UPDATED*

Application

for

Certificate of Environmental Compatibility

APS Pinal Electrical Improvement Project

Prepared for:

State of Arizona
Power Plant and Transmission Line Siting Committee

Submitted by:

Arizona Public Service Company

July 2025

Case No. L-00000D-25-0154-00247

*August 15, 2025 - Updated Application reflects updates to Exhibit E (pages E-11 through E-27) and updates to Figure 2 (Project Corridor - Application Introduction page 4). The remainder of the Application remains unchanged.

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INTRODUCTION

Pursuant to Arizona Revised Statutes (A.R.S.) Sections 40-360 *et seq.* and associated administrative rules and regulations in Arizona Administrative Code Rule R14-3-219, Arizona Public Service Company (APS or Applicant) is seeking approval of a Certificate of Environmental Compatibility (CEC) granting authority to construct the 230-kilovolt (kV) Pinal Electrical Improvement Project (Project).

Purpose and Need

The Project is needed to support growth in the Pinal County region, including Casa Grande, Coolidge, and Eloy. This area is experiencing greater energy demand due to industrial growth, high load customers, future building developments, and new energy resources in the system. The Project will improve the ability to deliver electricity to the area and increase capacity for additional generation resources.

Project Overview

The Project is a new double-circuit 230kV overhead transmission line that will also allow for a 69kV underbuild. This line will span approximately 20 miles, starting from the existing APS Milligan Substation at the southeast corner of West Milligan Road and Eleven Mile Corner Road in Eloy. It will extend to a new APS TS-25 Substation, which is proposed to be east of State Route 87 near Arica Road, and then connect to the future APS Sundance to Pinal Central transmission line (certificated in CEC 136), located at the southwest corner of Hackler Lane and Eleven Mile Corner Road in Coolidge, Arizona.

Double-circuit 230kV monopole tangent structures and turning structures with 69kV underbuild will primarily be used to connect the proposed transmission line to the future APS Sundance to Pinal Central transmission line, TS-25 Substation, and Milligan Substation. Where possible, APS transmission lines that exist along the final Project alignment will be considered for co-location with the new line, and in those cases, the existing poles will be replaced with new weatherized or galvanized steel structures up to approximately 200 feet tall.

The structures will be placed in new or existing rights-of-way (ROWs) or easements up to 120 feet wide. Variations may be required to achieve site-specific mitigation objectives or meet site-specific engineering requirements.

Public Process and Siting Study

APS has conducted a comprehensive public planning process that was designed to identify feasible route options that minimize impacts. This planning process allowed for consideration of a broad range of alternative transmission line locations and involved public and agency stakeholder inputs. The process is designed to identify a feasible transmission line route that minimizes impacts while serving the Project purpose and need. This planning process is described in detail as part of the *APS Pinal Electrical Improvement Project Environmental and Siting Process Summary Report* included in Exhibit B.

Preferred Route

The preliminary routes identified throughout the planning process were further analyzed to select the Preferred Route for the Project (Figure 1). During the planning process, routing criteria was discussed, and agencies, stakeholders, and the public had opportunities to participate. This input was used to develop criteria to determine the Preferred Route and Alternative Subroutes A and B. This siting criteria generally included preferentially siting facilities near or adjacent to existing or planned linear facilities (transmission lines, roads, canals, etc.), minimizing siting near existing or planned residential areas, maximizing siting near existing or planned industrial areas, and minimizing siting near known

biologically and culturally sensitive areas. The Preferred Route is supported by the Cities of Coolidge and Eloy, as well as Pinal County. Figure 1 depicts the Preferred Route and the Alternative Subroutes A and B. While Alternative Subroutes A and B are considered environmentally compatible, APS is requesting approval of the Preferred Route based on landowner and stakeholder input.

Proposed Corridor

The Applicant has included a proposed variable-width Project Corridor encompassing the Preferred Route (Figure 2) to allow for siting flexibility in coordination with landowners, developers, and utility providers and others in the region. The proposed Project Corridor will vary from 200 feet wide to 2,800 feet wide.

Summary of Environmental Analysis

In support of this Application, APS performed various studies that analyzed the impact of the Project under the factors identified in A.R.S. 40-360.06. The following is a summary of the conclusions regarding the compatibility of the Project under these environmental factors. The Preferred Route:

- Is compatible with the "existing plans of the state, local government and private entities for other developments at or in the vicinity of the proposed site."
- Will result in minimal impacts to "fish, wildlife and plant life and associated forms of life on which they are dependent."
- Will result in noise emission levels comparable to the existing environment and minimal interference with communication signals.
- Will result in minimal, temporary impacts to recreation facilities during construction.
- Will minimize impacts to existing scenic areas, historic sites and structures or archaeological sites at or in the vicinity of the proposed site.
- Is compatible with the "total environment of the area."

Conclusion

This Application for a CEC includes a detailed discussion of the environmental evaluation and provides documentation relevant to the Project, as specified by Arizona Administrative Code Rule R14-3-219. The Project requested in this CEC Application balances the need for an adequate, economical, and reliable supply of electric power with the desire to minimize impacts to Arizona's environment and ecology and is consistent with public interest. The Project will result in minimal adverse impacts to the statutory factors considered by the Arizona Power Plant and Transmission Line Siting Committee (Siting Committee), including existing land use plans; fish, wildlife, and plant life; areas unique because of biological wealth; scenic areas, historic sites and structures, and archaeological sites; and the overall environment of the area. APS is committed to avoiding and minimizing environmental impacts. APS believes the Project's Preferred Route and Alternative Subroutes are environmentally compatible, and that the Preferred Route minimizes environmental impacts. Furthermore, through the Project's comprehensive planning process, the Preferred Route gained the support of the Cities of Coolidge and Eloy, as well as Pinal County. Given this, APS respectfully requests that the Siting Committee grant, and the Commission approve, the requested CEC for the Preferred Route for the Project.

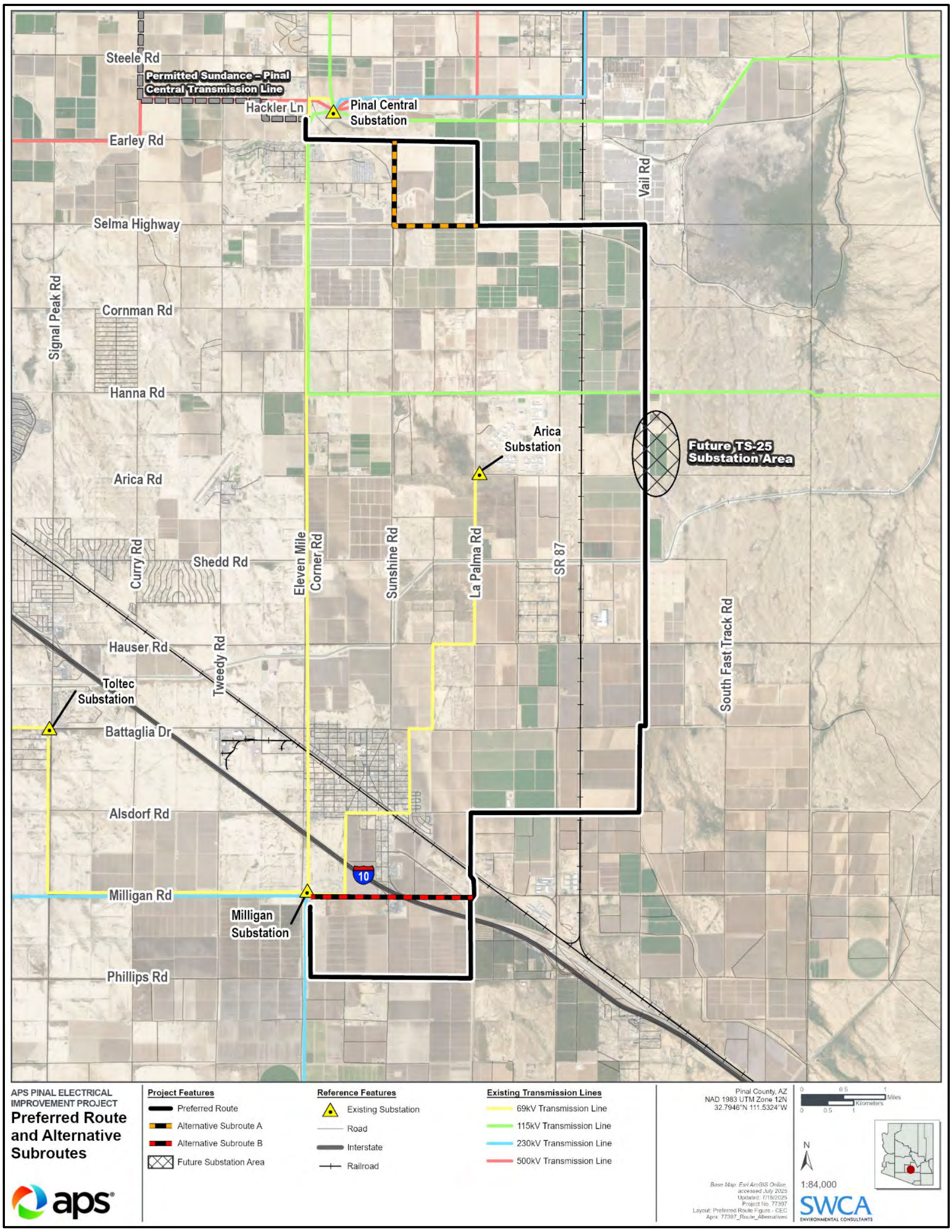

Figure 1. Preferred Route and Alternative Subroutes.

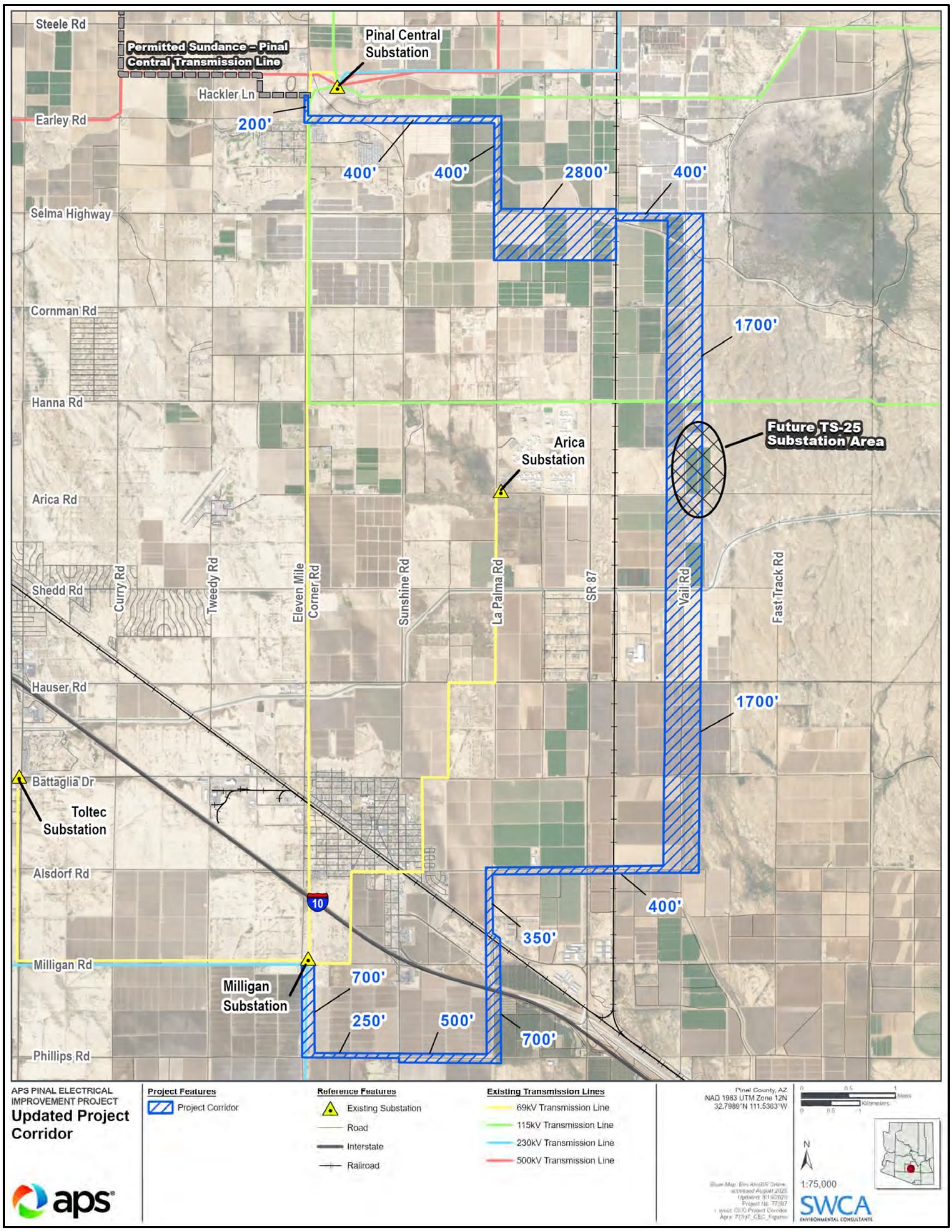

Figure 2. Project Corridor.

APPLICATION FOR
CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

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1. Name and address of the Applicant

Arizona Public Service Company
PO Box 53933
Phoenix, Arizona 85072-3933

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

Stephen Eich
Senior Siting Consultant
Strategic Transmission
Arizona Public Service Company
PO Box 53933, MS 3808
Phoenix, Arizona 85072-3933
(602) 493-4448

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

The Project was first included in APS's Supplemental Ten-Year Plan, which was filed with the Commission on October 17, 2022, and most recently in APS's Ten-Year Plan, which was filed on January 31, 2025.

4. Description of the proposed facility, including:

a. With respect to an electric generating plant:

There are no electrical generating plants included as part of the Project.

b. With respect to a proposed transmission line:

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

(1) Nominal voltage:

The nominal voltage for the Project's transmission line is 230kV.

(2) Description of the proposed structures:

The Project includes steel double-circuit 230kV monopole structures with 69kV underbuild. The structures will have a dulled gray or weatherized finish, and conductors will have a non-specular finish in order to reduce reflectivity. The new structures will be approximately 115 to 200 feet tall, depending on terrain and the crossing of infrastructure, and the average span length between structures will range between approximately 400 and 1,500 feet, depending on final route design.

Conceptual drawings showing the typical structures that may be used are provided in Exhibit G.

(3) Description of proposed switchyards and substations:

Applicant will construct a new 230kV/69kV substation (TS-25 Substation); however, the TS-25 Substation is not part of this Application.

(4) Purpose for constructing said transmission line:

The purpose of the Project is to support recent and anticipated future growth in the Pinal County region, including industrial growth, high load customers, future building developments, and new energy resources in Casa Grande, Coolidge, and Eloy.

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 the application is made

(1) Description of geographical points between which the transmission line will run:

The transmission line will originate at the existing APS Milligan Substation within Parcel 411-38-004E in Section 18, Township 8 South, Range 8 East. It will then connect to the planned TS-25 Substation located approximately 0.20 miles east of Vail Road and approximately 0.40 miles north of Arica Road, in Coolidge, Arizona (exact location to be determined), and then on to the point of interconnect with the future APS Sundance to Pinal Central transmission line near the existing Pinal Central Substation within Parcel 401-14-0060 in Section 25, Township 6 South, Range 7 East.

(2) Straight-line distance between such points:

The straight-line distance between the existing Milligan Substation and the future TS-25 Substation general location is approximately 6.80 miles. The straight-line distance between the future TS-25 Substation general location and the point of interconnect with the future APS Sundance to Pinal Central transmission line is approximately 5.60 miles. The straight-line distance between the point of interconnect with the future APS Sundance to Pinal Central transmission line and the existing Milligan Substation is approximately 9.25 miles.

(3) Length of the transmission line for each alternative route:

The length of the Preferred Route is approximately 20 miles.

The lengths of Alternative Subroute A and Alternative Subroute B are each approximately 2 miles.

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

(1) Nominal width of right-of-way required:

The ROW will be up to 120 feet wide within the requested variable width corridor.

(2) Nominal length of spans:

The typical span length between structures will be approximately 400 to 1,500 feet.

(3) Maximum height of supporting structures:

The height of supporting structures will not exceed 200 feet above ground.

(4) Minimum height of conductor above ground:

The minimum height of the conductor above existing grade will be 24 feet above ground.

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.)

- **Preferred Route:** The estimated cost for the transmission line along the Preferred Route will be approximately $87.25 million, which includes a construction cost of approximately $76.75 million and ROW cost of approximately $10.5 million.
- **Alternative Subroute A:** As Alternative Subroute A will displace a portion of the Preferred Route that is a similar distance, costs are anticipated to be comparable.
- **Alternative Subroute B**: Alternative Subroute B will change the estimated cost for the Project since this subroute will displace a longer segment of the Preferred Route. The net reduction in Project cost associated with Alternative Subroute B will be approximately $2.75 million, which consists of a net change in construction cost of $1.9 and a net change in ROW cost of $850,000.

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.)

The Preferred Route location starts at the existing APS Milligan Substation located on the southeast corner of Milligan Road and Eleven Mile Corner Road. From this point, the Preferred Route proceeds south along the east side of Eleven Mile Corner Road for approximately one mile to the northeast corner of Phillips Road and Eleven Mile Corner Road. It then extends east along the north side of Phillips Road for approximately two miles to the northwest corner of Phillips Road and La Palma Road. The Preferred Route then heads north along the west side of La Palma Road for approximately one mile, crossing over Interstate 10, to the southwest corner of Milligan Road and La Palma Road. It then crosses to the east side of La Palma Road and continues north for approximately 0.25 miles, then back to the west side of La Palma Road before crossing the Union Pacific Railroad alignment and Frontier Street as it continues north along the west side of La Palma Road for approximately 0.75 miles to the southwest corner of Alsdorf Road and La Palma Road. From here the Preferred Route travels east along the south side of Alsdorf Road for approximately two miles to the southwest corner of Alsdorf Road and Vail Road/Vail Road alignment. It then heads north along the west side of the Vail Road/Vail Road alignment for approximately one mile where it will take a slight jog to

the east and continue north along the east side of Vail Road/Vail Road alignment for approximately 3.5 miles, where it will interconnect with the planned TS-25 Substation northeast of the Arica Road alignment and Vail Road alignment. From the TS-25 Substation, the Preferred Route continues north along the east side of Vail Road/Vail Road alignment for another approximately 2.5 miles to the southeast corner of Selma Highway and Vail Road/Vail Road alignment. The Preferred Route then heads west along the south side of Selma Highway for approximately 1.5 miles before transitioning to the north side of Selma Highway and continues west an additional approximately 0.5 miles to the northeast corner of Selma Highway and La Palma Road. From this point the Preferred Route runs north along the east side of La Palma Road for approximately one mile to the northeast corner of La Palma Road and the Earley Road alignment. It then proceeds west along the north side of Earley Road alignment for approximately two miles to the northwest corner of Earley Road and Eleven Mile Corner Road. Finally, the Preferred Route travels north along the west side of Eleven Mile Corner Road for approximately 0.25 miles, terminating at a point of connection with the future APS Sundance to Pinal Central transmission line, located at the southwest corner of Eleven Mile Corner Road and Hackler Lane.

Two Alternative Subroutes (i.e., alternative route segments) have been presented along with the Preferred Route in this Application. The Alternative Subroutes could replace segments of the Preferred Route and thus affect the distance and costs associated with the Project. The Preferred Route has been identified among the various alternatives because it balances the coinciding needs to minimize visual and land use impacts and has the support of local jurisdictions.

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 Preferred Route and Alternative Subroutes are located primarily on privately owned and state-managed land (Tables 1 and 2), except for short portions crossing City of Coolidge, City of Eloy, Pinal County, Arizona Department of Transportation (ADOT), Central Arizona Irrigation and Drainage District (CAIDD), Hohokam Irrigation and Drainage District (HIDD), Maricopa Stanfield Irrigation and Drainage District (MSIDD), San Carlos Irrigation and Drainage District (SCIDD), and Union Pacific Railroad road/canal/rail ROWs.

Table 1. Land Ownership Along the Preferred Route

Landowner	Preferred Route Approximate Length	Percentage of Preferred Route
Private (includes Union Pacific Railroad)	17.5 miles (92,400 feet)	88%
State Land	1.9 miles (10,000 feet)	9%
Pinal County	0.05 miles (260 feet)	<1%
ADOT	0.09 miles (470 feet)	<1%
City of Coolidge	0.06 miles (300 feet)	<1%

Landowner	Preferred Route Approximate Length	Percentage of Preferred Route
City of Eloy	0.14 miles (720 feet)	<1%
CAIDD	0.04 miles (220 feet)	<1%
HIDD	0.02 miles (105 feet)	<1%
SCIDD	0.10 miles (520 feet)	<1%
MSIDD	0.06 miles (320 feet)	<1%
Total (approximate)	**20 miles**	**100%**

Table 2. Land Ownership Along the Alternative Subroutes

Landowner	Approximate Length along Alternative Subroute A	Approximate Length along Alternative Subroute B
Private	0.92 miles (4,910 feet)	1.84 miles (9,720 feet)
State Land	1.00 mile (5,280 feet)	N/A
ADOT	N/A	0.09 miles (480 feet)
City of Eloy	N/A	0.07 miles (365 feet)
HIDD	0.04 miles (185 feet)	N/A
SCIDD	0.02 miles (120 feet)	N/A
Pinal County	0.01 miles (66 feet)	N/A
Total (approximate)	**2.00 miles (10,561 feet)**	**2.00 miles (10,565 feet)**

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.

Portions of the Preferred Route and Alternative Subroutes are located within the jurisdictions of the City of Coolidge, the City of Eloy, and unincorporated Pinal County. The Preferred Route and Alternative Subroutes are consistent with the zoning ordinances or master plans of these jurisdictions.

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.

The Applicant has evaluated collected field data and available secondary sources related to biological, visual, cultural, and recreational resources as well as land use, noise levels, and communications signals in the vicinity of the Preferred Route and Alternative Subroutes in order to assess the potential impacts that may result from the construction, operation, and maintenance of the Project. These evaluations are included in Exhibits B through I of this application.

The Applicant has also conducted an extensive public and agency outreach process to gather information and comments relative to the Project. Information collected and analyzed as part of the outreach process is included in Exhibit J of this application.

ARIZONA PUBLIC SERVICE COMPANY

/s/ Stephen Eich

By Stephen Eich, APS Senior Siting Consultant

Original e-filed and seven (7) copies of this Application for a Certificate of Environmental Compatibility hand delivered to Docket Control, Arizona Corporation Commission, on July 29, 2025.

EXHIBIT A. LOCATION MAP AND LAND USE MAPS

As stated in the Arizona Administrative Code R14-3-219, Exhibit 1:

> *Exhibit A:*
>
> 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, or 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 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.*
>
> ***If a topographic map is not commercially available, a map of similar scale, which reflects prominent or important physical features of the area in the vicinity of the proposed site or route, shall be substituted.*

Land Use Overview

The following exhibits are required by the Arizona Corporation Commission's Rules of Practice and Procedure (Arizona Administrative Code, Title 14, Chapter 3, Exhibit 1) to support the land use studies conducted for this application:

- Exhibit A-1 illustrates the land ownership and surface jurisdiction for the location of proposed Pinal Electrical Improvement Project 230-kilovolt (230kV)/69-kilovolt (69kV) Power Line Project (Project) facilities (Project Area) and land within one mile of the Project Area (Study Area).
- Exhibit A-2 illustrates existing land use within the Study Area.
- Exhibit A-3 illustrates future land use within the Study Area.

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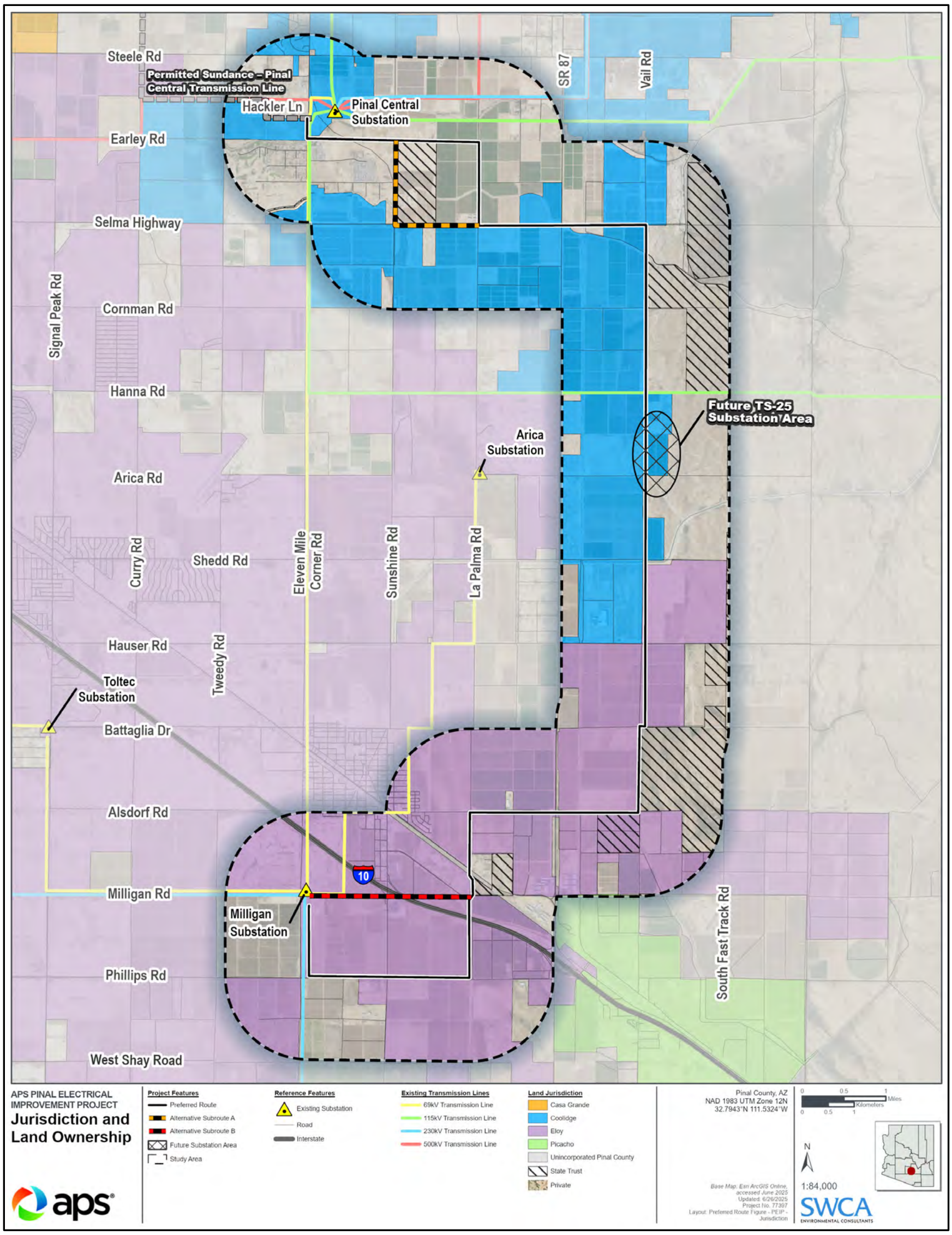

Exhibit A-1. Land ownership and surface jurisdiction in the Study Area.

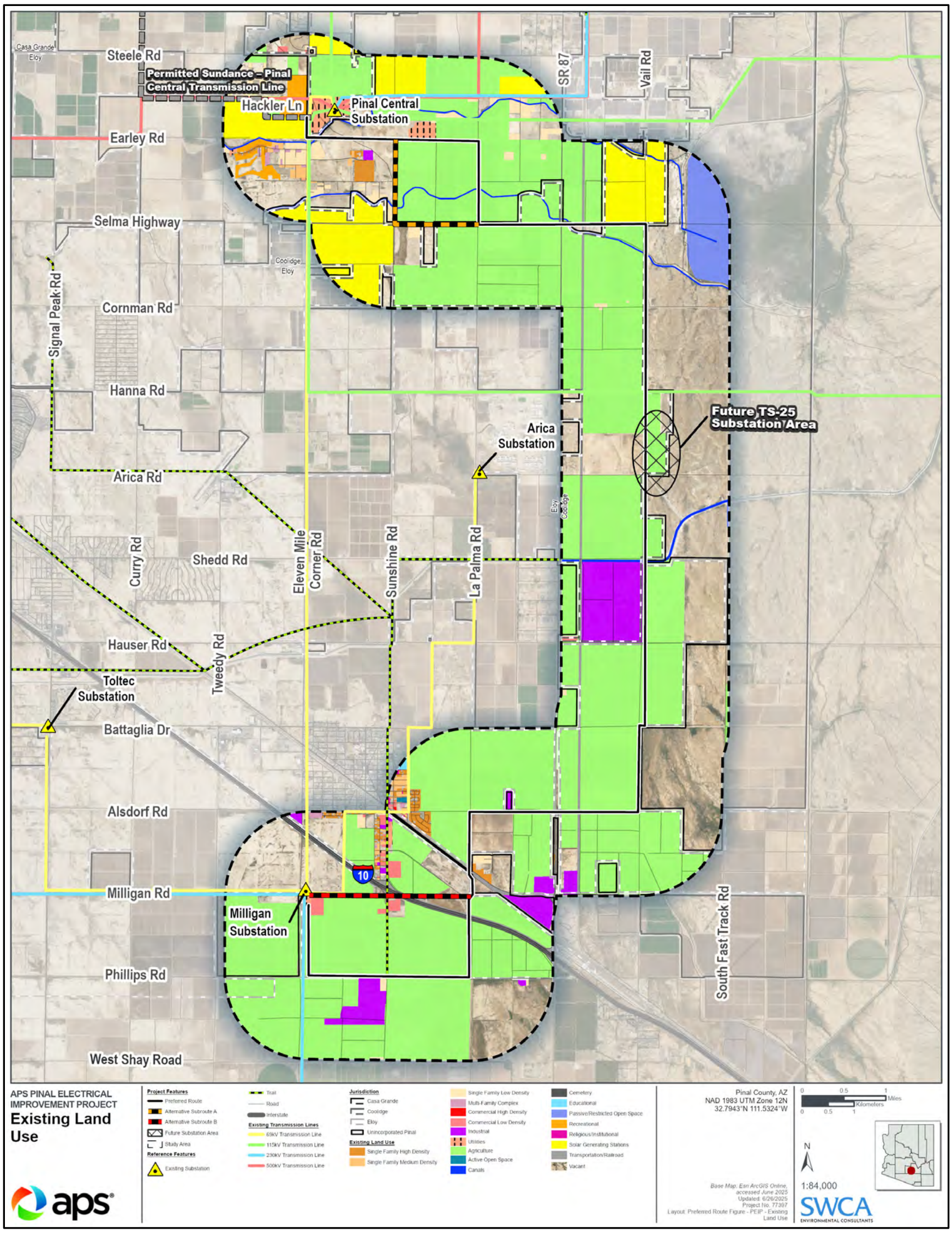

Exhibit A-2. Existing land use in the Study Area.

