, such as erecting temporary fences and establishing buffer zones, to insure that plan-related, ground-disturbing activities, such as trench excavation and vehicular movement on unpaved roads, do not occur within the external boundaries of sites. Avoidance of historic-period resources generally entails taking precautions to ensure that the characteristics that contribute to property's eligibility are not impacted. Spanning over historic-period railroads and canals, is acceptable for this plan.

Based on the above, this office cannot assess the plan's effects to the identified historic properties within the corridor, 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.

We offer the following conditions for the committee's consideration:

1) 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.

2) If the applicant decides that archaeological Site AZ T:11:60(ASM) cannot be avoided, then the applicant will plan and implement an archaeological testing and/or data recovery program in consultation with SHPO.

3) The applicant will take reasonable steps to assess the significance and integrity of a possible historic vernacular landscape along Perryville Road and continue to consult with SHPO regarding its eligibility in terms of the State Register criteria. If it is Register-eligible, the applicant will take steps to avoid or lessen impacts (to a negligible level) to the qualifying characteristics of the landscape in consultation with SHPO.

4) Should an archaeological, paleontological, or historical site or object be discovered during plan-related activities, the person in charge is required to notify promptly the Director of the Arizona State Museum and take reasonable steps to secure and maintain the resource's preservation pursuant to state law (i.e., A.R.S. § 41-844). If a discovery involves human remains or funerary objects and occurs on private land, procedures implementing A.R.S. § 41-865 must be followed.

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 or via mbilsbarrow@pr.state.az.us.

Sincerely,

Matthew H. Bilsbarrow, RPA
Compliance Specialist/ Archaeologist
Arizona State Historic Preservation Office

cc.
Steven Goodman, APS; PO Box 53933 MS 4030; Phoenix, AZ 85072
Gene Rogge, URS; 7720 N 16th St, Ste 100; Phoenix, AZ 85020

EDWARD J. CIRILLO
DISTRICT 15

STATE SENATOR
FORTY-FIFTH LEGISLATURE

CAPITOL COMPLEX, SENATE BUILDING
PHOENIX, ARIZONA 85007-2890
PHONE (602) 542-4173
TOLL FREE 1-800-352-8404, X4173
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E-MAIL ecirillo@azleg.state.az.us

COMMITTEES:

APPROPRIATIONS
BANKING & INSURANCE, Chair
FINANCE
HEALTH

ETHICS COMMITTEE
JOINT COMMITTEE ON CAPITAL REVIEW
JOINT LEGISLATIVE BUDGET COMMITTEE

Arizona State Senate

December 4, 2002

Mr. Jan Bennett
Vice President, Customer Service
Arizona Public Service
P.O. Box 53999
Phoenix, Arizona 85072-3999

Dear Mr. Bennett:

I would like to take this opportunity to thank you and your staff for their extensive and inclusive approach to addressing the various issues relating to the APS West Valley South Transmission Line Project.

In particular, your focus on community outreach and public participation continues to be an effective method of obtaining input from the communities impacted by the placement of new transmission lines. While I recognize that not all concerns can be accommodated, I am appreciative of the efforts you have made to mitigate and minimize the impacts of the project on existing neighborhoods.

There is no question that as the West Valley continues to experience unprecedented growth, APS must be in a position to respond to that growth and provide reliable electricity to our community's residents and businesses. The West Valley South project appears to have reached the delicate balance between meeting the energy demands of the region, while simultaneously taking into account the aesthetic concerns of the community.

Please keep me informed of any developments related to this project or any other energy related matter that may impact my constituents.

Sincerely,

Ed Cirillo

sfj:EC

RECEIVED
DEC 09 2002
JAN H. BENNETT

MARY HARTLEY
DISTRICT 20
STATE SENATOR
FORTY-FIFTH LEGISLATURE

COMMITTEES:
FAMILY SERVICES, Chairman
EDUCATION
HEALTH

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E-MAIL mhartley@azleg.state.az.us

Arizona State Senate

January 6, 2002

Mr. Jan Bennett
Vice President, Customer Service
Arizona Public Service
P.O. Box 53999
Phoenix, AZ 85072-3999

Dear Mr. Bennett:

Several times over the last few months I have received a one-on-one briefing on the proposed APS West Valley South Transmission Line project. It was most helpful to have these briefing since this project will impact the constituents in my legislative district.

Such transmission lines are important to the development of communities, but are never popular. I do understand that it is imperative that adequate transmission capacity exist to respond to the future energy needs of the area.

During the briefings I gained a better understanding of the public outreach efforts used and sincerely appreciate that APS worked diligently to develop a preferred route that can be supported by a majority of the individuals, jurisdictions and interested parties.

It is my sincere hope that APS will continue to work with neighborhoods and municipal governments to address any remaining issues in the manner that has been so effective thus far.

Sincerely yours,

MARY HARTLEY
State Senator

dh

ELAINE M. SCRUGGS
Mayor

June 23, 2003

Mr. Jan Bennett
Vice President, Customer Service
Arizona Public Service
P.O. Box 53999
Phoenix, Arizona 85072-3999

Dear Jan:

For the past several months I have been aware of the proactive efforts of your staff to assure that the APS West Valley South Transmission Line Project will be constructed in a manner that is deemed by Luke Air Force Base to be compatible with military airport operations.

Specifically, I have reviewed the correspondence recently provided by Col. Dennis A. Rea, Vice Wing Commander, Luke AFB, which expressed his appreciation for APS' decision to not locate transmission lines within Accident Potential Zone 2.

From my perspective, the land use and development decisions made over the next few years by numerous jurisdictions, corporations and other entities, will have a significant and long-term impact on Luke AFB's ability to preserve its mission viability. Accordingly, I appreciate the APS West Valley South Transmission Line Project's sensitivity towards this issue and, most importantly, the corresponding decisions that were consistent with the goal of preventing incompatible developments to occur within the vicinity of Luke AFB.

Sincerely,

Elaine Scruggs
Mayor

cc: Miryam Gutier, Director
Governmental Programs
City of Glendale

RECEIVED
JUN 27 2003
JAN H. BENNETT

Goodyear ARIZONA

April 28, 2003

RECEIVED
MAY 01 2003
BY: SG

Mr. Larry Krueger, Manager
Transmission & Facility Siting
Mail Station 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: LETTER OF SUPPORT – APS WEST VALLEY SOUTH PROJECT

Dear Mr. Krueger:

We are in receipt of the information you sent regarding the APS West Valley South Project and your proposed route. Thank you for providing updated information during our meeting on April 23, 2003, and throughout the process of this project.

The City of Goodyear supports the proposed route based on three key factors as stated to us by APS:

- Luke Air Force's letter dated April 15, 2003, stating that the base has no issues with APS' modified preferred route.
- That APS selected the proposed route to forward to the State Siting Committee and the Arizona Corporation Commission based on sound environmental analysis.
- That APS gathered extensive public input, and considered the input of various affected jurisdictions, especially the City of Goodyear, which will be most affected by this project.

We appreciate you working with Luke Air Force Base to reach a solution that will work well for our growing City. If you have any questions regarding this letter or if you need further assistance please do not hesitate to contact my office at (623) 882-7061.

Sincerely,

CITY OF GOODYEAR

Grant I. Anderson, P.E.
Deputy City Manager

GA:ga:letterofsupport-apsproject

cc: Stephen S. Cleveland, City Manager
Reading File

Deputy City Manager's Office
190 North Litchfield Road P.O. Box 5100 Goodyear, Arizona 85338
623-882-7061 Fax 623-882-7063 1-800-872-1749 TDD 623-932-6500
www.ci.goodyear.az.us

RECEIVED
JAN 06 2003
BY:.....

Goodyear ARIZONA

December 27, 2002

Mr. Steve Goodman, APS Project Manager
Transmission & Facility Siting
Mail Station: 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: APS Preferred System Option for the West Valley – South Facility Siting Project

Dear Mr. Goodman:

Thank you for the opportunity to provide Goodyear Staff comments on the APS preferred system option for the West Valley-South Facility Siting Project. Staff has reviewed the preferred route for the 230- and 69 kv facilities within the Goodyear Planning Area, and offer the following observations for APS consideration:

- The proposed alignment for the 230- and 69 kv facilities along Perryville Road is acceptable to the City. Staff would prefer that the facilities be installed on the west side of Perryville Road since houses currently front on the east side of Perryville Road between Indian School Road and Camelback Road.

- The east-west 230 kv line proposed between Indian School Road and Camelback Road would bisect private, developable property, and would not be supported by the City. The area bounded on the west by Perryville Road, on the east by Citrus Road, on the south by Indian School Road, and on the north by Camelback Road is currently being master planned for mixed use development, and the proposed 230 kv line would negatively impact this property. Further, a portion of these facilities would fall within the Accident Potential Zone (APZ) of Luke Air Force Base, and any facilities constructed within the APZ are of considerable concern to the City of Goodyear since they may be a potential hazard to Luke's operations. As an alternative, Staff suggests that a Bethany Home Road alignment be utilized for this facility. Using a Bethany Home Road alignment would keep the facilities outside the APZ of Luke and would not bisect a section of land that has development potential. If this alignment is technically unfeasible, then the City would prefer that the 230 kv facilities be extended along the south side of the Indian School Road right-of-way, provided that these facilities will in no way be detrimental to the mission and operations of Luke Air Force Base.

RECEIVED
JAN 06 20
BY:

- The proposed 230- and 69- kv facilities along Loop 303 would be an acceptable alignment, provided they are installed on the west side of this future freeway. Land uses west of the 303 within the City of Goodyear are designated for industrial and commercial uses. On the eastside of Loop 303 between McDowell Road and Indian School Road is Phase 2 of the PebbleCreek Golf Resort community, a master planned retirement community being developed by Robson Communities. To minimize the impacts of these facilities on residential properties along the 303 freeway, a westside alignment along Loop 303 for the 230 kv/69 kv lines is strongly encouraged.

Should you have any questions on the above-referenced comments, please contact me at 623-932-3005.

Sincerely,

CITY OF GOODYEAR

Harvey Krauss
Community Development Director

Cc: Stephen S. Cleveland, City Manager
Grant Anderson, Deputy City Manager
Kevin Kugler, Planning Manager
Reese Anderson, Snell & Wilmer
Jay Ellingson, SunCor Development Company
John Burke, Robson Communities
File copy

RECEIVED
MAY 30 2003
BY: via fax

May 30, 2003

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

RE: APS West Valley-South 230 kV Transmission Line Siting

Dear Steve:

This letter is written as a follow-up to my previous correspondence to you dated March 24, 2003 relative to the APS West Valley-South 230 kV Transmission Line Siting process. As the master developer of Verrado, an 8,800 acre planned community development within the APS West Valley-South Study Area, DMB remains very interested in the outcome of this process. We have recently received a map depicting the Proposed and Alternative System Options, dated May 5, 2003 (the "May 5, 2003 Working Draft") that we understand to be the map APS will soon present to the Arizona Corporation Commission's Line Siting Committee (the "Line Siting Committee") for approval.

As you are aware, DMB has been an active participant in your process. We have attended numerous meetings and public open houses. We have also provided written communications regarding proposed line routing considerations and the respective impacts of each proposed route on Verrado.

The purpose of this letter is to set forth in writing DMB's support for the Proposed 230kV System Option depicted on the May 5, 2003 Working Draft. In addition, we must go on record in opposition to the Alternative 230kV System Option also depicted on the May 5, 2003 Working Draft. A portion of the Alternative 230kV System runs immediately adjacent to the eastern boundary of Verrado and will have a significant negative impact on

E. Doubletree Ranch Road
te 300
tsdale, Arizona 85250-2137
) 367-7000
) 367-9788 FAX

Mr. Steven Goodman
Project Manager Transmission & Facility Siting
Arizona Public Service
May 30, 2003
Page Two

the Verrado community. As the master developer of Verrado, we have well-founded plans for Verrado to set a new standard for development in the West Valley. Accordingly, DMB plans to participate in the Line Siting Committee's process to help ensure the success of your Proposed System Option.

Sincerely,
DMB Associates, Inc.

John L. Bradley
General Manager

Cc: Eneas A. Kane, Esq., DMB Associates
Ron Ober, Policy Development Group
Karrin Kunasek Taylor, Esq, Biskind, Hunt & Taylor, P.L.C.

DMB

RECEIVED
MAR 27 2003
BY: SG

March 24, 2003

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

RE: APS West Valley-South 230 kV Transmission Line Siting

Dear Steve:

As you know, DMB White Tank LLC, an Arizona limited liability company, ("DMB") is the master developer of Verrado, an 8,800 acre planned community development located within and along the eastern foothills of the White Tank Mountains and within the APS West Valley-South Study Area. We appreciate the opportunity to comment on the 230 kV Transmission Line Siting preferred system option and proposed line route alternatives as presented in the November, 2002 Project Update.

As you also know, DMB has been an active participant in the APS West Valley-South Transmission Line Project siting process. We have attended the many stakeholders' meetings and public open houses and have provided written communications regarding proposed line routing considerations and their respective impacts to Verrado.

Our previous communications set forth concerns relative to line routing options along the eastern edge of Verrado and the line routing option through the southern portion of Verrado along the McDowell Road corridor. The purpose of this letter is to support the APS preferred system option as well as Alternative 1 line routing. Due to the significant negative impacts on Verrado presented by Alternative 2 and Alternative 3, DMB cannot support either of these proposed alternatives.

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We appreciate APS's continued professionalism and dedication towards selecting the system option which least negatively impacts the environment and look forward to your success on this project. If there is anything else DMB can do in support of the APS preferred system option as well as Alternative 1 line routing, please do not hesitate to contact me. Thank you very much.

Sincerely,
DMB Associates, Inc.

John L. Bradley
Vice President

cc: Eneas A. Kane, Esq., DMB Associates
Ron Ober, Policy Development Group
Karrin Kunasek Taylor, Esq, Biskind, Hunt & Taylor, P.L.C.

DMB

July 9, 2002

Mr. Steve Goodman
Project Manager
Arizona Public Service
53933, M.S. 4030
Phoenix, AZ. 85072-3922

Dear Mr. Goodman:

Re: APS 230KV West Valley South Project

Thank you for providing us with the opportunity, both personally and in writing, to provide you with a description of DMB's concerns regarding the siting issues relating to the above referenced power line. We learned during our most recent discussions that APS was considering an alignment along Interstate 10 as well as the alignment along the McDowell Road corridor. We were previously unaware of the Interstate 10 alternative, and therefore we are writing to provide you with our comments on that potential alignment as well.

For all of the reasons stated in our prior correspondence, and others, we believe that no consideration should be given to utilization of an Interstate 10 corridor. As you are aware, the Interstate 10 and Airport Road intersection is the principal entrance to the Verrado master-planned community. The location of lines at this site would directly impact the entrance to the community and the value of adjoining residential and commercial properties. Furthermore right-of-way acquisition in this area will no doubt be more expensive than right-of-way acquisition in any other area which APS is currently considering.

We also learned at the most recent meeting of the possibility of an alignment that utilizes the Maricopa County Highway 303 corridor. We believe that the utilization of this existing right-of-way, distant from the existing major developments in Buckeye and the future Verrado community may represent the best of all possible alternatives. If this alternative is not employed, the easternmost of the alternative alignments (i.e., Perryville Road or, as a second option, Jackrabbit Road) are preferable. There are many objections to the Tuthill Road alignment which we have discussed—including involvement of the 404 corridor in proximity to the Verrado project—which makes this the least preferable, most disruptive, and potentially most expensive route. Once again, we do not believe that such a route can be reconciled with the requirement that APS balance the greatest public good with the least private injury in connection with any land acquisition program.

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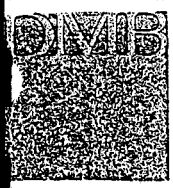
Thank you again for taking the time to discuss the issue. We look forward to talking with you further as the process proceeds.

Sincerely,

John L. Bradley
Vice President



June 20, 2002

Mr. Steve Goodman
Project Manager
ARIZONA PUBLIC SERVICE
53933, M.S. 4030
Phoenix, Arizona 85072-3922

Re: APS 230kV West Valley South Project

Dear Steve:

We are writing with respect to the proposed alternative 230kV line routes and substation locations described in the West Valley-South Power Line and Substation Project 230kV and 69kV Alternative Route Maps dated May 2002. Certain of the proposed 230kV line routes and substation sites, if adopted, would have a significant, adverse impact on the Verrado Community Development, an 8800-acre planned community adjacent to the White Tank Mountains in the vicinity of the 230kV power line project. As you are aware, DMB, through its affiliates, is the master developer of the Verrado Community.