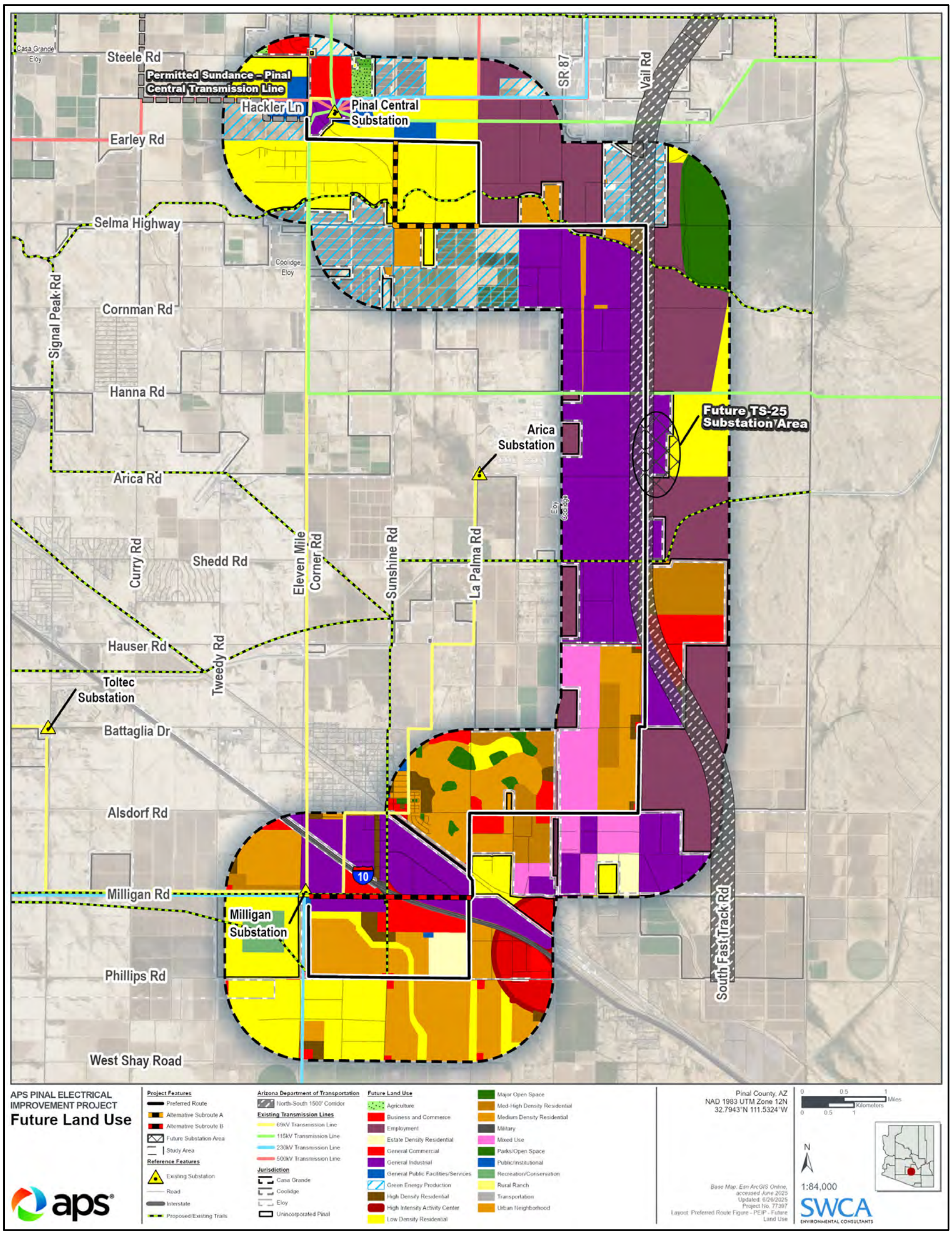

Exhibit A-3. Future land use in the Study Area

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EXHIBIT B. ENVIRONMENTAL STUDIES

As stated in the Arizona Administrative Code R14-3-219, Exhibit 1:

Exhibit B: Attach any environmental studies which 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 a part of this exhibit.

Introduction

Arizona Public Service Company (APS or Applicant) retained SWCA Environmental Consultants (SWCA) to complete environmental studies for the APS Pinal Electrical Improvement Project (Project), which included the completion of a full siting study and report, as well as impact assessments for existing and future land use, and biological, visual, cultural, and recreational resources within the Study Area. The Project Area includes the Preferred Route and Alternative Subroutes, including a 120-foot right-of-way (ROW). The Study Area for the inventory of environmental resources includes the Project Area and a surrounding one-mile buffer. Included in this exhibit are the siting report, as well as a detailed inventory of existing and future land uses and potential Project impacts to those land uses. The areas of biological wealth, biological resources, visual/cultural resources, and recreation are discussed in detail in subsequent Exhibits C, D, E, and F, respectively.

Siting Study

The APS Pinal Electrical Improvement Project Environmental and Siting Process Summary Report is included as Appendix B-1.

Land Use

Inventory

SWCA completed a land use inventory to identify and map existing and future land uses within the Study Area. Existing and future planned land use data were compiled from the *Pinal County Comprehensive Plan* (Pinal County 2021), the *City of Coolidge 2035 General Plan* (City of Coolidge 2024), the *City of Eloy General Plan Readoption* (City of Eloy 2020), and the Pinal County Comprehensive Plan Viewer (Pinal County 2025). The data was compiled for the Study Area and displayed over aerial imagery for preliminary mapping inventory of land use resources. Field investigations of the Study Area were conducted in October 2024 and February 2025 to verify and refine the preliminary land use inventory mapping. In addition, SWCA coordinated with Pinal County, the City of Eloy, and the City of Coolidge, along with other agency contacts and identified stakeholders, to request information regarding development plans and known planned projects. More details about this outreach can be found in Exhibit H. This information was used to support the inventory of existing and future planned land uses mapped in Exhibit A and summarized below.

Jurisdiction and Land Ownership

The Project Area and Study Area include lands under the jurisdiction of the City of Coolidge and City of Eloy, and lands in unincorporated Pinal County, Arizona. Land ownership within the Study Area consists

of privately owned and state-managed parcels. Canals that traverse the Study Area are under the jurisdiction of the Bureau of Indian Affairs–San Carlos Irrigation Project and the Bureau of Reclamation. Land ownership and jurisdiction within the Study Area is mapped on Exhibit A-1.

Existing Land Use

Existing land use categories within the Study Area are mapped on Exhibit A-2 and primarily include agriculture, industrial, solar, and vacant land uses. Other existing land use categories in the Study Area include single-family high, medium, and low density residential, multi-family residential, commercial, utilities, active open space, canals, a cemetery, educational, passive restricted open space, recreational, religious/institutional, and railroad/transportation. Overall, the Study Area can be categorized as a rural area with general agricultural, industrial, and solar uses, with scattered residences. Existing land uses within the Study Area are described in more detail below.

Agriculture – Large tracts of agricultural land are present throughout the Study Area. Agricultural uses include multiple crop-farming operations as well as a dairy/feedlot.

Canals – Numerous canals are present throughout the Study Area including those operated by San Carlos Irrigation and Drainage District under the jurisdiction of BIA-SCIP, as well as Central Arizona Irrigation and Drainage District, Maricopa Stanfield Irrigation and Drainage District, and the Hohokam Irrigation and Drainage District canals, both of which are under the jurisdiction of the Bureau of Reclamation.

Cemetery – The Eloy Memorial Park Cemetery is within the Study Area, located on the central southern border of the Study Area, on the southwest of the intersection of East Milligan Road and Vail Road, approximately one mile south of the Preferred Route.

Commercial – Commercial land uses are primarily located in the southwestern portion of the Study Area, within the City of Eloy, in the region of the Milligan Substation, with most parcels concentrated near Interstate 10 and the Sunshine Boulevard interchange.

Educational – Eloy Junior High School is located on the northern border of the southern portion of the Study Area east of Sunshine Boulevard and north of Alsdorf Road, located approximately 0.9 miles northwest of the Preferred Route.

Industrial – Multiple industrial sites are located within the Study Area, with the majority being located in the southern portion, near Interstate 10. One other industrial site, the Nikola Coolidge Manufacturing Facility, is located in the central portion of the Study Area, adjacent to the Preferred Route.

Active Open Space – One public park is located within the Study Area, Jones Park. This is a City of Eloy park within a residential area, located approximately 0.8 miles west of the Preferred Route. Additional information on parks and active open spaces can be found in Exhibit F (Recreation).

Passive/Restricted Open Space – Picacho Reservoir is present within the Study Area. This passive/restricted open space is located approximately 0.5 miles east of the Preferred Route near the intersection of Vail Road and Selma Highway. Additional information on open spaces can be found in Exhibit F.

Recreation – Two recreational areas are present within the Study Area, the Tierra Grande Golf Club golf course, and the Pinal County Fairgrounds. The Tierra Grande golf course is located adjacent to a residential area, approximately 0.5 miles southwest of the Preferred Route, and 0.6 miles southwest of the Pinal Central Substation near the intersection of Eleven Mile Corner Road and the Earley Road alignment. The Pinal County Fairgrounds is located approximately 0.1 miles northwest of the Preferred Route near the intersection of Eleven Mile Corner Road and State Route 287.

Religious/Institutional – One church, the First United Methodist Church, was identified within the Study Area. This church is located in the southern portion of the Study Area, on the northwestern border, east of Sunshine Boulevard and north of Alsdorf Road approximately one mile northwest of the Preferred Route.

Residential – Numerous scattered residential developments (including high-density, medium-density, and low-density residential) are present throughout the Study Area. Existing residential development is mostly concentrated within the northern and southern portions of the Study Area, the closest of which is immediately north of the Preferred Route, along Eleven Mile Corner Road.

Solar – Multiple solar generating facilities are present within the Study Area, concentrated in the northern portion, nearby the Pinal Central Substation. The closest facility is located adjacent to the Preferred Route, approximately 0.1 miles north of the Preferred Route near the intersection of Selma Highway and Vail Road.

Transportation/Railroad – Roads within the Study Area include a mixture of regional, collector, arterial, and local roadways. Notably, State Route 87 runs through the majority of the Study Area, paralleling the central portion of the Study Area. The primary travel routes in the Study Area include Interstate 10, State Route 87, Milligan Road, La Palma Road, Frontier Street, Phillips Road, Battaglia Road, Houser Road, Eleven Mile Corner Road, Selma Highway, and State Route 287.

Utilities – Utility uses identified within the Study Area are primarily within the northern and southern portions of the Study Area, including the Pinal Central Substation and the Milligan Substation, to which the Project will connect with the proposed TS-25 Substation. Numerous high-voltage transmission lines ranging from 69kV to 500kV run throughout the Study Area.

Vacant – Scattered parcels of abandoned or undeveloped land are located throughout the Study Area.

Future Land Use

Future land use data discussed in this section were derived from the *Pinal County Comprehensive Plan* (Pinal County 2021), the *City of Coolidge 2035 General Plan* (City of Coolidge 2024), the *City of Eloy General Plan Readoption* (City of Eloy 2020), field studies, and coordination with Arizona Department of Transportation (ADOT), Arizona State Land Department, the City of Coolidge, City of Eloy, and Pinal County Planning and Development Departments.

Future land uses within the Study Area are mapped on Exhibit A-3 and can be generally characterized as developing mixed use area with large plots of agricultural land that are planned to be developed into low-, medium-, and high-density residential; industrial; renewable energy production; mixed-use; utility; transportation; and rural.

Additionally, the planned transportation land use includes the future ADOT North/South Freeway Corridor, which is located east of State Route 87 within the Project Area and the proposed TS-25 substation area.

Future industrial uses include the Inland Port of Arizona, which is located between the proposed ADOT North/South Freeway Corridor and State Route 87, adjacent to the Preferred Route.

Impact Assessment

Land use impacts are defined primarily as restrictions on a land use, such as limitations on allowed uses within the ROW that would result from the construction or operation of the Project. Typically, restrictions on a land use would result from ROW or easement acquisition across a property.

The Preferred Route will include both private and state-managed land. The Alternative Subroutes include links on both private or state-managed lands, as well, and all will have aerial crossings over roads that are under county or city jurisdiction. APS anticipates an up to 120-foot-wide ROW will be needed for the Project.

To assess Project impacts to land use, impact levels were assigned based on the sensitivity of each land use category crossed by the Project Area to the introduction of a new transmission line ROW or easement. Examples of impact levels include: 1) acquisition of new ROW and pole placement across private residential property, resulting in high impact; 2) acquisition of new ROW and placement across agricultural operations, resulting in moderate impact; and 3) acquisition of ROW and pole placement across properties with industrial/utility land uses, resulting in low impact. In locations where pole placement will occur within existing utility ROW and the proposed transmission structures, impact levels will be lessened.

Results

To minimize land use impacts, the Preferred Route and Alternative Subroutes were sited to generally follow existing linear features, such as existing distribution or transmission lines, roadways, canal laterals, existing ROWs, or on the edge of properties (i.e., opportunities for siting), where feasible. The use of single-pole structures minimizes potential effects on land uses where structure footprints could directly interfere with land use activities, such as agricultural lands. As described in the *APS Pinal Electrical Improvement Project Environmental and Siting Process Summary Report* (Siting Report; Appendix B-1), each land use was given a sensitivity ranking of either low, moderate-low, moderate, moderate-high, or high. The Preferred Route and Alternative Subroutes were given a compatibility ranking based on the land use sensitivities of the parcels crossed.

PREFERRED ROUTE

The Preferred Route includes approximately 20 miles of new 230/69kV transmission infrastructure that starts at the existing APS Milligan Substation, located on the southeast corner of Milligan Road and Eleven Mile Corner Road. From this point, the Preferred Route proceeds south along the east side of Eleven Mile Corner Road for approximately one mile to the northeast corner of Phillips Road and Eleven Mile Corner Road. It then extends east along the north side of Phillips Road for approximately two miles to the northwest corner of Phillips Road and La Palma Road. The Preferred Route then heads north along the west side of La Palma Road for approximately one mile, crossing over Interstate 10, to the southwest corner of Milligan Road and La Palma Road. It then crosses to the east side of La Palma Road and continues north for approximately 0.25 miles, then back to the west side of La Palma Road before crossing the Union Pacific Railroad tracks and Frontier Street as it continues north along the west side of La Palma Road for approximately 0.75 miles to the southwest corner of Alsdorf Road and La Palma Road. From here the Preferred Route travels east along the south side of Alsdorf Road for approximately two miles to the southwest corner of Alsdorf Road and Vail Road/Vail Road alignment. It then heads north along the west side of the Vail Road/Vail Road alignment for approximately one mile where it will take a slight jog to the east and continue north along the east side of Vail Road/Vail Road alignment for approximately 3.5 miles, where it will interconnect with the planned TS-25 Substation northeast of the Arica Road alignment and Vail Road alignment. From the TS-25 Substation, the Preferred Route continues north along the east side of Vail Road/Vail Road alignment for another approximately 2.5 miles to the southeast corner of Selma Highway and Vail Road/Vail Road alignment. The Preferred Route then heads west along the south side of Selma Highway for approximately 1.5 miles before transitioning to the north side of Selma Highway and continues west an additional approximately 0.5 miles to the northeast corner of Selma Highway and La Palma Road. From this point the Preferred Route runs north along the east side of La Palma Road for approximately one mile to the northeast corner of La Palma Road and the Earley Road alignment. It then proceeds west along the north side of Earley Road alignment for

approximately two miles to the northwest corner of Earley Road and Eleven Mile Corner Road. Finally, the Preferred Route travels north along the west side of Eleven Mile Corner Road for approximately 0.25 miles, terminating at a point of connection with the future APS Sundance to Pinal Central transmission line, located at the southwest corner of Eleven Mile Corner Road and Hackler Lane. This route crosses parcels with planned "industrial," "residential," "employment," "mixed-use," and "commercial" land uses. The "industrial" and "employment" land uses associated with the Project are considered to have "low sensitivity" as described further in the Siting Report. The "mixed-use" and "commercial" land uses are considered to have "moderate sensitivity," with "residential" and use areas having "high sensitivity." The Preferred Route crosses parcels with a "low," "moderate," and "high" land use rankings, and parallels existing utility infrastructure and major roadways, which results in overall low to moderate impacts to land use.

ALTERNATIVE SUBROUTES

Alternative Subroute A includes approximately 2 miles of new 230/69kV transmission infrastructure. Alternative Subroute A will traverse parcels with planned residential and renewable energy land uses and will parallel existing opportunities such as roads and existing distribution lines. Residential land use is considered to have high sensitivity, and renewable energy land use is considered to have a low sensitivity as discussed in the Siting Report. Alternative Subroute A will cross parcels with a low or high sensitivity land use ranking and take advantage of existing opportunities, which results in moderate impacts to land use. Overall, Alternative Subroute A will have greater land use impacts than the Preferred Route.

Alternative Subroute B includes approximately 2 miles of new 230/69kV transmission infrastructure. Alternative Subroute B will traverse parcels with currently planned industrial and commercial land uses and will parallel existing opportunities such as roads and existing distribution lines. Industrial land use is considered to have low sensitivity, and commercial land use is considered to have a moderate sensitivity as discussed in the Siting Report. Although the planned land uses currently identified along Alternative Subroute B have a low to moderate sensitivity, the City of Eloy and landowners/developers along Alternative Subroute B expressed a desire to avoid siting along Milligan Road at this location based on likely future traffic interchange and residential development. While Alternative Subroute B will cross parcels with a currently identified low or moderate sensitivity land use ranking, input from the City of Eloy expressed a lack of support for Alternative Subroute B and identified greater potential impacts to future land use as compared to the Preferred Route.

CONCLUSIONS

Based on the assessment in this exhibit, the Project's Preferred Route and Alternative Subroutes A and B will have overall low to moderate impacts to existing and future land uses and will be environmentally compatible. The Preferred Route minimizes overall land use impacts by following existing or planned linear facilities, minimizing siting on residential areas, and maximizing the placement of Project facilities on parcel or property edges to limit intrusions into properties.

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Appendix B-1

APS Pinal Electrical Improvement Project Environmental and Siting Process Summary Report

Arizona Public Service Company Pinal Electrical Improvement Project Environmental and Siting Process Summary Report

MAY 2025

PREPARED FOR

Arizona Public Service Company

PREPARED BY

SWCA Environmental Consultants

ARIZONA PUBLIC SERVICE COMPANY
PINAL ELECTRICAL IMPROVEMENT PROJECT
ENVIRONMENTAL AND SITING PROCESS SUMMARY REPORT

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SWCA Project No. 77397

May 2025

EXECUTIVE SUMMARY

Project Overview

Arizona Public Service Company (APS) is planning to construct the Pinal Electric Improvement Project (project), which includes a new, approximately 20-mile-long, double-circuit, overhead 230 kilovolt (kV) transmission line with a 69kV underbuild that will connect a future substation (TS-25 Substation) south to the Milligan Substation and north to the future Sundance to Pinal Central certificated transmission line near Pinal Central Substation (Figure 1). The project also includes a new, approximately 11-mile-long 69kV power line proposed from the future TS-25 Substation to connect to the west to the Arica Substation and farther west to the existing Eastgate to Toltec 69kV transmission line, which will be rebuilt.

The project is specifically intended to support the additional load and redundancy needs of the expanding growth in Pinal County. The proposed 230kV and 69kV transmission lines will also allow for a future connection with the planned TS-25 Substation and ensure reliable electric service for current and future customers in the cities of Casa Grande, Eloy, and Coolidge by creating redundancy in the power supply system.

The project will include an aboveground transmission line that is greater than 115kV, longer than 1 mile, and with more than five structures (outside of substations); therefore, pursuant to Arizona Revised Statutes 40-360 et seq., a Certificate of Environmental Compatibility (CEC) is required for authorization to construct the project. APS and its consultant, SWCA Environmental Consultants (SWCA), conducted a siting study to identify appropriate locations for the transmission facilities and to support the CEC application.

Siting Process

Between May 2023 and April 2025, APS and SWCA conducted a siting study to identify and analyze alternative routes for the project and ultimately identify a technically feasible, environmentally suitable, and publicly acceptable route for the proposed 230kV and 69kV transmission lines. APS and SWCA completed a comprehensive planning process, including identifying opportunities and constraints, delineating potential route links, conducting environmental studies of those links, identifying engineering and constructability constraints for those links, and completing public involvement efforts to evaluate possible routes for the project. The preliminary siting area used for evaluating potential routes for the project was defined to be large enough to encompass all identified opportunities and constraints for development of various route segments yet reasonably sized to minimize any overly long or complex alternatives that could prove to be costly from an engineering perspective or lead to increased impacts by virtue of its length.

The siting process involved the development of a set of siting criteria. Preliminary links were generated in accordance with these criteria then assessed and screened based on potential impacts to land use and visual resources and on constructability. Public outreach to potentially interested stakeholders—such as the Arizona Department of Transportation, Pinal County, City of Casa Grande, City of Coolidge, City of Eloy, Central Arizona Irrigation and Drainage District, Hohokam Irrigation and Drainage District, San Carlos Irrigation Project/San Carlos Irrigation and Drainage District, Electric District 2, Saint Holdings, Sky Dive Arizona; other agencies and organizations; and landowners, residents, and business owners within the preliminary siting area—was conducted to solicit comments, questions, and concerns. Public and agency input, engineering and design requirements, and land availability factored into APS's decision in selecting a preferred transmission line route.

Results

The siting process resulted in the recommendation of preferred routes and alternative subroutes. APS determined that these routes would meet APS's need for the project and minimize impacts, and these routes were generally supported by stakeholders.

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PROJECT OVERVIEW

Project Description

Arizona Public Service Company (APS) is planning to construct the Pinal Electric Improvement Project (project), which includes a new, approximately 20-mile-long, double-circuit, overhead 230 kilovolt (kV) transmission line with a 69kV underbuild that will connect a future substation (TS-25 Substation) south to the Milligan Substation and north to the future Sundance to Pinal Central certificated transmission line near Pinal Central Substation (Figure 1). The project also includes a new, approximately 11-mile-long 69kV power line proposed from the future TS-25 Substation to connect to the west to the Arica Substation and farther west to the existing Eastgate to Toltec 69kV power line, which will be rebuilt.

The project will require construction of new 230kV electrical infrastructure, including new wires and steel pole structures commencing at the Milligan Substation (Eleven Mile Corner Road and West Milligan Road) and ending at a point connecting into the Sundance – Pinal Central transmission line (CEC 136) located near the Pinal Central Substation (southwest of East State Route 287 and Eleven Mile Corner Road) and new 69kV electrical infrastructure, including new wires and steel pole structures between the future TS-25 Substation (near the intersection of Vail Road and Acoma Avenue), the existing Arica Substation (North La Palma Road and East Arica Road) and the interconnection point with the existing Eastgate to Toltec 69kV transmission line (near Houser Road and Toltec Buttes Road). These facilities are proposed within a preliminary siting area that includes portions of the City of Casa Grande, the City of Coolidge, the City of Eloy, and unincorporated Pinal County, Arizona (Figure 2).

Components of the project will include an aboveground transmission line interconnection that is greater than 115kV, longer than 1 mile, and more than five transmission structures (outside of substations). Therefore, pursuant to Arizona Revised Statutes 40-360 et seq., a Certificate of Environmental Compatibility (CEC) is required for authorization to construct the 230kV components of the project. APS and its consultant, SWCA Environmental Consultants (SWCA), conducted a siting study to identify appropriate locations for the transmission facilities and to support the CEC application.

Purpose and Need

The Central Arizona/Pinal County region is currently experiencing high growth—including scattered residential and commercial development, utility-scale solar, and large-scale industrial development throughout the region. These developments are within the vicinity of the project, and additional growth is anticipated in the future. The project is specifically intended to increase the electrical capacity and reliability within the area. The project will need to be in service by 2027.

Description of Facilities

The project includes the installation of new double-circuit 230kV and 69kV transmission lines. Steel double-circuit 230kV, with 69kV underbuild monopole structures will be used to connect the proposed transmission line to the future TS-25 Substation at its northern and southern ends, and double-circuit 69kV monopole structures will be used to connect the proposed TS-25 Substation to the existing Arica Substation and existing Eastgate to Toltec 69kV power line. Example structures are displayed on Figure 3. The structures will have a dulled gray or weatherized finish, and conductors will have a non-specular finish in order to reduce visibility. The new structures will be approximately 65 to 195 feet tall, depending on terrain and the crossing of infrastructure, and the average span length between structures will range between approximately 400 and 1,000 feet, depending on final route design (see Figure 3). The structures will be placed in new or existing rights-of-way (ROWs) or easements up to 120 feet wide. Variations may be required to achieve site-specific mitigation objectives or meet site-specific engineering requirements. Where possible, existing transmission and/or distribution lines that exist along the final project alignment will be co-located with the new line, and, in those cases, the existing poles will be replaced with new weatherized or galvanized steel structures up to approximately 195 feet tall.

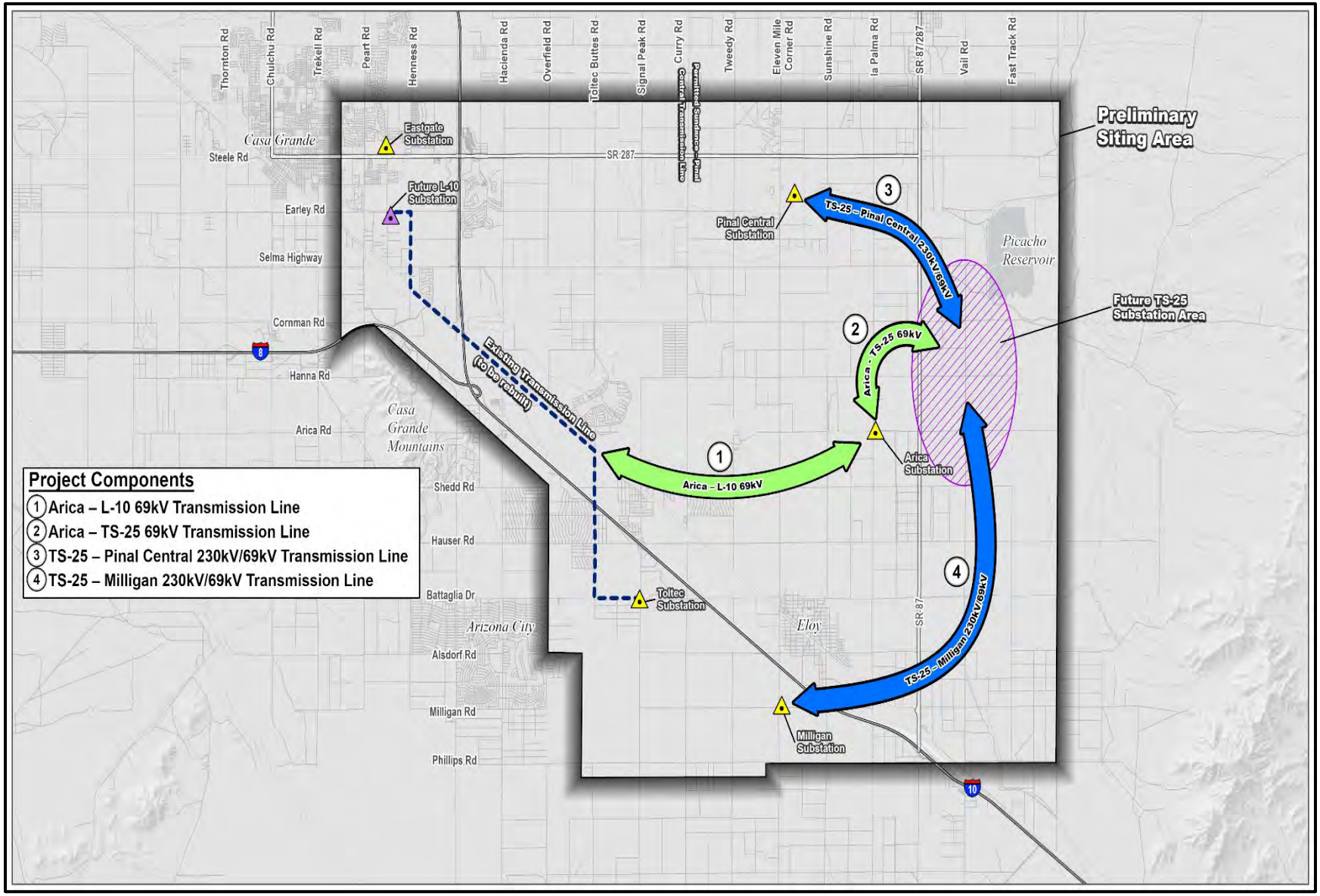

Figure 1. Conceptual project plan.

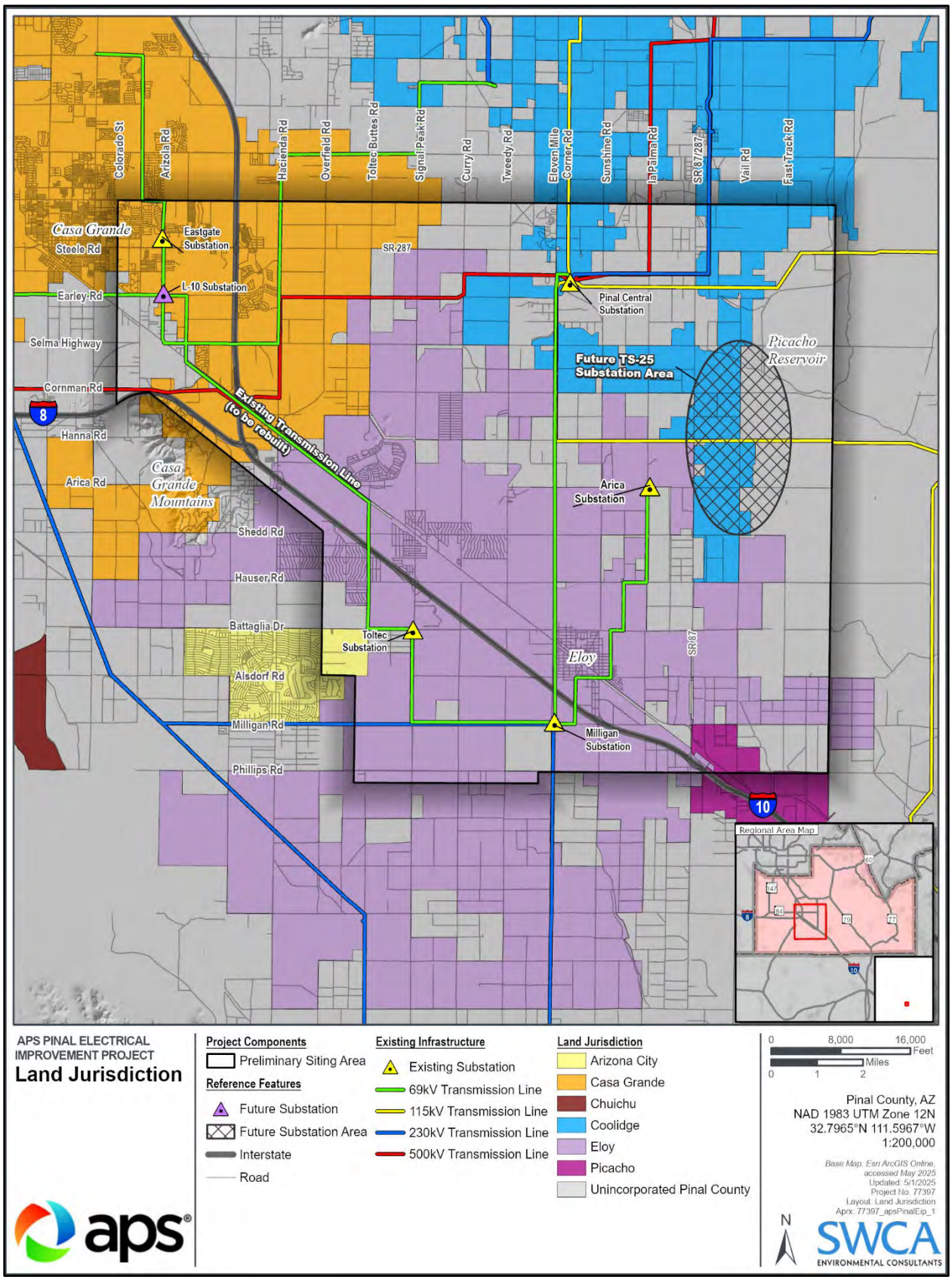

Figure 2. Preliminary siting area and land jurisdiction.