230kV Power Line Alternatives

Each of three of the proposed line routes – McDowell Road, Tuthill Road, and Jackrabbit Trail – would have direct, adverse and undeniable impact on the Verrado Community. The impact of each of these proposed routes is summarized below:

1. McDowell Road: The Verrado Community extends south of McDowell Road to Interstate 10 between Tuthill and Dean Road alignments. This portion of the community is planned commercial and residential and will serve as the principal gateway to the Community with primary access via a new traffic interchange currently under design, and to be constructed at I-10 and Airport Road (Verrado Way). McDowell Road will be realigned to a curved alignment (from its current section-line alignment) to facilitate construction of the interchange and to provide for a more appropriate street scene along the new proposed McDowell Road corridor. Furthermore, DMB has been working with APS in an effort to underground the existing 69kV line along the new proposed McDowell Road alignment. This would be accomplished at DMB's expense.

   The current proposed McDowell Road alignment and the 69kV underground line have been designed/planned to enhance values in the surrounding area and to provide for a

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better entry sequence into the community. A 230kV line route along the McDowell Road corridor would significantly impact the Community entry plan, impair property values along the new proposed McDowell Road corridor, frustrate the purpose of undergrounding the 69kV line, and would be entirely inconsistent with the plan for realignment of McDowell Road. A route which effectively "bisects" the Valley's largest master-planned community cannot be reconciled with the requirement that the greatest public good and the least private injury be considered in connection with any siting decision.

2. Tuthill Road Alignment: The majority of the eastern property line of the Verrado Community is along the Tuthill Road alignment, from Glendale Avenue south to I-10 (a half-section of land extends east to Jackrabbit Trail north of Indian School Road, as discussed further below). This corridor along the Tuthill Road alignment is planned to be Arroyo Open Space, with a naturalized wash and path and trail extending its entire length. Significantly, Tuthill Wash, from Indian School Road south to McDowell Road, is an Army Corps of Engineers 404 wash and a 404 mitigation corridor.

   Substantial effort and expense is being devoted to the design of the naturalized wash and open space corridor to enhance values in the adjacent private properties along the western edge of the Tuthill Wash corridor. A 230kV line along Tuthill Road alignment would have a significant impact on the open space corridor, adjacent private property values and the 404 wash and mitigation corridor along the eastern property line. Once again, these factors militate in favor of a route that is not adjacent to the planned Verrado Community. We understand that such alternative routes are available.

3. Jackrabbit Trail: Jackrabbit Trail will serve as the primary entrance to the Verrado community from the east. As noted, Jackrabbit Trail defines the Verrado Community's eastern property line for a half mile north of Indian School Road, with residential properties planned in this vicinity. A 230kV line route along Jackrabbit Trail would not only impact the eastern entrance to the community, but it would impact the views from the Verrado Community to the east and property values in the vicinity of the proposed route both within and outside the Verrado Community.

Proposed 230kV Substations

Several proposed substation sites within the area noted TS3 also threaten to have a significant, adverse impact on the Verrado Community. Notably, proposed sites along the Tuthill Road alignment, Indian School Road (between Tuthill and Jackrabbit Trail), and adjacent to the eastern entrance of the Community at the intersection of Indian School Road and Jackrabbit Trail give rise to the greatest concerns. Substation sites along the Tuthill Road alignment would impact the planned open space corridor along Tuthill Wash and substantially impair property

values of adjacent (premium-value) properties. Similarly, proposed sites along Indian School Road would affect the aesthetics of the eastern entrance to the Community, as well as adjacent property values. These potential substation locations would also significantly impact views from the neighboring properties to the west. Proposed sites at the intersection of Indian School Road and Jackrabbit Trail would not only burden the adjacent properties within the Verrado Community, but also significantly impact the primary eastern entrance to the Community.

Due to the considerable impacts to the Verrado Community and adjacent land uses, it is recommended that the proposed 230kV line routes along McDowell Road, the Tuthill Road alignment and Jackrabbit Trail, as well as the proposed 230kV substation sites within the noted area of TS3, be removed from the alternative route/site analysis. The Verrado Community represents not only a significant investment for DMB and its affiliates; it also represents a significant economic boon to the West Valley in general and to the Buckeye area in particular. Acquisition of land on or adjacent to the Community will also be expensive (compared to available alternative routes/sites), and severance damages to the Verrado Community as a whole (the "larger parcel") could be substantial. Alternative routes are available which do not impact the Verrado Community Master Plan and which do not raise similar concerns. A proper balance of the public interest, private interests and APS' interests suggests utilization of a line route and substation site which are neither within nor adjacent to the Verrado Community.

A copy of the Conceptual Master Plan for the Verrado Community is enclosed for your reference. Thank you for your consideration. If you require any additional information regarding the Verrado Community or the potential impact of the routes/sites under consideration, please do not hesitate to contact us.

Very truly yours,

John L. Bradley

John Bradley
Vice President

Cc: Gary L. Birnbaum, Esq.
Mariscal, Weeks, McIntyre & Friedlander, P.A.
2901 North Central Avenue, Suite 200
Phoenix, Arizona 85012

Cc: Randall Simpson, Project Manager
URS CORPORATION
7720 North 16th Street, Suite 100
Phoenix, Arizona 85020

EI-00001796.00
Bio Resources

June 10, 2002

Ms. Jaime Wood
URS Corporation
7720 North 16th Street, Suite 100
Phoenix, AZ 85020

Re: Verrado - APS 230 KV West Valley South Project

Dear Jaime:

At the May 13th Public Stakeholder's Meeting regarding the APS West Valley South Project, you requested information regarding the Tuthill Dike Wash 404 permit and mitigation corridor. Enclosed is a copy of the 404 Permit for "Whitestone" (name of project has since changed to Verrado) and a copy of the Habitat Mitigation and Monitoring Plan as approved by the Army Corps of Engineers as a condition of permit number 974-0218-RWF.

As discussed in the meeting, the Tuthill Dike Wash corridor through Verrado is not only a federally permitted wash and mitigation corridor, but it is a planned "Special Planning Area" corridor with path and trail adjacent to the wash and mitigation area. Please reference the enclosed information when evaluating the environmental impacts to the proposed 230 KV line route options along Tuthill Dike Wash.

Thank you very much.

Sincerely,

David Nilsen

Cc: Gary Birnbaum (w/out attachments)
file

7500 E. Doubletree Ranch Road
Suite 300
Scottsdale, Arizona 85258-2137
(480) 367-7000

DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

Colonel Dennis A. Rea
Vice Commander, 56th Fighter Wing
14185 W. Falcon Street
Luke AFB AZ 85309-1629

RECEIVED
SEP 03 2002
BY: JM

Mr. Steve Goodman
Project Manager, Transmission and Facility Siting
P.O. Box 53933 Station 4030
Phoenix AZ 85072-3933

Re: Your Letter Dated 10 July 2002, APS West Valley-South Power Line and Substation Project

Dear Mr. Goodman

Thank you for the opportunity to comment on your current facility siting study for the West Valley. We take this opportunity to memorialize some of the concerns that were discussed at our May 31 meeting, and hope that they will be of use in your planning.

1. The proposed area for the WS3 substation will likely be within the Accident Potential Zone II. The siting of utilities in the APZ II is permitted under state statute, provided that the use does not release "Electrical emissions that would interfere with aircraft and air force communications or navigational aid systems or aircraft navigational equipment" (A.R.S. §28-8481.K, footnote 16). We will be able to provide a more concrete response to your proposal once we have the opportunity to review more specific site options.

2. We would appreciate the opportunity to evaluate the height and location of support poles for radar and/or procedural interference prior to final siting.

Generally speaking, given the information you have provided, we have no objection to your proposal. Our concerns about development come not from this particular project, but from what it could attract. The provision of utilities and infrastructure in close proximity to the base may have the overall effect of inviting residential development that will be subject to noise and over flight as Luke AFB accomplishes its mission. We would ask that you continue to coordinate with us as your plans evolve.

We appreciate the opportunity to comment on this and follow-up issues. If you have any questions or would like to discuss the above comments, please contact Mr. Cris Brownlow at (623) 856-4736.

Sincerely

DENNIS A. REA, Colonel, USAF

DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

15 APR 2003

Colonel Dennis A. Rea
Vice Commander, 56th Fighter Wing
14185 West Falcon Street
Luke AFB AZ 85309-1629

RECEIVED
APR 18 2003
BY:

Mr Steve Goodman, Project Manager
APS Transmission & Facility Siting Department
Mail Station 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

Re: Your Letter Dated 3 April 2003

Dear Mr Goodman

I am in receipt of your letter dated 3 April 2003 regarding the APS West Valley - South Powerline and Substation Project. I would like to thank the Arizona Public Service Company for removing from further consideration the powerline and poles from Accident Potential Zone 2, as illustrated in the map mailed to us with your most recent letter. I do not oppose construction of facilities as indicated in modified Alternative Route 1 due to its distance from the Clear Zone and Accident Potential Zone 1.

I look forward to continuing our working relationship with APS and thank you for being responsive to our concerns.

Sincerely

DENNIS A. REA, Colonel, USAF

DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

RECEIVED
APR 02 2003
BY: SLG

MAR 25 2003

Colonel Dennis A. Rea
Vice Commander, 56th Fighter Wing
14185 W. Falcon Street
Luke AFB AZ 85309-1629

Mr. Larry Krueger
APS Transmission and Facility Siting Dept.
P.O. Box 53933 Station 4030
Phoenix AZ 85072-3933

Re: Your Letter Dated 26 February 2003 - APS West Valley-South Power Line and Substation Project

Dear Mr. Krueger

Thank you for the opportunity to comment on your current facility siting study for the West Valley. We have evaluated the height and location of support poles for radar interference and/or operational impact. We have the following concerns.

a. APS Preferred Route: Our concern with your preferred route is it will place support poles throughout the state defined Accident Potential Zones. The presence of poles in the Accident Potential Zones would place pilots at greater risk in the event a pilot needed to eject in a critical phase of flight. Additionally, under this alternative, our instrument approach minima's to the south would need to be raised.

b. APS Alternative Route 1: Alternative Route 1 does not have the increased risk to our pilots. This route would allow you to meet your needs with minimal impact to Luke's flight operations. We request you study the feasibility under this alternative of not erecting utility poles in the Accident Potential Zones. Once we have that information, I will be able to provide a final comment on your proposed alternatives.

If you have any questions or would like to discuss the above comments, please contact Mr. Terry Hansen at (623) 856-5856.

Sincerely

DENNIS A. REA, Colonel, USAF

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AUG 8 2003
BY:

AUG 8 2003
RECEIVED
2003 AUG -8 A 11:20
DOCUMENT CONTROL

August 8, 2003

Laurie A. Woodall, Chairperson
Power Plant and Transmission Line Siting Committee
Assistant Attorney General, Environmental Enforcement Section,
Office of the Attorney General
1275 West Washington
Phoenix, Arizona 85007

RE: Arizona Public Service (APS) West Valley-South Power Line and Substation Project, Maricopa County, Arizona; Docket No.L00000D-03-0122

Dear Ms. Woodall,

We are concerned citizens that will live very near or possibly directly under the APS proposed transmission line. It will definitely, substantially and detrimentally affect all of our lives due to new found evidence of the EMF exposure caused by this proposed transmission line. APS is using data from 1999; new studies up to 2001 show a whole new picture. Not only will we be continually be bathed in the EMF, it will also cause a "Cancer Causing Phobia" corridor. There are some citizens already at risk due to past cancer cases.

Our property values will plummet. And as we would NOT want to live under this risk, we would be forced to TRY and sell our property but, would get less than what we owe due to the fact this land will be deemed "WORTHLESS."

The one and only mountain view that we enjoy, especially when the sun is going down will be destroyed.

This petition is from all the concerned citizens along Perryville Rd. and surrounding neighborhood south of the I-10. We respectfully ask that you consider our request to find an alternate route less detrimental. We ask , would you want this for yourself and your loved ones?

Mr. And Mrs. Silvey

Mrs. Joan Silvey
Mr. Gene Silvey

L-000000-03-0122

Risks to health are too high

Fair Use Statement

Thursday, August 9, 2001
Risks to health are too high
BY ROGER CONANT, PH.D.

Source: PioneerPlanet.com.

Magnetic fields emitted by transmission power lines in backyards likely cause miscarriages, leukemia, brain cancer and Lou Gehrig's disease. They may cause breast cancer, Alzheimer's disease, suicide and heart problems. These are the findings of a recent $7 million evaluation conducted by the California Department of Health Sciences. The department determined these magnetic fields could lead to a six-fold increase in miscarriages.

The Washington State Department of Health says exposure to intense magnetic fields explains the five-fold historical increase in childhood leukemia.

The British National Radiological Protection Board found an association between magnetic fields and childhood leukemia. The German Federal Ministry for the Environment concludes sleeping children in their beds are especially vulnerable. The World Health Organization has just characterized these magnetic fields as a Group 2B Carcinogen. (All of these studies and many more are available through the Power Line Task Force Web site, at www.powerlinefacts.com.)

Fortunately, the studies are unanimous in agreeing the danger from magnetic fields appears only at intensities greater than four times the average household intensity. Those who live in old houses with badly outdated wiring may have a problem. Microwave ovens and electric blankets can be dangerous. Children appear to be especially vulnerable.

And those who live very near transmission power lines have a big problem. They are continuously bathed in high-intensity magnetic fields.

This is not an abstract issue. Xcel Energy is proposing to build a transmission line through the southeast metro on the site of an existing line. Xcel's own data suggest those who live next to the line currently are exposed to between 54 and 256 times the average household magnetic field intensities – well into the recognized danger zone. While the proposed new line would temporarily cut these exposures in half (the California evaluation suggests this will not help), the fields would soon return to nearly their original levels.

Similar lines exist all over the state. Xcel data (available on our Web site) show nearby power lines threaten hundreds of homes located in the metropolitan area. Low-frequency magnetic fields have been a concern ever since 1979. The concern was somewhat alleviated by major studies conducted between 1997 and 1999, which yielded results some claimed showed there was no evidence of a problem.

Xcel wrote in 1999, "There is no evidence of health effects from power lines or exposure to

EMF, even at high levels." The utility industry's research arm, the EPRI, found the "data concerning EMF and other cancers to be inadequate."

But last year, three separate groups of researchers reviewed these studies, and all agreed the three studies should have identified an association between magnetic fields and disease. The three studies' original authors led one of these groups.

Unfortunately, the earlier invalid results continue to confuse the issue. The National Institutes of Health was misled, as was the National Research Council and even our own Department of Health. All have expressed concern over magnetic fields, but, influenced by the three studies, said they could not conclude there was a problem. These outdated positions are still cited by those who wish to downplay the issue.

Xcel no longer claims there is no evidence. It now says the evidence is not "convincing," and it does not constitute "proof." It thereby parrots the tobacco industry, which in 1954 claimed the association between smoking and lung cancer "is questioned by numerous scientists" and asserted, "there is no proof that cigarette smoking is one of the causes."

The tobacco industry was wrong then, and Xcel is wrong now. There is strong evidence, and it is frightening.

As individuals, most of us can avoid the dangers of magnetic fields. Children should not be permitted to sleep in vulnerable bedrooms. Pregnant women should avoid sources of such fields.

However, those who live near transmission power lines cannot avoid the dangerous magnetic fields. Without relief, members of these families will get sick and may die. The utility industry should move or bury those lines that represent a clear and present danger.

Conant (e-mail: rconant@capresources.com) of Sunfish Lake is president of the Power Line Task Force.

To order our films: "Public Exposure: DNA, Democracy and the Wireless Revolution" and, "Dr. Ted Litovitz's EMR Research Presentation to U.S. Congressional Staff" click here.

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L-000000-03-0122

Power Line Health Blog

A JOURNAL OF SIGNIFICANT EVENTS REGARDING ELECTROMAGNETIC FIELDS EMITTED BY TRANSMISSION POWER LINES.

Brief Summary

When properly analyzed, scientific data convincingly and consistently show a link between magnetic fields greater than 2-4 mG and cancer. New analyses of older data have induced a wholesale revision in the views of high-level authorities, including the utilities themselves, who have very dramatically revised their own statements on EMF.

See also our companion sites:

Power Line Health Facts and Frequently Asked Questions

email us.

Sign up for our newsletters.

2-4 mG

Monday, May 19, 2003

The reason we have not been updating this blog recently is because we have been concentrating on preparing our court case against Xcel. Basically, we are claiming that Xcel has to obey the law and get permission from the Minnesota Environmental Quality Board and the Minnesota Public Utilities Commission before construction its proposed new line. Xcel claims that it does not have to get these permissions because it "began" the line before the effective date of the law with those requirements (August 1, 2001). We do not see the law as providing for any such exemptions. Full copies of the many briefs on this case can be found at the SE Metro section of www.powerlinefacts.com. The case will be heard tomorrow at 9:00 AM in Judge Hedlund's courtroom in the Hennepin County Courthouse.

Wednesday, May 07, 2003

A new site, www.broken-trust.org, outlines Xcel energies allegedly fraudulent activiteis.

Tuesday, April 22, 2003

Pittsburg's FirstEnergy Corp. has agreed to shift part of the route for a 69,000-volt transmission line in Franklin Park, but the change will cost homeowners as well as the utility. The owners of 10 homes in Northmont Farms have agreed to pay the utility $45,000 to cover most of the costs of moving the power line out of an existing easement that crossed through or near their properties and onto vacant land. The payment will not cover all the costs for revising the route and acquiring land for a new right of way, a FirstEnergy spokesman said. "We've also put in many man-hours on redesign, negotiations and other back office work," spokesman Joe Mosbrook said. FirstEnergy has said scientific studies have found no correlation between electromagnetic fields and health risks from such lines. Aerial maps of the project show houses 100 feet to 150 feet from the path of the cable.

10-150 330

L-000000-03-0122

TRENTHAM ENVIRONMENTAL ACTION CAMPAIGN

51 Earlsbrook Drive Trentham Stoke on Trent ST4 8DL

Revolt > Trentham Home >

Rich Text Version of this document

Summary of acknowledged health risks associated with living near high voltage power lines Research 1979 - 2001

CHILDHOOD LEUKAEMIA

AHLBOM A, DAY N, FEYCHTING M , ROMAN E, SKINNER J, DOCKERTY J, MCBRIDE M, MICHAELIS J, OLSEN JH, TYNES T and VERKASALO PK, 2000. A pooled analysis of magnetic fields and childhood leukaemia,

British Journal of Cancer 83(5), 692-698.

GREENLAND S, SHEPPARD AR, KAUNE WT, POOLE C and KELSH M A, 2000.

A pooled analysis of magnet fields, wire codes and childhood Leukaemia. **Epidemiology, 11,** 624-634.

Microwave News, Vol.XX, No. 5, Sept/Oct. 2000, ISSN 0275-6595, PO Box 1799, Grand Central Station, New York, NY 10163.

An implied relative risk of 2.0 above 0.4uT and 1.7 above 0.3 uT.

FEWS AP,HENSHAW DL, KEITCH P A, CLOSE JJ and WILDING RJ, 1999 B.

Increased exposure to pollutant aerosols under high voltage power lines.

International Journal of Radiation Biology, 75(12), 1505-1521

Predicted excess cases annually in the UK near high voltage power lines 2-8 cases

SKIN CANCER

FEWS A P, HENSHAW D L, KEITH P A, CLOSE J J, and WILDING R J, 1999B. Increased exposure to pollutant aerosols under high voltage power lines.

International Journal of Radiation Biology, 75(12), 1505-1521

Assessment of Skin Doses. Documents of the NRPB, Volume 8, No. 3,

4-000000-03-0122

1997.

Chilton, Didcot, Oxon, OX11 ORQ

Risk assessment based on increased skin exposure to radon decay products and other via 50 Hz oscillation of aerosols.

Predicted excess cases annually in the UK near high voltage power lines 14 cases

LUNG CANCER

MCDOWALL M E, 1986. Mortality of persons resident in the vicinity of electricity transmission facilities. **British Journal of Cancer, 53:** 271-279

KATSOUYANNI K and PERSHAGEN G, 1997 Ambient Air Pollution Exposure and Cancer. **Cancer Causes and Control, 8** 284-291

Risk assessment based on increased exposure to air pollution via corona ion effects

Predicted excess cases annually in the UK near high voltage power lines 250-400 cases.

OTHER ILLNESSES ASSOCIATED WITH AIR POLLUTION

SEATON A, MACNEE W, DONALDSON K and GODDEN D, 1995. Particulate air pollution and acute health effects. **The Lancet, 345,**176-78.

Risk assessment based on increased exposure to air pollution via corona ion effects.

Predicted excess cases annually in the UK near high voltage power lines ~ a few thousand cases

SUICIDE AND DEPRESSION

REICHMANIS M, PERRY F S, MARINO A A and BECKER R O, 1979. Relation between Suicide and the Electromagnetic Field of Overhead Power Lines. **Physiology Chemistry & Physics, 11,** 395-403.

PERRY F S, REICHMANIS M, MARINO A A and BECKER R O, 1981. Environmental Power-Frequency Magnetic Fields and Suicide. **Health Physics, 41,** 267-277.

PERRY S, PEARL L and BINNS R, 1989. Power Frequency Magnetic Field: Depressive Illness and Myocardial Infarction. **Public health, 103** 177-180

L-000000-03-0122

POOLE C KAVET R, FUNCH D P, DONELAN K, CHARRY J M and DREYER N A, 1993 Depressive Symptoms and Headaches in Relation to Proximity of Residence to an Alternating-Current Transmission Line Right-of -way. **American Journal of Epidemiology, 137,** 318-330

SAVITZ D A, BOYLE C A, and HOLMGREEN P, 1994. Prevalence of Depression Among Electrical Workers. **American Journal of Industrial Medicine, 25,** 165-177.

VERKASALO P K, KAPRIO J, VARJONEN J. ROMANOV K, HEIKKILA K and KOSKENVUO M., 1997. Magnetic Fields of Transmission Lines and Depression. **American Journal of Epidemiology, 146** 1037-1045

BEALE I L, PEARCE N E, CONROY D M, HENNING M A and MURRELL K A, 1997.Psychological Effects of Chronic Exposure to 50 Hz Magnetic Fields in Humans Living Near Extra-High-Voltage Transmission Lines. **Bioelectromagnetics, 18,** 584-594.

VAN WIJNGAARDEN E V, SAVITZ D A, KLECKNER R C, CAI J and LOOMIS D, 2000. Exposure to Electromagnetic Fields and Suicide Among Electric Utility Workers: A Nested Case-Control study. **WJM, 173,** 94-100.

Considered biologically plausible via magnetic field exposure. Apparent low threshold ~ 0.1 uT.

Predicted excess cases annually in the UK near high voltage power lines

Suicide 60 cases

Depression Up to 9,000 cases of mild depression.

TOMOXIFEN, MELATONIN & EMFS

DON MAISCH Australian Electromagnetic Forum Volume 1. No 4 Spring 1997

LIBURDY R.P. et al (1993) ELF Magnetic Fields, Breast Cancer and melatonin

HARLAND J.D., LEE M.Y. LEVINE R.P. (1997) Differential inhibition of Tamoxifen's Oncostatic Functions in a Breast Cancer line by a **1.2** microtesla Field .COOGAN P.F. et al (1996) Occupational Exposure to 60-Hz Magnetic Field Risk of Breast Cancer in Women. Epidemiology; 7:p.459-464. LUBEN R.A., SARAIYA S and MORGAN A.P. (1996) Replication of 1.2 microtesla EMF Effects on Melatonin Responses of MCF-7 Breast Cancer Cells in vitro. STEVENS R.G., DAVIS S, THOMAS D B, ANDERSON L E, WILSON B W, (1992) Electric Power, Pineal Function and the Risk of Breast Cancer: A Hypothesis. FASEB J. 6: p. 853-860

L-000000-03-0122

There is repeated evidence that fields above one microtesla stop the anti-cancer action of the widely used breast cancer treatment drug Tamoxifen.

MAXIMUM EMF EXPOSURE EMERGES AS STRONG MISCARRIAGE RISK

CALIFORNIA HEALTH DEPARTMENT REPORT ON ELECTRIC AND MAGNET FIELDS FROM POWER LINES, APRIL 2001

This report highlights the added risk of miscarriage, childhood Leukaemia, brain cancer and a greater incidence of suicide as some of the health risks associated with exposure to electric and magnetic fields such as from power lines. The new information concerning miscarriage is particularly disturbing. Women exposed to magnetic fields of 16 mG (1.6 uT) or more while pregnant are up to six times more likely to have a miscarriage. See the following websites and find Environmental News Service: Power lines, Wiring pose health risks Press Release enclosed.

http://www.electric-fields.bris.ac.uk/ (Access Latest Updates: California News)

http://ens.lycos.com/ens/jul2001/2001L-07-16-02.html (Press Release)

http://www.dhs.ca.gov/ehib/emf/RiskEvaluation/riskeval.html (California EMF Health report)

MICROWAVE NEWS 10/07/01 here as pdf file also enclosed

THE LIST GROWS

The situation regarding permitted exposure to electric and magnetic fields in this country is quite ridiculous. For magnetic fields the NRPB guide lines for maximum exposure are set at 1600 uT. This is 4000 times higher than the level of 0.4 uT where a doubling of childhood Leukaemia risk has been observed. Even the international guidelines which are set at 100uT are 250 times higher than 0.4 uT.

We need a sensible limit on magnetic field exposure such as that adopted by the Swiss Government on December 23 1999. Their limit is 1 uT.

When can we expect to see this limit (or an even stricter one) in the UK?

Three Tun Web

8-3-03

L-00000D-
03-0122

PETITION AGAINST
The
WEST VALLEY SOUTH POWERLINE
and SUBSTATION PROJECT

This petition holds the signatures of the residents along Perryville Rd. and surrounding neighborhood. I am/we are against the proj[redacted] event for whatever reason I/we cannot attend the meeting(s), our signature on th[redacted] represent me/us.

NAME and ADDRESS

Fred Walk 18614 W Moreland St, Goodyear Az
Mr & Mrs Tony & Alice Redwine 1185 N. 186th Dr. Goodyear Az. 85338
Jeff & Kim Jones 1135 N 186th Dr Goodyear Az 85338 Kim Jones
Latonya Nuesa 1102 N. 186 Dr. Goodyear Az. 85338
Anna Dominguez 18617 W. Moreland Goodyear, Az 85338
Monique " "
Amy " "
Anita Santa Maria "
Jose Rojas 1142 N 186 N Goodyear Az 85338
Sandra Rojas 1142 N 186 N Goodyear Az. 85338
Manuel G Flores 18602 W Moreland St Goodyear Az
Frank Grant 18601 W Moreland St Goodyear Az.
Jeanette Morris 18533 W moreland St Goodyear Az.

L-000060-03-0122

SHAM RAO 12919 W LUCHANA LN LITCHFIELD PK 85340
OWNER(S) OF ~~LAND~~ LOTS IN QUINTANA ESTATES Goodyear

Allen [illegible] 18401 MORELAND ST GOODYEAR AZ
Michael G Paddock 18382 W Moreland
Lois Hall 18331 W. Latham Goodyear AZ
Jeffrey Ehler 4401 S Perry Va Pl Goodyear
Dinn [illegible] 43085 Pennell Rd, Buckeye
Mary Lester 18430 W. L. Buckeye Rd, Goodyear Az 85338
Martin Gonzalez Cruz 18161 W. Yuma Rd. Goodyear 85338
Teresa Peres 18161 W. Yuma 85338
Jose Perez 18161 W. Yuma Rd 85338 Goodyear
Julio Ruiz 18[illegible] W Yuma Rd 85338 Goodyear Az
Melia Cruzman 18616 W. Yuma Rd Goodyear Az 85338
Martha Tapia 18616 W. Yuma Rd Goodyear AZ 85338
Antonia Orozco 18616 W. Yuma Rd Goodyear AZ. 85
Leonor De La Rosa 18616 W. Yuma Rd. Goodyear AZ. 853
Carlos Balcaca 18161 W. Yuma Rd. Goodyear, 8533
Susana Heranadez 18616 W Yuma Rd Goodyear, 8533
Francisco Torres 18616 W Yuma Rd Goodyear. 85
Arlon Lee Yates 105 North Perryville Rd. Goodyear AZ. 85
John R. & dolene Lindley JR. 205 N. Perryville R. Goodyear, Az.
Elaine J. Scott 18[illegible] W. Van Buren Goodyear Az
[illegible] 18645 W Van Buren Goodyear AZ
Kieran Benedict 515 N. Perryville Rd Goodyear AZ
Larry & Lany Hansen 615 N. Perryville Rd Goodyear AZ
Edith [illegible] Hansen 615 N Perryville Rd Goodyear
[illegible]

L-000000-03-122

Donna M. Smith 901 N. Perryville Rd. Goodyear,
MARIO MORALES 919B N PERRYVILLE Rd. Goodyear
Gary N. Benedict 919 N Perryville Rd Goodyear
Roberto Castillo V. 1116 N. 186 Drive Goodyear
Darrell K Blodgett 18631 W. Latham St. Goodyear
Ora K. Blodgett 18631 W. latham St Goodyear
Michael Stuever 18631 W latham St. Goodyear
[illegible] 18617 W. LATHAM ST. Goodyear
Rogelio Torres 18602 W. ROOSEVELT. Goodyear, AZ
[illegible] 18534 W ROOSEVELT ST Goodye.
Rick C. Allen 18632 W. Roosevelt Goodyear
John J. Miller 1129 N. 183 DR Goodyear.
[illegible] 18347 W. moreland Goodyear.
Tracey Stewart 18347 W. Moreland st Goodyear
Mr & Mrs Jose Rodriguez 18433 W Moreland St Goodyear
18550 W. Moreland St. Josie Callahan Goodyear
[illegible] 18347 W. LATHAM ST.
[illegible] 18402 W. LATHAM ST GOODYEAR AZ
[illegible] 18348 W. LATHAM ST Goodyear AZ
[illegible] 18421 W. LATHAM ST GOODYEAR AZ.
Linda Armenta 18519 W Latham Goodyear Az
Jennifer Rivera 18518. W. Latham goodyear AZ
[illegible] 18518. W. Lathem goodyear Az
Brad Belfield 18534 W. Lathan Goodyear Az.
Steven Kortt 18601 W. Latham Goodyear AZ.
Kim Herrera 18602 W. Latham Goodyear Az

L-00000D-03-0122

Sue L Bydzek 18618 W LaTham Goodyear AZ 85338
Sally Bydzek 18618 W. LATHAM GOODYEAR AZ 85338

Janet Bydzek 18618 W. LATHAM Goodyear AZ 85338

Michael Olsen 18614 W. Moreland ST Goodyear AZ 85
Gene A Silvey 11102 N 186th Dr Goodyear AZ 8533
Joan A. Silvey 11102 N. 186TH Dr. GOODYEAR AZ 8533

June 29, 2002
Phoenix, Arizona

Steve Goodman, Project Manager
Transmission and Facility Siting
Mail Station 4030
Post Office Box 53933
Phoenix, Arizona 85072-3933

RE: WEST VALLEY SOUTH POWER LINE PROJECT

Dear Mr. Goodman:

The undersigned Dr. Forrest M. Hill and Arnold L. Petersen are co-owners of 31 acres at the southwest corner of I-10 and Tuthill Road in Buckeye, Arizona which they purchased in 1978.

We wish to express our opinions regarding the currently proposed alternative power line routes and substation locations in the Buckeye area.

First, we regret that you were unable to meet with us on Thursday, June 27th at 1:30 p.m. to discuss this project because we lack the degree of clarification that comes from meeting in person. One alternative route that we found immediate objection to was the 230 KV line proposed from the Buckeye substation east along the I-10 alignment, crossing Airport Road, the main interchange entrance to DMB's Verrado Community Development. This development of 5,000± acres is the shining star in Buckeye's plans for the future. The unsightly presence of massive power poles at the entrance would all but eliminate the grandeur intended for this project's entryway.

The City of Buckeye has waited decades for its "Day in the Sun" and every attempt should be made to aid them in their pursuit.

Our desire would be to direct the power line from the Liberty substation, east along Buckeye Road to Perryville Road, then north on Perryville Road to its desired final location. This route would create the least disruption for most, if not all, of the residential "projects in progress" in the Buckeye area.

The Perryville alignment already possesses the stigma of the prison and its related distractions. The cost of the right-of-way should be considerably reduced with this route.

Thank you for your consideration on these recommendations.

Respectfully,

Dr. Forrest M. Hill

Dr. Forrest M. Hill

Arnold L. Petersen

Arnold L. Petersen

LITCHFIELD ELEMENTARY SCHOOL DISTRICT #79

September 11, 2002

Mr. Steve Goodman
Project Manager -Transmission and Facility Siting
Arizona Public Service
Mail Station 4030
PO Box 53933
Phoenix, Arizona 85072-3933

Dear Mr. Goodman:

The Litchfield Elementary School District Governing Board met on Tuesday, September 10, 2002. The Governing Board again wants to voice its opposition to the siting of the 230/69KV transmission line across the street from Scott L. Libby Elementary School.

The 250 foot distance is too close to our current play fields and bus drop-off. We are requesting that you site this transmission line a minimum of 750 feet from our property line.

Just last week, a storm knocked down power lines near a school in Apache Junction trapping the students and staff in the school for several hours. Please site the transmission line far enough away from the school to prevent this from happening to our children and staff.