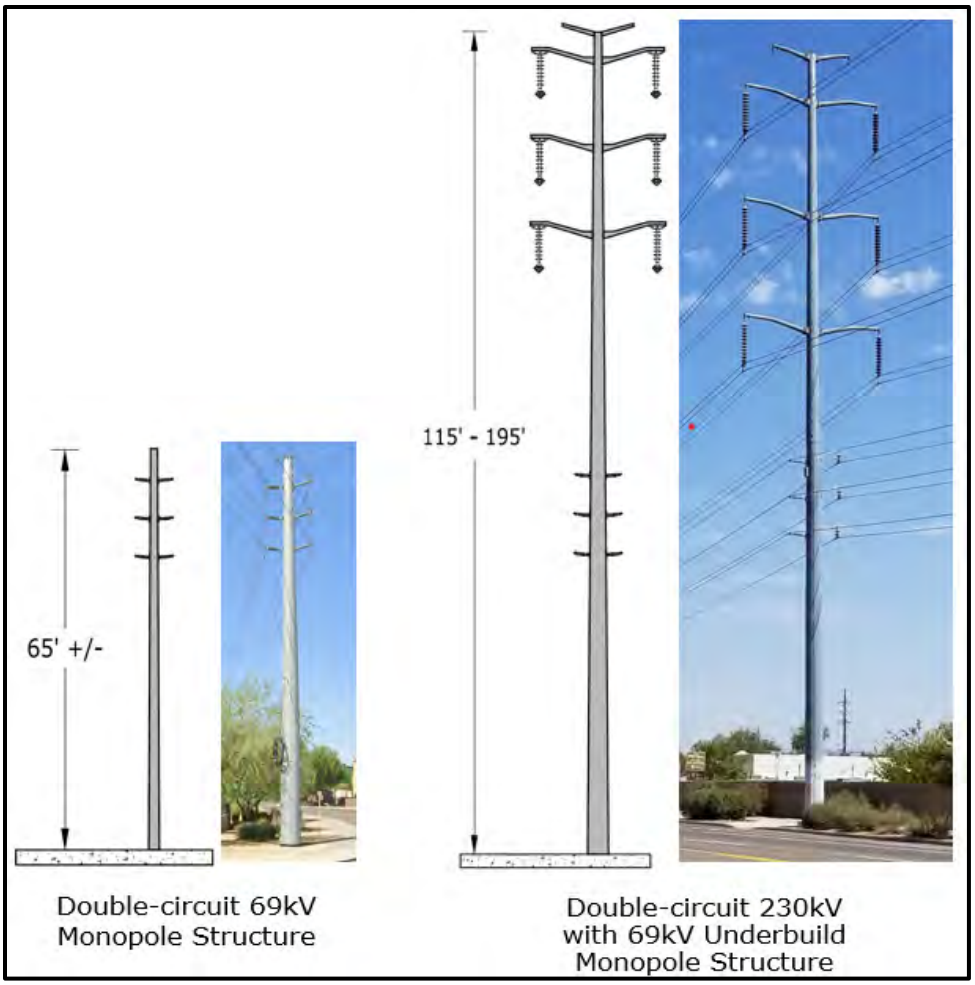

Figure 3. Structure examples.

SITING PROCESS

Introduction

Between May 2023 and April 2025, APS and SWCA conducted a siting study to identify and analyze alternative routes for the project and ultimately to identify a technically feasible, environmentally suitable, and publicly acceptable route for the proposed 230kV double-circuit transmission line with 69kV underbuild and separate double-circuit 69kV power line that meets the project purpose and need. APS and SWCA completed a comprehensive planning process, including identifying opportunities and constraints, delineating potential route links, conducting environmental studies of those links, identifying engineering and constructability constraints for those links, and completing public involvement efforts to evaluate possible routes for the project.

When siting new electrical facilities, APS strives to minimize impacts to sensitive resource areas and maximize use of siting opportunities. Environmental factors considered include existing and future land use, as well as natural/biological, cultural, and visual resources. Other factors considered in route identification are displayed on the graphic below (Figure 4).

The siting process involved developing siting criteria, identifying preliminary links, and assessing and screening those links based on compatibility with current and future land use, visual resources,

natural/biological resources, cultural resources, engineering capabilities, ROW availability, construction and structural maintenance, and vegetation maintenance considerations. Public outreach to potentially interested stakeholders—such as the Arizona Department of Transportation, Pinal County, City of Casa Grande, City of Coolidge, City of Eloy, Central Arizona Irrigation and Drainage District, Hohokam Irrigation and Drainage District, San Carlos Irrigation Project/San Carlos Irrigation and Drainage District, Electric District 2, Saint Holdings, Sky Dive Arizona; other agencies and organizations; and landowners, residents, and business owners within the preliminary siting area—was conducted to solicit comments, questions, and concerns. The input received was incorporated with the preliminary link analysis results to inform APS's decision in selecting preferred transmission line routes for the project. The various steps for the siting process are discussed in more detail below.

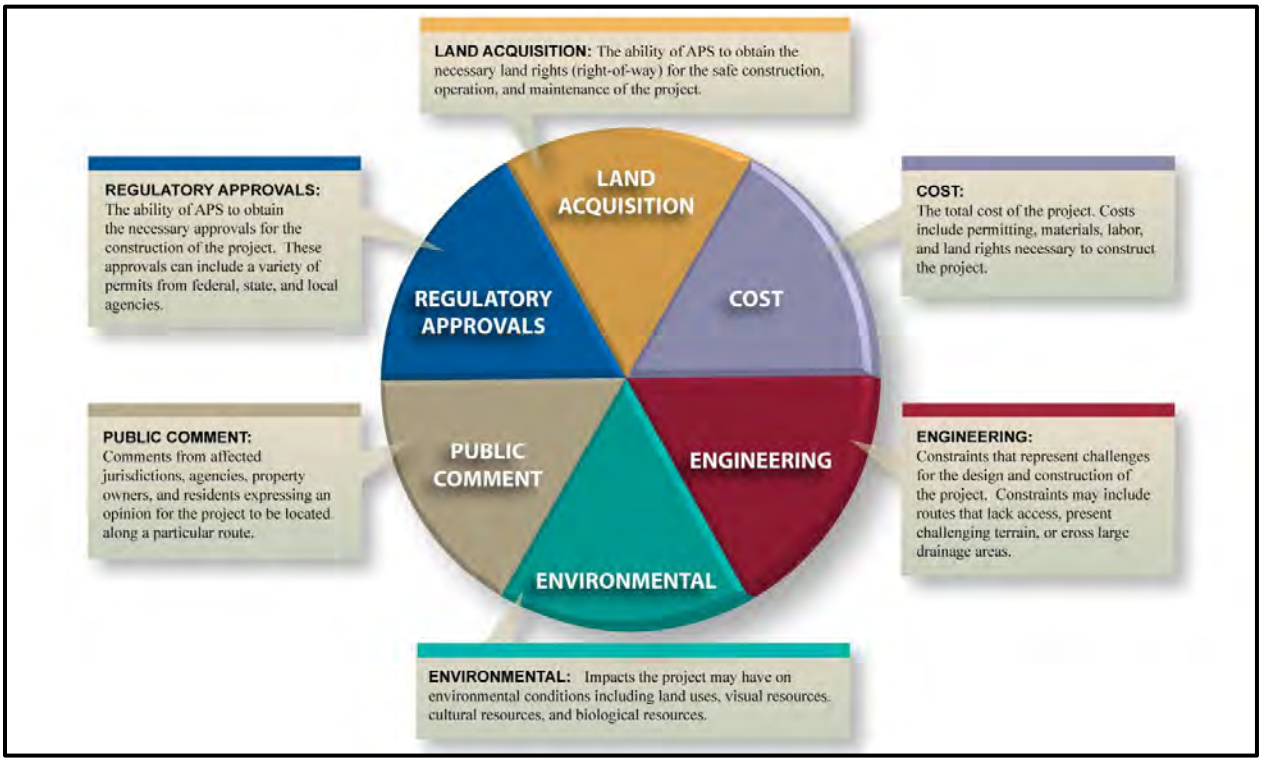

Figure 4. Sitting criteria.

Siting Area

The preliminary siting area used to evaluate potential routes for the project was defined to be large enough to encompass all identified opportunities and constraints for development of various route segments yet reasonably sized to minimize any overly long or complex alternatives that could prove to be costly from an engineering perspective or lead to increased impacts by virtue of its length.

The preliminary siting area for the project is bounded by Cottonwood Lane to the north, Wheeler Road to the east, and Phillips Road to the south, and Colorado Street, Interstate 10, Overfield Road, and Desert Park Drive make up the western/southwestern boundary (see Figure 2). This preliminary siting area encompasses the substations and infrastructure needed to meet the project need and allows for multiple potential transmission line routes to avoid existing or planned infrastructure. The preliminary siting area includes portions within Casa Grande, Eloy, Coolidge, and unincorporated Pinal County, Arizona (see Figure 2). The preliminary siting area primarily consists of privately and state-managed land, with the exception of state, county, and city transportation ROWs (e.g., Interstate 8, Interstate 10, State Route 287, State Route 87).

Opportunities and Constraints Analysis

Once the preliminary siting area was established, the next step in the siting process was the identification of potential opportunities and constraints for siting the proposed 230kV and 69kV transmission lines. An evaluation of existing and future land use (Figure 5 and Figure 6) and cultural, biological, and visual resources was conducted to identify areas that better accommodate a transmission line (opportunities), and locations that would be less accommodating for a transmission line (constraints). Opportunities and constraints criteria were developed to help identify route opportunities and avoid or minimize impacts to sensitive areas (e.g., residences) from the construction, operation, and maintenance of the new 230kV and 69kV transmission lines.

To develop opportunities and constraints criteria, data were inventoried for jurisdiction, land ownership, and existing and future land uses within the preliminary siting area. The inventories were based largely on the respective jurisdiction's general and comprehensive plans, as well as secondary data (e.g., aerial imagery and geographic information system [GIS] datasets)—all of which were supplemented with on-site field reviews and direct coordination with the jurisdictions.

Additional information relating to biological and cultural resources was also reviewed. For biological resources constraints, a desktop inventory was conducted for special-status species (e.g., plants and wildlife listed under the Endangered Species Act) and protected areas (e.g., designated critical habitat) that may occur within the preliminary siting area. For cultural resources, the preliminary siting area was reviewed for previous survey coverage and known archaeological sites.

Opportunities for line siting include but are not limited to existing and planned linear features, such as transmission line corridors, highways, canals, and major and minor arterial and collector streets (Table 1 and Figure 7). For example, an existing overhead transmission line is considered a high-ranking opportunity to install the new transmission line. Constraints for line siting include conflicts with current and future land uses or sensitive biological or cultural resource areas (Table 2, Table 3, Table 4, Table 5; see Figure 7). For example, an existing overhead transmission line ranks lower in a residential community (an area of high constraint) than it does within a commercial zone (an area of moderate constraint).

The opportunity levels for each of the opportunities and the environmental resource sensitivities for each of the constraints were then mapped (see Figure 7) and used to assist in the identification of preliminary links.

Table 1. Opportunities

Opportunities	Opportunity Level
Large overhead transmission lines and corridors	High
Freeways/Interstates, existing or planned	High
Utilities	High
Canals	Moderate
Major roadway ROW	Moderate
Arterial roadways	Low
Railroads	Low

Table 2. Existing Land Use Constraints

Existing Land Use	Sensitivity Level
Single family high density residential	High
Single family medium density residential	High
Single family low density residential	High
Multi-family complex	High
Active open space	High
Airport	High
Cemetery	High
Educational	High
Religious/Institutional	High
Golf course	Moderate-High
Recreational	Moderate-High
Commercial high density	Moderate
Commercial low density	Moderate
Public/Quasi-public	Moderate
Passive/Restricted open space	Low-Moderate
Industrial	Low
Utilities	Low
Agriculture	Low
Dairy or feedlot	Low
Canals	Low
Solar generating stations	Low
Transportation/Railroad	Low
Landfill	Low
Vacant	Low

Table 3. Future Land Use Constraints

Future Land Use	Sensitivity Level
General commercial	Moderate
Very low density residential	Moderate
Low density residential	Moderate
Moderate low density residential	Moderate
Medium density residential	Moderate
High density residential	Moderate
Recreation/Conservation	Moderate
Major open space	Moderate
Mid intensity activity center–	Moderate
High intensity activity center	Moderate
Neighborhood commercial	Moderate
Estate density residential	Moderate
Med-high density residential	Moderate
Mixed use	Moderate
Parks/Open space	Moderate
Commerce & business	Moderate
Rural	Moderate
Neighborhoods	Moderate
Community corridor	Moderate
Large mixed use	Moderate
Open space	Moderate
Business and commerce	Moderate
Rural ranch	Moderate
Urban neighborhood	Moderate
Green energy production	Low
Employment	Low
General public facilities/services	Low
Military	Low
Community commercial	Low
Light industrial	Low
General industrial	Low
Public/Institutional	Low
Manufacturing/Industrial	Low
Agricultural	Low

Table 4. Cultural Resources Constraints

Cultural Resources Constraints	Sensitivity Level
Locations of known NRHP-eligible or NRHP-listed sites and structures.	High
Areas surveyed before 2004, and sites and structures that have not been evaluated for the NRHP eligibility.	Moderate
Areas surveyed after 2004 with no sites or structures, and sites and structures that have been determined ineligible for the NRHP.	Low

Note: NRHP = National Register of Historic Places

Table 5. Natural Resources Constraints

Natural Resources Constraints	Sensitivity Level
Special designation areas (such as designated critical habitat or other special areas) where the designation prohibits development, and areas where species occur in high numbers (e.g., bat roosts or ESA-listed species established territory).	High
Areas where special-status species could occur or special designation areas (e.g., designated wildlife movement areas) do occur but impacts can be minimized and mitigated.	Moderate
Areas generally compatible with development, including areas where special-status species could occur or special designation areas do occur, but any impacts could easily be mitigated or avoided.	Low

Note: ESA = Endangered Species Act

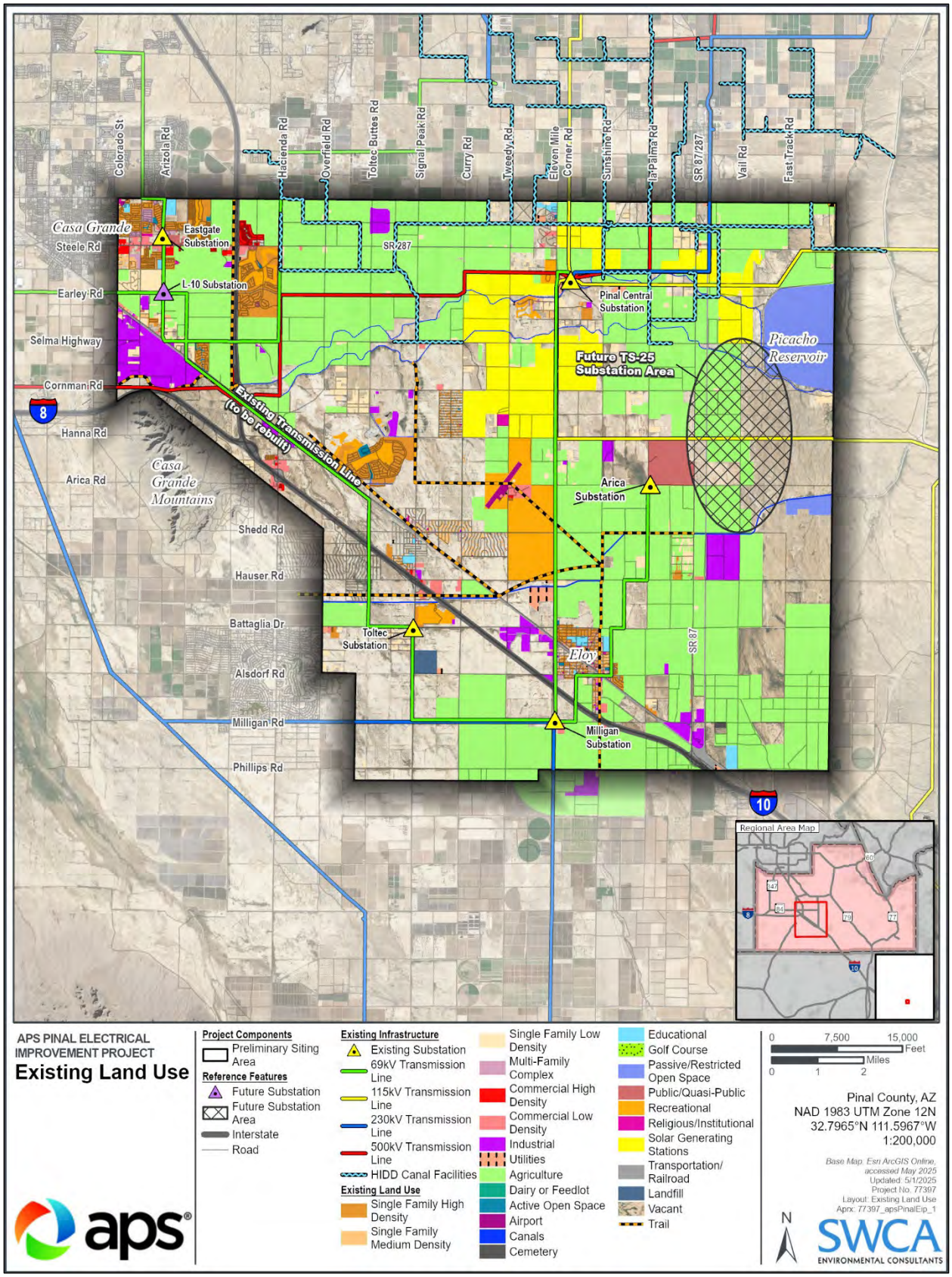

Figure 5. Existing land use.

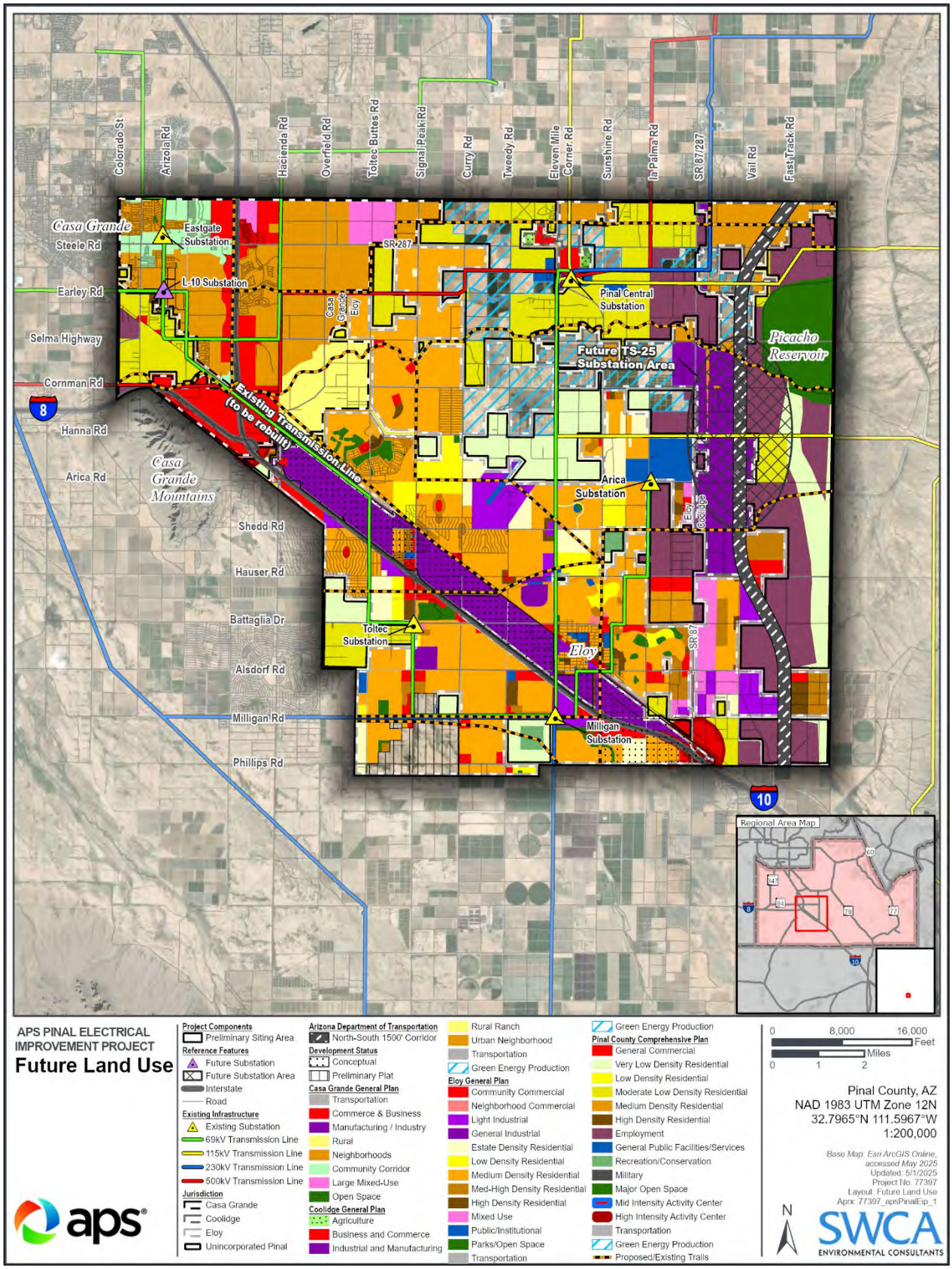

Figure 6. Future land use.

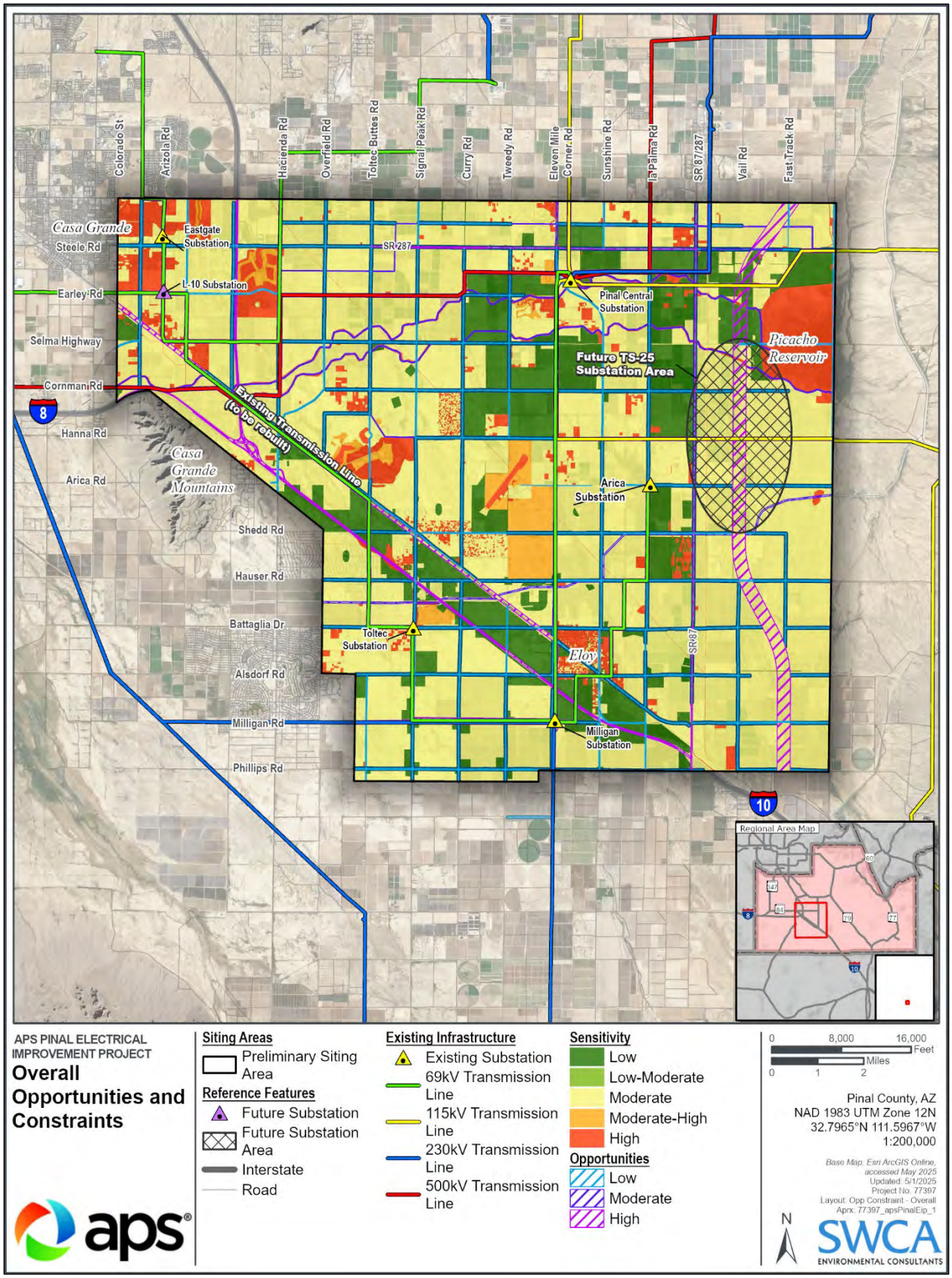

Figure 7. Opportunities and constraints.

Preliminary Links Identification

The development of preliminary links began after the opportunity and constraints analysis. Using the opportunities and constraints mapping, preliminary links were identified with a preference for areas of higher opportunity and/or lower constraint (Figure 8). The identified preliminary links avoid areas of high or moderate constraint to the extent possible. However, in some areas, siting opportunities exist within areas of moderate or high constraint and were retained for further analysis.

A link is defined as a discrete connection, that when added together with other links, can create a transmission line route. Each link has a unique identifier, or link number, for easy identification and so they can be tracked throughout the impact analysis. A node represents the start and end point for each link.

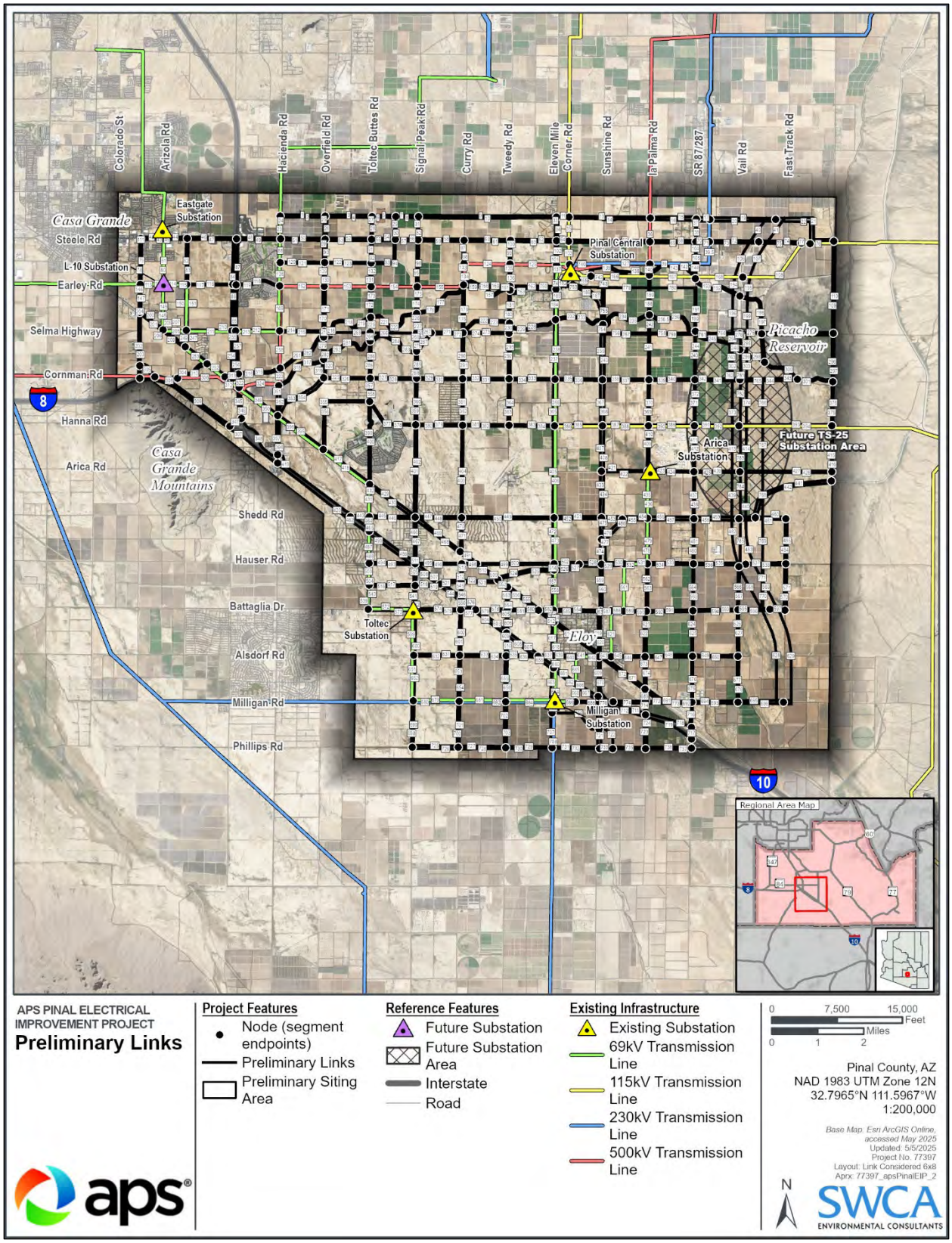

Figure 8. Preliminary links.

Detailed Link Analysis

After preliminary links were identified, a detailed analysis and comparison of compatibilities was completed for each link. This analysis identified features along each link that would support or hinder the construction, operation, and maintenance of 230kV and 69kV transmission lines.

Each of the revised preliminary links was evaluated and rated with regard to land use, visual resources, natural/biological resources, cultural resources, ROWs, engineering, construction/structural maintenance, and vegetative maintenance on a scale of 1 (most compatible) to 5 (least compatible) (Figure 9). In some instances, preliminary links were added after initial resource reviews in order to locate areas of greater compatibility (e.g., Links 779, 780). Maps were prepared that illustrate the overall compatibility of the preliminary links (Figure 10 and Figure 11).

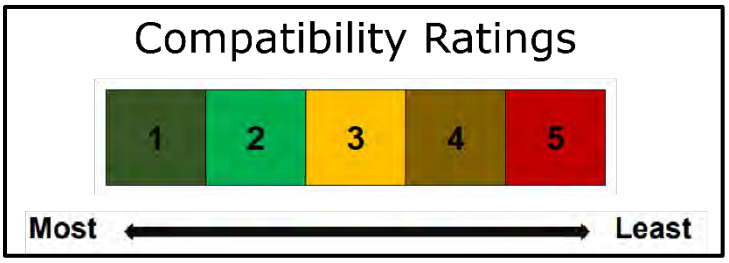

Figure 9. Compatibility rating scale.

Land Use

Land use compatibility was rated based on the ability for the project to share use of the land with existing and future land uses (see Figure 5 and Figure 6). An inventory was conducted to determine where existing land uses may be affected by the construction, operation, and maintenance of the proposed 230kV and 69kV transmission lines. Information was compiled from the available maps and planning documents, as well as aerial photography and previously conducted field studies. The project team gathered available data on the preliminary siting area primarily from the jurisdictions of Casa Grande, Coolidge, Eloy, and Pinal County, Arizona. Data collected included information on existing and future land use, land ownership, and municipal regulations. Additional data was collected through electronic data sources, such as Esri and Google Earth, as well as through field verification and meetings/coordination with the jurisdictions.

Visual Resources

Visual compatibility was rated based on factors such as the visual contrast of the proposed line with existing structures, viewer sensitivity, and viewing distance. Visual analysis included the development of key observation points (KOPs) and rating of compatibility based on visual contrast of the proposed 230kV and 69kV transmission lines with existing structures, viewer sensitivity, and viewing distance from the KOPs to the project. KOPs were chosen in high-traffic areas, which are likely to have sensitive viewers, such as nearby residences, high-travel routes, or recreation areas.

Natural/Biological Resources

Natural/biological compatibility was rated based on the anticipated level of biological sensitivity to the construction, operation, and maintenance of the proposed 230kV and 69kV transmission lines. This analysis was based on the potential presence of special-status species, special biological designation areas, or where species occur in high numbers. Information from the U.S. Fish and Wildlife Service Information for Planning and Conservation (IPaC) database, Arizona Game and Fish Department Online

Environmental Review Tool, and other publicly available information were reviewed for special-status species within the preliminary siting area and a 3-mile buffer.

Cultural Resources

Cultural resources compatibility was rated based on the anticipated level of cultural/archaeological sensitivity to the construction, operation, and maintenance of the proposed 230kV and 69kV transmission lines. This analysis was based on existing cultural/archaeological survey data and identified previously surveyed areas, as well as archaeological sites and historic structures within the preliminary siting area.