Sincerely,

L. Thomas Heck

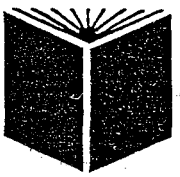
L. Thomas Heck, Ed.D.
Superintendent

cc: Governing Board

553 Plaza Circle
Litchfield Park, Arizona 85340

Phone (623) 535-6000

Fax: (623) 935-1448
www.lesd.k12.az.us



LITCHFIELD ELEMENTARY SCHOOL DISTRICT #79

August 14, 2002

Mr. Steve Goodman
Project Manager -Transmission and Facility Siting
Arizona Public Service
Mail Station 4030
PO Box 53933
Phoenix, Arizona 85072-3933

Dear Mr. Goodman:

Thank you for attending the Governing Board meeting on Tuesday, August 13, 2002. The Governing Board appreciated your presentation and your willingness to share your siting information with them.

The Governing Board has directed me to express their concern over the placement of a 230/69 KV transmission line across the street from Scott L. Libby Elementary School. We request that APS seeks an alternative route.

Sincerely,

L. Thomas Heck

L. Thomas Heck, Ed.D.
Superintendent

cc: Governing Board

553 Plaza Circle
Litchfield Park, Arizona 85340

Phone (623) 535-6000

Fax: (623) 935-1448
www.lesd.k12.az.us

"A Stronger Mind for a Stronger Future"

Maricopa County

Board of Supervisors

Max W. Wilson
District 4
301 W. Jefferson, 10th Floor
Phoenix, Arizona 85003-2148
Phone: (602) 506-7642
FAX: (602) 506-4989
TDD: (602) 506-2966
www.maricopa.gov

RECEIVED
JUL 07 2003
BY: S. Goodman

June 24, 2003

Mr. Steve Goodman
Arizona Public Service
Mail Station: 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: West Valley South Transmission Line Project

Dear Mr. Goodman:

Thank you for meeting with me to review the changes proposed on the siting of the subject project. I realize that it is necessary to provide electrical service for the future growth in the vicinity of White Tank Mountain Regional Park. A lot of the growth is a result of the beautiful vistas and recreational opportunities available to residents in the areas around White Tank Mountain Regional Park. It is important that we do everything possible to preserve the existing attributes of the park.

The siting of the 230kv transmission line and substation as far north or south of Olive Avenue and as far east of the park entrance as possible is moving in the right direction. Please meet with the County Departments of Parks, Planning, and Transportation and the Flood Control District to finalize a mutually agreeable alternative. Olive Avenue is the main entrance access route into the park and would be severely impacted aesthetically by a major substation in close proximity.

Thank you for your consideration in this matter.

Sincerely,

Max W. Wilson
Supervisor District 4

Maricopa County

Board of Supervisors

RECEIVED
JAN 06 20[illegible]
BY:.....

Max W. Wilson
District 4
01 W. Jefferson, 10th Floor
hoenix, Arizona 85003-2148
hone: (602) 506-7642
AX: (602) 506-4989
DD: (602) 506-2966
ww.maricopa.gov

December 19, 2002

Mr. Steve Goodman
Arizona Public Service
Mail Station: 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: West Valley-South Project

Dear Mr. Goodman:

I have reviewed the information provided by you on the preferred system option of the 230kv transmission and the 230kv substation for the subject project. From our very first meeting, my main concerns were Loop 303 and the White Tank Mountain Regional Park. I realize that it is necessary to provide electrical service for the future growth in the vicinity. A lot of the growth is a result of the beautiful vistas and recreational opportunities available to residents in the areas around White Tank Mountain Regional Park. It is important that we do everything possible to preserve the existing attributes of the park.

I would encourage you to site the 230kv-transmission line and substation north of Olive Avenue and off the Loop 303. Olive Avenue is the main entrance access route into the park and would be severely impacted aesthetically by a major substation in close proximity. A Peoria Avenue alignment would be much preferred. I strongly disagree that Alternative 2 would be the preferred choice for this area.

Thank you for all your time on this matter.

Sincerely,

Max W. Wilson
Supervisor - District Four

cc: Corporation Commission
Bear Shimmin, Sun City Collation

FLOOD CONTROL DISTRICT
of
Maricopa County

2801 West Durango Street • Phoenix, Arizona 85009-6399
Telephone (602) 506-1501
Fax (602) 506-4601
TT (602) 506-5897

BOARD OF DIRECTORS
Max W. Wilson
Fulton Brock
Andrew Kunasek
Don Stapley
Mary Rose Garrido Wilcox

September 3, 2002

Steve Goodman
Project Manager, APS Transmission & Facility Siting
Mail Station 4030
PO Box 53933
Phoenix, Arizona 85072-3933

RE: West Valley Transmission Line Siting

Dear Mr. Goodman,

From sitting in some pre-project meetings with you and staff members from your consulting company, I [and the Flood Control District of Maricopa County (District)] am aware of APS's plans for creating a distribution network in the West Valley, to supply some of the future power needs in this area. We're appreciative that you're making the District part of this process. Below are some comments forwarded to me by our Planning and Project Management Division, that I'm in turn forwarding to you for your consideration on any alternatives selection that would/could impact District property or structures. If you have any comments or discussion items as a result of these comments, respond back to me, and I'll forward them on to the appropriate entity within the District. If there is any items that you feel need further clarification, rather than me getting in the middle of a technical discussion, I'll put you in direct contact with the group that you need to have the discussion with. Below are those District comments:

"The District has been advised of a transmission line and substation/receiving station siting study being prepared for Arizona Public Service (APS). The study, titled "West Valley - South, Powerline and Substation Project," includes crossing certain District properties, easements, and structures. The District is of the opinion that the siting study cannot be divided into two distinct elements. The study should include both the West Valley - South and the West Valley - North. A decision that sites transmission corridors or substations for the south part of the study area will limit the north study area.

The District operates and maintains five flood retarding structures (dams) in the study area, plus other drainage facilities, and is developing projects identified in the current Loop 303 Corridor/White Tanks Area Drainage Master Plan study. The proposed transmission lines and substations may adversely affect the operationof the existing and proposed facilities. The siting of these facilities could also impact the design of modifications or improvements to District facilities that may be required due to ground subsidence, ground fissures, and other structural forms of distress. The District has identified some conditions on District facilities that should be addressed in mitigation requirements associated with the project. These conditions include:

1. General ground subsidence that is occurring in the west valley. Ground subsidence may affect several flood retarding structures (dams) and flood channels in the region. New transmission or electric utilities could require additional mitigation of flood control structures where they cross, encroach upon, or parallel the structures.
2. Ground fissures have been identified in the area around Olive Avenue and the Beardsley Canal. The presence of the fissures may require modifications to existing structures or

the design and construction of new flood control facilities. New electrical facilities could exacerbate design problems associated with new flood control facilities.

3. Maricopa County has been working on plans for a county wide trails system. Several of the District's properties have been identified for potential integration into the trails system. The siting study should address the required mitigation of the impacts to the trails. The District believes that these features and amenities will enhance the value of District properties.

The District understands that major substations (230kV or higher voltage) normally require at least two transmission lines for reliability. The northern most 230kV substation has only one transmission line serving the facility. APS owns and operates a major receiving (substation) station that is located north and east of the new substation. APS should include in their siting study the transmission line corridors for the "West Valley - North" area. APS should include several transmission line corridors and other alternate terminal substation sites currently identified as TS2 in the study. Alternate transmission corridors should originate from both the Buckeye Substation and the Liberty Substation and terminate at an area north of Olive Ave. and several miles west of the Beardsley Canal."

Please provide further details of alternatives as they become available so that we may provide additional comments as your studies progress. Thank you again for the opportunity to have input into your siting process.

Respectfully,

Mike Wilson

Michael D. Wilson
Manager, Property Management Branch
602.506.4748

CC: Structural Safety Branch, Tom Renckly
Planning Branch, Russ Miracle
Property Management, West Valley Siting File

Maricopa County

Parks and Recreation Department

RECEIVED
JAN 06 2003
BY:.....

411 N Central Avenue
Suite 40
Phoenix, Arizona 85004
Phone: (602) 506-2930
Fax: (602) 506-4692
www.maricopa.gov/parks

December 17, 2002

Mr. Steve Goodman
Arizona Public Service
Mail Station: 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: West Valley-South Project

Dear Mr. Goodman:

We have reviewed the information provided by you on the preferred system option of the 230kv transmission and the 230kv substation for the subject project. We realize that it is necessary to provide electrical service for the future growth in the vicinity of White Tank Mountain Regional Park. A lot of the growth is a result of the beautiful vistas and recreational opportunities available to residents in the areas around White Tank Mountain Regional Park. It is important that we do everything possible to preserve the existing attributes of the park.

We would encourage you to site the 230kv transmission line and substation as far north of Olive Avenue as possible. Olive Avenue is the main entrance access route into the park and would be severely impacted aesthetically by a major substation in close proximity. A Peoria Avenue alignment would be much preferred. Alternative 2 would be our least preferred choice.

Thank you for your consideration in this matter.

Sincerely,

William C. Scalzo, Director

cc: Don Stapley, Chairman, Board of Supervisors, District 2
Fulton Brock, Board of Supervisors, District 1
Andrew Kunasek, Board of Supervisors, District 3
Max Wilson, Board of Supervisors, District 4
Mary Rose Wilcox, Board of Supervisors, District 5
Parks and Recreation Commission Members
Bill VanAusdal, Deputy Director, Parks and Recreation
Jennifer Lawrence-Harris, Westside Superintendent, Parks and Recreation
Ken Taylor, Park Supervisor, Parks and Recreation
Central Files and Chrono Files

WCS/KM/ng
S:\Natalie\Bill Scalzo\APS230KVSiting12-17-02.DOC

William C. Scalzo

Director

PARKS AND RECREATION

DEPARTMENT

July 9, 2002

Mr. Steve Goodman
Arizona Public Service
Mail Station: 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: West Valley-South Project

Dear Mr. Goodman:

We have reviewed the information provided by you on the proposed routing of the 230kv transmission and the 230kv substation for the subject project. We realize that it is necessary to provide electrical service for the future growth in the vicinity of White Tank Mountain Regional Park. A lot of the growth is a result of the beautiful vistas and recreational opportunities available to residents in the areas around White Tank Mountain Regional Park. It is important that we do everything possible to preserve the existing attributes of the park.

We would encourage you to site the 230kv transmission line as far east of the park boundary as possible, preferably along an existing major infrastructure corridor, such as a canal or freeway. We also request that the proposed 230kv substation be sited as far south of Olive Avenue as possible. Olive Avenue is the only main entrance access route into the park and would be severely impacted aesthetically by a major substation in close proximity.

Thank you for your consideration in this matter.

Sincerely,

W. D. Lanford

William Lanford, Chairman
Parks & Recreation Commission

cc: Board of Supervisors
Parks and Recreation Commissioners
Central Files
Chrono Files
John Bradley, DMB Associates, Inc.

I:\Commission\CORRES\APS 230kv Siting.DOC

RECEIVED
BY: S. Goodman

MWD

August 7, 2003

Mr. Steve Goodman, Project Manager
Transmission & Facility Siting
Mail Station: 4030
P.O. Box 53933
Phoenix, Arizona 85072-3933

RE: West Valley-South Project

Dear Mr. Goodman:

On behalf of the Maricopa Water District (MWD) and its Board of Directors, I am writing to express MWD's general support for the Proposed 230 kV Transmission Line Alignment illustrated on the APS map entitled "Proposed and Alternative System Options" dated 5/5/03. MWD believes there are serious concerns regarding the Alternative Alignment which pose a greater potential for a negative impact and opposition from local residents.

Within the Proposed 230 kV Transmission Line Alignment, MWD does have a concern regarding the route depicted along Olive Avenue which has been requested with a corridor of 3000 feet on either side of the option centerline. Such an immense corridor of 6000 feet would create uncertainty and risk to a tremendous amount of property and population until a final alignment was designated. More specifically, MWD would urge the 230 kV line be located adjacent to Olive Avenue. Again, this location would seem to have the least amount of negative impact on local residents and property.

MWD realizes there are difficult choices to be made in a project of this size that will affect a large number of people and property. For that reason, the District has tried to be judicious in its comments regarding this important project. Thank you for the opportunity to comment. Please don't hesitate to contact me if you have any questions.

Sincerely,

James R. Sweeney
James R. Sweeney
General Manager

cc: Stephen Anderson
Alicia Corbett
Dave Maguire

MARICOPA WATER DISTRICT
P.O. Box 900, Waddell, AZ 85355-0900 ◆ (623) 546-9266

MWD

August 28, 2002

Mr. Steve Goodman
Arizona Public Service
Transmission & Facility Siting
P.O. Box 53933 Station 4030
Phoenix, Arizona 85072-3933

Re: West Valley-South Project

Dear Mr. Goodman:

As requested in your letter of July 18, 2002, the Board of Directors of the Maricopa Water District discussed the line siting alternatives of the above referenced project at its meeting on August 13, 2002. Specifically, the four north-south alignments illustrated on the 5/14/2002 map that accompanied your letter were considered. Those four are 1.) Tuthill Road 2.) Beardsley Canal 3.) Perryville Road and 4.) Loop 303.

It is the consensus of the MWD Board that the Tuthill Road alignment offers the least invasive impact to the greatest number of people as well as the least costly alternative. MWD supports this alternative and urges its recommendation to the Arizona Corporation Commission.

The Beardsley Canal and the Perryville Road alignment are of serious concern to MWD.

Initially, the District is concerned that the Beardsley Canal alignment has been prominently featured in the various public input sessions conducted by APS with minimal consultation with its owner. The Beardsley Canal and its associated land rights are MWD's major revenue and water transportation corridor. In addition to water delivery, the corridor is utilized for several telecommunication facilities and will undoubtedly experience future expanded use in this regard.

The Beardsley corridor is a major component of regional water resource planning efforts being conducted in the West Salt River Valley by WESTCAPS (a coalition of 12-13 Central Arizona Project subcontractors) and the United States Bureau of Reclamation. There is a strong probability of construction, expansion, and modification of the canal as well as construction of other facilities such as pipelines within the canal

MARICOPA WATER DISTRICT
P.O. Box 900, Waddell, AZ 85355-0900 ◆ (623) 546-8266 ◆ FAX (623) 584-2536

right-of-way. The Arizona-American Water Company (formerly Citizens Water Resources) is currently planning construction of a regional water treatment plant on property adjacent to the canal which will treat many of the regional CAP water supplies transported through the canal. Clearly, construction of a 230/69 kV transmission line within or adjacent to the Beardsley Canal would jeopardize utilization of this facility for its highest and most productive use.

The Perryville Road alignment is only one-half mile from the Beardsley Canal and poses many of the same concerns. Additionally, it is adjacent to the existing and planned concentration of residential development within the Maricopa Water District. Use of this route would have serious negative economic and aesthetic impacts on these population concentrations. Several of the District's landowners that live in this area have expressed concern about the Perryville Road route to the MWD Board.

Thank you for the opportunity to comment on the proposed alternative routes of the APS power transmission facilities. MWD requests that it be kept fully informed of further development of the project, especially as it may impact the District's property and facilities.

Sincerely,

James R. Sweeney
General Manager

Cc: MWD Board of Directors

Maricopa County
Department of Transportation

nsportation Director &
unty Engineer
1 W. Durango Street
enix, Arizona 85009
ne: (602) 506-8600
(602) 506-4858

July 16, 2003

RECEIVED
JUL 2 2 2003
BY: A. Goodman

Mr. Steve Goodman
Project Manager, Transmission & Facility Siting
Arizona Public Service Company
Mail Station 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

Dear Mr. Goodman:

RE: APS TRANSMISSION AND SUBSTATION SITING PROJECT

Thank you for giving us the opportunity to discuss the proposed siting of the future APS transmission lines and substations.

While we have identified many issues, the one sacrosanct concern from Maricopa County is the protection of the White Tank Mountain Regional Park. Siting the transmission line along Olive Avenue from Loop 303 to the Beardsley Canal is unacceptable. You and your consultant are fully aware of the negative impact this would have on the only scenic route and entrance to the White Tank Mountain Regional Park. I would expect APS to live up to your high standards of community responsibility and environmental stewardship regarding this issue.

Maricopa County is prepared to work with APS to sustain that reputation. The Maricopa County Flood Control District (MCFCD) has indicated that when placing your transmission lines along Loop 303, you could use the drainage channel easement. Since the next phase of the 230KV transmission line will continue somewhere to the north, the more logical placement of the transmission line, to the west, would be on Peoria Avenue rather than Olive Avenue. This would overcome the issues that we have raised.