Engineering, Right-of-Way, Constructability/Maintenance, and Vegetative Maintenance

Following the land use and visual compatibility reviews for each of the preliminary links, APS engineers and other specialized staff analyzed and rated each link for its compatibility with engineering, ROW, construction/maintenance, and vegetation maintenance requirements. Examples of engineering and construction/maintenance compatibility considerations include but are not limited to conflicts with existing transmission lines or buildings or areas of inadequate horizontal or vertical clearance. ROW compatibility excluded areas where ROWs would be most difficult to obtain and where inadequate ROW widths are present. Vegetation maintenance compatibility excluded areas with heavy vegetation and/or large trees.

Overall Compatibility

The ratings for each of the categories discussed above (i.e., land use, visual resources, cultural resources, natural/biological resources, engineering, ROW, construction/maintenance, and vegetation maintenance) were reviewed and considered collectively to determine the overall compatibility rating for each link (i.e., 69kV facilities (see Figure 10) or 230kV facilities (see Figure 11).

Elimination of Links

Once the individual resource analysis was complete, overall compatibility was calculated for each link. The least compatible links were eliminated from further analysis, as were any isolated links that no longer provided a connection as a result of the prior eliminations (i.e., consequential eliminations). Subsequently, links that required additional route length (associated with additional cost and number of impacted landowners) but did not provide additional environmental benefit or impact avoidance were eliminated. All other links were retained for consideration when developing potential alternative routes. A map was created illustrating the eliminated links in comparison with the retained links (Figure 12).

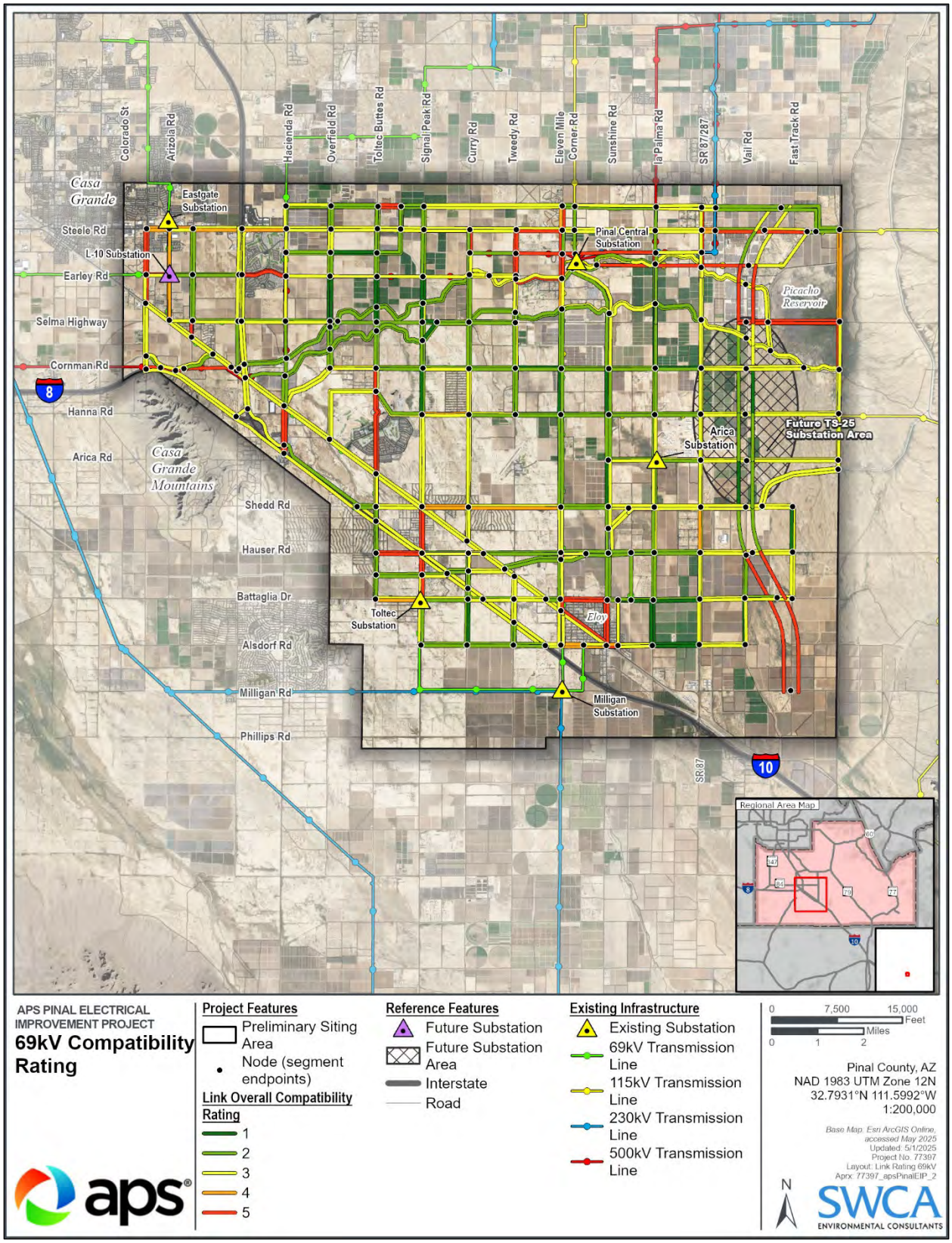

Figure 10. Overall 69kV compatibility ratings.

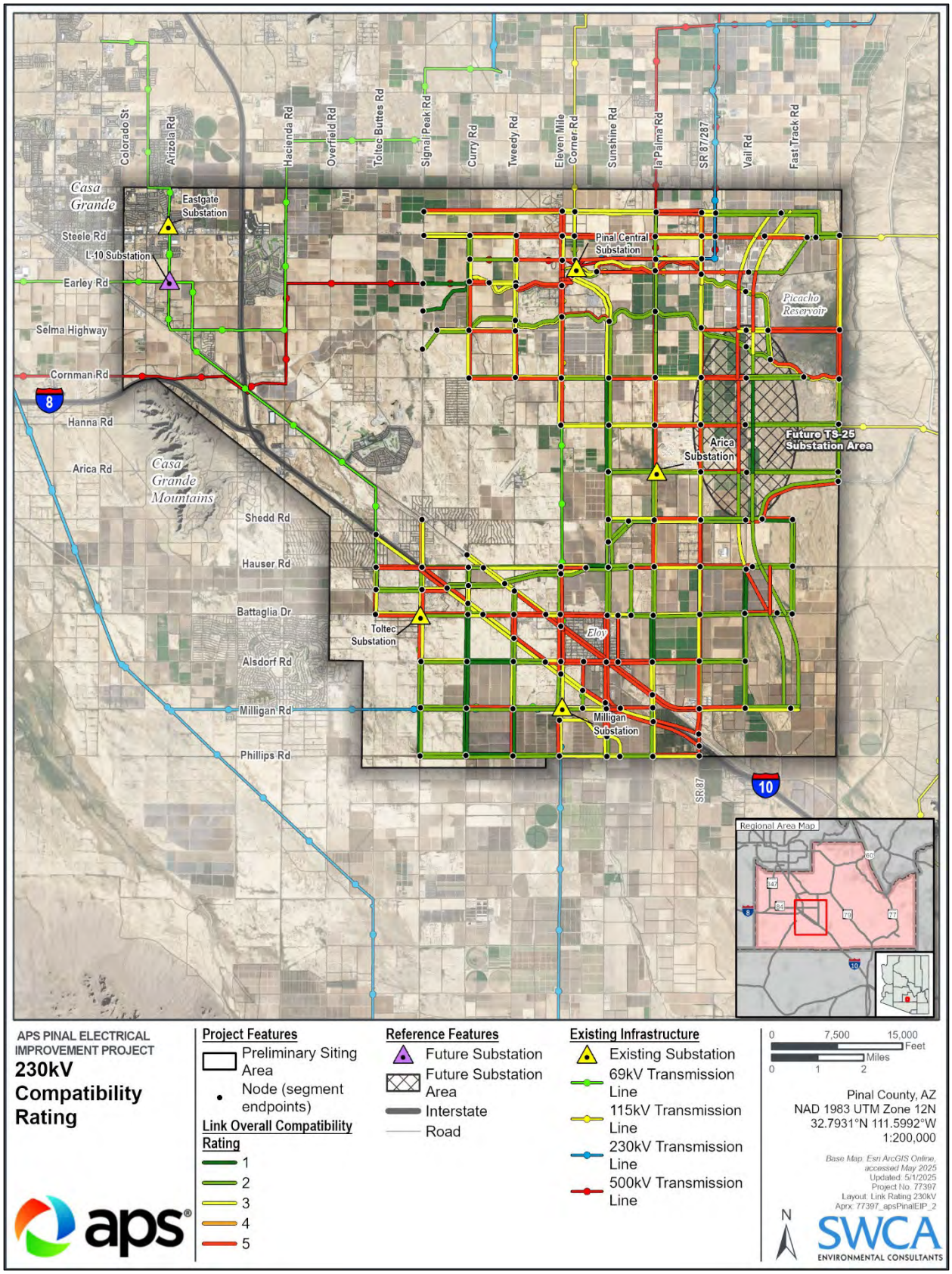

Figure 11. Overall 230kV compatibility ratings.

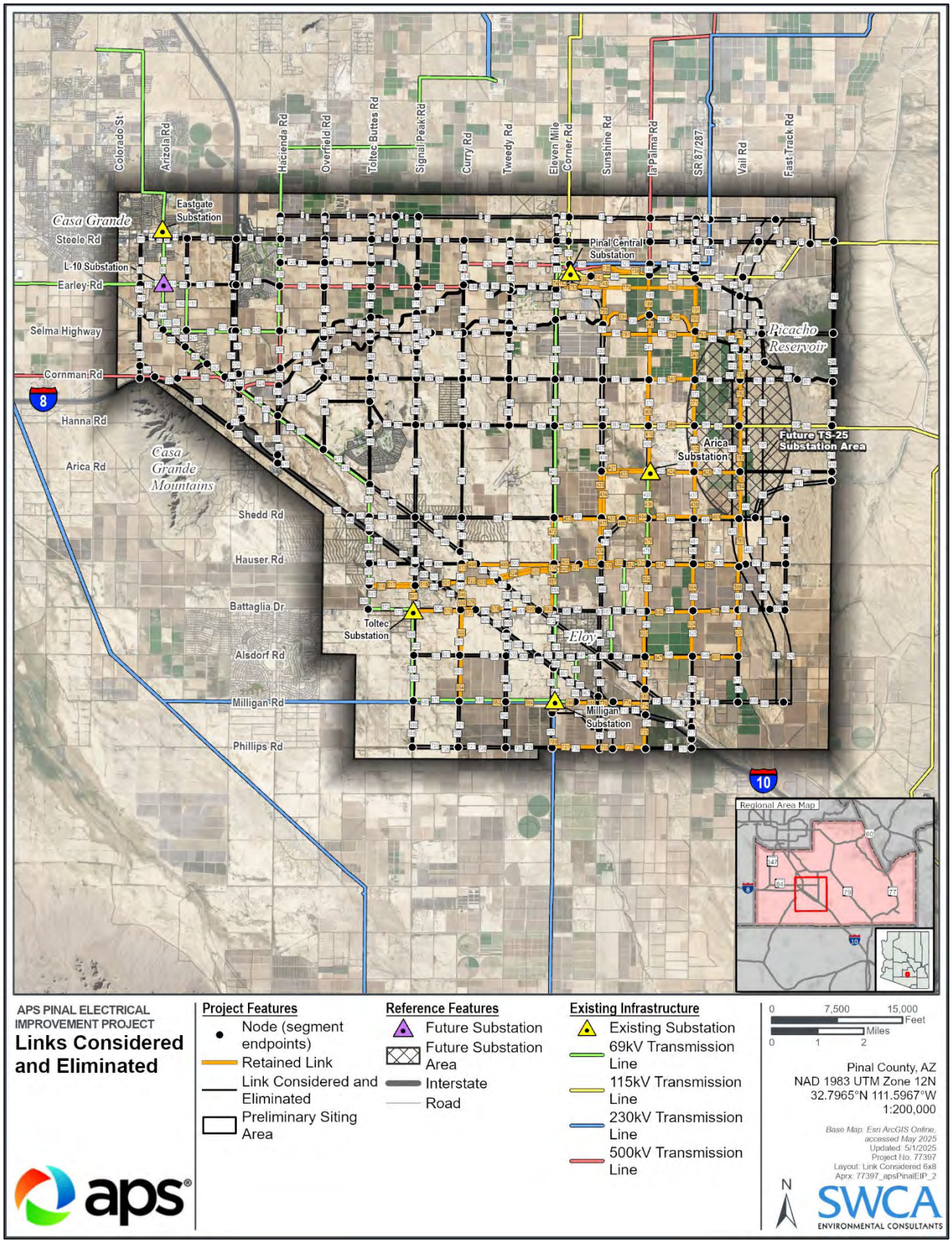

Figure 12. Links considered and eliminated.

Development of Preferred Route and Alternatives

Route identification is the process of combining retained preliminary links into proposed alternative routes that satisfy project needs and minimize impacts. Following the detailed link analysis and elimination of links, the remaining links were assessed for potential route combinations that would connect the future TS-25 Substation to the planned Sundance to Pinal Central Transmission Line south of Pinal Central Substation, Arica Substation, Milligan Substation, and the existing Eastgate to Toltec 69kV transmission line.

The process of combining links into route alternatives was completed by identifying logical direct routing connections between links via pathways that met the project purpose and need. A preliminary preferred route and a series of alternative routes were identified. A field review was completed in September 2024 to review and refine the potential route alternatives following the initial link elimination process. This field review assisted with the review of the remaining links and potential routes for consideration and further eliminated links deemed infeasible or least compatible based on field review. The identified preferred routes and series of alternative were then presented to agencies, stakeholders, and the public through outreach and an open house meeting held in November 2024, and these are shown on Figure 13.

Subsequent input from relevant agencies and stakeholders and the public during the public involvement process (see Section 3) helped to reshape the preferred route and alternative routes. Namely, Pinal County and the City of Coolidge expressed a strong preference for links that were placed east of the proposed North/South Freeway Corridor. Input from landowners near the Pinal Central Substation led to minor refinements in the links near Pinal Central and along Earley Road. A local developer and the City of Eloy requested alternative routes near Milligan Road, which led to the use of a route alternative instead of the originally identified preferred route. Through coordination with landowners/developers at and around the preliminarily identified future TS-25 Substation area, the general location for the future TS-25 Substation was further refined. The final preferred 230kV routes and “alternative subroutes,” the final selected 69kV routes, and the refined TS-25 Substation area, which incorporated agency and stakeholder input, are shown on Figure 14.

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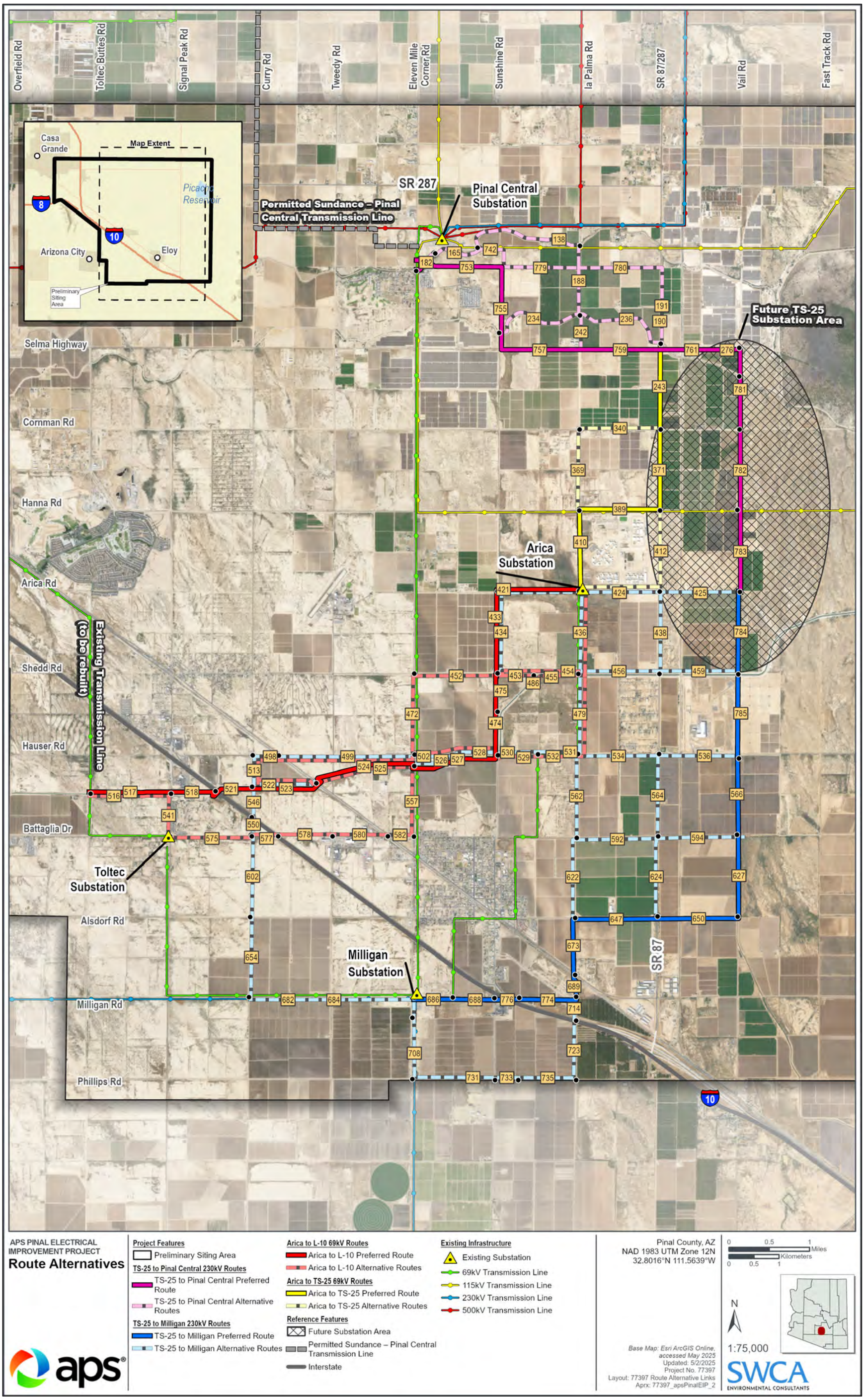

Figure 13. Preliminary route alternatives.

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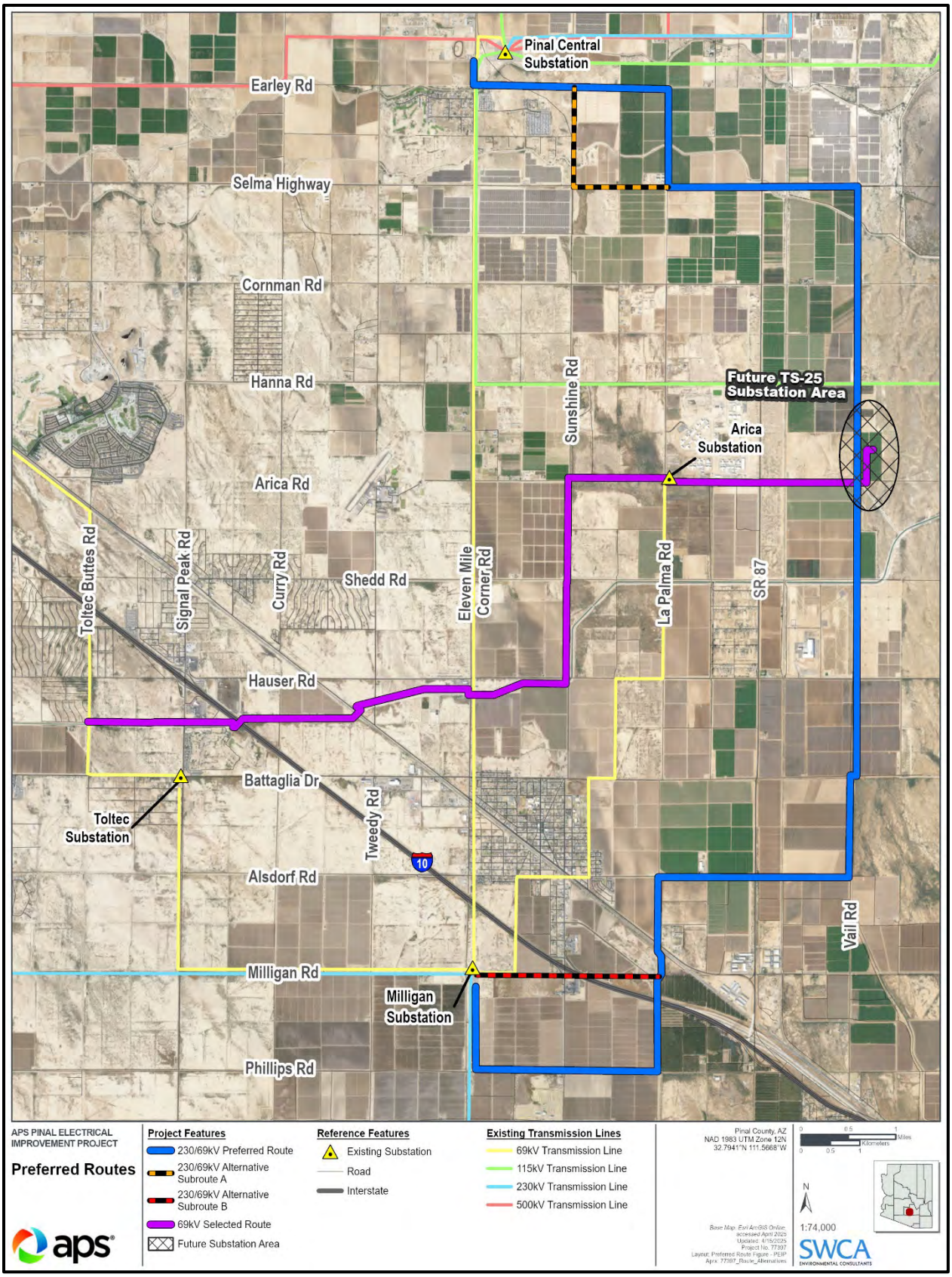

Figure 14. Preferred routes.

AGENCY AND PUBLIC INVOLVEMENT

APS conducted agency and public involvement efforts throughout the siting process. Relevant agency and public stakeholder input regarding opportunities and constraints, preliminary links, and potential route alternatives is an integral part of the planning process. The goals of the public involvement process are to introduce the project to the public and relevant agencies, identify the scope of their concerns and recommendations, and incorporate their feedback into the selection of a preferred route and alternative routes.

Agency and stakeholder outreach involved the following:

- Notifying over 14,000 residents, businesses, landowners, agencies, Native American Tribes, and other key stakeholders within the preliminary siting area via project newsletter mailings, customer email notifications, a project website, paid advertisements in two local newspapers, including the Casa Grande Dispatch and the Tri Valley Dispatch, social media posts on Facebook and Instagram, a project telephone line, and in-person and virtual open houses.
- In-person meetings, email, and phone correspondence with the following stakeholders:
  - Arizona Department of Transportation
  - Arizona State Land Department
  - Central Arizona Irrigation and Drainage District
  - City of Casa Grande
  - City of Coolidge
  - City of Eloy/Eloy Airport
  - Electric District No 2
  - Hohokam Irrigation and Drainage District Office
  - Pinal County
  - Pinal Land Holdings/Saint Holdings (private representative)
  - San Carlos Irrigation Project/San Carlos Irrigation and Drainage District
  - SkyDive Arizona

Opportunities provided for agency and stakeholder comments included the following:

- Virtual open houses (accessible starting April 16, 2024, updated on November 19, 2024, and remaining available for the entire duration of the project): Comment forms were provided.
- In-person open house (April 16 and 18, 2024, and November 19 and 20, 2024): Comment forms were provided, and APS and SWCA staff were available to talk to in person.
- Website (accessible starting April 16, 2024): www.aps.com/pinalproject.
- Email: Lupe Martinez and Stephen Eich, APS Project Managers, at PinalProject@aps.com.
- Phone: Comments and questions could be submitted by phone at (520) 482-2818.
- CEC Hearing: Opportunities for public comments will take place during the CEC hearing anticipated in September 2025 and the Arizona Corporation Commission Open Meeting anticipated by November 2025.

Public Notifications and Open Houses

Two virtual open houses and two in-person open houses were held to provide project information and solicit feedback from public stakeholders. Newsletters advertising the first and second open houses for the project were mailed and/or emailed to stakeholders within the preliminary siting area or that otherwise

likely have an interest in the project on March 29, 2024, and November 8, 2024, respectively. Newsletters were distributed to a mailing list of stakeholders that included approximately 14,000 addresses. The newsletters provided dates, a website address, and comment period information for the open houses, as well as a brief project description, current project schedule, and solicitation for public input. Links to the virtual open house and project websites, both of which provide opportunities for public comment, were advertised on Facebook and Instagram between April 9 and April 18, 2024, and between November 6 and November 19, 2024, respectively.

The virtual open houses were published online at Pinalopenhouse.com. The first virtual open house was launched on April 16, 2024, and remained available for public viewing and commenting until the site was updated for the second virtual open house that launched on November 19, 2024. The comment period for the second open house began on November 19, 2024, and will continue to be available through the entire duration of the project. The virtual open houses allowed for a central, 24/7 accessible location that provided project information and comment opportunities for extended periods of time. The in-person open houses were held within the preliminary siting area on April 16 and 18, 2024, and November 19 and 20, 2024, at the Pinal County Fairgrounds and Event Center in Pinal County, Arizona. APS representatives provided informational display boards and interactive mapping and were available to answer questions.

A third newsletter was mailed to stakeholders in May 2025 to provide an update on the final preferred route and alternative routes identified through completion of the siting process. A fourth newsletter will be sent in August/September 2025 to provide notice of the CEC hearing.

Twenty-eight public comments were received throughout the process. Comments were submitted and received via mail, email, virtual open house, and telephone, as well as in person at the public open house meetings.

Agency and Stakeholder Coordination

As part of the public outreach, APS regularly coordinated with relevant agencies and stakeholders to update them on the project and seek feedback (Table 6). During coordination, APS discussed the project purpose and need, potential routing options, and preliminary issues or concerns noted by agencies or stakeholders.

Table 6. Agency and Stakeholder Meetings

Agency/Stakeholder	Meeting Dates
Arizona Department of Transportation	2/12/2025
Arizona State Land Department	1/8/2025 and 3/19/2025
Central Arizona Irrigation and Drainage District	11/1/2023
City of Casa Grande	10/10/2023
City of Coolidge	9/21/2023
City of Eloy	10/12/2023
Electric District No 2	11/13/2023 and 1/29/2025
Hohokam Irrigation and Drainage District	8/14/2024
Pinal County	10/9/2023, 11/6/2023, and 1/15/2025
Saint Holdings	6/3/2024,12/18/2024, regular monthly meetings starting 3/2025
San Carlos Irrigation Project/San Carlos Irrigation and Drainage District	11/30/2023
SkyDive Arizona	1/5/2024

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EXHIBIT C. AREAS OF BIOLOGICAL WEALTH

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

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

Introduction

Areas of biological wealth and any rare and/or endangered species that may be located at or in the vicinity of the Project Area were identified through a biotic resource review conducted by SWCA Environmental Consultants (SWCA). The Project Area for this review comprises the Preferred Route and Alternative Subroutes for the proposed transmission line. The Study Area comprises the Project Area and a one-mile buffer. The data sources consulted for the review include:

- Topographical and aerial maps and land use, land cover, and elevation data
- The U.S. Fish and Wildlife Service (USFWS) species list for the proposed Arizona Public Service Company (APS) Pinal Electrical Improvement Project (Project) obtained from the USFWS online Information for Planning and Consultation (IPaC) system (USFWS 2025a, Appendix C-1)
- Species information obtained from the USFWS Environmental Conservation Online System (ECOS) and the USFWS Arizona Ecological Services document library
- Environmental review for the proposed Project obtained from the Arizona Game and Fish Department (AZGFD) online Environmental Review Tool (ERT) (AZGFD 2025a, Appendix C-2).

SWCA conducted a desktop analysis to identify rare and endangered species habitat and the likelihood of their occurrence within the Project Area and Study Area, as well as to determine if any areas of biological wealth occur in the Project Area or Study Area. Areas of biological wealth can be defined as any habitat, feature, or location that might serve to provide important, unique, or concentrated resources for wildlife or plants in a landscape context, and where adverse impacts to these areas might have higher magnitude of impacts on wildlife or plants as compared to impacts occurring in the surrounding areas. Areas of biological wealth can include unique habitat features (e.g., riparian corridors, wetlands, or rock outcrops); conceptual, unprotected areas that have been delineated by an agency or nongovernmental organization (e.g., wildlife corridors, Important Bird Areas [IBAs], and Conservation Opportunity Areas [COAs]); and features or areas (e.g., designated critical habitat) that are protected by a federal agency (e.g., USFWS, National Parks, National Wildlife Refuges, Wilderness Areas, or National Forests), state agency (e.g., Arizona State Parks), or local government (e.g., parks or other areas protected by local ordinance).

The AZGFD online ERT database query establishes a predetermined buffer beyond the Project Area to search for occurrence records and the presence of modeled habitat. The size of the buffer depends on the type of project being considered. For this Project, the buffer is 3 miles beyond the Project Area. This buffer fully encompasses the 1-mile-radius Study Area. The analysis in this exhibit is limited whenever possible to the Study Area, except in cases where ERT species results cannot be refined to a range narrower than the predetermined buffer.

Laws and Policies

Applicable laws and policies regarding special-status species in Arizona include the following:

- The USFWS administers the **Endangered Species Act of 1973 (ESA), as amended** (16 United States Code [USC] 1531 et seq.), which protects wildlife species listed as endangered (or as threatened if a 4(d) rule applies) from "take." However, the ESA does not provide the same take protections for listed plant species, except on federal land. The ESA also allows for the designation of critical habitat for listed species, although designation of critical habitat is not required. Critical habitat is an administrative designation of a defined area with specific characteristics important to the survival and recovery of a listed species. Designation of critical habitat can affect federal actions but not state or private actions without a federal nexus.
- The **Migratory Bird Treaty Act (MBTA)** (16 USC 703–712) provides for the protection of migratory birds and prohibits their unlawful take or possession. The act bans "taking" any native birds; "taking" can mean killing a wild bird or possessing parts of a wild bird, including feathers, nests, or eggs. Exceptions are allowed for hunting game birds and for research purposes, both of which require permits.
- The **Bald and Golden Eagle Protection Act (BGEPA)** (1 USC 668–668d or 50 Code of Federal Regulations [CFR] 22) prohibits any form of possession or taking of bald eagles (*Haliaeetus leucocephalus*) or golden eagles (*Aquila chrysaetos*). A 1962 amendment to the MBTA created a specific exemption for possession of an eagle or eagle parts (e.g., feathers) for religious purposes of Native American tribes. The amendment provided for not only the preservation of the golden eagle, but also the preservation of Native American cultural practices.
- The AZGFD manages and conserves wildlife in Arizona. Arizona does not have a counterpart to the federal ESA, but nearly all take of wildlife is regulated in some manner through the AZGFD's hunting and fishing license system. A list of rare species (Wildlife Species of Concern [WSC]) was created in 1996 without creating any specific statutory protections for those species (AZGFD 1996). However, hunting regulations are used to provide some protection. While WSC is no longer a valid category, AZGFD continues to track these species due to an existing Memorandum of Understanding between the USFWS and AZGFD. Generally, no hunting or capture of WSC is allowed, with some exceptions for managed recreational fisheries of native fish (AZGFD 2025b), and recreational capture of certain reptiles (AZGFD 2025c).
- Arizona prepared the **Arizona Wildlife Conservation Strategy (AWCS)** (2022–2032) through a state-federal partnership and grant program (AZGFD 2022). The AWCS, which serves as the official State Wildlife Action Plan (SWAP), identifies **Species of Greatest Conservation Need (SGCN)** in several tiers. Tier 1 species are those that the AZGFD has deemed vulnerable and fall into a category of either federally listed as endangered or threatened under the ESA; those that have been recently removed from the ESA and require post-delisting monitoring; those specifically covered under a signed agreement such as a Candidate Conservation Agreement (CCA), Candidate Conservation Agreement with Assurances, Conservation Strategy and Assessment, or Strategic Conservation Plan; or those for which the AZGFD has determined the protection of a closed season is warranted. Tier 2 represents the remainder of the species meeting the AZGFD's vulnerability criteria, including species that are not listed but are regionally rare or declining, species with a U.S. range primarily in Arizona that are dependent on conservation efforts within the state, and other species with identified conservation issues that may warrant management action and do not meet the criteria for Tier 1 listing. Tier 3 species are those for which existing data were insufficient to score one or more vulnerability criteria because substantial data gaps and unknown conservation status but where conservation concern may be

warranted. Species identified as WSC in 1996 are included as SGCNs in the State Wildlife Action Plan and are addressed as SGCNs in Table C-l and the discussion in this exhibit.

- The **AWCS** also denotes **COAs** as of December 2022 (AZGFD 2022). The COAs were created to help implement the AWCS and should be considered voluntary guidance for specific areas where conservation efforts would be most effective, based on species and habitat expertise, as well as wildlife and spatial data. These COAs are representative of specific areas that show strong potential for substantial improvements for wildlife and associated habitats. COAs are divided into categories of terrestrial and aquatic. Terrestrial COAs focus on geographic areas determined to have high conservation value and strong potential for successful conservation efforts. Aquatic COAs are strictly focused on conservation of aquatic resources, particularly native fish species (AZGFD 2025d). COAs reflect the best areas for conservation and were determined without regard to jurisdiction or landownership. In addition, COAs will neither be subject to any new regulation, nor do they have any regulatory effect (AZGFD 2022).
- Native plants in Arizona are managed by the Arizona Department of Agriculture (AZDA) under the **Arizona Native Plant Law** (ANPL) (Arizona Revised Statutes 3-903; Arizona Administrative Code R3-3-208), which regulates harvest, salvage, and transport of plants on nonfederal lands. Harvest or salvage of most plant species may be permitted or required, and fees may be assessed. Plants listed in the Highly Safeguarded category may be taken or salvaged only for scientific or conservation purposes; however, destruction on private lands is allowed. The ANPL identifies a lengthy list of plant species—largely cacti, agave, yucca, and desert trees—that are susceptible to removal for collection, landscaping, sale, or other commercial uses. The ANPL states that these plants shall not be taken, transported, or possessed from any nonfederal land without permission and a permit from the AZDA; it also requires notification (via a Notice of Intent to Clear Land Form [NOI]) before land clearing even if the plants will be destroyed. For private lands, the NOI needs to be submitted according to the acreage to be cleared and the associated timing as noted on the NOI; however, for state lands, the NOI needs to be submitted 60 days prior to land clearing and be completed one year from the notification date. In addition, the NOI needs to include an estimate of native plants by ANPL category that will be affected on state lands.
- The AZDA administers the **state noxious weed law** under Arizona Administrative Code R3-4-245. Arizona maintains a list of noxious weeds in three categories: Class A, Class B, and Class C (AZDA 2025). Class A species are those that are not known to occur in Arizona and are of limited distribution, and are of high priority for quarantine, control, or mitigation. Class B noxious weeds are species known to occur but are of limited distribution in Arizona and may be high-priority pests for quarantine, control, or mitigation if a significant threat to crop, commodity, or habitat exists. Class C noxious weeds are plant species that are widespread but may be recommended for active control based on risk assessment.

Desktop Inventory

On March 24, 2025, the USFWS IPaC database was queried to generate an unofficial list of ESA-listed species that have the potential to occur in the Study Area (USFWS 2025a; see Appendix C-1). In addition, the AZGFD online ERT was queried on the same day, to generate a list of special-status species with records within 3 miles of the Project Area (predetermined ERT buffer) and a list of SGCNs with modeled suitable habitat intersecting the Project Area (AZGFD 2025a) (Appendix C-2).

Summary of Occurrence

The USFWS and AZGFD data sources identified several endangered, threatened, and other special-status species that are known to occur or could occur in the region (i.e., within the Study Area for USFWS and within the Project Area plus a three-mile buffer for AZGFD). These special-status species and the likelihood of their being present in the vicinity of the Project Area are addressed below in six sections: 1) Areas of Biological Wealth, 2) Federally Listed Threatened and Endangered Species, 3) Bald and Golden Eagles, 4) Other Special-Status Species, 5) State-Protected Native Plants, and 6) Noxious Weeds (AZGFD 2025a; USFWS 2025a).

Areas of Biological Wealth

The USWFS IPaC and the USFWS Critical Habitat Mapper do not list or depict any federally proposed or designated critical habitat for ESA-listed species within the Project or Study Area (USFWS 2025a, 2025c).

No IBAs occur within the Project Area or Study Area. The closest IBA, the Lower Salt and Gila Rivers Ecosystem IBA, is approximately 32.7 miles southeast of the Study Area in the Tucson Mountains (National Audubon Society 2025).

No COA wildlife connectivity areas occur within the Project Area or Study Area (AZGFD 2022, 2025a).

The AZGFD ERT-generated response reported that the recovery areas (noted as Special Areas for ESA in the ERT) for ESA species Sonoran pronghorn (*Antilocapra americana sonoriensis*;, i.e., 10(j) experimental population area), and Mexican wolf (*Canis lupus baileyi*;, i.e., 10(j), Zone 2 experimental population area), intersect the Project Area, both of which are unlikely to occur in the proposed Project Area. Under ESA section 10(j), the USFWS may designate a population of a listed species as experimental if it will be released into suitable natural habitat outside the species' current range. An experimental population is a special designation for a group of plants or animals that will be reintroduced in an area that is geographically isolated from other populations of the species. With the experimental population designation, the specified population is treated as proposed for listing under the ESA (except on National Wildlife Refuge System or National Park System lands, where they are treated as threatened species), regardless of the species' designation elsewhere in its range (USFWS 2018).

Finally, Pinal County Riparian Areas are present within the Project Area and Study Area at Picacho Reservoir, along the Santa Rosa Flume and Florence-Casa Grande Canal Extension, the Casa Grande Canal, and McClellan Wash (AZGFD 2025a, see Appendix C-2). As described in the *Pinal County Riparian Area Guidelines* (Pinal County 2019), Pinal County, in coordination with the AZGFD, has mapped riparian areas (including hydroriparian, mesoriparian, and xeroriparian areas) and incorporated the data into the AZGFD online ERT database to aid in wildlife mitigation and project planning within Pinal County. Although most of the Pinal County Riparian Areas are canals, Picacho Reservoir and McClellan Wash are important resources for wildlife. The portions of the two proposed Alternative Subroutes that differ from the Preferred Route are located outside of McClellan Wash and therefore there would be no difference in the impacts to this riparian corridor if one or more of these Alternative Subroutes are chosen to modify the Preferred Route. Regardless of whether one or more of the Alternative Subroutes are chosen, the impacts would still be short-term, with minimal long-term impacts.

Federally Listed Threatened and Endangered Species

Four species listed as endangered, two species listed as threatened, one species listed as experimental non-essential population (EXPN), and one proposed threatened species were identified in the USFWS species list for the Study Area (USFWS 2025a). The species' federal status and potential for occurrence in the vicinity of the Project Area are presented in Table C-1.

The ESA-listed threatened and endangered species are cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*), Gila chub (*Gila intermedia*), Gila topminnow (*Poeciliopsis occidentalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), and yellow-billed cuckoo (*Coccyzus americanus*). Although the USFWS species list did not identify Yuma Ridgway's rail (*Rallus obsoletus yumanensis*) on the Study Area list, this species has occurrence records proximal to the Study Area (AZGFD 2025a; see Appendix C-2); therefore, potential for occurrence of this species is addressed.

The EXPN species is the Sonoran pronghorn.

The proposed threatened species is monarch butterfly (*Danaus plexippu*s).

Table C-1. Evaluation of Federally Listed and BGEPA Species within the Study Area

Common Name (Scientific Name)	Status	Range or Habitat Requirements	Occurrence Status
Birds			
Bald eagle (*Haliaeetus leucocephalu*s)	BGEPA MBTA	Occur in aquatic habitats with open water or Southwest arid regions with available food and roost sites. The range for non-breeding bald eagles extends throughout Arizona, except for the south-central portion of the state; breeding eagles occur in limited, fragmented locations of central, east-central, and west-central portions of the state.	May occur. The Study Area does not contain preferred breeding or roosting habitats but is within non-breeding range with forage potential occurring in the agricultural fields throughout the Study Area. Occurrence records exist within the Study Area at Picacho Reservoir (eBird 2025).
Cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*)	T	Found in heavily wooded xeroriparian washes with large saguaros (*Carnegiea gigantea*) or trees with suitable cavities in Sonoran desertscrub or semidesert grassland. This species' distribution is currently limited to portions of Pima County in Arizona. In addition, "pygmy-owls continue to be absent from Pinal County and around Tucson where they were found as recently as the early 2000s" (USFWS 2023). This species still occupies historical locations in the Altar Valley, Avra Valley, and Organ Pipe Cactus National Monument, and it is known to occur on the Tohono O'odham Nation.	Unlikely to occur. The Study Area does not contain suitable grassland-associated saguaro or tree habitat, and the Project Area is not within the current range (USFWS 2022; USFWS 2025b).
Golden eagle (*Aquila chrysaetos*)	BGEPA MBTA	Found in mountainous canyon land, rimrock terrain of open desert, grassland, and forested areas. Year-round range includes all of Arizona.	May occur. Although suitable nesting habitat is not present in the Study Area, eagles may forage or move through the area to nearby nesting locales. Occurrence records exist within the Study Area (eBird 2025).

Common Name (Scientific Name)	Status	Range or Habitat Requirements	Occurrence Status
Southwestern willow flycatcher (*Empidonax traillii extimus*)	E	Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood (*Populus* spp.), willow (*Salix* sp.), boxelder (*Acer negundo*), saltcedar (*Tamarix* spp.), Russian olive (*Elaeagnus angustifolia*), buttonbush (*Cephalanthus* spp.), and arrowweed (*Pluchea sericea*) are present. Nests are found in thickets of trees and shrubs, primarily those that are 13 to 23 feet high, among dense, homogeneous foliage. Habitat occurs at elevations below 8,500 feet above mean sea level (amsl).	Unlikely to occur. There are no dense riparian habitats or perennial waters in the Study Area. According to the AZGFD online ERT report, there is an occurrence record of the species within 3 miles of the Project Area (AZGFD 2025a); however, the occurrence is likely due to the presence of Picacho Reservoir within the Study Area, an ephemeral water body where stands of salt cedar and willow are present on the lakebed and along the levee bank (Drowley 2021). No sightings of the species at Picacho Reservoir or at any location within 5 miles of the Project Area are documented in occurrence records submitted by the general public on eBird (2025). Although southwestern willow flycatchers may fly over the Study Area, they are not likely to stop over in the Project Area due to the lack of suitable habitat. The nearest expected range for the southwestern willow flycatcher is 9.5 miles north of the Study Area along the Gila River.
Yellow-billed cuckoo (*Coccyzus americanus*)	T	Typically found in riparian woodland vegetation (cottonwood, willow, or saltcedar) at elevations below 6,600 feet amsl. Dense understory foliage appears to be an important factor in nest site selection. The highest concentrations in Arizona are along the Agua Fria, San Pedro, upper Santa Cruz, and Verde River drainages and Cienega and Sonoita Creeks. Migration and wintering habitat needs are not well known, although they appear to include a relatively wide variety of conditions. Migrating yellow-billed cuckoos have been found in coastal scrub, second-growth forests and woodlands, hedgerows, forest edges, and smaller riparian patches than those used for breeding.	Unlikely to occur. There are no riparian woodlands with dense understory foliage present in the Study Area. According to the AZGFD online ERT report, there is an occurrence record of the species within 3 miles of the Project Area (AZGFD 2025a). The occurrence is likely due to the presence of Picacho Reservoir within the Study Area, an ephemeral water body where stands of salt cedar and willow are present on the lakebed and along the levee bank (Drowley 2021). Two sightings of the species at Picacho Reservoir are documented in occurrence records submitted by the general public on eBird (2025); however, these sightings date back to the 1990s with no sightings since 1998. No other sightings of the species have been documented within 5 miles of the Project Area. Although yellow-billed cuckoos may fly over the Study Area, they are not likely to stop over in the Project Area due to the lack of suitable habitat.
Yuma Ridgway's rail (*Rallus obsoletus yumanensis*)	E	Found in dense emergent riparian vegetation below 4,500 feet amsl. Requires wet substrate (mudflat, sandbar) with dense herbaceous or woody vegetation for nesting and foraging.	Unlikely to occur. The Study Area does not contain riparian vegetation suitable for species occurrence. However, occurrence records exist within 3 miles of the Project Area (AZGFD 2025a, eBird 2025). The AZGFD ERT report occurrence record is likely due to the presence of Picacho Reservoir within the Study Area, an ephemeral water body within the Study Area where mudflats and emergent riparian vegetation are present (Drowley 2021). However, the reservoir has a highly variable water level, with the lake being entirely dry in some years (Drowley 2021; Federal Emergency Management Agency 2025). There is no suitable nesting habitat for Yuma Ridgway's rail within the Study Area. Although this species may fly over the Study Area, it is not likely to stop over in the Project Area due to the lack of suitable habitat.

Common Name (Scientific Name)	Status	Range or Habitat Requirements	Occurrence Status
Fishes			
Gila chub (*Gila intermedia*)	E	Normally found in smaller headwater streams, cienegas, and springs or marshes of the Gila River Basin at elevations between 2,720 and 5,420 feet amsl.	Unlikely to occur. There are no perennial aquatic habitats in the Study Area.
Gila topminnow (including Yaqui) (*Poeciliopsis occidentalis*)	E	Occurs in small streams, springs, and ciénegas at elevations below 4,500 feet amsl, primarily in shallow areas with aquatic vegetation and debris for cover. In Arizona, most of the remaining native populations are in the Santa Cruz River system.	Unlikely to occur. Although canals within the Study Area may regularly contain water, these canals do not provide suitable habitat for Gila topminnow (i.e., small streams, springs, and ciénegas with aquatic vegetation or cover). The Study Area is within the range of this species (USFWS 2025b), but the nearest known occurrence record for this species is associated with the Santa Cruz River in Pima County, more than 30 miles southeast of the Project Area (AZGFD 2025e). Therefore, this species is unlikely to occur in the Project Area or to disperse into it from the nearest source population.
Insects			
Monarch butterfly (*Danaus plexippus*)	PT	A migratory species found in a variety of habitats; monarchs require milkweed (Family Asclepiadaceae) for breeding. During fall migration in Arizona, monarchs favor nectar from a variety of native and garden plants. Populations in Arizona can migrate either to California or Mexico for winter or may overwinter in the low deserts in California. In the southwestern United States, migrating monarchs often occur near water sources (e.g., rivers, creeks, riparian corridors, roadside ditches, irrigated gardens). In the low deserts of Arizona, monarchs breed in late August to early September; however, monarch reproduction in Arizona is more common in higher elevations and is less common in the Sonoran desertscrub (Morris et al. 2015).	May occur. Individuals may be present as transients during migration or as occasional individuals passing through the Study Area en route to larval food plants or nectar resources. Although no plants in the milkweed family have been recorded in the area (Western Monarch Milkweed Mapper 2025), other nectar sources are available for foraging and migration. One 2021 sighting of an individual monarch has been recorded 5.3 miles north of the Study Area (Western Monarch Milkweed Mapper 2025).
Mammals			
Sonoran pronghorn (*Antilocapra americana sonoriensis*)	EXPN	Found in Sonoran desertscrub within broad, intermountain alluvial valleys with creosote bush (*Larrea tridentata*)–bursage (*Ambrosia* spp.) and paloverde (*Parkinsonia* spp.)–mixed cacti associations at elevations between 2,000 and 4,000 feet amsl. The only extant U.S. population is in southwestern Arizona; however, the USFWS has established a 10(j) area for reintroductions. The only current reintroduction is in and near the Kofa National Wildlife Refuge.	Unlikely to occur in the Study Area as it is outside the species' currently known range and it is not within a potential reintroduction site.

Note: Table lists the species named in USFWS official species list (USFWS 2025a) and in the Arizona Online ERT (AZGFD 2025a).

Source: AZGFD (2025a); eBird (2025); USFWS (2025b). Notes regarding documentation within 3 miles of the evaluation area are from AZGFD (2025a).

BGEPA = Bald and Golden Eagle Protection Act

MBTA = Migratory Bird Treaty Act

Status abbreviations: E = Endangered, EXPN = Experimental Non-Essential Population, T = Threatened, PT = Proposed Threatened

BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*) AND GOLDEN EAGLE (*AQUILA CHRYSAETOS*)

Bald eagle and golden eagle are protected under both the MBTA and the BGEPA of 1940, as amended (16 USC 668–668d or 50 CFR 22) (see Table C-1). The bald eagle is also an SGCN Tier 1 species.

Bald Eagle nests are generally placed in large deciduous or coniferous trees or cliffs, with a commanding view of the area, less than one mile from appropriate aquatic foraging conditions (e.g., perennial rivers or lakes containing fish) (Buehler 2022). The species communally roosts in the winter in large (15–60 m tall) deciduous or coniferous trees, which tend to be near aquatic foraging sites (<50 m) but may be more than 6 miles from aquatic foraging sites, particularly in areas sheltered from adverse weather conditions with unusually high prey or carcass availability (Buehler 20022 USFWS 2007, 2013). Wintering/nonbreeding individuals and juveniles are typically associated with breeding habitats; however, they may range widely in search of food, shelter, and reduced human presence (Buehler 2022).

The Project Area and Study Area are within the nonbreeding range of the species. The Project Area and Study Area do not contain characteristic nesting or roosting habitats (i.e., and no tall trees, cliffs, or suitable human-made structures), and there are no ERT records of bald eagle within the Project Area (AZGFD 2025a). The Project Area is largely agricultural with major interstates and highways, and there is little prime habitat for wildlife. No suitable aquatic foraging habitat (e.g., flowing rivers or lakes containing fish) is present in the Project Area itself; however, small-mammal prey is present across the area, and bald eagles may forage within the Project Area or travel through the area while foraging. The nearest and most recent sighting of an individual bald eagle was in February 2024, within the Study Area at Picacho Reservoir (eBird 2025). The nearest documented nesting areas are over 30 miles away on the north side of the Gila River, near Arizona State Route 347 on the Gila River Indian Reservation (Southwestern Bald Eagle Management Committee 2022).

The Project Area and Study Area would similarly not be attractive to golden eagles. Golden eagles are protected under the MBTA and BGEPA, and as an SGCN Tier 2 species. They require large, open hunting grounds adjacent to mountainous canyonland and rimrock terrain of open desert, grassland, and forested areas (Katzner et al. 2020; Marzluff et al. 1997). The presence of sizable shrub (e.g., sagebrush [*Artemisia* spp.], rabbitbrush [*Chrysothamnus* spp.]) patches is an essential component of golden eagle home ranges (Marzluff et al. 1997). Nests are placed in rugged terrain (e.g., cliffs), less often in tall trees and on human-made structures (e.g., transmission towers) (Katzner et al. 2020).

Wintering/nonbreeding individuals and juveniles are typically associated with breeding habitats; however, they may range widely in search of food (Katzner et al. 2020). Although there are no ERT records of golden eagle within the Project Area (AZGFD 2025a), eBird (2025) lists several occurrences within the Study Area. The nearest known breeding areas for the golden eagle are along the Gila River near Kearny to the northeast, and in the Tortolita Mountains to the southeast, both approximately 35 miles from the Study Area. The Picacho Mountains 6 miles to the east-southeast are mapped as a *potential* breeding area (McCarty et al. 2020). Although the Project Area and Study Area do not contain suitable nesting habitat for golden eagle and are outside the species' predicted year-round range (AZGFD 2002), individuals may forage or move through.

Other Special-Status Species

Other special-status species that may occur within the Project Area or Study Area include:

- Birds of Conservation Concern (BCC), which are bird species—beyond those designated as federally threatened or endangered—that represent the USFWS's highest conservation priorities. The relevant BCCs for this analysis are those identified by the USFWS (2021) as occurring in Bird Conservation Region (BCR) 33. The BCC list is non-regulatory, although some agencies may give special consideration to these species.

- SGCN in Arizona, which are species identified by the AZGFD as warranting heightened attention because of low and declining populations, as described in the Laws and Policies section above.

The species in these categories that have occurrence records or predicted habitat modeled within 3 miles of the Project Area (AZGFD 2025a) and are not also designated as federally threatened or endangered or BGEPA species (see sections above), are discussed below in Table C-2. These species were evaluated for potential occurrence based on familiarity with the vicinity and freely available information sources including:

- AZGFD's Heritage Data Management System (AZGFD 2025e)
- the online field guide *Reptiles and Amphibians of Arizona* (Brennan 2012)
- *Arizona Breeding Bird Atlas* (Corman and Wise-Gervais 2005)
- the online field guide *All About Birds* (Cornell Lab of Ornithology 2025)
- eBird (2025)
- Google Earth (2025)
- USFWS ECOS website (USFWS 2025b).

Table C-2. Other Special-Status Species with Potential to Occur in the Vicinity of the Study Area

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status
		Federal	State (Tier)	
Amphibians				
Lowland leopard frog (*Lithobates yavapaiensis*)	Found in rocky streams, canyon habitats surrounded by conifer forests, or ponds and stream pools. Usually found in areas with desertscrub biotic communities. Greatest threats to species continuation include habitat alteration, fragmentation, and introduction of nonnative competitor fish, crayfish, and frogs. Species dispersal has been shown to remain within a few kilometers of aquatic breeding sites.	–	SGCN (1)	Unlikely to occur. Suitable habitat is not present within the Study Area.
Sonoran Desert toad (*Incilius alvarius*)	Found in Sonoran desertscrub, semidesert grasslands, oak (*Quercus* sp.), and occasionally pine-oak (*Pinus* sp.-*Quercus* sp.) woodland habitats up to about 5,800 feet above mean sea level (amsl). Associated with major rivers, and edges of agriculture; although often tied to permanent water, can be found miles from water during summer monsoon season, in some areas.	–	SGCN (2)	May occur. Suitable habitat (i.e., agricultural edge habitat) for species occurrence and potential breeding occurs within the Study Area. Occurrence records exist in the vicinity of the Project Area‡ (AZGFD 2025a).
Birds				
Abert's towhee (*Melozone aberti*)	Common in riparian woodlands or mesquite bosques near water and in agricultural settings.	MBTA	SGCN (2)	May occur. Suitable desert/suburban/agricultural habitat is present within the Study Area, and occurrence records exist within the Study Area (eBird 2025).

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status
		Federal	State (Tier)	
American avocet (*Recurvirostra americana*)	Prefers shorelines of ponds, wetlands, marshes, and lakes.	MBTA BCC	--	May occur. The Study Area contains suitable habitat for foraging and occurrence records exist in the Project and Study Areas (eBird 2025).
American bittern (*Botaurus lentiginosus)*	Marshlands and very wet meadows. Occurs along rivers, lakes, and ponds with developed wetland habitat.	MBTA	SGCN (2)	May occur. Suitable habitat is present within the Study Area. Occurrence records exist within the Study Area at Picacho Reservoir (eBird 2025).
American kestrel (*Falco sparverius*)	Found in open and semi-open habitats, frequently found in prairies, deserts, wooded streams, burned forest, and agricultural areas. Known to nest in natural holes in trees, abandoned woodpecker cavities, cavities in buildings or cliffs, and similar sites.	MBTA BCC[†]	SGCN (2)	May occur. The Study Area contains suitable habitat for foraging and occurrence records exist in the vicinity of the Project Area[‡] (AZGFD 2024b).
American peregrine falcon (*Falco peregrinus anatum*)	Found in various habitats including tundra, moorlands, steppe, seacoasts, forests, and urban areas. Nests on ledges of rocky cliffs or crags.	MBTA	SGCN (1)	May occur. The Study Area contains suitable habitat for foraging; however, no suitable nesting sites are present in the Project Area.
Bendire's thrasher (*Toxostoma bendirei*)	Found in desert habitats with a mix of relatively large scrubs/cacti and open ground or open woodland with scattered shrubs and trees. Not typically found in riparian woodland areas, the species avoids continuous shrublands and grasslands. Commonly found in areas with desertscrub biotic communities. Nesting is known to occur in low trees, shrubs, and cacti including mesquite (*Prosopis* spp.), cholla (*Cylindropuntia* spp.), yucca (*Yucca* sp.), paloverde (*Parkinsonia* sp.), and saltbush (*Atriplex* sp.).	MBTA BCC	SGCN (2)	May occur. The Study Area contains suitable habitat for species occurrence, foraging and potential nesting. Occurrence records exist in the vicinity of the Project Area[‡] (AZGFD 2025a).
Black-bellied whistling-duck (*Dendrocygna autumnalis*)	Found in freshwater and brackish marshes, lagoons, and borders of ponds and streams; often forages in cultivated fields and wet pastures. Nests in tree cavities or on the ground in grassy areas or under brush/cactus near water.	MBTA	SGCN (2)	May occur. Suitable habitat is present within the Study Area. Occurrence records exist within the Study Area at Picacho Reservoir (eBird 2025).
Brewer's sparrow (*Spizella breweri*)	A shrub obligate species strongly associated with sagebrush (*Artemisia* sp.) over most of its range. Found in areas with scattered shrubs and short grasses. Known to nest in sagebrush or cacti from a few centimeters to roughly 1 m from the ground. During its nonbreeding migratory season, frequently found in low desert, arid-adapted vegetation including desertscrub, sagebrush, and creosote bush (*Larrea tridentata*).	MBTA	SGCN (2)	May occur. The Study Area contains suitable habitat for species occurrence, foraging and potential nesting sites. Numerous occurrence records exist within the Project and Study Areas (eBird 2025).

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status
		Federal	State (Tier)	
Broad-billed hummingbird (*Cynanthus latirostris*)	Found in arid scrub, open deciduous forest, semi-desert and other open situations in arid habitats in the southwestern United States (U.S.) and Mexico. In the southwest, the species is mostly limited in summer to rocky canyons in desert-like mountain habitats. Foothills, canyons, arroyos, along streams, in or near desert habitat. Breeds April through July in Arizona. Partially migratory; found year-round in all but the most northern portion of its range; northern breeding populations move southward for winter. Generally arrives in Arizona by March; departs by September–October. A few individuals winter occasionally at feeders in southern California, southern Arizona, New Mexico, southern Texas, and southern Louisiana.	MBTA	SGCN (2)	May occur. The Study Area contains suitable foraging habitat, and occurrence records exist within the Study Area (eBird 2025).
Bullock's oriole (*Icterus bullockii*)	Found in open woodland, deciduous forest edge, riparian woodland, brushy areas, and among scattered trees and orchards. Arrives in the northern U.S. and Canada in April–May; males precede females by a few days. Birds from most of breeding range apparently migrate to the southwestern U.S. for late summer, then continue later in fall southward into Mexico. Nests in trees, average of 8–9 m above ground, usually at end of drooping branch.	MBTA	SGCN (2)	May occur. The Study Area contains suitable foraging habitat, and occurrence records exist within the Study Area (eBird 2025).
Cactus wren (*Campylorhynchus brunneicapillus*)	Nonmigratory species often found in arid desert habitat with biotic communities including cholla, mesquite, and sagebrush scrub. Nesting is known to occur in thorny trees and shrubs, although they have been observed nesting in buildings in the past.	MBTA BCC†	SGCN (2)	May occur. The Study Area contains suitable habitat for species occurrence, foraging, and potential nesting. Occurrence records exist within the Project Area and Study Area (eBird 2025).
Chestnut-collared longspur (*Calcarius ornatus*)	Found in the Great Plains in native prairie habitat consisting of mixed-grass and shortgrass uplands. Has also been observed in riparian areas in more arid habitats.	MBTA BCC†	SGCN (2)	Unlikely to occur. The Study Area is outside of the species known range and does not contain suitable habitat for species occurrence. However, several occurrence records exist within 3 miles of the Study Area (eBird 2025).
Costa's hummingbird (*Calypte costae*)	Found in Sonoran and Mojave desertscrub near washes of native desert vegetation or rocky slopes of saguaro (*Carnegiea gigantea*) and creosote bush lowlands.	MBTA BCC	SGCN (2)	May occur. The Study Area contains suitable habitat for species occurrence, foraging, and potential nesting. Occurrence records exist within the Study Area (eBird 2025).

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status
		Federal	State (Tier)	
Elf owl (*Micrathene whitneyi*)	Known to occupy diverse habitats. In the Sonoran Desert, they are known to use desert ironwood (*Olneya tesota*), ocotillo (*Fouquieria splendens*), paloverde, and saguaro. Nesting most often occurs saguaro and other columnar cacti, Fremont cottonwood (*Populus fremontii*), honey mesquite (*Prosopis glandulosa*), and Goodding's willow (*Salix gooddingii*).	MBTA	SGCN (3)	Unlikely to occur. The Study Area does not contain suitable habitat for species occurrence.
Ferruginous hawk (*Buteo regalis*)	Favors open scrublands, woodlands, grasslands, and semidesert grasslands.	MBTA BCC†	SGCN (2)	May occur. Winter foraging habitat is present within the Study Area. Numerous occurrence records exist within the Project and Study Areas (eBird 2025).
Gila woodpecker (*Melanerpes uropygialis*)	Occurs in Sonoran desertscrub with saguaros present, or riparian woodlands with mature trees.	MBTA BCC	SGCN (2)	May occur. The Study Area contains suitable foraging habitat, and numerous occurrence records exist within the Project and Study Areas (eBird 2025).
Gilded flicker (*Colaptes chrysoides*)	Found in Sonoran desertscrub with saguaros present, or riparian woodlands with mature trees.	MBTA BCC	SGCN (2)	May occur. The Study Area contains suitable foraging habitat, and numerous occurrence records exist within the Project and Study Areas (eBird 2025).
Gray flycatcher (*Empidonax wrightii*)	Breeds in high desert, and nests in sagebrush and open habitat with evergreen plants. Migrants prefer along streams or oases of green vegetation within deserts.	MBTA	SGCN (2)	May occur. Winter foraging habitat is present within the Study Area. Occurrence records exist within the Project Area and Study Area (eBird 2025).
Harris's hawk (*Parabuteo unicinctus*)	Found in savannas, open woodlands, and semi-desert habitats. Frequently observed near water sources, both natural and human made. Often uses saguaro for nesting sites	MBTA BCC†	SGCN (2)	May occur. The Study Area contains suitable habitat for foraging. Numerous occurrence records exist within the Project Area and Study Area (eBird 2025).
Inca dove (*Columbina inca*)	Found in open country with scattered trees or shrubs, most frequently in arid or semi-arid conditions, and around cultivated areas including farmlands, parks, and gardens.	MBTA	SGCN (2)	May occur. The Study Area contains suitable habitat for foraging. Occurrence records exist within the Project Area and Study Area (eBird 2025).
LeConte's thrasher (*Toxostoma lecont*ei)	Found in Sonoran desertscrub dominated by creosote bush, with scattered trees used for nesting.	MBTA BCC	SGCN (2)	Unlikely to occur. The Study Areas lacks Sonoran desertscrub dominated by creosote bush habitat. However, occurrence records exist within the Study Area at Picacho Reservoir (eBird 2025).
Lincoln's sparrow (*Melospiza lincolnii*)	Winters in central Arizona, prefers dense, brushy areas, often near water.	MBTA	SGCN (2)	May occur. The Study Area contains suitable habitat for foraging. Occurrence records exist within the Project Area and Study Area (eBird 2025).