Sincerely,

Thomas R Buick

Thomas R. Buick, P.E.
Transportation Director & County Engineer

cc: Arizona Department of Transportation, Ron Foluch
Maricopa County Board of Supervisors, District 4, Max Wilson
Flood Control District, Greg Jones
Parks & Recreation, Bill Scalzo and Bill VanAusdal
Planning & Development, Matt Holm
MCDOT, Wayne Butch and Patricia Pauly

Thomas R. Buick, P.E.
Chief Public Works Officer,
Transportation Director & County Engineer

DEPARTMENT OF
TRANSPORTATION

March 28, 2003

RECEIVED
APR 02 2003
BY: SLG

Mr. Steve Goodman
Arizona Public Service
Mail Sation: 4030
P.O. Box 53933
Phoenix, Arizona 85072-3933

Dear Mr. Goodman:

Subject: West Valley – South Project

Following our meeting with yourself and URS Engineering on March 5, 2003, concerning the proposed routing of your 230/ 69 Kv lines and the proposed location of your 230/69 Kv substations, we met with various representatives of Maricopa County Departments. These departments included the Maricopa County Department of Transportation, Flood Control District, Parks and Recreation, Planning and Development and the County Board of Supervisors. An over riding concern was the viewscape approaching the White Tanks regional park and the view to and from the park itself.

As a result of that meeting, there were several concerns raised with reference to the methodology of selecting the substation sites, line routing, and determining proposed electrical demand supporting these facilities in this area.

In particular, there was question as to why Arizona Public Service (APS) insists on placing overhead facilities paralleling the White Tanks Mountain Regional Park's east border and locating a substation within sight of the park's entrance. It was felt there should be some acceptable alternative to this proposal, possibly relocating further to the east along a canal or freeway, or possibly under grounding the aerial facility and relocating the substation to a less visible location.

Another concern was the 230 Kv overhead alignment along Olive Avenue which is the only main entrance access route into the park. Is there a reason that this line couldn't be located further north along Peoria Avenue or further south along Northern Avenue or perhaps along a half section alignment?

Additionally, what was the justification for requiring 230Kv lines and substations in this area? Was there adequate proposed growth to require the additional 230 Kv facilities?

The group was also interested in APS's future plans for expansion beyond what has been presented to date.

As you can see there is considerable interest in APS's proposal. I would like to suggest that we arrange a meeting with Maricopa County representatives and APS in the hopes of addressing these and additional concerns and possibly working toward some amiable resolutions.

Please let me know your availability and I will be happy to arrange these meetings.

Thank you for your cooperation in this matter.

Sincerely,

Wayne R. Butch, Manager
Engineering Support & Capital Program Management

cc: Thomas R. Buick, P.E. Director, MCDOT
Richard Wallace, Engineering Division Manager, MCDOT
Bill Hahn, Project Manager, Planning - MCDOT
Bill VanAusdal, Maricopa County Parks & Recreation, Deputy Director
Matthew Holm, Planning & Development, Maricopa County
Greg Jones, Flood Control District, Maricopa County
Bill Scalzo, Parks & Recreation, Maricopa County

Thomas R. Bulick, P.E.
Chief Public Works Officer,
Transportation Director & County Engineer

MARICOPA COUNTY ARIZONA

DEPARTMENT OF TRANSPORTATION

APS Siting
c/o B.J. Communications, Inc.
2025 N 3rd Street, Suite B157
Phoenix, Arizona 85004
Fax: (602) 234-3397

Comments regarding the West Valley-South Power Line and Substation Siting Project.

Do you have any general comments regarding the project?

None

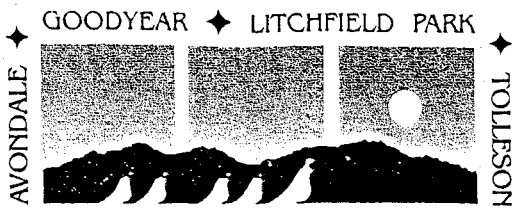
Do you have comments on substation site alternatives? Which are most acceptable? (Please identify the site(s) you comment on by number as shown on the map, if applicable)

None

Do you have comments on the power line alternative routes? Which are most acceptable? (Please identify the route(s) you comment on by number as shown on the map, if applicable)

If there are routes that would run adjacent to any county roads, we would request that APS meet with MCDOT Utilities personnel prior to acquisition of right-of-way to ensure proper distance from existing roadway to allow for future road widening. The preference would be to locate APS facilities far enough away so as to avoid the need for relocation during road improvement projects.

Wayne R. Butch
Transportation Improvement Program & Policy
Branch Manager
2901 W. Durango St.
Phoenix, AZ 85009-6357
E-Mail: waynebutch@mail.maricopa.gov



SOUTHWEST VALLEY
CHAMBER OF COMMERCE

March 11, 2003

Mr. Jan Bennett
Vice President, Customer Service
Arizona Public Service
P.O. Box 53999
Phoenix, Arizona 85072-3999

Dear Mr. Bennett:

On behalf of the Southwest Valley Chamber of Commerce, I would like to take this opportunity to commend APS on its extensive and inclusive public participation process that it initiated for the proposed West Valley South Transmission Line Project.

Like many other interested and impacted parties throughout the study area, the Chamber was approached early in the planning process, which enhanced our ability to provide meaningful and productive comments to the line siting team. Accordingly, the Chamber remains supportive of the overall project.

As we have expressed our support for previous projects pursued by APS, the tremendous amount of growth in the western region of Maricopa County has established an increased demand for reliable electricity. As the Chamber continues to support manageable growth in the region, we understand the importance of developing the infrastructure needed to support the corresponding development. In addition, as the Chamber continues its focus on preserving the mission viability of Luke Air Force Base, we further appreciate APS' ongoing effort to proactively work with base officials in order to protect the installation's ability to conduct its vital mission.

Again, the Chamber appreciates your willingness to have a significant dialogue on the related issues as we work together to ensure that this region has the capacity to meet the energy demands for the foreseeable future.

Sincerely,

Sharolyn

Sharolyn Hohman
President/CEO

RECEIVED
MAR 12 2003
JAN H. BENNETT

289 North Litchfield Road · Goodyear, Arizona · 85338 · 623.932.2260 · Fax 623.932.9057
www.southwestvalleychamber.org · info@southwestvalleychamber.org

Town of Buckeye

May 26, 2003

RECEIVED
MAY 29 2003
BY: S. Goodman

Mr. Steve Goodman, Project Manager
Transmission & Facility Siting Department
APS
PO Box 53933, MS 4030
Phoenix, AZ 85072-3933

Dear Mr. Goodman:

Thank you for taking the time to update me on May 13, 2003 regarding APS' West Valley – South Power Line and Substation Project.

First, I applaud the company for working in an all-inclusive manner to locate electrical facilities in the growing west side communities. We know that this is not an easy undertaking. Second, I also support your time and effort in working with Luke Air Force Base. We think that your willingness to compromise on your initial preferred route to satisfy Luke's concerns is clearly beneficial to all of us, as we support Luke's mission viability.

You may recall that Buckeye supported APS' initial preferred route. We believe that the modification of this route is minor, and more importantly, still allows APS to build a route that is the best of all routes considered. The Town of Buckeye supports the modified preferred route specifically because it has the least impacts to our town as we continue to plan for orderly growth.

We appreciate being included in the siting process and having a real opportunity to provide APS input on major electrical facilities in our town. If you should have any questions or require additional information, please do not hesitate to contact me.

Sincerely,
TOWN OF BUCKEYE

Joseph Blanton
Town Manager

Cc: Mayor and Town Council

100 North Apache • Buckeye, Arizona 85326 • (623) 386-4691 • FAX (623) 386-7832

Town of Buckeye

January 10, 2003

RECEIVED
JAN 16 2003
BY: S Goodman

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

Dear Steve:

As you are aware, the Town of Buckeye has been an active participant in the APS West Valley South Transmission Line Project siting process. Specifically, in addition to providing our comments, concerns and perspectives during the initial conversation, we also consistently contributed to the discussion during the jurisdictional meetings that were held with other municipal governments located within the project study area.

Certainly, APS can appreciate that, in a perfect setting, the town would prefer to have high voltage transmission lines located in area outside of the town's municipal planning area. However, we understand that in order to sustain the unprecedented growth being experienced in Buckeye, as well as the greater western region of Maricopa County, current transmission facilities must be enhanced.

Towards that end, recognizing the relationship between development and reliable electricity, the town supports the West Valley South Transmission Line Project and appreciates APS' proactive outreach to the respective governmental jurisdictions as well as to the impacted residents and property owners. In particular, the spotlight that APS committed towards the public input segment of the planning process has not gone unnoticed or unappreciated.

With respect to the selected routes, the town supports the preferred option, as this alignment will have the least impact on our residents and the future development opportunities planned for that corridor. Likewise, the first two alternative routes are also supported by the town in terms of resident impact and land use compatibility.

Alternative 3, however, is not supported by the town, as this route will have a significant and adverse impact on present and future development projects along the I-10 corridor. This alternative is clearly inconsistent with the town's focus resident impact and planned development.

Steve, throughout the process I have enjoyed working with you and your team. APS' dedication to a fair and open line siting process was evident throughout the project. If these comments require any additional discussions, please do not hesitate to contact me.

Sincerely,
TOWN OF BUCKEYE

Joseph Blanton
Town Manager

Cc: Mayor and Town Council

White Tanks Concerned Citizens, Inc.

August 19, 2002

FAXED DOCUMENT

APS West Valley-South Project
Mr. Steve Goodman, Project Manager

Dear Mr. Goodman,

Our group, White Tanks Concerned Citizens, Inc., will not be able to send a representative to the Community Leaders' meeting scheduled for August 20th at the Wigwam Resort. However, we would like to comment and also have a few questions for you.

On the map of system options, our Group prefers either map A or B, with a minor change of moving the proposed 230kV substation on Olive Avenue further east, to the west side of the Fertizona fertilizer plant near the corner of Olive Avenue and Cotton Lane. Since the fertilizer plant is an industrial zoning land use, we believe a substation at this location would be better suited for the community. This could also be a possible interest to APS in that, this location is currently available for sale. We would also suggest that from this proposed new substation site, that lines running west on Olive would then become 69kV instead of 230kV.

Has APS attempted to plan its northern route between Olive Avenue and Bell Road in conjunction with planning the southern area? We believe this could be very important for future substation sites if considered now. Also, what is the acreage amounts needed to build a 69kV and 230kV station? Thank you.

Sincerely,

Kim Beneli

Kim Beneli, Director

Cc: James S. Truman, WTCC, Inc., Director
Ray Prendergast, WTCC, Inc., Director

Line Setting R- 00000-0-03-0122

RECEIVED
AUG 05 2003
BY: A. Goodman

LAND SOLUTIONS PERRYVILLE LLC
2051 W. Northern Avenue, Suite 102
Phoenix, Arizona 85021
Phone: 602-841-1945 Fax: 602-841-1307

RECEIVED
AUG 04 2003
AZ CORPORATION COMMISSION
DIRECTOR OF UTILITIES

July 31, 2003

Director of Utilities
Arizona Corporation Commission
1200 W. Washington
Phoenix, Arizona 85007

Re: Savannah.

Dear Sir or Madam,

Land Solutions Perryville LLC is currently in escrow on approximately 160 acres adjacent to Perryville Road one quarter mile north of Camelback Road. This project is known as Savannah. We object to the alternative alignment that would route the power lines along Perryville Road.

I would like to request a time to speak on behalf of myself and the property owner at your meeting on August 11th regarding our position.

Sincerely,

David Maguire

DOCUMENT CONTROL
AZ CORP COMMISSION
2003 AUG -5 P 3:46
RECEIVED

JUL 29 2003

SONORAN RIDGE ESTATES LLC
2720 EAST THOMAS ROAD – C-250
PHOENIX, ARIZONA
602-264-0000

RECEIVED
2003 JUL 25 P 4:00
AZ CORP COMMISSION
DOCUMENT CONTROL

July 24, 2003

L-00000D-03-0122

Laurie Woodall
Chairman: Arizona Power Plant and Transmission Line Siting Committee
Office of the Attorney General
1275 W. Washington
Phoenix, AZ 85007

RECEIVED
JUL 30 2003
BY: L. Goodman
via e-mail

Re: APS Line Siting – West Valley – South Transmission Line Project

Dear Ms. Woodall:

Please accept for the record our comments on the referenced issue.

Our group is the owner and developer of approximately 320 acres of single-family home sites near the White Tank Mountains. Arizona Public Service (APS) is currently proposing the installation of high-tension power lines in locations that will affect our property.

Please be advised that:

- We support the proposed alignment.
- We are opposed to the alternative alignment.

Both alignments will result in power lines situated along our property's boundaries. However, the negative affects of unsightly power lines will be lessened if the proposed alignment is chosen.

We are also greatly concerned about the location of the proposed substation just east of the Jackrabbit Road/Olive Avenue intersection. Our neighborhood lies on the south side of Olive Avenue, while the substation sight would be on the north side of Olive Avenue, directly across from our neighborhood's main entry.

Please be aware that our subdivision currently represents the *only* existing homes in that area. The nearest development of any kind is approximately 1.5 miles away. There is adjacent property with the potential to be planned and developed. Since there is so much vacant land for miles around, we are curious as to why this substation is being sighted literally right next to the only residential community in the area?

Unlike any developments that are planned after us, we will not be afforded the opportunity to plan around an eyesore of this magnitude. There are thousands of acres of private and public land surrounding us. We believe the equitable solution is to locate the substation away from our neighborhood and to an area that is currently undeveloped. This will mitigate the negative effect on our property, while allowing future developments the opportunity to master plan around it.

Thank you for your consideration of this matter.

Sincerely,

SONORAN RIDGE ESTATES LLC

Ross A. Wilson

RAW:ns

RECEIVED
AUG 13 2003
BY:

Roger K. Ferland
Direct Dial: 602.229.5607
Fax: 602.420.5123
E-Mail: rferland@quarles.com

DRAFT August 12, 2003

James "Rusty" Mitchell
Director, Community Initiative Team
Office of the Commander
U.S. Air Force 56th Fighter Wing
14185 West Falcon Street
Luke Air Force Base, AZ 85309-1629

Re: Proposed Alternative APS Transmission Line and Substation Location

Dear Rusty:

As you know from our past oral and written communications, we are working with Arizona Public Service Company ("APS") to devise a mutually satisfactory route for APS' new 230 kV transmission lines and associated 10-acre 230/69 kV substation location in the vicinity of the section of land owned by my client, Camelback LLC. Camelback LLC's property is bounded by Perryville, Indian School, Citrus and Camelback Roads. A prerequisite to our discussions with APS is that the transmission line route and substation location be acceptable not only to APS and Camelback LLC but also to other affected property owners and the U.S. Air Force. My purpose for this communication, on behalf of both Camelback LLC and APS, is to solicit your response to the acceptability of a potential substation location that is otherwise apparently acceptable to the other affected parties. That location would be the 10 acres immediately southeast of the intersection of Cotton Lane and the line constituting the western boundary of the Accident Potential Zone ("APZ"). While we believe that this proposed location is in compliance with the requirements of A.R.S. § 28-8481, it may not be optimum from your perspective. However, the criterion on which we would ask you to provide input is whether the location is acceptable for your purposes.

Because we are in the midst of a hearing before the Arizona Corporation Commission's Power Plant and Transmission Line Siting Committee that is considering potential transmission line routes and substation locations and would like to be able to put forth a consensus location for the substation for Committee consideration, we would very much appreciate it if we could receive your feedback as soon as possible. Thank you for your assistance.

Very truly yours,

Roger K. Ferland

RKF:slm

cc: Penny Gallo, Camelback LLC
Steve Goodman, APS
David Martinez, APS
Tom Campbell, Lewis & Roca, representing APS

JUL 8 2003

Quarles & Brady Streich Lang LLP
Firm State Bar No. 00443100
One Renaissance Square
Two North Central Avenue
Phoenix, Arizona 85004-2391
TELEPHONE 602.229.5200

Attorneys for Proposed Intervenor
Roger K. Ferland
Laura Raffaelli

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 WEST VALLEY-SOUTH 230 KV TRANSMISSION LINE PROJECT, INCLUDING THE CONSTRUCTION OF APPROXIMATELY 18 MILES OF 230 KV TRANSMISSION LINES AND THREE 230 KV SUBSTATIONS IN MARICOPA COUNTY, ARIZONA, ORIGINATING SOUTH OF BROADWAY ROAD AT AN EXISTING 230KV TRANSMISSION LINE IN SECTION 28, TOWNSHIP 1 NORTH, RANGE 2 WEST, G&SRB&M THAT WILL INTERCONNECT WITH THE PROPOSED TS4 SUBSTATION IN SECTION 19, TOWNSHIP 1 NORTH, RANGE 2 WEST AND CONTINUING TO THE PROPOSED TS3 SUBSTATION IN SECTION 22, TOWNSHIP 2 NORTH, RANGE 2 WEST, G&SRB&M AND TERMINATING AT THE PROPOSED TS2 SUBSTATION IN SECTION 28, TOWNSHIP 3 NORTH, RANGE 2, WEST, G&SRB&M	Docket No: L-00000D-03-0122 Case No: 122 **MOTION FOR LEAVE TO INTERVENE BY CAMELBACK, L.L.C.**

Pursuant to Arizona Administrative Code R14-3-204, Camelback, L.L.C. ("Camelback") hereby applies to the Arizona Power Plant and Transmission Line Siting Committee (the "Committee") for an order granting Camelback leave to intervene in the above-captioned

proceeding. The Committee should grant Camelback leave to intervene because Camelback will be directly and substantially affected by the transmission line route proposed by Arizona Public Service Company ("APS") in its Application for a Certificate of Environmental Compatibility ("CEC") in the above-captioned matter.