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status
		Federal	State (Tier)	
Loggerhead shrike (*Lanius ludovicianus*)	Found in open areas with scattered trees and shrubs. Frequently observed in savannas and desert-scrub biotic communities.	MBTA BCC†	SGCN (2)	May occur. Suitable habitat for species occurrence, foraging, and potential nesting is present within the Study Area, and numerous occurrence records exist within the Project Area and Study Area (eBird 2025).
Marbled godwit (*Limosa fedoa*)	Non-breeding visitor to central Arizona, prefers wetlands and marshes with shorelines.	MBTA BCC-nb	--	May occur. The Study Area contains suitable habitat for foraging, and occurrence records exist within the Study Area (eBird 2025).
Mountain plover (*Charadrius montanus*)	Non-breeding visitor to Arizona, in winter prefers dry plains and agricultural fields.	MBTA BCC-nb	SGCN (2)	May occur. The Study Area contains agricultural areas suitable for species occurrence and winter foraging. Occurrence records exist within the Study Area (eBird 2025).
Prairie falcon (*Falco mexicanus*)	Found in open areas, predominantly in mountainous areas, steppes, plains, or prairies. Nonbreeding wintering individuals have been known to forage in agricultural fields	MBTA BCC†	SGCN (2)	May occur. The Study Area contains agricultural lands suitable for species occurrence and winter foraging. Occurrence records exist within the Project Area and Study Area (eBird 2025).
Red-winged blackbird (*Agelaius phoeniceus*)	Nests near water. During migration and wintering can also occur in cultivated lands, pastures, and prairies. May be year-round or migratory.	MBTA	SGCN (2)	May occur. The Study Area contains agricultural lands suitable for species occurrence and winter foraging. Numerous occurrence records exist within the Project Area and Study Area (eBird 2025). In addition, a record of occurrence exists in the vicinity of the Project Area‡ (AZGFD 2025a).
Rufous-winged sparrow (*Peucaea carpalis*)	Prefers Sonoran desertscrub, characterized by scattered spiny trees and shrubs.	MBTA BCC	SGCN (2)	May occur. The Study Area contains suitable habitat for foraging. Occurrence records exist within the Project Area and Study Area (eBird 2025).
Sagebrush sparrow (*Artemisiospiza nevadensis*)	Found in shrubby, open flats and sagebrush plains.	MBTA	SGCN (3)	May occur. The Study Area contains habitat suitable for species occurrence, foraging, and potential nesting. Occurrence records exist within the Study Area (eBird 2025).
Savannah sparrow (*Passerculus sandwichensis)*	Nonbreeding winter visitor to Arizona. Use fields, pastures, and golf courses.	MBTA BCC†	SGCN (2)	May occur. Suitable habitat for species occurrence and winter foraging is present in the form of agricultural fields within the Study Area. Numerous occurrence records exist within the Study Area (eBird 2025).
Sprague's pipit (*Anthus spragueii*)	Prefers open sandy coastal beaches and barren shores of inland saline lakes or river bars.	MBTA BCC	SGCN (2)	Unlikely to occur. The Study Areas lacks suitable habitat for species occurrence. However, occurrence records exist within the Study Area (eBird 2025).
Swainson's hawk (*Buteo swainsoni*)	Found in savanna, open pine-oak woodland, and cultivated lands with scattered trees. Typically nests in solitary trees, bushes, or small groves.	MBTA	SGCN (2)	May occur. The Study Area contains suitable habitat for species occurrence and foraging. Numerous occurrence records exist within the Project Area and Study Area (eBird 2025).

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status
		Federal	State (Tier)	
Swainson's thrush (*Catharus ustulatus*)	Found in coniferous forests, mixed hardwood-conifer forests, riparian woodlands, aspen forests, and occasionally coastal scrub.	MBTA	SGCN (2)	Unlikely to occur. Suitable habitat is not present in the Study Area.
Verdin (*Auriparus flaviceps*)	Found in arid, desert habitats, frequently observed in mesquite and creosote bush vegetation. Known to nest in shrubs, small trees, and cacti.	MBTA BCC	SGCN (2)	May occur. The Study Area contains suitable habitat for species occurrence, foraging, and potential nesting, and numerous occurrence records exist within the Project Area and Study Area (eBird 2025).
Vesper sparrow (*Pooecetes gramineus*)	Found in open areas with short, sparse grass and scattered shrubs. Uncommon wintering occurrence in central and southern Arizona.	MBTA BCC†	SGCN (2)	May occur. The Study Area contains suitable habitat for nonbreeding individual occurrence and foraging. Occurrence records exist within the Project Area and Study Area (eBird 2025).
Western burrowing owl (*Athene cunicularia hypugaea*)	Found in open areas with low brush cover, including grasslands, agricultural margins, and desertscrub. Year-round resident or migratory.	MBTA BCC	SGCN (2)	May occur. Agricultural land with irrigation canals and desertscrub provides suitable habitat for species occurrence in the Study Area. Occurrence records exist within the Study Area (eBird 2025) and in the vicinity of the Project Area‡ (AZGFD 2025a).
Western grebe (*Aechmophorus occidentalis*)	Aquatic habitats with open water such as lakes, marshes, ponds, and oceans.	MBTA BCC	SGCN (2)	May occur. The Study Area contains suitable habitat for foraging, and occurrence records exist within the Study Area (eBird 2025).
Western screech-owl (*Megascops kennicottii*)	Commonly found in broadleaf and riparian woodland, particularly within deciduous forests that border canyons and other drainages.	MBTA BCC†	SGCN (2)	Unlikely to occur. The Study Area lacks suitable habitat for species occurrence, although records exist within the Study Area (eBird 2025).
Willet (*Tringa semipalmata*)	Nonbreeding visitor to Arizona, prefers shorelines of marshes, rivers, and lakes.	MBTA BCC-nb	--	May occur. The Study Area contains suitable habitat for foraging, and occurrence records exist within the Study Area (eBird 2025).
Fish				
Sonora sucker (*Catostomus insignis*)	Found in a variety of habitats from warm water rivers to trout streams, with an affinity for gravelly or rocky pools, and relatively deep, quiet waters.	–	SGCN (2)	Unlikely to occur. The Study Area is not within range of this species and does not contain suitable habitat for occurrence.
Reptiles				
Regal horned lizard (*Phrynosoma solare*)	Found in valley bottoms in Sonoran desertscrub and desert grasslands, avoids the lowest elevations.	–	SGCN (2)	May occur. Suitable habitat for species occurrence is present within the Study Area. Occurrence records exist in the vicinity of the Project Area‡ (AZGFD 2025a).
Sonoran coralsnake (*Micruroides euryxanthus*)	Common in rocky terrain with drainages, vegetated washes, and canyons.	–	SGCN (2)	Unlikely to occur. The Study Area does not provide suitable habitat for species occurrence.

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status
		Federal	State (Tier)	
Sonoran Desert tortoise (*Gopherus morafka*i)	Occurs primarily on rocky, and often steep, hillsides and bajadas of Mohave and Sonoran desertscrub, typically at elevations below 7,800 feet amsl. May occur, but is less likely to occur, in desert grassland, juniper woodland, and interior chaparral habitats and even pine communities.	CCA	SGCN (1)	Unlikely to occur. The Study Area does not provide suitable habitat for species occurrence. However, occurrence records exist in the vicinity of the Project Area‡ (AZGFD 2025a).
Variable sandsnake (*Chilomeniscus cinctus*)	Found in sandy, sandy-gravelly, or loamy soils of flats, dunes, hummocks, and arroyos. Found in deserts, uplands with paloverde and saguaro, and thornscrub habitats.	–	SGCN (2)	May occur. Suitable habitat for species occurrence is present within the Study Area. Occurrence records exist in the vicinity of the Project Area‡ (AZGFD 2025a).
Mammals				
Antelope jackrabbit (*Lepus alleni*)	Occurs in arid grasslands with scattered shrubs and deserts, foothills, mesas, and bajadas.	–	SGCN (2)	May occur. The Study Area is within the range of this species and contains suitable habitat for occurrence.
Bailey's pocket mouse (*Chaetodipus baileyi*)	Nests in underground burrows in low desert, sparsely vegetated flats and rocky slopes in association with mesquite, jojoba (*Simmondsia chinensis*), brittlebush (*Encelia* sp.), palo verde, ocotillo, and grasses.	–	SGCN (2)	May occur. The Study Area provides suitable habitat for species occurrence.
Brazilian free-tailed bat (*Tadarida brasiliensis*)	A migratory species that may spend the entire year in southern Arizona. Roosts in caves, tunnels, bridges, and buildings. Forages widely, often over farmlands.	–	SGCN (2)	May occur. Suitable roosting habitat in buildings and bridges may occur within the Study Area outside of the Project Area, and the species could use the Project and Study Areas for foraging.
California leaf-nosed bat (*Macrotus californicus*)	Year-round resident in Arizona in Sonoran desertscrub between elevations of 160 and 3,980 feet amsl. Favors day roosts in rock shelters, caves, and mines during the summer months. Roost sites are usually located near foraging areas. This species mostly forages on insects but is also known to forage on the fruits of cacti species, such as prickly pear (*Opuntia* spp.). Little variation to summer and winter ranges as the species is common in central, south-central, southwest, and west-central parts of Arizona.	–	SGCN (2)	May occur. Although suitable roosting habitat is not present, suitable foraging habitat is present in the Study Area.
Cave myotis (*Myotis velifer*)	Typically found in desertscrub with creosote bush, brittlebush, paloverde, and cacti, but sometimes found up to pine-oak communities, between 300 and 5,000 feet amsl. Roosts in caves, tunnels, mine shafts, and under bridges, and occasionally in buildings within a few miles of water.	–	SGCN (2)	May occur. The Study Area contains suitable foraging habitat and limited roosting habitat in the form of buildings.
Gray-collared chipmunk (*Neotamias cinereicollis*)	Found in high mountains, clearings, and pine, spruce, and fir (Family Pinaceae) forest edges. Most common where pine and -fir overlap.	–	SGCN (2)	Unlikely to occur. The Study Area is not within range of this species and does not contain suitable habitat for occurrence.

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status
		Federal	State (Tier)	
Greater western bonneted bat (*Eumops perotis californicus*)	Occurs in lower and upper Sonoran desertscrub near cliffs. Prefers rugged, rocky canyons with abundant crevices at elevations from 240 to 8,475 feet amsl. Prefers crowding into tight crevices at least 1 foot deep × at least 2 inches wide. Colonies prefer deeper crevices, to 10 or more feet. Prefers to forage over large open bodies of water.	–	SGCN (2)	Unlikely to occur. No suitable habitat for roosting or foraging occurs within the Study Area.
Harris' antelope squirrel (*Ammospermophilus harrisii*)	Creosote bush–bursage (*Ambrosia* sp.) or saltbush–creosote bush deserts, usually in areas with rocky soil and slopes.	–	SGCN (2)	Unlikely to occur. The Study Area does not provide suitable habitat for species occurrence.
Hoary bat (*Lasiurus cinereus*)	Found in deciduous and coniferous woodlands. Foraging occurs near open waterways and along riparian corridors.	–	SGCN (2)	Unlikely to occur. Suitable habitat for foraging or roosting is not present in the Study Area.
Pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*)	Found throughout Arizona in a variety of vegetation communities and prefers to use roost sites, such as caves, mines, or abandoned buildings, with open ceilings instead of cracks or crevices. They typically forage no more than 5 miles from the roost site.	–	SGCN (1)	May occur. The species may use the Study Area for foraging. No roosting habitat is present.
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	Roosts in rock crevices in high cliffs and occasionally in buildings. Forages near any water source from lakes, rivers, irrigation canals, and cattle water tanks.	–	SGCN (2)	May occur. The species may use the Study Area for foraging. Limited roosting habitat is present in the form of buildings.
Western red bat (*Lasiurus blossevillii*)	A summer resident, preferred habitat includes riparian and wooded areas. Generally distributed in south central to southern and southeastern Arizona, with a few observations along the Colorado River near Bill Williams, and occasionally in The Grand Canyon. Roosts in dense foliage of cottonwood trees, in fruit orchards; sometimes in leafy shrubs or herbs, saguaro boots, buildings, or cave-like situations. They are commonly drawn to feed around city streetlights and floodlights on barns.	–	SGCN (2)	May occur. The species may use the Study Area for foraging. Limited roosting habitat is present in the form of buildings.
Western yellow bat (*Lasiurus xanthinus*)	A year-round Arizona resident found in arid habitats along riparian corridors. Known to roost in Washington fan palm trees (*Washingtonia robusta*), cottonwood, Arizona sycamores (*Platanus wrightii*), and netleaf hackberry (*Celtis reticulata*). Forages over open water.	–	SGCN (2)	Unlikely to occur. The Study Area does not provide suitable roosting or foraging habitat.

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status
		Federal	State (Tier)	
Yuma myotis (*Myotis yumanensis*)	Found in a variety of habitats including riparian, desertscrub, moist woodlands, and forests. Prefer cliffs and rocky walls near water. Known to roost in caves, mines, cliff crevices, and buildings. Foraging occurs along forested edges of streams, ponds, and lakes.	–	SGCN (2)	Unlikely to occur. The Study Area does not provide suitable roosting or foraging habitat.

Source: Range or habitat information is from AZGFD (2025a, 2025e); Brennan (2012); Corman and Wise-Gervais (2005); Cornell Lab of Ornithology (2022); eBird (2025); USFWS (2025a, 2025b).

Note: Notes regarding documented occurrence are from AZGFD (2025a, 2025e).

‡ The HDMS record of occurrence was within 3 miles of the Project Area; thus, it is unknown if that record is within the Study Area or not. Therefore, we use "in the vicinity of the Project Area" for clarity.

* Federal Status Definitions

BCC = Bird of Conservation Concern.

BCC† = Bird of Conservation Concern for regions other than Bird Conservation Region 33. Included in table because they are also Arizona SGCN.

BCC-nb = Bird of Conservation Concern with nonbreeding status

CCA = Candidate Conservation Agreement

MBTA = Migratory Bird Treaty Act

– = No federal status.

State Status Definitions

SGCN = Species of Greatest Conservation Need; species identified by AZGFD (2012) as having conservation priority. Tier 2 species are those categorized as "vulnerable" but not fitting the Tier 1 criteria for highest priority. Tier 3 species are those for which existing data were insufficient to score one or more vulnerability criteria.

BIRDS OF CONSERVATION CONCERN

The Study Area is within BCR 33 (USFWS 2021), for which 27 BCC species are listed. A query of the AZGFD online ERT found modeled habitat for 20 of these species in the Project Area (AZGFD 2025a), and the IPaC query identified an additional four BCC species not returned in the ERT query (USFWS 2024a) (see Appendix C-2). Of these 24 BCC species, 20 may occur in the Study Area (see Table C-2): American avocet (*Recurvirostra americana*), American kestrel (*Falco sparverius*), Bendire's thrasher (*Toxostoma bendirei*), cactus wren (*Campylorhynchus brunneicapillus*), Costa's hummingbird (*Calypte costae*), ferruginous hawk (*Buteo regalis*), Gila woodpecker (*Melanerpes uropygialis*), gilded flicker (*Colaptes chrysoides*), Harris's hawk (*Parabuteo unicinctus*), loggerhead shrike (*Lanius ludovicianus*), marbled godwit (*Limosa fedoa*), mountain plover (*Charadrius montanus*), prairie falcon (*Falco mexicanus*), rufous-winged sparrow (*Peucaea carpalis*), savannah sparrow (*Passerculus sandwichensis*), verdin (*Auriparus flaviceps*), vesper sparrow (*Pooecetes gramineus*), western burrowing owl (*Athene cunicularia hypugaea*), western grebe (*Aechmophorus occidentalis*), and willet (*Tringa semipalmata*).

Of these 20 BCC species that may occur in the Study Area, d—marbled godwit, mountain plover, and willet—would only potentially occur within the Study Area as nonbreeding species during winter months, i.e., for over-wintering or during migration (see Table C-2).

BCC for regions other than BCR 33 but that are classified as SGCN in Arizona are discussed in the following section. Waterfowl and other birds may use Picacho Reservoir within the Study Area, when sufficient water is present. Other birds may be attracted to the riparian vegetation there, and then use the Study Area for nesting, roosting, foraging, or reproduction.

SPECIES OF GREATEST CONSERVATION NEED

Forty-one species categorized as SGCN Tier 1 (n = 2), SGCN Tier 2 (n = 38), or SGCN Tier 3 (n = 1) (excluding those federally listed species that have already been addressed in the previous section) may occur within the proposed Study Area, eight of which are known to occur based on AZGFD occurrence records (see Table C-2).

Of these 41 SGCN species that may or are known to occur in the Study Area, one is an amphibian, 30 are birds, two are reptiles, and eight are mammals (see Table C-2).

The amphibian species that may occur in the Study Area is the Sonoran Desert toad (*Incilius alvarius*).

The bird species that are known to occur or may occur in the Study Area are Abert's towhee (*Melozone aberti*), American bittern (*Botaurus lentiginosus*), American kestrel, American peregrine falcon (*Falco peregrinus anatum*), Bendire's thrasher, black-bellied whistling-duck (*Dendrocygna autumnalis*), Brewer's sparrow (*Spizella breweri*), broad-billed hummingbird (*Cynanthus latirostris*), Bullock's oriole (*Icterus bullockii*), cactus wren, Costa's hummingbird, ferruginous hawk, Gila woodpecker, gilded flicker, gray flycatcher (*Empidonax wrightii*), Harris's hawk, Inca dove (*Columbina inca*), Lincoln's sparrow (*Melospiza lincolnii*), loggerhead shrike, mountain plover, prairie falcon, red-winged blackbird (*Agelaius phoeniceus*), rufous-winged sparrow, sagebrush sparrow (*Artemisiospiza nevadensis*), savannah sparrow, Swainson's hawk (*Buteo swainsoni*), verdin, vesper sparrow, western burrowing owl, and western grebe.

The reptile species that may occur in the Study Area are the regal horned lizard (*Phrynosoma solare*) and the variable sandsnake (*Chilomeniscus stramineus*).

The mammal species that may occur in the Project Area are antelope jackrabbit (*Lepus alleni*), Bailey's pocket mouse (*Chaetodipus baileyi*), Brazilian (Mexican) free-tailed bat (*Tadarida brasiliensis*), California leaf-nosed bat (*Macrotus californicus*), cave myotis (*Myotis velifer*), pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*), pocketed free-tailed bat (N*yctinomops femorosaccus*), and western red bat (*Lasiurus blossevillii*).

No SGCN fish species are likely to occur within 3 miles of the proposed Project Area.

State-Protected Native Plants

The ANPL identifies a list of plant species—largely cacti, agave, yucca, and desert trees—that are susceptible to removal for collection, landscaping, sale, or other commercial uses. The ANPL states that these plants shall not be taken, transported, or possessed from any non-federal lands without permission and a permit from the AZDA; it also requires notification prior to land clearing even if the plants will be destroyed. Although much of the Project Area is developed agricultural land, it is likely that plant species covered under the ANPL such as yellow paloverde (*Parkinsonia microphylla*) and velvet mesquite (*Prosopis velutina*) may be present in the Project Area (Google Earth 2025).

Noxious Weeds

Arizona maintains a list of noxious weeds in three categories: Class A, Class B, and Class C (AZDA 2024). Class A species are those that are not known to occur in Arizona and are of limited distribution, and are of high priority for quarantine, control, or mitigation. Class B noxious weeds are species known to occur but of limited distribution in Arizona and may be high-priority pests for quarantine, control, or mitigation if a significant threat to crop, commodity, or habitat exists. Class C noxious weeds are species of plants that are widespread but may be recommended for active control based on risk assessment. Saharan mustard (*Brassica tournefortii*), a Class B noxious weed, and buffelgrass (*Pennisetum ciliare*), a Class C noxious weed, have been documented in the Project Area (iMapInvasives 2025). Measures will be taken to avoid spreading noxious weeds in the Project Area and Study Areas.

Summary of Potential Effects

Areas of Biological Wealth

Neither the Project Area nor the Study Area intersects any designated or proposed critical habitat, wildlife refuges, wildlife corridors, linkage corridors, IBAs, or COAs. The portions of the 10(j) experimental population areas for Sonoran pronghorn and Mexican wolf that overlap the Study Area are not near potential reintroduction sites and the Study Area is outside of the range of both species. According to Pinal County Riparian Area Guidelines (AZGFD 2019), a small area within the Project and Study Areas was modeled as potential riparian habitat, in association with the Florence–Casa Grande Extension Canal and the Santa Rosa Canal and their associated irrigation ditches, and McClellan Wash. These riparian areas are characterized by an abundance and diversity of vegetation and wildlife within and directly adjacent to them. Wildlife are dependent upon riparian areas not only as dependable sources of water, but for breeding, migration, shelter, seasonal foraging, and movement. As such, riparian areas act as important linkages in the landscape to facilitate daily, seasonal, and annual movements of individuals and populations of species (AZGFD 2019).

The proposed Project would result in minimal disturbance to the landscape, which has already been entirely converted from natural vegetation to agricultural, industrial, and residential land use. The small disturbance footprint and relatively short time frame of construction would minimize migratory species avoidance and migratory stop-over habitat loss. As such, any loss of vegetation from construction activities would not contribute meaningfully to habitat fragmentation or decrease connectivity between habitats.

Federally Listed Threatened and Endangered Species

The Project Area and Study Area are within the known range of the monarch butterfly, a candidate species for listing under the ESA. The proposed Project and Study Areas lie within Area 10(j), Zone 2 for the Mexican Wolf Experimental Population, and within a 10(j) area for Sonoran Pronghorn, EXPN.

Mexican wolves are found in a variety of southwestern habitats; however, they are absent from the desert areas and prefer mountain woodlands over 4,000 feet elevation. The Project and Study Areas lie within Zone 2 of the Mexican Wolf EXPN Area, meaning wolves are allowed to naturally disperse and occupy, and where wolves may be translocated. However, the Project and Study Areas do not contain suitable mountain woodland habitat and are outside of the species' known range. Further, there are no suitable habitat areas in the wider vicinity, and Mexican wolf individuals are not likely to wander into the Project Area due to human activity.

Sonoran pronghorn occupy Sonoran desertscrub at elevations between 2,000 and 4,000 feet above mean sea level and are known to avoid high-traffic roadways and human development. The current reintroduction locations are in and near the Kofa National Wildlife Refuge and within the Barry M. Goldwater Range East. Populations in Arizona include the Cabeza Prieta, Kofa, Vekol Valley, and Sauceda populations, which are 50 miles and more west of the Study Area. The Study Area is below the general elevation zone where the species is found, does not contain suitable habitat features of creosote bush, bursage, and yellow paloverde, and is far from the currently known range of the species.

No ESA-listed species are likely to occur within the Project Area or Study Area. The presence of Picacho Reservoir within the Study Area warrants mention as it has yielded occurrence records for ESA-listed Southwestern willow flycatcher, yellow-billed cuckoo, and Yuma Ridgway's rail. Suitable habitat exists for all three species in this portion of the Study Area, however, occurrence records are believed to be largely historical, with no recent surveys conducted and no recent occurrences documented (USFWS 2024a, 2024b, 2024c, 2024d). Without species-specific surveys, current use/occupancy by Southwestern willow flycatcher, yellow-billed cuckoo, and Yuma Ridgway's rail cannot be confirmed.

No suitable habitat is present within the Project Area for these species; as a result they would be unlikely to occur.

Habitat in the Study Area may be suitable for use by monarch butterfly, a proposed threatened species. No milkweed (*Asclepias* or *Funastrum* spp.) has been recorded in the Study Area; however, monarch butterflies may use other plants found in the Study Area for foraging but not for reproduction (USFWS 2020; Western Monarch Milkweed Mapper 2025). As such, any potential Project impacts to the monarch butterfly would be minor. A very small portion of suitable dispersal or foraging habitat would be lost, relative to the total amount of habitat in the vicinity. Individuals would be expected to largely shift activity to nearby suitable habitat, however, some individuals may experience injury, mortality, change of behavior, or loss of forage as a result of the Project. To reduce these impacts to the monarch butterfly, vegetation clearing should be timed to avoid removal of nectar resources (flowering plants) and larval resources (milkweed), as feasible. Monarchs can occur in this area any month of the year; however, for extremely hot summers and extremely cold winters, they are less likely be present from June 20 to August 10 and November 30 to March 15 (Xerces Society 2025). The environmental conditions (including high levels of previous disturbance, current land use, and vegetation) along the Alternative Subroutes appear very similar to those of the Preferred Route. It is therefore unlikely that milkweed would occur in the construction footprint of Alternative Subroutes and impacts to this species would be minor regardless of whether one or more of the Alternative Subroutes are chosen.

BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*) AND GOLDEN EAGLE (*AQUILA CHRYSAETOS*)

No suitable bald eagle nesting habitat and no tall trees or cliffs suitable for eagle perching are within the Project Area or Study Area. However, there is potential foraging habitat for bald eagles within the irrigation canals and agricultural areas present in the Study Area. Additionally, the Project is within the non-breeding range of the bald eagle, and this species may move through the Project Area and Study Area (see Table C-1). The Project Area does not contain nesting sites for golden eagles (i.e., cliffs), but individuals may fly over the Project Area and Study Area while foraging (see Table C-1). No significant impacts would be expected to bald or golden eagles as a result of this Project.

Other Special-Status Species

The following sections refer to species with special status that are not federally listed or candidates for federal listing.

SPECIAL-STATUS MAMMAL SPECIES

The mammal species that may occur in the Study Area are antelope jackrabbit, Bailey's pocket mouse, Brazilian (Mexican) free-tailed bat, California leaf-nosed bat, cave myotis, pale Townsend's big-eared bat, pocketed free-tailed bat, and western red bat.

Project construction activities could cause death or injury to terrestrial mammal species, particularly individuals that may be sheltering in underground burrows instead of fleeing. Project construction could cause behavior changes, as individuals would be expected to flee from an increase of noise, vibration, and human presence within the Project Area. These behavior changes could increase depredation, decrease foraging success, reduce reproductive success, and result in loss of fitness for that individual from increased metabolic output. Noise, vibration, and human presence would be temporary during construction and would cease with completion of construction.

The loss and degradation of mammal habitat from short- and long-term Project activities would be minor as abundant habitat for small mammals occurs in the vicinity of the Project and Study Areas. Similarly, because of the available habitat outside the Project Area, any loss of vegetation from construction activities would not contribute meaningfully to habitat fragmentation for special-status mammals or

decrease connectivity between habitat patches. Construction of the Project would result in an increase of fugitive dust. The fugitive dust during construction could change mammal behavior (e.g., reducing the amount of foraging due to area disturbances). The likelihood and severity of impacts from construction would decrease with increasing distance from the Project Area.

The Project Area is unlikely to support suitable roosting habitat for most bat species. Few palm trees, large riparian trees, or suitable building structures occur in the Project Area, and therefore, no bat roosts would be expected to be removed or destroyed as a result of the Project. Bats using trees or buildings as day roosts within the Study Area have the potential to be negatively impacted by noise, leading to behavior changes or loss of fitness for individuals. Trees used for day roosts may be present outside the Study Area, but if they occur, it would be expected that most bat species would be foraging only. The impacts to bats would be the same regardless of whether one or more of the Alternative Subroutes are chosen because both Alternative Subroutes and the Preferred Route occupy similar habitat with no unique, bat-specific features.

The following bat species have the potential to roost in abandoned buildings, if any are present within the Project or Study Areas: Brazilian free-tailed bat, cave myotis, pale Townsend's big-eared bat, and pocketed free-tailed bat. Impacts to these species from noise or vibration would likely be minor, as the severity of these impacts decreases with increasing distance to construction.

Bat species can collide with human-made structures during long-distance migration. Migrating bats often fly high above ground level and do not actively echolocate. However, during normal foraging activity, bats actively use echolocation and are typically able to detect and avoid features such as overhead transmission lines (Arnett et al. 2015). No information suggests that transmission lines in a setting such as the Project or Study Areas would pose a risk to bats.

SPECIAL-STATUS AMPHIBIAN SPECIES

One special-status amphibian species may occur within the Study Area: the Sonoran Desert toad. Potential impacts to special-status amphibian species include death, injury, or impacts arising from behavior changes would be similar to those described for terrestrial mammals. Potential impacts from the loss, degradation, and fragmentation of amphibian habitat from Project activities would be the same as those described for terrestrial mammals. Special-status amphibian individuals would be expected to experience similar impacts from increased fugitive dust during construction as mammals.

SPECIAL-STATUS BIRD SPECIES

Bald eagles may forage within the Study Area during the nonbreeding season; however, they would likely be drawn toward the Picacho Reservoir riparian areas within the Study Area and not toward the Project Area. Because of the relatively small area of foraging habitat potentially impacted compared with an individual bald eagle's home range and the abundance of similar foraging habitat outside of the Project Area, no significant impacts to bald eagles resulting from the Project would be expected. Golden eagles may forage in the Project and Study Areas, but no nesting habitat is present and they would similarly be drawn toward Picacho Reservoir, away from the Project Area. Because of the relatively small area of foraging habitat potentially impacted compared with an individual golden eagle's home range and the abundance of similar foraging habitat outside of the Project Area, no significant impacts to golden eagles resulting from the Project would be expected.

Other special status bird species that may occur or are known to occur in the Study Area are Abert's towhee, American bittern, American kestrel, American peregrine falcon, Bendire's thrasher, black-bellied whistling-duck, Brewer's sparrow, broad-billed hummingbird, Bullock's oriole, cactus wren, Costa's hummingbird, ferruginous hawk, Gila woodpecker, gilded flicker, gray flycatcher, Harris's hawk, Inca dove, Lincoln's sparrow, loggerhead shrike, mountain plover, prairie falcon, red-winged blackbird, rufous-winged sparrow, sagebrush sparrow, savannah sparrow, Swainson's hawk, verdin, vesper sparrow,

western burrowing owl, and western grebe. Potential impacts to special-status bird species could include changes in behavior because of Project-related noise, vibration, and the presence of workers and equipment; loss of breeding and foraging habitat; and impacts to nesting species. Potential impacts to nesting birds and their eggs covered under the MBTA, including burrow nests of the western burrowing owl, would be avoided and/or minimized either by limiting ground-clearing/vegetation removal activities to outside the breeding season (generally March to September with raptors breeding generally January to June) or through surveys to identify active nests and placement of buffers around those active nests until the young fledge or the nest fails.

Transmission lines can pose a collision risk to birds, including raptors (Avian Power Line Interaction Committee [APLIC] 2012). However, many factors influence whether birds are likely to collide with a specific transmission line. To minimize that risk, the Applicant will design the Project to incorporate reasonable measures to minimize collision or electrocution of and impacts to avian species. Such measures will be accomplished through incorporation of APLIC guidelines set forth in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) and *Reducing Avian Collisions with Power Lines: the State of the Art in 2012* (APLIC 2012).

Transmission and distribution lines can also cause bird electrocution, although the risk is highest with lower voltage lines. Electrocution occurs when a bird simultaneously contacts energized and grounded electrical components. High-voltage lines require spacing between those components that cannot be spanned even by very large birds so that electrocution risk is precluded almost entirely (APLIC 2012).

SPECIAL-STATUS REPTILE SPECIES

Two special-status reptile species may occur within the Study Area: the regal horned lizard, and the variable sandsnake. Potential Project-related impacts to special-status reptile species would include changes in behavior due to the presence of workers and equipment, including moving away from sources of noise and vibration; the potential for individuals being crushed or buried during ground-disturbing activities; the loss of habitat; and increased predation due to an increase in perches provided by the additional power poles to be installed. Special-status reptile individuals would be expected to have similar impacts from increased fugitive dust during construction as mammals.

SPECIAL-STATUS FISH SPECIES

There are currently no special-status fish species known or expected to occur within the Study Area.

There is no perennial aquatic habitat within the Study Area. The Picacho Reservoir is an ephemeral water body that is entirely dry some years. The Gila River, approximately 9.5 miles north of the Study Area and which has perennial and intermittent stretches, is the nearest source of water near the Study Area that is not human made (i.e., a canal, irrigation ditch, or reservoir). However, introduced fish have the potential to occur within the Project Area and Study Area in the concrete-lined canals. Many of these fish represent invasive species that have been released or sportfish that have been stocked or into waterways connected to the canals. No native fish species would be expected to occur.

The Project would not impact special-status fish species because no habitat for special-status fish species is present in the Project Area. Project activities would not impact perennial water outside of the Study Area.

State-Protected Native Plants

Plant species protected under the ANPL could be removed in accordance with applicable laws during the Project's vegetation-clearing activities. However, as the proposed Project would occupy a relatively small area compared with that of nearby disturbances (e.g., agriculture and development), the loss of vegetation in the Study Area would result in minor impacts to protected native plants.

Noxious Weeds

Measures will be taken to avoid introducing or spreading noxious weeds in the Project Area, and therefore the Project would be unlikely to contribute to an increase of noxious weeds, in extent or abundance, in the vicinity of the Project.