Camelback owns a section of land within the city limits of Goodyear, Arizona that is bounded by Camelback Road on the north, Cactus Road on the east, Indian School Road on the south and Perryville Road on the west (the "Camelback Property"). The Camelback Property is in the process of being sold to a developer who plans on building a 640 acre master-planned community.

On Monday June 16, 2003, the Goodyear City Council approved a General Plan designation for the Camelback Property of 0-2 dwelling units per acre. The City Council ratified that decision on Monday July 7, 2003. This designation allows the developer to build up to 1280 single family homes on the Camelback Property. In addition, if required by the Litchfield School district and approved by Luke Air force Base, the developer may be required to include a park and school site in the middle of the property. The developer also intends to design equestrian trails, drainage ways and open spaces, all of which are intended to enhance the area's scenic views.

However, the route proposed by APS for its 230 kV transmission line will seriously undermine if not destroy the use of the Camelback Property as a master-planned community. As currently sited, APS' preferred transmission line route will bisect the Camelback Property from east to west. The 160-foot transmission towers and associated power lines will not only split the property but will effectively destroy both the physical and visual features of the Camelback Property that are key to its economic viability. The location and height of the transmission towers would make them visible from every part of the property. Because a buffer zone would need to be created along the route of the transmission line and APS intends to locate a ten-acre electric

substation on the Camelback Property, the amount of developable land will be drastically reduced and the available uses of the remaining property will be substantially curtailed. Thus, if APS is permitted to implement the proposed transmission line as currently sited, Camelback will suffer considerable economic loss. Indeed, the developer has indicated that it will not proceed further with development if the APS transmission line siting proposal is implemented.

Camelback believes that there are multiple feasible alternative routes for the transmission line that will not have the devastating impacts of APS' preferred route. As an intervenor, Camelback can provide meaningful comment on alternative routes that will reduce the impact of the transmission lines on the environment, will be consistent with Goodyear's General Plan and will substantially decrease the cost of transmission line construction and ultimately the cost to APS' ratepayers. Camelback's participation in these proceedings will not broaden the issues or unduly delay the proceedings.

For the reasons outlined above, Camelback respectfully requests that the Committee grant its Motion for Leave to Intervene in this matter. Camelback requests that all communications in connection with the above-captioned proceedings be directed to:

Roger K. Ferland
Quarles & Brady Streich Lang LLP
One Renaissance Square
Two North Central Avenue
Phoenix, Arizona 85004-2391

...

...

...

...

...

...

RESPECTFULLY SUBMITTED this 7th day of July, 2003.

QUARLES & BRADY STREICH LANG LLP
One Renaissance Square
Two North Central Avenue
Phoenix, AZ 85004-2391

By _____
Roger K. Ferland
Laura Raffaelli

Attorneys for Proposed Intervenor Camelback, LLC.

ORIGINAL + 28 copies filed this 7th day of July, 2003, with:

Arizona Corporation Commission
Docket Control
1200 West Washington Street
Phoenix, AZ 85007

COPIES of the foregoing mailed this 7th day of July, 2003, to:

Ernest G. Johnson, Director of Utilities
Arizona Corporation Commission
Utilities Division
1200 West Washington Street
Phoenix, AZ 85007

Thomas H. Campbell
Lewis & Roca LLP
40 North Central Avenue
Phoenix, AZ 85004
Attorney for Arizona Public Service Company

_____

Quarles & Brady Streich Lang LLP

One Renaissance Square
Two North Central Avenue
Phoenix, Arizona 85004-2391
Tel 602.229.5200
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Naples and Boca Raton, Florida
Chicago, Illinois (Quarles & Brady LLC)
Milwaukee and Madison, Wisconsin

Roger K. Ferland
Direct Dial: 602-229-5607
Fax: 602-420-5123
E-Mail: rferland@quarles.com

March 20, 2003

RECEIVED
MAR 27 2003
BY:

VIA HAND-DELIVERY

Steven H. Goodman, APS Manager
Transmission & Facility Siting
Mail Station 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: CAMELBACK LLC'S OPPOSITION TO APS' CONSTRUCTION OF 230 KV TRANSMISSION LINE

Dear Mr. Goodman:

You requested that we provide a written list of the reasons for Camelback LLC's opposition to APS' construction of 230 kV transmission line through the middle of a section of its property located between Camelback and Indian School Road in Goodyear, Arizona (the "Camelback Property"). The property is in the process of being developed as a planned mixed use but primarily residential community.

The siting of the transmission line as currently proposed is objectionable for four reasons:

1. The route is inconsistent with the City of Goodyear's General Plan.
2. The route is incompatible with the private development plan for the impacted property.
3. The route is, by far, the most expensive of the alternative routes for the transmission line.
4. There are multiple feasible alternative routes for the transmission line that bypass the Camelback Property and that are:
   a) Less disruptive of current and planned uses of the impacted property.
   b) Do not violate the Goodyear General Plan.
   c) Much less costly.

d) Do not violate the basic tenets of transmission line siting.

Below we examine each of these objections in detail.

1. The route is inconsistent with the City of Goodyear's General Plan.

State law governing the issuance by the Arizona Corporation Commission of a Certificate of Environmental Compatibility for a transmission line declares that:

> Any certificate granted by the [Power Plant and Transmission Line Siting] Committee shall be conditioned on compliance by the applicant with all applicable ordinances, master plans and regulations of the state, a county or an incorporated city or town, except that the committee may grant a certificate notwithstanding any such ordinance, master plan or regulation, exclusive of franchises, if the committee finds as a fact that compliance is not feasible in view of technology available.

A.R.S. § 40-360.06.D. Emphasis supplied.

Here the siting of a transmission line through the middle of the Camelback Property would be incompatible with the Goodyear General Plan and, therefore, prohibited by the above-quoted statute unless there was no technically feasible alternative route. As noted below, there are a multitude of technically feasible alternative routes.

Apparently, when APS selected the route through the Camelback Property to which we object, it did so on the basis of an early draft of 1998 revisions to the Goodyear General Plan that classified the property as an "Agricultural Preserve." However, Section 22 of the Goodyear General Plan actually adopted by the City in 1998 classified the Camelback Property as a "Special Study Area" with the primary intent of analyzing its suitability for residential uses. Since 1998, the various planning processes undertaken by the City have concluded that the property is appropriate for residential development and will incorporate that conclusion in the General Plan within the next several months. Thus, in a December 27, 2002 letter to you, Harvey Krauss, the City's Community Development Director, declared that the proposed route "would bisect private, developable property, and would not be supported by the City." According to Mr. Krauss, the Camelback Property "is currently being master planned for mixed development, and the proposed 230 kV line would negatively impact this property." See Attachment "A". This fact alone should be sufficient for APS to reconsider the proposed route.

2. The route is incompatible with the private development plan for the impacted property.

The transmission line siting statute quoted earlier also requires the Arizona Corporation Commission to consider whether a transmission line siting plan will be compatible with private development plans. A.R.S. § 40-360.60.A.1. In the case of the Camelback Property, a private

developer has prepared a detailed development plan that would be fatally undermined by the proposed transmission line route. The plan contemplates a park and elementary school in the middle of the property that would be bisected by the transmission line corridor, thus making these planned uses essentially impossible. Moreover, the property is designed as a planned community with equestrian trails, drainage ways and open spaces that are meant to enhance multiple scenic vistas. The presence of 160-foot transmission towers and associated power lines through the middle of the property would significantly disrupt both these physical and visual features. Finally, the actual route of the transmission line and the need to create a buffer zone along that route would reduce the amount of developable land and thereby require significant revisions to the development plan to take these losses into account.

3. The route is, by far, the most expensive of the alternative routes for the transmission line.

The transmission line siting statute referred to earlier also requires that the Corporation Commission consider cost in determining the suitability of transmission line siting route. This consideration is based on the common sense recognition of the fact that "any significant increase in costs represents a potential increase in the cost of electric energy to the customers or the applicant." A.R.S. § 40-360.06.A.7.

In order to gain an appreciation of the cost issue as it applies to the proposed route, we consulted with several appraisers with experience in the condemnation and valuation process as applied to horizontal infrastructure siting–route for roads, pipelines and transmission lines. At least one of these appraisers has worked for APS in the past as an expert witness in condemnation proceedings for transmission line corridors.

According to these appraisers, there are several aspects of this proposed route that will have significant impacts on the valuation phase of the condemnation process:

a) The location and height of the transmission towers will make them visible from every part of the property.

b) The location will result in direct loss of developable property – the actual footprint of the towers and transmission line plus the property that would be lost because of a required buffer zone adjacent to the footprint.

c) Because the transmission corridor will bisect the property, the current development plan will require a complete revision.

d) When the valuation occurs. Assuming that the transmission line siting process follows its usual course, the actual condemnation proceedings could be as much as two years into the future. By that time, actual development of the Camelback

Property will be well along and the loss to the developer from the transmission line location will be much easier to prove.

Taking these factors into account would result in a valuation process that would consider one or more of the following:

- Compensation for the developer's loss of profitability for the development attributable to the transmission line location.

- The loss in value to each parcel in the development based upon the loss of total value of each property eliminated from development and a reduction in value to every other parcel in the development that would be directly proportional to that parcel's distance from the transmission line corridor.

- At a minimum, the appraisers believe that our client would be entitled to recover the difference between the market potential of the Camelback Property with and without the transmission line bisecting it plus the actual loss of developable property attributable to the choice of the transmission line route. My client believes that the transmission line will render the property unmarketable and will, therefore, argue that its value for purposes of the condemnation process is the difference between its current fair market value and its value as agricultural property.

In sum, because the proposed transmission line route would significantly impair the value of the entire Camelback Property, the condemnation cost for that route will be high.

4. **There are multiple feasible alternative routes for the transmission line that bypass the Camelback Property and that are:**

   a) **Less disruptive of current and planned uses of the impacted property.**
   b) **Do not violate the Goodyear General Plan.**
   c) **Significantly less costly.**
   d) **Do not violate the basic tenets of transmission line siting.**

We asked CMX, the planning consultant for the developer of the Camelback Property, to research and prepare maps showing potential feasible alternatives to the proposed route for the APS transmission. The result of the CMX effort is contained in Attachment "B." The three alternative routes have several characteristics in common:

- They do not bifurcate or interfere with property that is zoned for residential or mixed use.

- They do not violate the Goodyear General Plan.

- Their impact will be on property that is zoned for light industrial use, is in an agricultural preserve or is severely restricted as far as development because it is within the boundaries of Luke Air Force Base's "high noise or accident potential" zone.

- Because of the existing limitations on development of the properties impacted by the alternative transmission line routes, the cost of compensating property owners for locating the transmission line should be substantially less than for the current proposed route through the middle of the Camelback Property.

The alternative routes differ in one important respect. The route currently proposed by APS violates a primary tenet of transmission line siting – it does not parallel an arterial highway when several are clearly available. Two of our alternatives follow this tenet. The third alternative responds to a major concern of the City of Goodyear. In its December 27, 2002 letter to you, the City notes that "a portion of these [transmission line] facilities would fall with the Accident Potential Zone of Luke Air Force Base, and any facilities constructed within the APZ are of considerable concern to the City of Goodyear since they may be a potential hazard to Luke's operations."

What is particularly problematic about the currently proposed route is that not only is it within the Accident Potential Zone, but it envisions a 90° change in direction that is wholly within the zone and at a location relatively close to the end of the Luke Air Force Base runway. Although the Air Force has taken no official position on the proposed route, we cannot believe that the presence of 160-foot transmission line towers within such close proximity to the most active runway for takeoffs on the base will be viewed as desirable. To respond to these concerns, our Option 3 locates the transmission line along the edge of the Accident Potential Zone boundary. Not only does this option remove the transmission line towers from the Accident Potential Zone but it is a shorter route than the other alternatives and its entire length is within property designated for either agricultural preserve or light industrial use.

In sum, the case against the proposed route is a strong one, practically, politically and legally. Public opposition can be expected not only from my client and the developer but also from the City of Goodyear and, in all probability, the Air Force. This fact ought to be enough to cause APS to at least reexamine the thinking that led it to propose the current route. Upon reexamination, we feel sure that APS will conclude that there are several much more desirable alternatives that respond to the points we have raised, are less expensive to APS and will mute the criticism that APS will be subject to if it pursues the current route.

After reviewing the foregoing, please let me know where you are in your thinking.

Sincerely,

Roger K. Ferland

RKF:slm

cc: Penny Howe Gallo, Esq.
Tina Suarez
Harvey Krauss, City of Goodyear

bcc: Nicholas J. Wood
Stephen W. Anderson
Toni Bonar

LAW OFFICES
FRANCIS J. SLAVIN, P.C.

2198 EAST CAMELBACK ROAD
SUITE 285
PHOENIX, ARIZONA 85016
(602) 381-8700
FAX 381-1920
EMAIL: fjspc@worldnet.att.net

FRANCIS J. SLAVIN
JOSEPH J. MORITZ, JR.*
DEBRA C. GRIFFITH

*CERTIFIED SPECIALIST, REAL ESTATE LAW

August 1, 2003

RECEIVED
AUG 01 2003
BY: S. Goodman

VIA FACSIMILE – 602.493.4113

Steve Goodman, Project Manager
Transmission & Facility Siting
ARIZONA PUBLIC SERVICE COMPANY
Mail Station 4030
P.O. Box 53933
Phoenix, Arizona 85072-3933

Re: Proposed 230 KV Transmission Line to be Located Along the West Side of Perryville Road Between Broadway Road and McDowell Road, in T1N, R2W, G&SR B&M, Goodyear, Arizona (the "Transmission Line")

Dear Mr. Goodman:

We represent the owners of approximately 382 acres of land located on the northeast corner of Perryville Road and Broadway Road in Sections 22 and 23 of the above-referenced Township. This letter shall serve as the formal written opposition of such owners to any attempt to relocate the proposed Transmission Line to the east side of Perryville Road between Broadway Road and Lower Buckeye Road. While the owners are not enthusiastic supporters of the Transmission Line being located anywhere near their property, they would reluctantly accept the proposed location on the west side of Perryville Road between Broadway and McDowell Roads. They are adamant, however, in their opposition to any attempt to relocate the Transmission Line to the east side of Perryville Road.

Please feel free to contact us if you have any questions. Thank you.

Sincerely,

Joseph J. Moritz, Jr.

cc: Richard C. Wilson (via facsimile – 602.508.8510)

4[967004LT.J04]

RECEIVED
JAN 11 2003
BY:

January 10, 2003

(602) 256-4405
mking@gblaw.com

Via E-mail (steven.goodman@aps.com)

Re: Electrical Substation Placement Near Glendale Avenue and Loop 303

Dear Steven:

Please be advised that our law firm represents both the owner and the tenant of the parcel of land which the APS West Valley-South Power Line and Substation Project map indicates to be the preferred site for a proposed 69kV substation. For convenience sake, I will refer to our clients as "Bickman Farms."

For many years, Bickman Farms has grown primarily rosebushes on the subject parcel. Bickman Farms continues to grow rosebushes on the parcel. Rosebushes are a relatively sensitive crop and can only be grown successfully in a very limited number of locations, including areas north and west of Luke Airforce Base. Rosebushes require nearly three years from planting to harvesting and, therefore, decisions affecting the land upon which rosebushes are grown require a great deal of advanced planning.

We need to speak with you and/or other representatives of APS regarding the exact location and anticipated impact of the placement of the proposed 69kV substation near Glendale Avenue and the Loop 303. We believe we may be able to suggest a more suitable nearby location for the substation. In any event, we need to begin the dialogue with APS immediately to minimize any harm to the farming operations of Bickman Farms.

I look forward to your prompt response.

Sincerely yours,

GAMMAGE & BURNHAM P.L.C.

By
Michael R. King

MRK:arr

cc: Bickman Farms (via facsimile and U.S. Mail)
Jerry D. Worsham, II, Esq.

FREEWAY WEST 85 LIMITED PARTNERSHIP, L.L.P.
5622 E. Presidio Road
Scottsdale, AZ 85254-3720
Tel: (602) 953-0772
Fax (602) 953-1163

June 27, 2002

Mr. Steve Goodman, Project Manager
Transmission and Facility Siting
Mail Station 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: WEST VALLEY SOUTH TRANSMISSION AND FACILITY SITING PROJECT

Dear Mr. Goodman:

The purpose of this letter is to notify APS of the position of Freeway West 85 Limited Partnership, L.L.P. ("FW85") regarding the above-referenced matter. FW85 owns approximately 54 acres of land at the southeast corner of I-10 and the Airport Road/Verrado Way interchange. This is within a transmission line corridor under consideration by APS.

ROUTES OPPOSED BY FW85

FW85 opposes all east-west routes which parallel I-10 *or* which are within 1 mile south or 1 mile north of I-10 from the Buckeye Substation to Perryville Road. These routes are shown in blue on the APS working draft dated 05/14/02 which you gave me in our meeting on June 25, 2002.

Our reasons for opposing these I-10 routes are as follows:

1. This Is The Most Expensive Land In Buckeye. Most of this property adjacent to I-10 is zoned "Commercial, Mixed Economic Use," the highest zoning classification of the Town of Buckeye. Because of its zoning, this land will be the most expensive land for APS to acquire.
2. Land Values Are Rising Rapidly Along I-10. The Sundance Development and the Verrado Development with its new freeway interchange are fueling rapid increases in land values adjacent to I-10.
3. This Route Will Result in Longest Delays for APS. Enough money is at stake that multiple parties will pool their resources as intervenors and delay the Certificate of Environmental Compatibility process as long as possible to stretch the date of taking as far into the future as possible to allow land values to rise further.
4. Environmental Factors Are Very Poor Along I-10. The stunning views of the White Tank Mountains immediately north of I-10 would be badly compromised by a new power line. Environmentalists will have a field day opposing this alignment. The major landowners have enough at stake to hire their own environmental experts and studies.

5. Members of Siting Committee Will Oppose This Route For Environmental Reasons. For environmental reasons, members of the Arizona Power Plant and Transmission Line Siting Committee strongly opposed paralleling I-10 with a 500kv transmission line in Case #115 which is similar in many respects.
6. Town of Buckeye Opposes This Route. The Town of Buckeye is on record opposing this route through Town Manager Joe Blanton who has attended all agency stakeholder meetings.
7. DMB Opposes this Route. DMB, developer of Verrado, is on record opposing this route.
8. Tuthill Road Route Is Also Opposed. We also oppose the route from the Liberty Substation north along the Tuthill Road alignment.

ROUTES FAVORED BY FW85

FW85 favors routes which originate at the Liberty Substation, proceed east to Perryville Road, north to Indian School Road, and East to Loop 303. These routes are shown in blue and red on the APS working draft dated 05/14/02.

Our reasons for favoring these Liberty Substation routes are as follows:

1. Environmental Factors Are Superior. The visual pollution of the view of the White Mountains is minimized by this route which is much, much farther from the mountains than the I-10 route. Chances of approval by the Siting Committee are greatly improved.
2. This Route Partly Follows Existing Corridors. Existing large transmission lines currently running east from the Liberty Substation can be followed east to Perryville Road.
3. Perryville Road Is Boundary Between Goodyear and Buckeye. Following the boundary between the two cities distributes both the benefits and the burdens of the new power line between them.
4. Right of Way Cheaper to Acquire. Most of Perryville Road is not zoned commercial like the properties along I-10.
5. There Is No Interchange at I-10 & Perryville Road. Perryville Road does not have an interchange where it crosses under I-10. This a makes a power line crossing of I-10 much simpler.

Thank you for considering our comments.

FREEWAY WEST 85 LIMITED PARTNERSHIP, L.L.P.

Terence E. Guerrant, General Partner

cc: Joe Blanton

C:\W\FW85\APS Letter1.wpd

AUG 09 '02 ... UPS GREINER

P.2/2

KAX Group

L.L.C.

Real Estate

6929 E. Greenway Parkway
Suite 150
Scottsdale, Arizona 85254

(480) 998-8300
(480) 998-7300 Fax
(602) 499-9306 Cell
kxandor@kaxgroup.com

GY0100

Kent A. Xander

COPY

April 28, 2002

Hand Delivered

Greg Jones
Maricopa County Flood
2801 W. Durango
Phoenix, Arizona 85009

Re: Parkman Ranch – An approved 644 lot subdivision on 160 acres ("Property") located at the NWC Van Buren & Perryville Road, Buckeye, Arizona

Dear Greg:

Pursuant to our conversation at the open house on April 16, 2002 at Scott Libby Elementary School, attached is the on-site and off-site drainage reports and preliminary plat for the above referenced project.

The Town of Buckeye approved the preliminary plat for the Property and the drainage reports are approved subject to the minor comments written on them. Currently, our water consultant is preparing a design for the domestic water system for Parkman Ranch.

As you suggested, we are requesting that Maricopa County Flood Control not request FEMA to modify the Floodplain Map based upon the information presented at the open house.

We believe the drainage reports accurately describe how the drainage will occur for the Property upon development. Please review the drainage reports and call me with any questions at 480-998-8300, ext. 102.

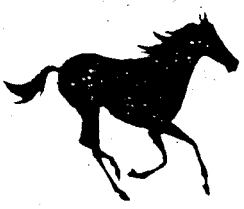
Sincerely,
GY0100, LLC

Kent A. Xander
Manager

From Greg Jones
5-7-02

FLOOD CONTROL DISTRICT
RECEIVED
MAY 01 '02

cc: Greg Vogel
Jeff Tang



THE GUARD RANCH
P. O. Box 95
Waddell, Arizona 85355

RECEIVED

2003 AUG 14 A 11:18

AZ CORP COMMISSION
DOCUMENT CONTROL

12 August 03

Docket Control Center
Ariz. Corp. Commission
1200 W. Washington
Phoenix,AZ. 85007

L-00000-D-03-0122

Gentlemen: -- Ref: Installation of 230 KV lines along Olive Ave. west Rte 303 in Waddell, AZ.

To introduce myself: - - Warren M. Guard, owner of 10 acres, contingent to and occupying the southeast corner of Cotton Lane and Olive Ave.in Waddell, AZ. This is described as part of the Nw/4 of the Nw/4 Sec.36 3N 2W.

My position on the installation of these monster utility poles along Olive Ave. is negative. Certainly, it would not only be an ugly adjunct to my property, but might necessitate confiscating some of my acreage and destroying the integrity of my home lot.

Irrespective of my personal concerns, thereare other disadvantages to the Olive Ave. route and other options to consider;

1.- Olive Ave. is being thought of as being a Parkway to the White Tanks Mountain Park. Huge power poles would not be conducive "Parkway scenery". Why not go up Perryville road to the destination, eliminating the East and West turns from 303? There is very little environmental impact that way and less expense.

2.- Use 303 but go West on Peoria Ave.

I realize, nommatter , some one will object.

There are more objections,expenses on Olive.
Use the other options.
Or-another consideration - "go underground".

Sincerely,

Warren M. Guard

Warren M. Guard

AUG 5 2003

RANCH

RECEIVED
AUG 06 2003
BY: J. Goodman

July 25, 2003

RECEIVED
JUL 29 2003
AZ CORPORATION COMMISSION
DIRECTOR OF UTILITIES

Director of Utilities
Arizona Corporation Commission
1200 W. Washington
Phoenix, AZ 85007

L-00000D-03-0122

Dear Sir or Madam:

I represent Russell Ranch Home Owners Association and I'm writing you today to request time to speak at your meeting that is being held at the Wigwam Resort on August 11, 2003 regarding the APS transmission lines and their proposed routes. We are very concerned about the alternative routes and request our voice to be heard.

Please let me know when I will be able to speak.

Thank you for you time and consideration of our needs.

Sincerely,

Daniel A. O'Connor
Managing Partner
Russell Ranch, LLC

DAO:ds

RECEIVED
2003 AUG -4 A 8:03
AZ CORP COMMISSION
DOCUMENT CONTROL

P.O. Box 2471, Litchfield Park, AZ 85340 (O) 623-935-2100 (F) 623-583-9278

BEAZER HOMES

www.beazer.com

RECEIVED
JUN 09 2003
BY: S. Goodman

June 5, 2003

Faxed/original to follow by mail.

Mr. Steve Goodman
Project Manager
Transmission & Facility Siting
APS
PO Box 53933
Phoenix, AZ 85072-3933

Dear Steve:

I would like to thank you again on Beazer's behalf, for taking the time to meet with us concerning the 230kv transmission line siting proposal along Perryville Road.

Beazer at this time, must request that the TS3 sub-station and corresponding transmissions lines directly to the east, as detailed on the Working Draft dated 5/5/03, not be moved to the south of Indian School Road.

Beazer has already sold many homes in our Litchfield Farms II development that will be adversely impacted by the lines running parallel to Perryville Road. By siting the sub-station south of Indian School Road and installing the additional lines running from it to the east, we feel that our owners would be subject to living with an unproportionate amount of APS' transmission lines.

The property to the north of Indian School Rd. has not yet been developed and any future development would be made aware of the transmission line much further in advance than one that exists today allowing developers to adjust their product offering and pricing strategies accordingly.

The last point I would like to make is that APS will likely have far fewer issues with Luke Air Force Base if the sub-station remains, as proposed, north of Indian School Road.

Beazer Homes and the homeowner's at Litchfield Farms II appreciate APS' consideration of our concerns and wish you success with your project.

Sincerely,

Kurt A. Hubbell
Project Manager

2005 West 14th St
Suite 100
Tempe, Arizona 85281
Tel 480.967.8655 BZH

DMJM+HARRIS

2777 East Camelback Road, Suite 200
Phoenix, Arizona 85016-4302

Tel: (602) 337-2777
Fax: (602) 337-2620

February 25, 2003

Mr. Steve Goodman
APS
P.O. Box 53933, Station 4030
Phoenix, AZ 85072

RE: Public Scoping Meeting

Dear Mr. Goodman:

DMJM+HARRIS has been retained by the Maricopa County Department of Transportation (MCDOT) to perform an Access Control and Corridor Study for McDowell Road, from Loop 303 to Sun Valley Parkway. This project will develop a recommended improvement plan for McDowell Road that will address future transportation needs of the area while incorporating environmental and drainage concerns. The project will define a preferred roadway section within an ultimate right-of-way and access control measures to maintain safe and efficient traffic flow throughout the corridor. Implementation strategies will also be recommended as adopted and supported by MCDOT and the local jurisdictions.

A Public Scoping Meeting has been scheduled for Wednesday, March 4, 2003, from 5:00 p.m. to 7:00 p.m. at the Scott L. Libby Elementary School located at the southwest corner of Thomas and Perryville.

The meeting will serve to inform stakeholders and residents of the various alternatives we are reviewing, and compile comments regarding the proposed work to insure that the needs and issues important to the public are satisfied.

Please telephone, fax or e-mail your comments or confirmation/cancellation to (602) 337-2643, (602) 337-2620, or joe.pluta@dmjmharris.com respectively.

Sincerely,

DMJM+HARRIS

Joseph Pluta

Joseph Pluta, P.E.
Project Manager

cc: SMO
File: 5338.0002.409.2

replied via e-mail
2/28/03 -
Joe to forward information & updates

RECORP

Recorp Management, Inc.

7720 East Redfield Road
Suite 8
Scottsdale, Arizona 85260
(480) 991-2288
(480) 951-8414 FAX
Recorp3@yahoo.com

August 29, 2002

Mr. Steve Goodman
Project Manager
Transmission and Facility Siting
Arizona Public Service
Mail Station 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

RE: Objection to Olive Avenue Route (230/69kV Line – West Valley-South)

Dear Mr. Goodman:

I want to voice my strong objection to siting the proposed west valley-south 230KV electrical transmission line along the Olive Avenue route between Citrus and Perryville Road.

I understand the need for additional electrical transmission to service the growing Phoenix area, however, the proposed route does not make any sense! Here is why:

1. Per capita (current and projected) - impact is greatest on the the Olive Avenue route;
2. Right-of-way acquisition is more costly;
3. Greatest number of people negatively impacted by electromagnetic fields;
4. Greatest number of people negatively impacted by loss of property values, this includes both existing and planned residential areas;
5. Unwanted scar on the entrances of TWO masterplanned communities. Effecting marketing and sales for both communities.

The property map enclosed shows land uses and preliminary plat that has been approved through a rezoning/plat application with Maricopa County. We have had interest in the site, but due to YOUR OLIVE AVENUE CORRIDOR OPTION have been unable to market the property. This we feel is a "Temporary Taking" on behalf of Arizona Public Service. As an owner who has the Olive Avenue corridor abutting its property, Recorp has been already harmed by the actions of Arizona Public Service. We request that Arizona Public Service immediately desist from any actions further harming our property. We would also ask that the Olive Avenue Corridor between Citrus and Perryville Road be removed from the list of alternatives **immediately**.

A more viable option is that the proposed Olive Avenue substation be moved two miles north to Cactus Road and Perryville and have the proposed line 230kv or 69 kv running up the 303 connect at 303 and Cactus. This route can avert any heavily populated areas by following Cactus Road from the Perryville Road alignment.

I ask that you amend your route since it will minimize the impact to a large number of people and property owners. This in turn will reduce the risk of a costly and time consuming appeal by those affected by the ultimate route of the transmission line.

Thank you for your consideration on this serious matter.

Sincerely,
Recorp Management Inc.

By: _____
Gary B. Lane, AICP
Senior Project Manager

cc: BJ Communications
Paul Gilbert, Beus Gilbert

SUNCOR

June 3, 2002

COPY

APS
Transmission & Facility Siting Dept.
Mr. Steve Goodman
Project Manager
P.O. Box 53933 Station 4030
Phoenix, AZ 850072

Re: West Valley-South Power Line and Substation Siting Project

Dear Steve:

Thank you for the opportunity to comment on the draft 230kV and 69kV Alternate Route Maps. After reviewing the routes and based on the property we own, there are some conflicts with development and land uses. Given this information, SunCor is opposed to the following alternative routes.

230 kV

TS2-TS3: Opposed to Routes G - J

69 kV

WS2-WS3: Opposed to Routes A, B, and D
Prefer substation location under the "S560" on the map.

WS3-TS3: Opposed to Routes A.
Prefer in order: Route B, Route C, Route D

WS7-Litchfield Substation: Opposed to Route A and B.
The existing 12 kV line along Bullard Avenue will be underground.
Prefer the substation as shown in the northwest corner of Section 23 with the new line following the existing route along Thomas Road

WS10-Colter Substation: Opposed to Route A.

We appreciate your consideration of our comments in this matter. Please contact me if you have any questions.

Sincerely,

Jay T. Ellingson

Jay T. Ellingson
Vice President

SunCor Development Company
1615 North Litchfield Road, Suite 270, Goodyear, Arizona 85338
Tel 623.935.0600 Fax 623.935.0100

WEST VALLEY-SOUTH

Power Line and Substation Project

EXHIBIT
A-7
admitted

WEST VALLEY-SOUTH
POWER LINE & SUBSTATION PROJECT

Application for a Certificate of Environmental Compatibility

SUPPLEMENTAL PACKET #2

Submitted by

APS

September 2003

TABLE OF CONTENTS

SECTION

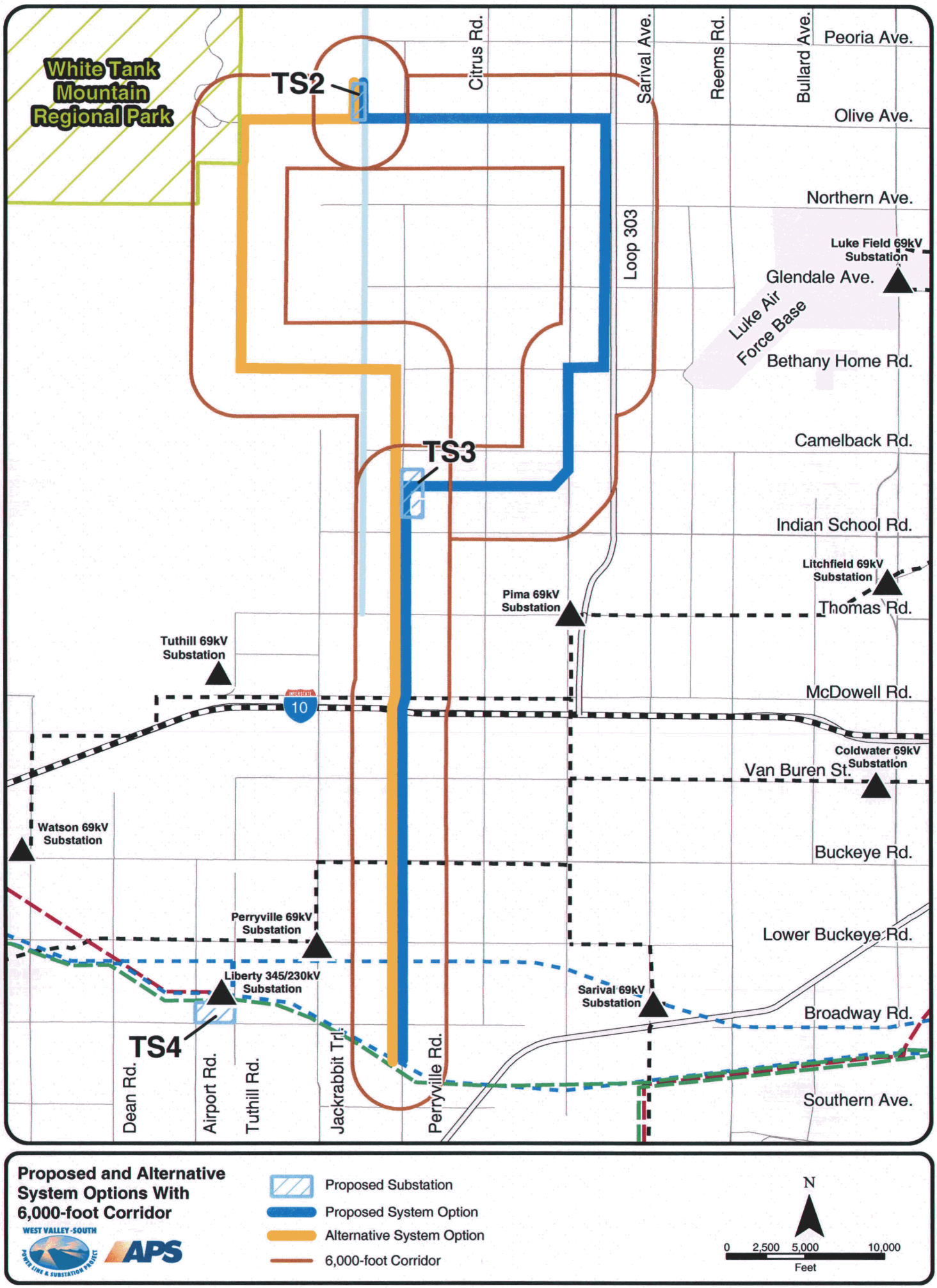
MAP OF THE PROPOSED AND ALTERNATIVE SYSTEM OPTIONS WITH 6,000-FOOT CORRIDOR I

VISUAL SIMULATIONS FROM WITHIN THE WHITE TANK MOUNTAIN REGIONAL PARK II

TESTIMONY PRESENTATION SLIDES III

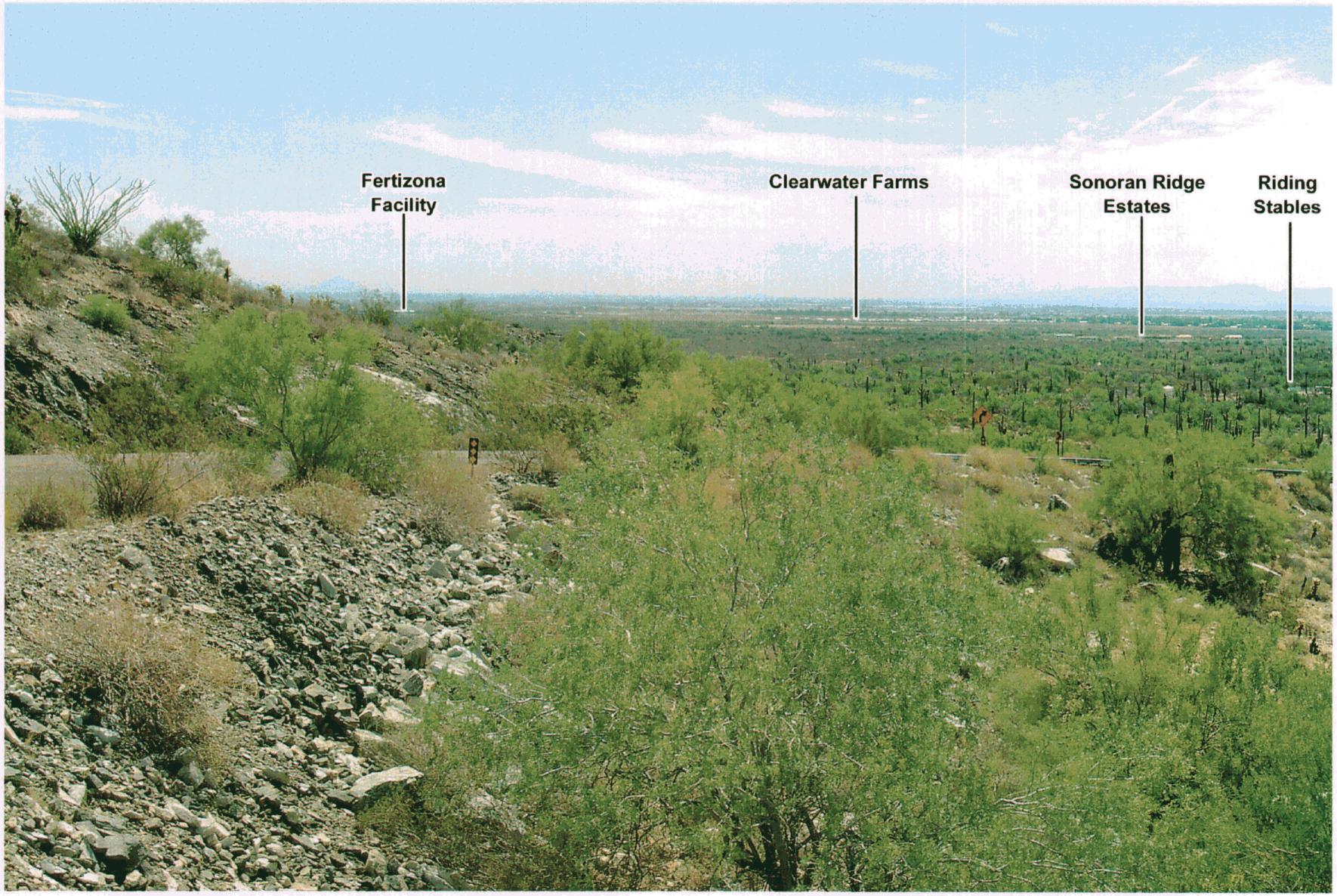
SECTION I

Map of the Proposed and Alternative System Options with 6,000-foot Corridor

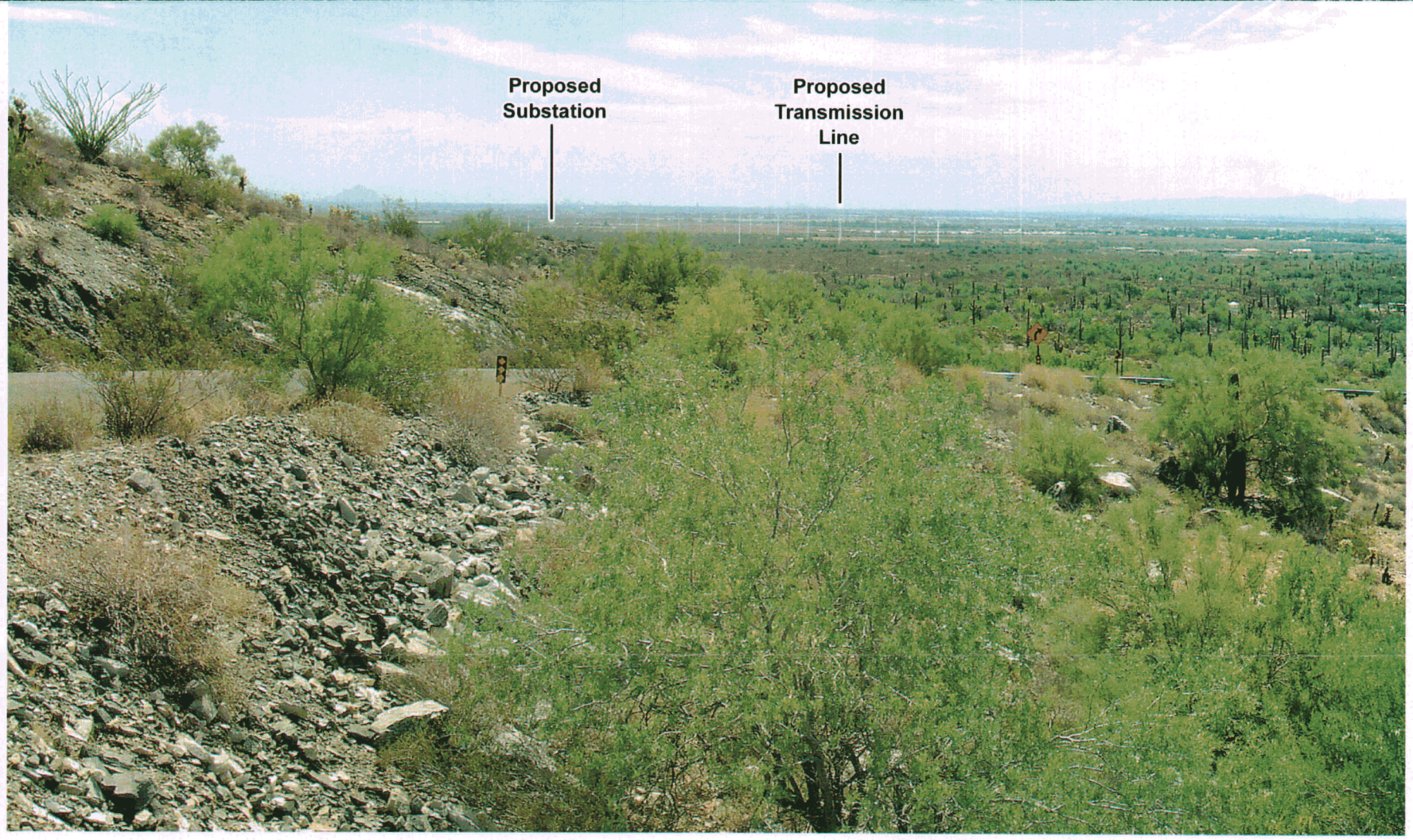

White Tank Mountain Regional Park
TS2
TS3
TS4
Citrus Rd.
Sarival Ave.
Reems Rd.
Bullard Ave.
Peoria Ave.
Olive Ave.
Northern Ave.
Loop 303
Luke Field 69kV Substation
Glendale Ave.
Luke Air Force Base
Bethany Home Rd.
Camelback Rd.
Indian School Rd.
Litchfield 69kV Substation
Pima 69kV Substation
Thomas Rd.
Tuthill 69kV Substation
10
McDowell Rd.
Coldwater 69kV Substation
Van Buren St.
Watson 69kV Substation
Buckeye Rd.
Perryville 69kV Substation
Lower Buckeye Rd.
Liberty 345/230kV Substation
Sarival 69kV Substation
Broadway Rd.
Dean Rd.
Airport Rd.
Tuthill Rd.
Jackrabbit Trl.
Perryville Rd.
Southern Ave.
Proposed and Alternative System Options With 6,000-foot Corridor
WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT
APS
Proposed Substation
Proposed System Option
Alternative System Option
6,000-foot Corridor
N
0
2,500
5,000
10,000
Feet

SECTION II

Visual Simulations from within the White Tank Mountain Regional Park



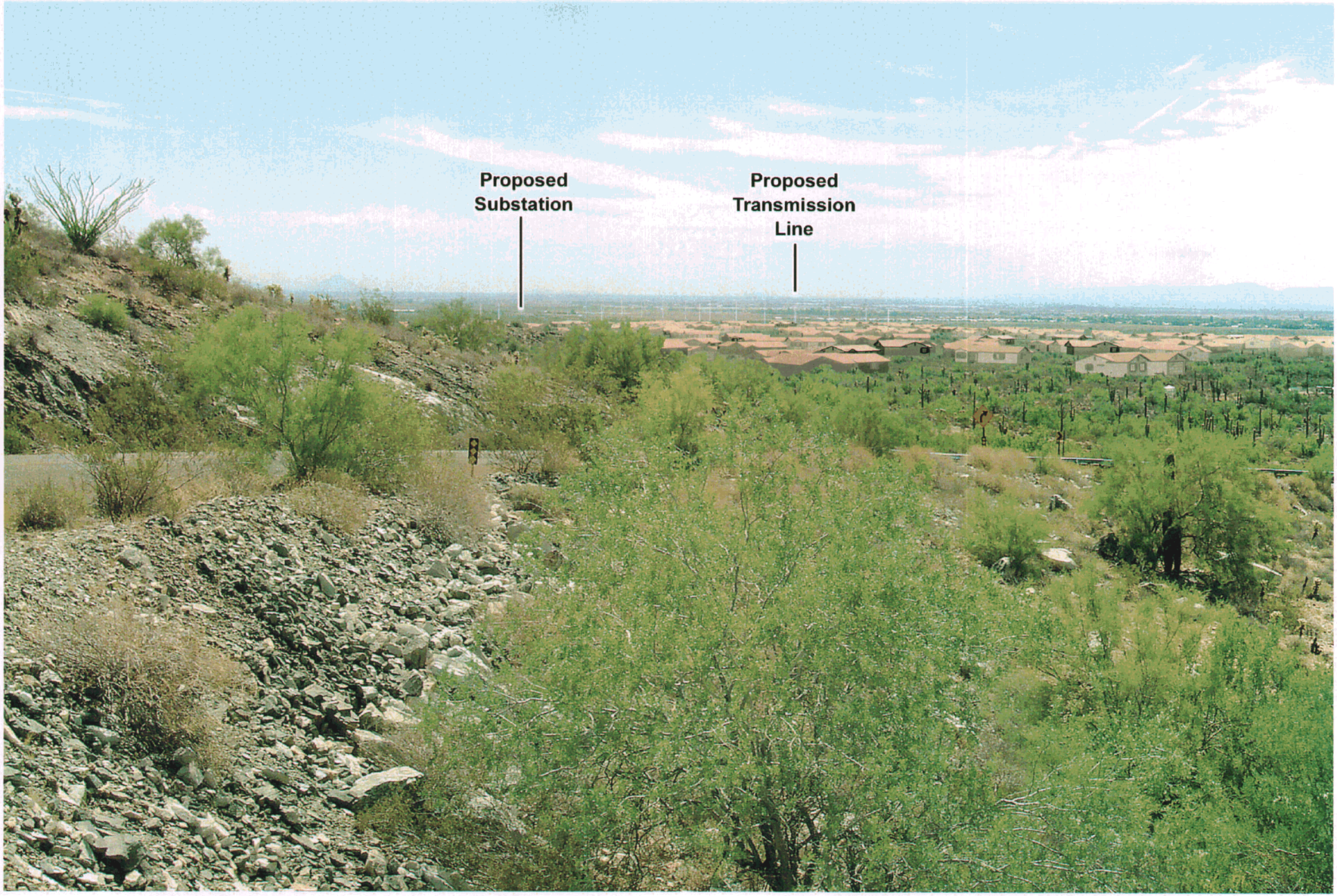
Existing Conditions



Simulated Future Conditions (without residential development adjacent to park boundary)

Location Map (not to scale)

View from White Tank Mountains Regional Park



Simulated Future Conditions (with residential development adjacent to park boundary)

Simulated Future Conditions (150% zoom with residential development adjacent to park boundary)

Location Map (not to scale)

View from White Tank Mountains Regional Park

SECTION III

Testimony Presentation Slides

60 Hertz Electric and Magnetic Fields Brief Update

Marty Eroh

Arizona Public Service

Senior Environmental
Scientist/Industrial Health Consultant

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Witness Background

- Educational background
  - BS Toxicology, Philadelphia College of Pharmacy and Science
  - MS Industrial Hygienist / Toxicology, University of Arizona
- Professional background
  - 17 years of experience with APS' Corporate Environmental, Health and Safety Department
  - 15 years of extensive involvement with EMF
  - Certified Industrial Hygienist - CIH

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Electromagnetic Fields

- Electromagnetic fields found wherever there is electricity
  - Power lines, building wiring, appliances
- E Fields - function of voltage (kV/m)
- Magnetic fields - function of current (mG)
- Strength of both fields decrease rapidly with distance from the source

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

Overall Status of Health Effects Research

- Research dates back to the 1970s
- No known health effect at commonly encountered field strengths, similar to those found directly under high voltage power lines
- There are no applicable exposure limits at a federal or state level
- General public exposure guidelines:
  - ICNIRP = 833 mG
  - IEEE = 9,000 mG

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

California Report

- Primarily a literature review
- Provides opinions of three scientists - all with epidemiological backgrounds
- Does not conclude that fields cause cancer

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT

APS' Response

- Understand that this is a concern to our customers and employees
- Share information
- Take measurements upon request
- Support research
- Minimize fields from new lines by phase arrangement

APS

WEST VALLEY-SOUTH POWER LINE & SUBSTATION PROJECT