Mitigation Measures

The following mitigation measures would reduce the potential for impacts to special-status species as a result of the Project:

- To reduce impacts to the monarch butterfly, vegetation should be cleared during construction and maintained as necessary. Mowing should be timed to avoid removal of nectar resources (flowering plants) and larval resources (milkweed), as feasible, when monarchs are less likely to be present, i.e., from June 20 to August 10 and November 30 to March 15. Additionally, and dependent on the formal listing of the monarch butterfly, a monitor should be present to inspect milkweeds and larvae during these activities.
- Low speed limits should be posted on access roads within the Project Area, which would limit the potential for collisions with monarchs. Furthermore, any take under the ESA from vehicle collisions are exceptions to take under the 4(d) rule of the Proposed Listing, in the event that the formal listing of the monarch butterfly occurs. During project decommissioning, milkweed species native to the Project Area should be included in the seed mixes used for revegetation.
- Transmission lines pose a risk of collisions and electrocution for birds, particularly raptors. To minimize that risk, the Applicant will construct the proposed transmission line following the guidelines outlined in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012).
- If vegetation-disturbing activities are planned during the migratory bird nesting season (March–September generally, or January–June for raptors), measures to avoid any active bird nests within the Project Area, such as preconstruction surveys for migratory bird nests by a qualified biologist, should be taken to maintain compliance with the MBTA because suitable nesting habitat for migratory bird species is present within the Project Area.
- If western burrowing owls are identified in the Project Area, measures to avoid any active burrows should be taken. Because some burrowing owls are year-round residents, surveys for this species should be conducted prior to initiation of ground disturbance and vegetation removal activities. Further the AZGFD's *Burrowing Owl Project Clearance Guidance for Landowners* (Arizona Burrowing Owl Working Group 2009) should be followed.
- To reduce the potential of negative effects to terrestrial species through collisions, worker awareness trainings and low-level speed limits should be implemented.
- If Sonoran Desert tortoises are observed, adherence to the AZGFD's (2014) *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects* would minimize the potential for direct impacts to this species.
- If trenching is included as part of Project construction, the following should be considered to minimize injury to wildlife: when trenches cannot be backfilled immediately, the escape ramps, which can be short lateral trenches or wooden planks sloping to the surface, should be constructed at least every 90 meters (m); trench slopes should be less than 45 degrees (1:1); and any trenches left open overnight should be inspected to remove wildlife prior to backfilling.

- If native plants listed under the ANPL will be removed, the AZDA Notice of Intent to Clear Land should be submitted prior to ground clearing. The submittal time frame depends on the acreage of the area to be cleared, as noted on the form.
- To minimize the introduction and spread of invasive species and noxious weeds, standard best management practices (BMPs) will be used during construction. These BMPs can include measures such as cleaning equipment prior to and following mobilization to the Project Area.

Conclusion

Based on the assessment in this exhibit, the Project's Preferred Route and Alternative Subroutes would not likely significantly affect any rare, endangered, or special-status species, nor any areas of biological wealth. No ESA-listed species are likely to occur in the Project Area or Study Area, and, therefore, no impacts to these species are expected as a result of the proposed Project. The impacts from the Alternative Subroutes would not appreciably differ from the impacts from the Preferred Route.

One proposed threatened species, the monarch butterfly, may occur as a seasonal disperser, and only minor impact to individuals would be expected to occur. Impacts to monarch butterflies would not be expected to differ among the Alternative Subroutes as Project activities are occurring in similar types of habitats regardless of whether one or more of the Alternative Subroutes are chosen. If Project activities have not been completed before the monarch is officially listed, then this analysis should be updated using the current information on the species. Conversely, if the species does not get listed, then no ESA- compliance for monarch in the Project Area is needed.

The Project Area intersects Pinal County Riparian Areas, which can act as important linkages in the landscape to facilitate daily, seasonal, and annual movements of individuals and populations of species (AZGFD 2019). The proposed Project disturbance footprint would be limited to poles and access roads (some of which would be temporary) with no disturbance to the canal system, and as a result, no effect to these areas of biological wealth is expected to be incurred. There would be no difference in impacts to riparian area regardless of whether one or more of the Alternative Subroutes are chosen.

The proposed Project disturbance footprint would be limited to poles and access roads (some of which would be temporary) with minimal disturbance to the landscape, and as a result, no effect to terrestrial wildlife using these areas is expected to be incurred. The small disturbance footprint and relatively short time frame of construction would minimize migratory species avoidance and migratory stop-over habitat loss. As such, any loss of vegetation from construction activities would not contribute meaningfully to habitat fragmentation or decrease connectivity between habitats, regardless of Alternative Subroutes chosen.

The Project has the potential to have minor impacts on non-ESA listed special-status amphibian, bird, reptile, and mammal species. There would be no difference in impacts to species regardless of whether one or both of the Alternative Subroutes are chosen.

The risk that electrical infrastructure poses to birds would be addressed by following the guidelines outlined in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012) as design features for the Project, and preconstruction surveys for migratory bird nests would aid in compliance with the MBTA.

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Appendix C-1

U.S. Fish and Wildlife Service (USFWS) Species List

IPaC U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Pinal County, Arizona

Local office

Arizona Ecological Services Field Office

(602) 242-0210
(602) 242-2513

9828 North 31st Ave
#c3

Phoenix, AZ 85051-2517

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Sonoran Pronghorn Antilocapra americana sonoriensis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4750	EXPN

Birds

NAME	STATUS
Cactus Ferruginous Pygmy-owl Glaucidium brasilianum cactorum Wherever found There is **final** critical habitat for this species. https://ecos.fws.gov/ecp/species/1225	Threatened
Southwestern Willow Flycatcher Empidonax traillii extimus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Gila Chub Gila intermedia Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/51	Endangered
Gila Topminnow (incl. Yaqui) Poeciliopsis occidentalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1116	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31

Golden Eagle Aquila chrysaetos — Breeds Dec 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

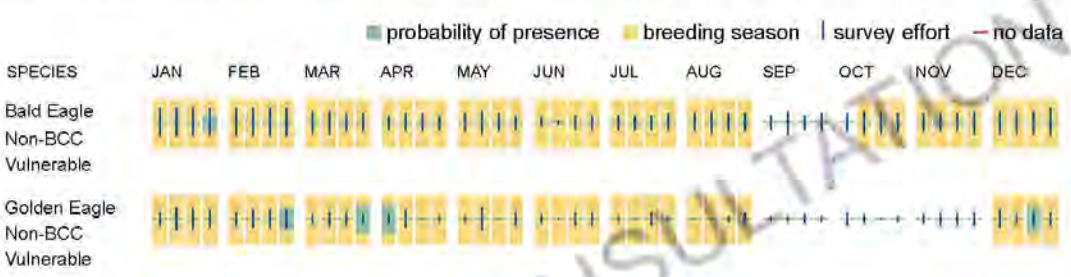
Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report
On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory

birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
American Avocet Recurvirostra americana This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 21 to Aug 10

Bald Eagle Haliaeetus leucocephalus — Breeds Oct 15 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Bendire's Thrasher Toxostoma bendirei — Breeds Mar 15 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9435

Costa's Hummingbird Calypte costae — Breeds Jan 15 to Jun 10

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9470

Gila Woodpecker Melanerpes uropygialis — Breeds Apr 1 to Aug 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/5960

Golden Eagle Aquila chrysaetos — Breeds Dec 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Marbled Godwit Limosa fedoa — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Mountain Plover Charadrius montanus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3638

Western Grebe aechmophorus occidentalis — Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/6743

Willet Tringa semipalmata — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ( )

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season ( )

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

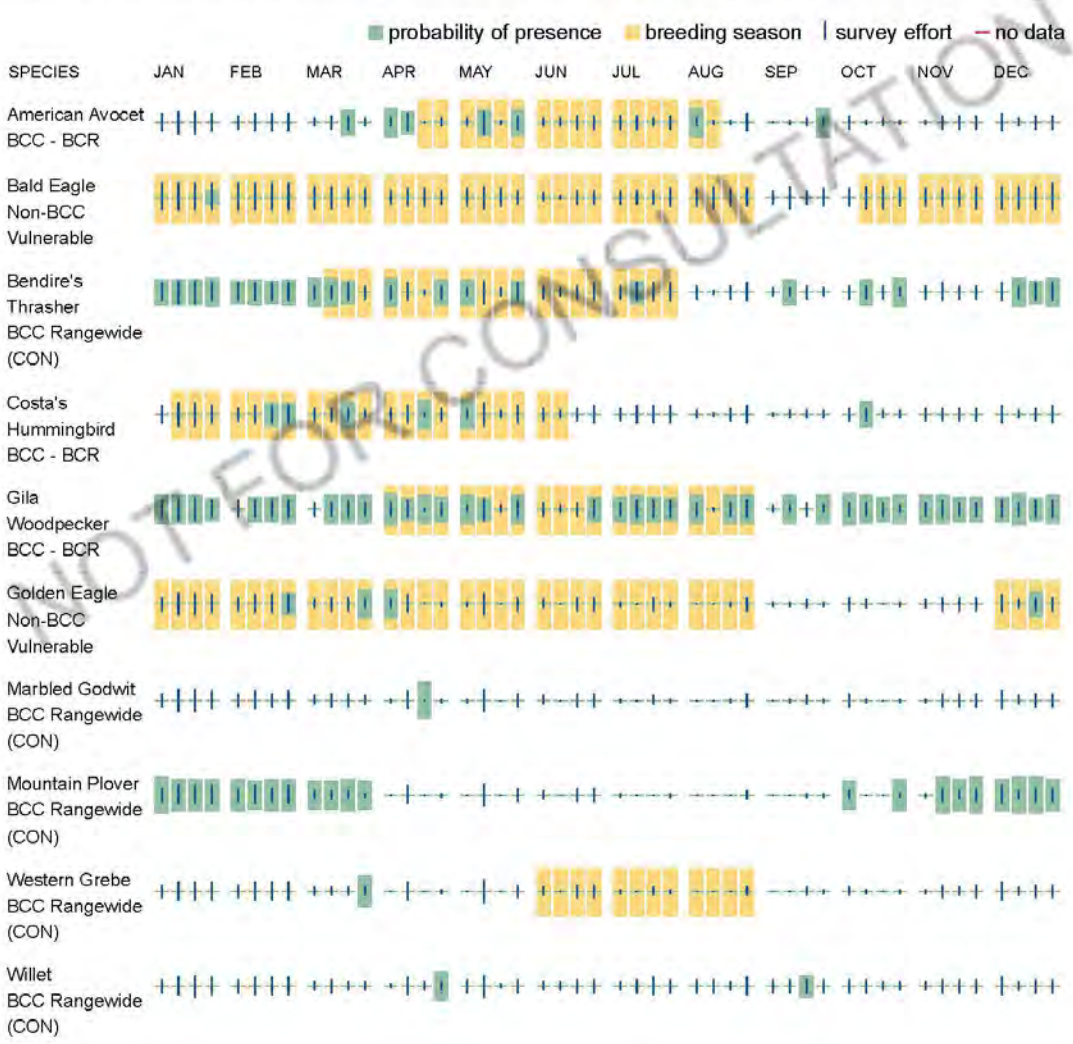
Survey Effort (!)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Bald and Golden Eagle Protection Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern

have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1Fh
- PEM1A

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1Bh
- PSS1Ch
- PSS1Ah

PSS1A

FRESHWATER POND

PUBF

PUSCx

PUBHx

RIVERINE

R2UBHx

R5UBFx

R4SBC

R4SBJx

R4SBJ

R5UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Appendix C-2

Environmental review for the proposed Project obtained from the Arizona Game and Fish Department (AZGFD) online Environmental Review Tool (ERT)

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

The Department requests further coordination to provide project/species specific recommendations. Please use the Project Evaluation Form to submit your project to the Project Evaluation Program at PEP@azgfd.gov.

Project Name:
APS Pinal Electrical Improvement Project

Project Type:
Energy Production/Storage/Transfer, Energy Transfer, power line/electric realignment

Project ID:
HGIS-19448

User Project Number:
77397

Project Description:
The purpose of the Pinal Electrical Improvement Projects (PEIP) is to add reliability to the 69 kilovolt (kV) system and to support load growth in the Casa Grande area. The L-10 Substation and Lines project will relieve an overload of the Toltec-Milligan 69kV line and will provide voltage support to surrounding substations caused by various contingencies. The TS-25 Substation and Lines project will support future load growth of the Casa Grande area.

Contact Person:
India Hesse

Organization:
SWCA Environmental Consultants

On Behalf Of:
APS

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is 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. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. Arizona Wildlife Conservation Strategy (AWCS), specifically Species of Greatest Conservation Need (SGCN), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

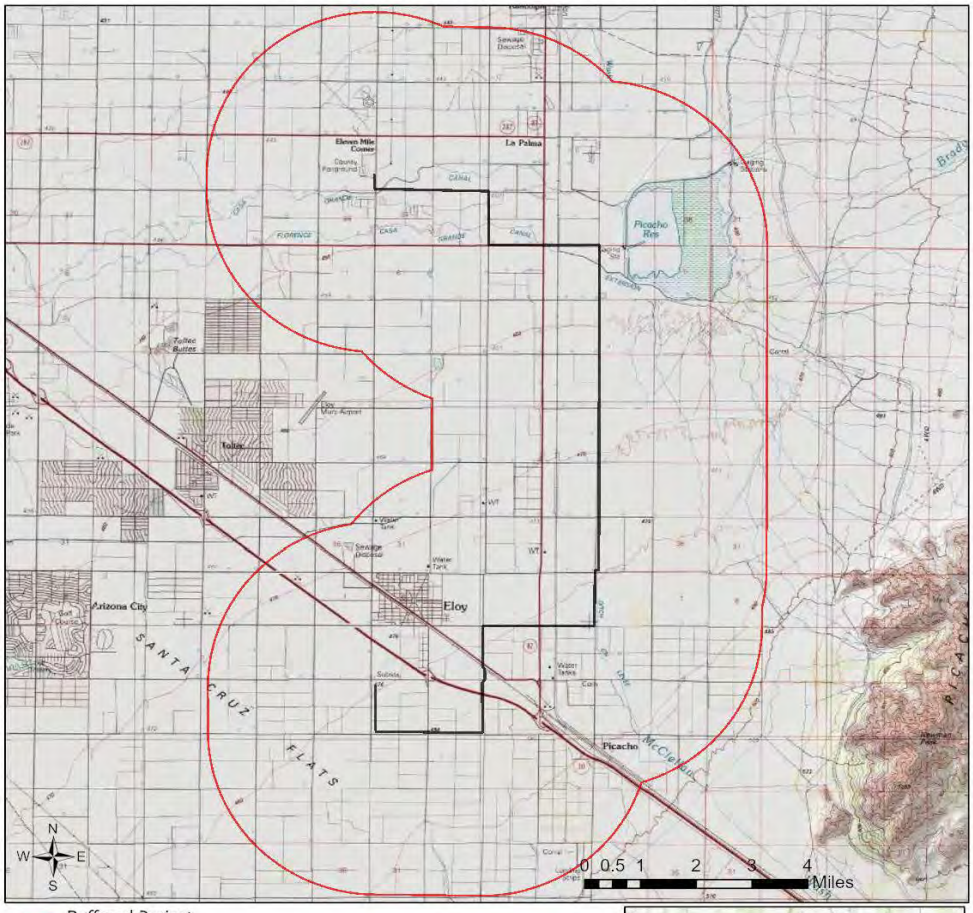
Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Departments review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.

APS Pinal Electrical Improvement Project

USA Topo Basemap With Locator Map



Buffered Project Boundary

Project Boundary

Project Size (acres): 153.61

Lat/Long (DD): 32.7485 / -111.5151

County(s): Pinal

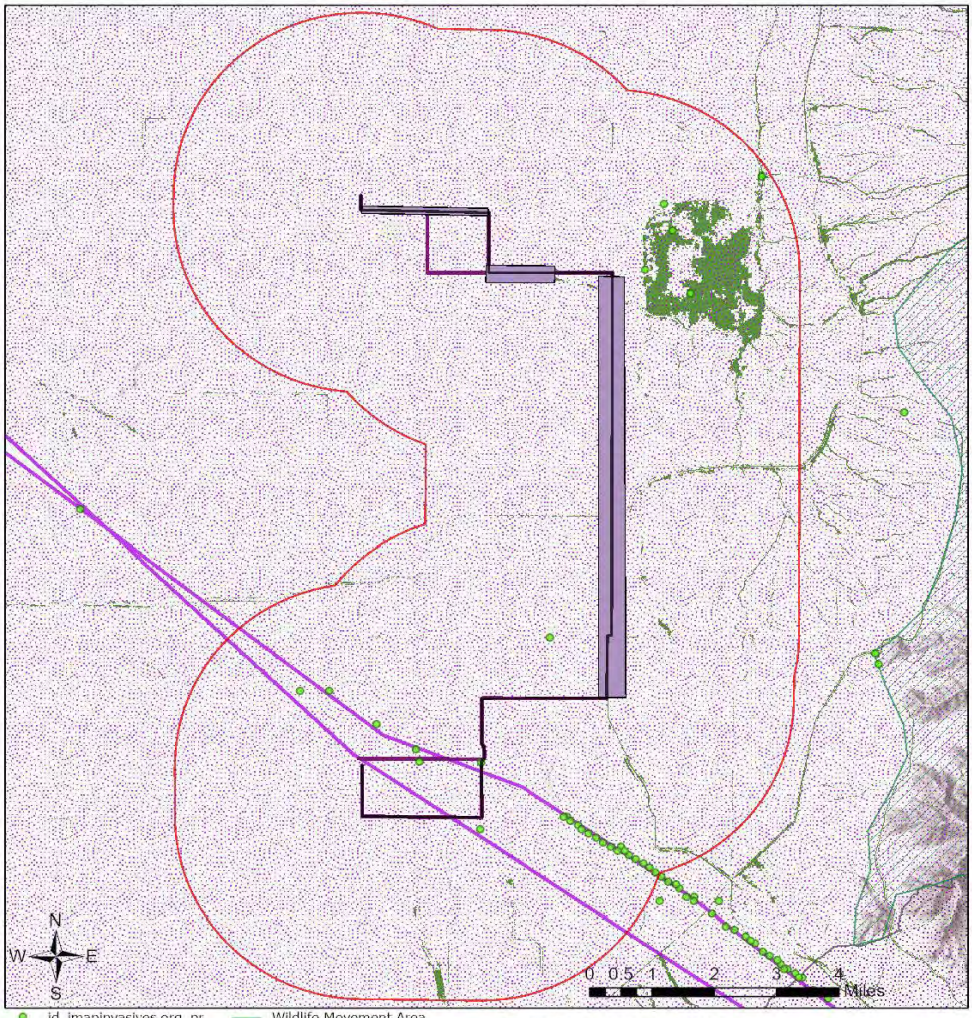
AGFD Region(s): Mesa; Tucson

Township/Range(s): T6S, R7E; T6S, R8E; T7S, R8E +

USGS Quad(s): ELOY NORTH; ELOY SOUTH +

APS Pinal Electrical Improvement Project

Web Map As Submitted By User



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Critical Habitat
Important Bird Areas
Recovery Areas
Aquatic
Terrestrial
Wildlife Crossing Area
Wildlife Movement Area - Diffuse
Wildlife Movement Area - Landscape
Wildlife Movement Area - Riparian/Wash
Wildlife Connectivity
Pinal County Riparian
Buffered Project Boundary
Project Boundary

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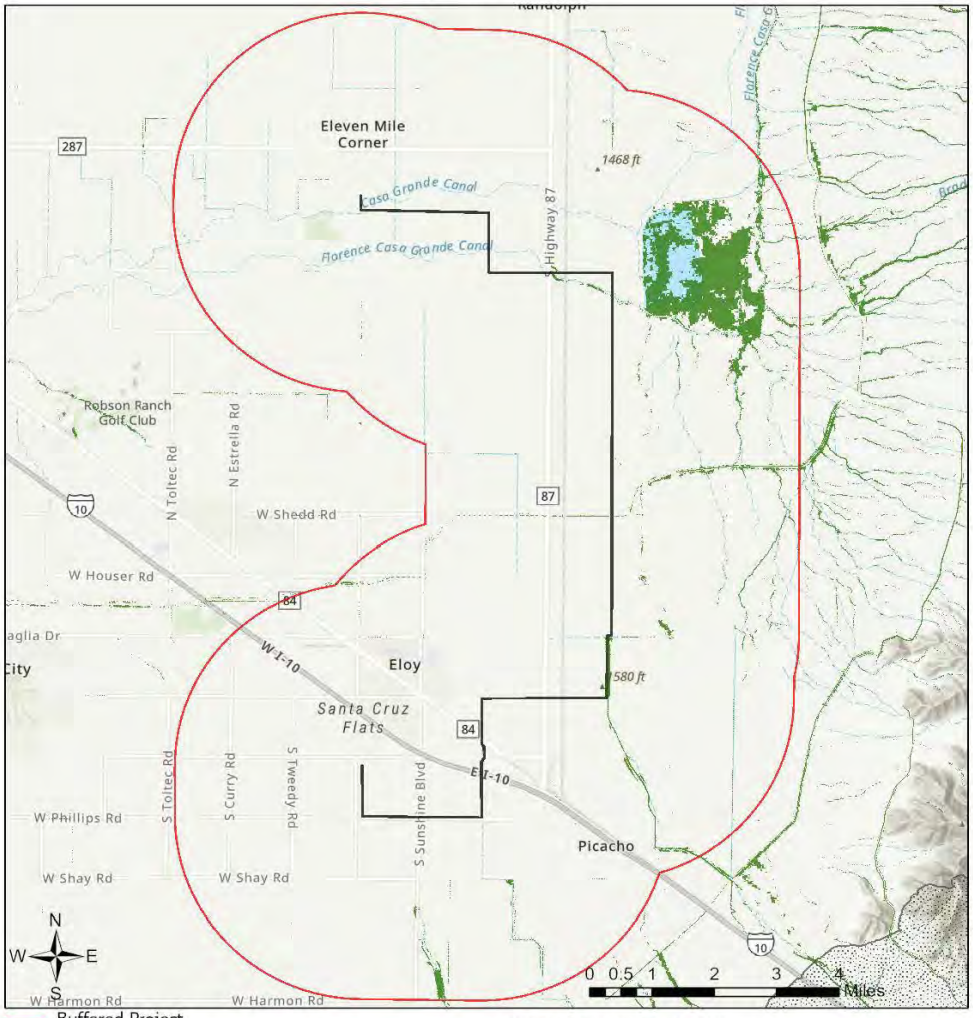
Esri, NASA, NGA, USGS
AGFD SSDV Habitat Enhancement Program

APS Pinal Electrical Improvement Project

Important Areas



Buffered Project Boundary
Project Boundary
Important Bird Areas
Critical Habitat
Pinal County Riparian
Wildlife Connectivity

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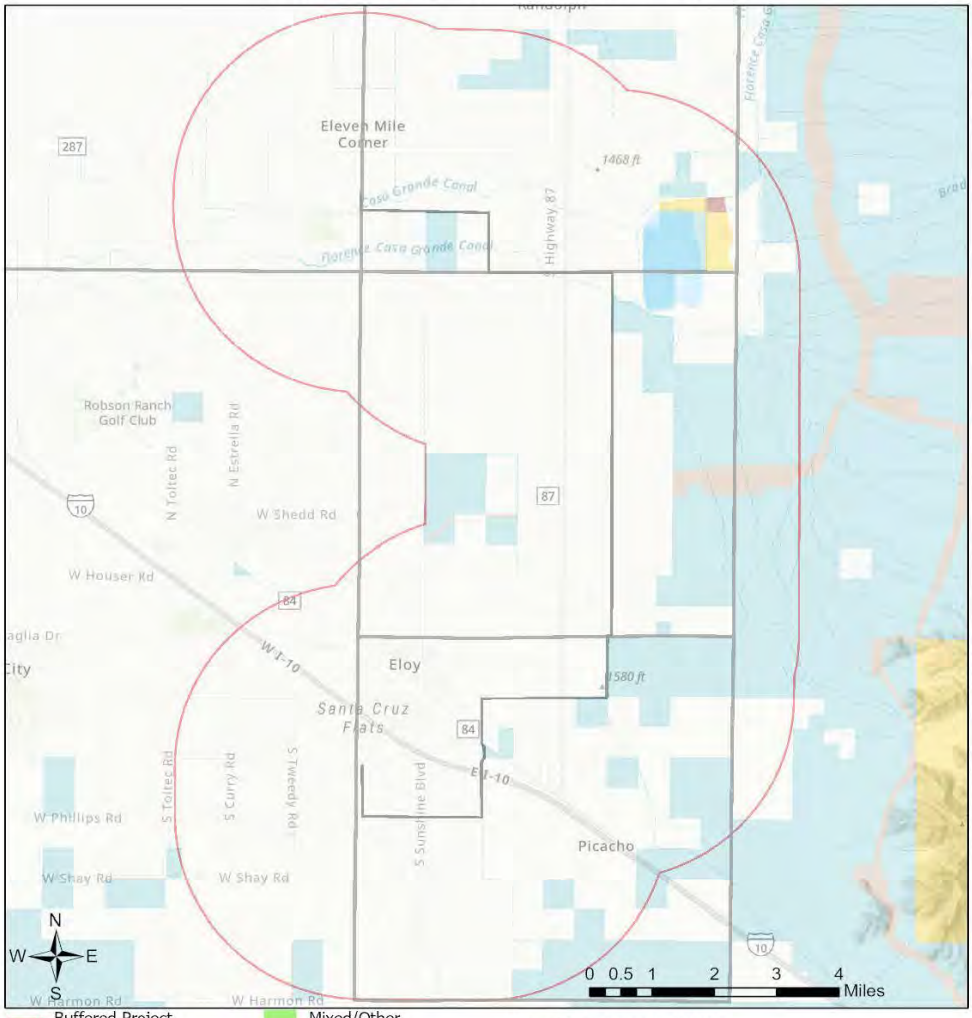
Esri, NASA, NGA, USGS
City of Eloy, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS

APS Pinal Electrical Improvement Project

Township/Ranges and Land Ownership



- Buffered Project Boundary
- Project Boundary
- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge
- Township/Ranges

Project Size (acres): 153.61
Lat/Long (DD): 32.7485 / -111.5151
County(s): Pinal
AGFD Region(s): Mesa; Tucson
Township/Range(s): T6S, R7E; T6S, R8E; T7S, R8E +
USGS Quad(s): ELOY NORTH; ELOY SOUTH +

Special Status Species Documented within 3 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Agelaius phoeniceus	Red-winged Blackbird					2
Athene cunicularia hypugaea	Western Burrowing Owl		S	S		2
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		2
Chilomeniscus cinctus	Banded Sandsnake					2
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S	S		1
Empidonax traillii extimus	Southwestern Willow Flycatcher	LE		S		1
Falco sparverius	American Kestrel					2
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1
Incilius alvarius	Sonoran Desert Toad					2
Phrynosoma solare	Regal Horned Lizard					2
Rallus obsoletus yumanensis	Yuma Ridgway's Rail	LE		S		1
Toxostoma bendirei	Bendire's Thrasher					2

Note: Status code definitions can be found at https://www.azgfd.com/wildlife-conservation/on-the-ground-conservation/state-wildlife-action-plan/state-wildlife-action-plan-status-definitions/

Special Areas Documented that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Riparian Area	Riparian Area					

Note: Status code definitions can be found at https://www.azgfd.com/wildlife-conservation/on-the-ground-conservation/state-wildlife-action-plan/state-wildlife-action-plan-status-definitions/

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Ammospermophilus harrisii	Harris' Antelope Squirrel					2
Anthus spragueii	Sprague's Pipit					2
Aquila chrysaetos	Golden Eagle	BGA		S		2
Artemisiospiza nevadensis	Sagebrush Sparrow					3
Athene cunicularia hypugaea	Western Burrowing Owl		S	S		2
Auriparus flaviceps	Verdin					2
Botaurus lentiginosus	American Bittern					2
Buteo regalis	Ferruginous Hawk			S		2
Buteo swainsoni	Swainson's Hawk					2
Calcarius ornatus	Chestnut-collared Longspur					2
Calypte costae	Costa's Hummingbird					2
Campylorhynchus brunneicapillus	Cactus Wren					2
Catharus ustulatus	Swainson's Thrush					2
Catostomus insignis	Sonora Sucker		S	S		2
Chaetodipus baileyi	Bailey's Pocket Mouse					2

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Charadrius montanus	Mountain Plover					2
Chilomeniscus cinctus	Variable Sandsnake					2
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S	S		1
Colaptes chrysoides	Gilded Flicker			S		2
Columbina inca	Inca Dove					2
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat		S	S		1
Cynanthus latirostris	Broad-billed Hummingbird		S			2
Dendrocygna autumnalis	Black-bellied Whistling-Duck					2
Empidonax wrightii	Gray Flycatcher					2
Eumops perotis californicus	Greater Western Bonneted Bat			S		2
Falco mexicanus	Prairie Falcon					2
Falco peregrinus anatum	American Peregrine Falcon		S	S		1
Falco sparverius	American Kestrel					2
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1
Icterus bullockii	Bullock's Oriole					2
Incilius alvarius	Sonoran Desert Toad					2
Lanius ludovicianus	Loggerhead Shrike					2
Lasiurus cinereus	Hoary Bat					2
Lasiurus frantzii	Desert Red Bat		S			2
Lasiurus xanthinus	Western Yellow Bat		S			2
Lepus alleni	Antelope Jackrabbit					2
Macrotus californicus	California Leaf-nosed Bat			S		2
Megascops kennicottii	Western Screech-owl					2
Melanerpes uropygialis	Gila Woodpecker					2
Melospiza lincolnii	Lincoln's Sparrow					2
Melozone aberti	Abert's Towhee		S			2
Micrathene whitneyi	Elf Owl					3
Micruroides euryxanthus	Sonoran Coralsnake					2
Myotis velifer	Cave Myotis			S		2
Myotis yumanensis	Yuma Myotis					2
Neotamias cinereicollis	Gray-collared Chipmunk					2
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					2
Parabuteo unicinctus	Harris's Hawk					2
Passerculus sandwichensis	Savannah Sparrow					2
Peucaea carpalis	Rufous-winged Sparrow					2
Phrynosoma solare	Regal Horned Lizard					2
Pooecetes gramineus	Vesper Sparrow					2
Rallus obsoletus yumanensis	Yuma Ridgway's Rail	LE		S		1
Rana yavapaiensis	Lowland Leopard Frog		S	S		1

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Spizella breweri	Brewer's Sparrow					2
Tadarida brasiliensis	Brazilian Free-tailed Bat					2
Toxostoma bendirei	Bendire's Thrasher					2
Toxostoma lecontei	LeConte's Thrasher			S		2

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Pecari tajacu	Javelina					
Puma concolor	Mountain Lion					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Energy Production/Storage/Transfer, Energy Transfer, power line/electric realignment

Project Type Recommendations:
Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at https://www.invasivespeciesinfo.gov/unitedstates/az.shtml and the Arizona Native Plant Society https://aznps.com/invas for recommendations on how to control. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at https://map.natureserve.org/imap/services/page/map.html.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select "See What's Here" for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

For any powerlines built, proper design and construction of the transmission line is necessary to prevent or minimize risk of electrocution of raptors, owls, vultures, and golden or bald eagles, which are protected under state and federal laws. Limit project activities during the breeding season for birds, generally March through late August, depending on species in the local area (raptors breed in early February through May). Conduct avian surveys to determine bird species that may be utilizing the area and develop a plan to avoid disturbance during the nesting season. For underground powerlines, trenches should be covered or back-filled as soon as possible. Incorporate escape ramps in ditches or fencing along the perimeter to deter small mammals and herpetofauna (snakes, lizards, tortoise) from entering ditches. In addition, indirect affects to wildlife due to construction (timing of activity, clearing of rights-of-way, associated bridges and culverts, affects to wetlands, fences) should also be considered and mitigated.

Based on the project type entered, coordination with U.S. Fish and Wildlife Service (Migratory Bird Treaty Act) may be required (https://www.fws.gov/office/arizona-ecological-services).

Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

Project Location and/or Species Recommendations:
HDMS records indicate that one or more Listed, Proposed, or Candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at https://www.fws.gov/office/arizona-ecological-services or:

Phoenix Main Office
9828 North 31st Avenue #C3
Phoenix, AZ 85051-2517
Phone: 602-242-0210
Fax: 602-242-2513

Tucson Sub-Office
201 N. Bonita Suite 141
Tucson, AZ 85745
Phone: 520-670-6144
Fax: 520-670-6155

Flagstaff Sub-Office
SW Forest Science Complex
2500 S. Pine Knoll Dr.
Flagstaff, AZ 86001
Phone: 928-556-2157
Fax: 928-556-2121

This review has identified riparian areas within the vicinity of your project. During the planning stage of your project, avoid, minimize, or mitigate any potential impacts to riparian areas identified in this report. Riparian areas play an important role in maintaining the functional integrity of the landscape, primarily by acting as natural drainages that convey water through an area, thereby reducing flood events. In addition, riparian areas provide important movement corridors and habitat for fish and wildlife. Riparian areas are channels that contain water year-round or at least part of the year. Riparian areas also include those channels which are dry most of the year, but may contain or convey water following rain events. All types of riparian areas offer vital habitats, resources, and movement corridors for wildlife. The Pinal County Comprehensive Plan (i.e. policies 6.1.2.1 and 7.1.2.4), Open Space and Trails Master Plan, Drainage Ordinance, and Drainage Design Manual all identify riparian area considerations, guidance, and policies. Guidelines to avoid, minimize, or mitigate impacts to riparian habitat can be found at https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-wildlife-friendly-guidelines/. Further consultation with the Arizona Game and Fish Department and Pinal County may be warranted.

HDMS records indicate that Sonoran Desert Tortoise have been documented within the vicinity of your project area. Please review the Tortoise Handling Guidelines found at https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/2014%20Tortoise%20handling%20guidelines.pdf.

HDMS records indicate that Western Burrowing Owls have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at https://www.azgfd.com/wildlife-conservation/conservation-and-endangered-species-programs/burrowing-owl-management/.

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EXHIBIT D. BIOLOGICAL RESOURCES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

> *Exhibit D: 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.*

Introduction

The Project Area for this review comprises the Preferred Route and Alternative Subroutes for the proposed transmission line. The Study Area comprises the Project Area plus a one-mile buffer. To identify the plant and wildlife species that may occur in the Study Area, SWCA Environmental Consultants consulted publicly available data sources, including:

- Topographical and aerial maps
- Arizona Game and Fish Department (AZGFD) online Environmental Review Tool (AZGFD 2025a)
- *Biotic Communities: Southwestern United States and Northwestern Mexico* (Brown 1994)
- Regional checklists, reports, and publications (e.g., Brennan and Holycross 2006; eBird 2025; Hoffmeister 1986; iNaturalist 2025; Kesner and Marsh 2010)

Results

Ecological Setting

The Project Area and Study Area are located within the Lower Colorado River Valley subdivision of the Sonoran desertscrub biotic community (Brown 1994) with an elevational range of approximately 1,466 to 1,590 feet above mean sea level. The Project Area is located approximately 6 miles south of the center of the City of Coolidge, between Picacho in the southeast and Casa Grande in the northwest, and crosses Interstate 10 just west of State Route 87 west of South La Palma Road in Pinal County, Arizona.

Land uses in the Study Area include active or inactive agriculture fields with low-density residential structures, a recreational vehicle park, electrical generation infrastructure, solar arrays, irrigation canals, county fairgrounds, light industrial/manufacturing, and transportation corridors including paved and unpaved roadways and railway lines. The Phoenix metropolitan area lies approximately 25 miles northwest of the Study Area. The Gila River is located 9.5 miles north of the Study Area, and the Santa Cruz River empties into the Santa Cruz flats adjacent to the south of the Study Area (Google Earth 2025). Picacho Reservoir is situated in the northeast corner of the Study Area. Picacho Reservoir has a highly variable water level, with the lake being entirely dry in some years (Drowley 2021; Federal Emergency Management Agency 2025).

Land uses immediately outside of the Study Area include additional agriculture, solar arrays and electrical generation infrastructure, correctional facilities, commercial development, and recreation in undisturbed desert and at Picacho Reservoir. San Carlos Irrigation Drainage District canals are present within the Project Area and Study Area.

Vegetation

The Project Area is highly disturbed by previous development, including existing agricultural cropland, roads, buried utilities, and transmission lines; vegetation in developed areas consists primarily of cultivated crop plants (including but not limited to alfalfa [*Medicago sativa*] and common barley [*Hordeum vulgare*]) (Google Earth 2025). Stringers of woody and weedy vegetation exist at the margins of the fields, and trees, shrubs, and weeds occur on the margins of cleared lots, and in drainages. The eastern portion of the Study Area contains the largest exposures of Sonoran desertscrub characterized by velvet mesquite (*Prosopis velutina*), yellow paloverde (*Parkinsonia microphylla*), fourwing saltbush (*Atriplex canescens*), and desertbroom (*Baccharis sarothroides*), among others (Google Earth 2025).

Five nonnative plants have been documented within the Study Area as reported in iMapInvasives (2025), including Bermuda grass (*Cynodon dactylon*), and four Arizona Department of Agriculture (AZDA)-listed noxious weeds, comprising Asian (Saharan) mustard (*Brassica tournefortii*) and wild mustard (*Sinapis arvensis*), both Class B noxious weeds, as well as buffelgrass (*Pennisetum ciliare*) and Johnsongrass (*Sorghum halepense*), both Class C noxious weeds (AZDA 2025).

No broadleaf deciduous riparian vegetation communities (i.e., communities containing willow [*Salix* sp.], cottonwood [*Populus* sp.], or ash [*Fraxinus* sp.], etc.) are known in the Project Area. Suitable bat roost sites may be present under railroad, interstate, and highway bridges and/or culverts, and if palm trees and abandoned buildings occur in the Study Area.

Wildlife Species

Species that may occur in the Project and/or Study Areas are listed in the tables in the following sections. Sources used to identify species considered for their potential to occur in the Project and Study Areas include the following:

- Mammal species typical of the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community evaluated for this report include mammals listed in Table 4.1 in *Mammals of Arizona* (Hoffmeister 1986).
- Bird species evaluated in this report include those listed for Sonoran Desertscrub in Appendix II of *Biotic Communities Southwestern United States and Northwestern Mexico* (Brown 1994) and the Sonoran Desert Birds list in iNaturalist (2025).
- Reptiles and amphibians evaluated in this report are listed as commonly occurring species in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community in *Amphibians and Reptiles in Arizona* (Brennan and Holycross 2006).
- Fish species evaluated in this report were taken from the list of species in the Central Arizona Project and Florence-Casa Grande Canals from the *Central Arizona Project Fish Monitoring Final Report* (Kesner and Marsh 2010).

Some species from these lists of typical species overlap with special-status species evaluated in Exhibit C, and these species have been removed from consideration in this exhibit because they have already been addressed (see Exhibit C). Occurrence records for the species evaluated in this exhibit were obtained from the AZGFD online Environmental Review Tool (AZGFD 2025a), *Mammals of Arizona* (Hoffmeister 1986), eBird (2025), and the *Arizona Breeding Bird Atlas* (Corman and Wise-Gervais 2005).

MAMMALS

Small, medium-sized, and large terrestrial mammal species may occur in the Project Area and Study Area. Bat species have the potential to disperse or migrate through or forage within the Project Area and Study Area. Palm trees and abandoned buildings, if present in the Study Area, could provide temporary

roosts for bats (Google Earth 2025).Table D-1 lists the mammal species that may occur in the Study Area. Special-status bat species are addressed in Exhibit C.

Table D-1. Mammal Species that May Occur in the Project Area or Study Area

Common Name (*Scientific Name*)	**Habitat**
Arizona pocket mouse (*Perognathus amplus*)	Desertscrub habitats.
Badger (*Taxidea taxus*)	Grassland and desertscrub.
Black-tailed jackrabbit (*Lepus californicus*)	Open habitat with scattered patches of shrubs, including plains, fields, and deserts.
Bobcat (*Lynx rufus*)	Various habitats including woodlands, river bottomlands, deserts, mountains.
Botta's pocket gopher (*Thomomys bottae*)	Extremely xeric locations, below 11,000 feet above mean sea level with variable soils and ground cover ranging from open to grasslands. Occurs in roadsides, valleys, and mountain meadows.
Cactus mouse (*Peromyscus eremicus*)	Deserts and pinyon-juniper (*Pinus* spp.–*Juniperus* spp.), in rocky, sandy, or loamy soils. Found in rock heaps, stone walls, burrows, woodrat houses, and brush fences.
Coyote (*Canis latrans*)	Occurs in all habitat types, including agricultural, urban, and suburban areas.
Deer mouse (*Peromyscus maniculatus*)	Upland and riparian habitats, including open areas, brushlands, and coniferous and deciduous forests.
Desert cottontail (*Sylvilagus audubonii*)	Grasslands, brushlands, edges of foothill woodlands, willow (*Salix* spp.) thickets, and occasionally in cultivated fields or under buildings.
Desert kangaroo rat (*Dipodomys deserti*)	Low deserts, often sandy soil with sparse vegetation including alkali sink, shadscale (*Atriplex* sp.) scrub, and creosote bush (*Larrea tridentata*).
Desert pocket mouse (*Chaetodipus penicillatus*)	Sparsely vegetated sandy desert floors.
Gray fox (*Urocyon cinereoargenteus*)	Typically occurs in woodland or shrubland but can occupy deserts and grasslands. Dens in caves, hollow logs, or debris piles.
Javelina (=collared peccary) (*Dicotyls tajacu*)	Deserts, shrublands, cities, and agricultural areas.
Merriam's kangaroo rat (*Dipodomys merriami*)	Low deserts in sparsely vegetated areas.
Mule deer (*Odocoileus hemionus*)	Mountains and lowlands, often associated with successional vegetation.
Racoon (*Procyon lotor*)	Occurs in varying habitats, often along streams and shorelines.
Rock pocket mouse (*Chaetodipus intermedius*)	Occurs in lower grasslands and deserts. Commonly found in creosote bush, mesquite (*Prosopis* sp.), saltbush (*Atriplex* sp.), and creosote bush-lechuguilla (*Agave* sp.) areas.
Round-tailed ground squirrel (*Xerospermophilus tereticaudus*)	Sonoran desertscrub, alkali sink and creosote bush communities, low flat areas. Avoids rocky hills.
Western harvest mouse (*Reithrodontomys megalotis*)	Occurs in a wide variety of habitats in places with adequate cover. Often lives in areas with adequate grass cover, along streams, bottomlands, along fences, or around irrigated areas.
White-throated woodrat (*Neotoma albigula*)	Brushlands, rocky cliffs, creosote bush scrub, mesquite-yucca (*Yucca* sp.), and pinyon-juniper woodland.

Common Name (*Scientific Name*)	Habitat
Bat Species	
Big brown bat (*Eptesicus fuscus*)	Variable habitat, from ponderosa pine (*Pinus ponderosa*) forests, pinyon-juniper woodlands, the lower edge of spruce-fir (*Picea* spp.–*Abies* spp.) forests, and Lower Sonoran zones. Migratory; found throughout the state in summer, and in southern Arizona in the winter. Roosts in buildings, bridge joints, mines, hollow trees, and caves.
California myotis (*Myotis californicus*)	Desert ranges and flatlands; desertscrub-oak (*Quercus* spp.) to ponderosa pine zones. Migratory; winter distribution in southern Arizona, south of the Gila River. Roosts in crevices and cracks in canyon walls, caves, and mine shafts, and under bark in trees or snags.
Canyon bat (*Parastrellus hesperus*)	Occurs in deserts, woodlands, and shrublands. Roosts in boulders, cracks, and crevices.
Pallid bat (*Antrozous pallidus*)	Found in many habitat types, including forests, canyons, open farmland, and deserts. Migratory; occurs throughout Arizona and in the southern part of the state in winter. Roosts in rock crevices, buildings, caves, and mines.

Source: Range or habitat information is from AZGFD (2025a, 2025b); Hoffmeister (1986); NatureServe Explorer (2025).

BIRDS

The Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community generally consists of open, sparsely vegetated habitats that do not support a bird community as diverse as those found in other subdivisions of Sonoran Desertscrub (Brown 1994). However, the agricultural areas, canals, and Picacho Reservoir in the Study Area provide additional habitat. Birds have potential to use the Project Area and Study Area for their life-history needs (i.e., foraging, nesting, or perching). Birds that are likely only to be attracted to Picacho Reservoir and irrigation canals, as well as those that are just dispersing or migrating through the Study Area are not included in the following table. Table D-2 lists the bird species that may occur in the Study Area. Special status bird species are addressed in Exhibit C.

Table D-2. Bird Species that May Occur in the Project Area or Study Area

Common Name (*Scientific Name*)	Habitat
Anna's hummingbird (*Calypte anna*)	Occurs in chaparral, coastal scrub, oak savannas, and open woodland. Also common in urban and suburban settings.
Ash-throated flycatcher (*Myiarchus cinerascens*)	Occurs in dry scrub, open woodlands, and deserts. Cavity nester that breeds in this part of Arizona.
Black phoebe (*Sayornis nigricans*)	Usually found near water, including marshy ponds, streams, near farm ponds, and along irrigation ditches.
Black-throated sparrow (*Amphispiza bilineata*)	Found in sparsely vegetated desertscrub, most often found in desert uplands, alluvial fans, and hillsides.
Black vulture (*Coragyps atratus*)	Occurs in a wide variety of habitats. Typically occurs in riparian woodlands and desertscrub where saguaros (*Carnegiea gigantea*) and tall trees occur. Also occurs in rural and agricultural fields, and prefers elevated perches including trees, saguaros, telephone poles, or transmission towers.
Brewer's blackbird (*Euphagus cyanocephalus*)	Often occurs near human habitation. Occurs in shrubby and busy areas near water, riparian woodland, cultivated lands, and marshes. Winters south of Mogollon Rim.
Brown-headed cowbird (*Molothrus ater*)	Often associated with human-modified, fragmented landscapes, and are attracted to feedlots, pastures, and fields. Occur in a variety of habitats including desertscrub, agricultural lands, and residential areas. Migratory, present in Arizona spring through fall.
Cliff swallow (*Petrochelidon pyrrhonota*)	Feeds over pastures, fields, towns, and open areas. Nests in colonies that can be located on cliffsides, caves, building eave, bridges, culverts, dams, or large trees. Nests are created with mud and dried grass at the juncture of a vertical wall and a horizontal overhang.

Common Name (*Scientific Name*)	**Habitat**
Common raven (*Corvus corax*)	Found in most habitat types, select open areas. Regularly encountered in rural, agricultural, and urbans settings. Year-round resident.
Cooper's hawk (*Accipiter cooperii*)	Occurs in woodlands, parks, neighborhoods, and fields, associated with trees.
Curve-billed thrasher (*Toxostoma curvirostre*)	Found in creosote bush (*Larrea tridentata)* desertscrub, grasslands, and residential areas.
Eurasian collared dove (*Streptopelia decaocto*)	Found in a variety of habitats from open woodland to desertscrub. Nonnative species, not protected under the MBTA.
European starling† (*Sturnus vulgaris*)	Occurs predominantly near human settlements, in rural, urban, and agricultural fields. Year-round resident.
Gambel's quail (*Callipepla gambelii*)	Typically associated with brushy Sonoran Desert uplands and desert washes. Can also occur in residential areas and along the margins of cultivated lands. Year-round resident.
Great horned owl (*Bubo virginianus*)	Occurs in a wide variety of habitats including agricultural and residential areas as well as woodlands and orchards.
Great-tailed grackle (*Quiscalus mexicanus*)	Occurs in partly open situations with scattered trees, around human habitations. Year-round resident.
Greater roadrunner (*Geococcyx californianus*)	Occurs in open, arid country with scattered shrubs, trees, or cacti. Also common in agricultural areas and urban and suburban settings. Year-round resident.
Harris hawk (*Parabuteo unicinctus*)	Occurs in semi-open desert lowlands; territories include tall perches (e.g., trees, power poles, or boulders) and access to water.
Horned lark (*Eremophila alpestris*)	Found in grasslands, sandy regions, areas with scattered low shrubs, desert playas, pastures, and open cultivated areas.
House finch (*Carpodacus mexicanus*)	Occurs in arid scrub and brush, open woodland, oak-juniper (*Quercus* sp.-*Juniperus* sp.), and pine-oak (*Pinus* sp.-*Quercus* sp.) habitats, and towns and cultivated lands. Year-round resident.
House sparrow† (*Passer domesticus*)	Introduced species that occurs abundantly in cities and towns. Occurs in feedlots, agricultural areas, and urban and rural communities. Year-round resident.
Lark Sparrow (*Chondestes grammacus*)	Found in agricultural areas, suburban gardens, oak woodlands, chaparral, and mesquite-acacia (*Prosopis* sp.- *Acacia* sp.) grassland.
Lesser goldfinch (*Spinus psaltria*)	Occurs in patchy open habitats, including thickets, weedy fields, woodland, scrubland, and farmlands.
Lesser nighthawk (*Chordeiles acutipennis*)	Found in arid lowlands, deserts, and agricultural areas. Nests on the ground, usually beneath a shrub but sometimes out in the open. Migratory, present in Arizona spring to fall.
Mourning dove (*Zenaida macroura*)	Occurs in a wide variety of habitats, most regularly in desertscrub, shrubby grasslands, and open woodlands. Also found in rural and urban habitats.
Northern cardinal (*Cardinalis cardinalis*)	Occurs in dense shrubby areas including overgrown fields, backyards, mesquite, thickets, and ornamental landscaping.
Northern mockingbird (*Mimus polyglottos*)	Prefers open and partly open situations. Occurs in areas of scattered brush or trees to semidesert, and around towns and cultivated areas.
Phainopepla (*Phainopepla nitens*)	Desert washes, where they feed heavily on desert mistletoe (*Phoradendron californicum*) berries. Occurs in Arizona during the breeding season.
Red-tailed hawk (*Buteo jamaicensis*)	Occurs in a wide variety of open habitats. Elevated perches are important. Year-round resident.
Rock pigeon† (*Columba livia*)	Introduced. Closely associated with human settlement, such as towns, parks, and agricultural areas. Year-round resident.
Turkey vulture (*Cathartes aura*)	Widespread, and uses a variety of habitats. Commonly perches on rocky outcrops, cliffs, canyon walls, transmission towers, telephone poles, and tall trees. Migratory.

Common Name (*Scientific Name*)	Habitat
Waterfowl and occasional-use birds	Waterfowl and other birds may use water features within the Study Area as loafing ponds—midday stops where birds rest before feeding or heading back to the roost. Other birds may be attracted to Picacho Reservoir, but not use the area for nesting, roosting, foraging, or reproduction.
Western kingbird (*Tyrannus verticalis*)	Prefers open areas in many habitat types including desert, rural, and agricultural areas. Migratory.
White-crowned sparrow (*Zonotrichia leucophrys*)	Occurs in woodlands, shrubland, croplands, suburbs, old fields, and conifer woodlands.
White-winged dove (*Zenaida asiatica*)	Habitat generalist, including desertscrub, riparian, urban, and agricultural areas. Year-round resident.
Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	Breeds near freshwater marshes. During migration or winter, occurs in open cultivated lands, pastures, and fields. Wintering and migratory only in Project Area.

Source: Range or habitat information is from Corman and Wise-Gervais (2005); eBird (2025); NatureServe Explorer (2025).

† Nonnative species

REPTILES

The Lower Colorado River Valley subdivision of the Sonoran Desert biotic community is home to many reptile species (Brown 1994). Species of this biotic community may occur in the portions of the Project Area and Study Area containing native vegetation, and a small number of species also tolerate developed environments. Table D-3 lists the reptile species that may occur in the Study Area. SGCN species regal horned lizard (*Phrynosoma solare*), Sonoran Desert tortoise (*Gopherus morafkai*), and variable sandsnake (*Chilomeniscus stramineus*) are addressed in Exhibit C.

Table D-3. Reptile Species that May Occur in the Project Area or Study Area

Common Name (*Scientific Name*)	Habitat
Banded Gila monster (*Heloderma suspectum cinctum*)	Ranges from desertscrub to lower reaches of Great Basin Conifer Woodland and Madrean Evergreen Woodland. Commonly found above the flats in rocky drainages and rugged terrain.
Coachwhip (*Coluber flagellum*)	Typically occurs in desertscrub and semidesert grasslands. Uses a wide range of habitats including desert, prairie, scrubland, woodland, farmland, and creek valleys, generally in dry, open terrain.
Common side-blotched lizard (*Uta stansburiana*)	Typically occurs in desertscrub, semidesert grasslands, Great Basin grasslands, and interior chaparral.
Desert horned lizard (*Phrynosoma* [*Doliosaurus*] *platyrhinos*)	Occurs in desertscrub communities in flat, open areas with sparse vegetation. Can also be found on rocky bajadas and hillsides.
Desert iguana (*Dipsosaurus dorsalis*)	Primarily occurs in Mohave desertscrub and Lower Colorado River Subdivision of Sonoran Desertscrub, and occasionally in Arizona Upland Subdivision of Sonoran Desertscrub. Occurs on flatlands and gently sloping bajadas.
Desert night snake (*Hypsiglena chlorophaea*)	Ranges from flat, open sandy deserts to steep, rocky, and wooded slopes.
Desert spiny lizard (*Sceloporus magister*)	Sonoran Desertscrub, Great Basin Desertscrub, Semidesert Grassland, Interior Chaparral, and woodlands.
Gopher snake (*Pituophis catenifer*)	Found in biotic communities up to alpine tundra. Occurs in deserts, forests, and coastal grasslands.
Long-nosed leopard lizard (*Gambelia wislizeni*)	Found in desertscrub and semidesert grasslands.

Common Name (*Scientific Name*)	Habitat
Long-nosed snake (*Rhinocheilus lecontei*)	Occurs in deserts, dry prairies, arid river valleys, thornbrush, and shrubland.
Long-tailed brush lizard (*Urosaurus graciosus*)	Primarily an inhabitant of Lower Colorado River Sonoran and Mohave desertscrub, commonly found in creosote bush (*Larrea tridentata*)-lined desert flats with sandy soils and along drainages.
Mojave rattlesnake (*Crotalus scutulatus*)	Occurs in desertscrub and semidesert grasslands. Found in upland desert and lower mountains slopes, barren desert, grassland, open woodland, and scrublands. Most often occurs with creosote bush, paloverde (*Parkinsonia* sp.), mesquite (*Prosopis* sp.), or cacti.
Ornate tree lizard (*Urosaurus ornatus*)	Occurs in most biotic communities from desertscrub to subalpine.
Sidewinder (*Crotalus cerastes*)	Typically occurs in flat, open desert with sandy or loamy soils.
Spotted leaf-nosed snake (*Phyllorhynchus decurtatus*)	Found in creosote bush flats and washes in Sonoran desertscrub.
Tiger whiptail (*Aspidoscelis tigris*)	Occurs in a wide variety of habitats including creosote bush flats, sandy wash, canyons, and hillsides. Found in desertscrub, semidesert grasslands, and lower reaches of chaparral.
Western banded gecko (*Coleonyx variegatus*)	Ranges from dry creosote bush flats to rugged, rocky slopes to barren high desert plateaus.
Western patch-nosed snake (*Salvadora hexalepsis*)	Found in flatlands and low valleys from desertscrub to woodlands.
Western shovel-nosed snake (*Chionactis occipitalis klauberi*)	Found in or near sandy washes or dunes in desert flats or on gently sloping bajadas.
Zebra-tailed lizard (*Callisaurus draconoides*)	Primarily occurs in desertscrub. Occurs in flatlands and broad, sandy washes.

Source: Range or habitat information is from AZGFD (2025a; 2025b); Brennan (2012); NatureServe Explorer (2025).

AMPHIBIANS

There are no perennial water sources within the Project Area or Study Area aside from irrigation canals. Amphibians may occur in the irrigation canals in the Project Area and at Picacho Reservoir during wet years in the Study Area, and they have the potential to occur in any location that accumulates water, including roadside puddles or depressions following monsoon rains or within fields or canals during irrigation. During dry seasons, amphibians shelter in mud cracks, mammal burrows, or structures or may go underground to avoid desiccation. Table D-4 lists the amphibian species that may occur in the Study Area. SGCN species lowland leopard frog (*Lithobates yavapaiensis*) and Sonoran Desert toad (*Incilius alvarius*) are addressed in Exhibit C.

Table D-4. Amphibian Species that May Occur in the Project Area or Study Area

Common Name (*Scientific Name*)	Habitat
American bullfrog† (*Lithobates catesbeianus*)	Introduced in Arizona. Occurs in a wide variety of aquatic habitats from cattle tanks and canals to ponds, reservoirs, and marshes.
Couch's spadefoot (*Scaphiopus couchii*)	In the United States, found in arid and semi-arid shrublands, shortgrass plains, mesquite savanna, creosote bush (*Larrea tridentata*) desert, thorn forest, and cultivated areas. Individuals are typically buried underground except during and for a short time following monsoon rains.
Sonoran green toad (*Anaxyrus retiformis*)	Occurs in valleys and sparingly onto lower bajadas, typically in Lower Colorado River and Arizona Upland subdivisions of Sonoran desertscrub.
Woodhouse's toad (*Anaxyrus woodhousii*)	Found in areas near ponded permanent water, such as backwaters and slack water of lakes and irrigation ditches and canals, but can also be found at cattle tanks and other seasonal wetlands foraging in rural or urban areas near these habitats.

Source: Range or habitat information is from AZGFD (2025a); Brennan (2012); NatureServe Explorer (2025).

†Nonnative species

FISH SPECIES

There is no perennial aquatic habitat aside from irrigation canals in both the Project and Study Areas. The Picacho Reservoir, approximately 0.2 miles east of the Study Area, is an ephemeral water body that is entirely dry some years. The Gila River, approximately 8.6 miles north of the Study Area and has perennial and intermittent stretches, is the nearest source of water near the Study Area that is not human made (i.e., a canal or reservoir). However, introduced fish have the potential to occur within the Project Area and Study Area in the concrete-lined canals. Many of these fish represent invasive species that have been released or sportfish that have been stocked or into waterways connected to the canals. No native fish species would be expected to occur.

The Central Arizona Project (CAP) canal has the potential to supply water to agricultural portions of the Project Area and Study Area through diversion into the concrete-lined canals. Fish from the larger canals could be swept into the concrete-line canals; however, these canals are unlikely to constitute suitable habitat for any of these species that would support long-term life-history functions (e.g., foraging, reproduction). The CAP canal is known to carry fish, although none of the fish caught in a 2005–2009 study were native to the Gila River basin (Kesner and Marsh 2010). The following fish were observed in the CAP canal downstream reach (i.e., south of the Fannin-McFarland Aqueduct) during the 2005–2009 study (Kesner and Marsh 2010): bluegill (*Lepomis macrochirus*), channel catfish (*Ictalurus punctatus*), common carp (*Cyprinus carpio*), flathead catfish (*Pylodictis olivaris*), grass carp (*Ctenopharyngodon idella*), green sunfish (*Lepomis cyanellus*), largemouth bass (*Micropterus salmoides*), redear sunfish (*Lepomis microlophus*), striped bass (*Morone saxatilis*), smallmouth bass (*Micropterus dolomieu*), and sunfish hybrids (Family Centrarchidae).

Summary of Potential Effects

Vegetation

The Project involves work in previously developed and disturbed areas (i.e., existing roadway, existing agricultural fields, existing electrical energy infrastructure) as well as in disturbed Sonoran desertscrub dominated by grasses, forbs, and introduced weeds. Vegetation would be removed in areas where power poles and access roads would be placed. However, the Project Area would not result in landscape level impacts to the Lower Colorado River Valley subdivision of the Sonoran Desert biotic community native vegetation because of the relatively small amount of disturbance and the abundant Sonoran desertscrub vegetation occurring in the vicinity of the Study Area.

The amount vegetation acreage loss would vary among Alternative Subroutes, but no alternative would result in substantial impacts at the landscape level.

Mammal Species

Project construction activities could cause death or injury to terrestrial mammals that may not be able to flee from heavy equipment or vehicular traffic, with a higher likelihood of these impacts for individuals of species that are small, nocturnal, or fossorial (burrowing). Project construction could cause behavioral changes, as individuals would be expected to flee from an increase of noise, vibration, and human presence within the Project vicinity. Individuals would be expected to flee or hide, depending on the species' life history, which could increase depredation, decrease foraging success, reduce reproductive success, and result in loss of fitness for that individual from increased metabolic output.

Project construction activities would be temporary. The loss and degradation of mammal habitat from short- and long-term Project activities would be minor as the planned disturbance within the Project Area is relatively small, and the western portion of the Project Area contains little vegetation. Loss of vegetation from construction activities in the Project Area would not contribute meaningfully to habitat fragmentation for mammals or decrease connectivity between habitats. There would be no difference in the impacts to mammals among Alternative Subroutes

Bat activity patterns and foraging would be unlikely to be impacted because bats are nocturnal and Project construction would occur during the day. Some roosting habitats may occur in the Study Area, but none are present in the Project Area. The loss of potential foraging habitat in the Project Area is unlikely to have individual or population-level impacts to any bat species because the area of disturbance is relatively small compared with the available foraging habitat in the Study Area. Bat species can collide with human-made structures during long distance migration. Migrating bats often fly high above ground level and do not actively echolocate. However, during normal foraging activity, bats are actively using echolocation and are typically able to detect and avoid features such as overhead transmission lines (Arnett et. al 2015).

The proposed transmission line would cross over Interstate 10 near the South La Palma Road overpass that could shelter roosting bats. This transmission line will not require any changes to structure, as the line would span over the bridges. While bridge roosting habitat would not be destroyed by Project construction, impacts to roosting bats arising from noise and vibration may occur, including avoidance, behavior changes, or loss of fitness for individuals. The impacts to bats would be the same regardless of whether one or more of the Alternative Subroutes are chosen because each alternative would cross over Interstate 10 near an interchange with potential bat roosting habitat, including either the South La Palma Road or South Sunshine Boulevard bridges.

Impacts to species roosting in abandoned buildings or riparian trees that may occur within the Study Area (but outside the Project Area) from noise or vibration would likely be minor, as the severity of these impacts decreases with increasing distance from construction.

Insectivorous bat species would lose a small area of habitat as many species have the potential to forage over the Study Area, which contains water and therefore likely abundant insect populations. However, the loss of habitat in the Study Area is unlikely to have population-level impacts to any bat species because the area of disturbance is relatively small compared to the available habitat outside of the Study Area.

Construction of the Project would result in an increase of fugitive dust. The fugitive dust during construction could change mammal behavior (e.g., reducing the amount of foraging). The likelihood and severity of impacts from construction would decrease with increasing distance from the Project Area. These impacts would cease with completion of construction activities.

Bird Species

Resident, migrating, or dispersing bird species typical of the Sonoran Desert may occur within the Project Area and vicinity (see Table D-2). Potential impacts on these species could include changes in behavior due to Project-related noise, vibration, and the presence of workers and equipment; risk of collision or electrocution with new power poles or power lines; loss of breeding and foraging habitat; and impacts to nesting species. Potential impacts to nesting birds and their eggs covered under the MBTA would be avoided and/or minimized either by limiting ground clearing/vegetation removal activities to outside the breeding season (generally March to September, or January–June for raptors) or through surveys to identify active nests and placement of buffers around those active nests until the young fledge or the nest fails.

Potential impacts to bird species resulting from behavioral changes due to increased noise, vibration, or human presence would be the same as those described for mammals. Potential impacts from the loss, degradation, and fragmentation of bird habitat from Project activities would be the same as those described for terrestrial mammals.

Birds, including raptors, can collide with transmission lines, resulting in injury or death (APLIC 2012). Birds that are large-bodied, are fast flyers, have large wing spans, and/or that have low maneuverability (e.g., many wading birds or waterfowl), or birds that show certain behaviors (e.g., flocking, flying at altitudes at or below transmission line height, or birds that nest or forage in proximity to transmission lines) have a higher risk of impacts from transmission line collisions (APLIC 2012). Birds generally avoid collision with transmission lines when they are perceived by the bird, and therefore collision risk is lower in areas where multiple transmission lines are co-located, or transmission lines are placed near other infrastructure (APLIC 2012).

Transmission lines can also cause electrocution when a bird is able to touch both energized and grounded electrical components at the same time, which is generally more common in birds with large wing spans, birds that use power poles (e.g., perching, foraging, roosting, or nesting), or in situations where electrical configuration includes closely spaced energized and grounded components that are easily spanned by birds (APLIC 2006). New infrastructure associated with the Project may increase the risk of collision. There is potential for impacts to nests including death or injury of eggs or nestlings or nest failure from construction disturbance. Potential impacts from increased noise, vibration, or human presence in the Project Area and from loss, degradation, and fragmentation would be the same as those described for terrestrial mammals.

The existing irrigation canals and Picacho Reservoir would be likely to show a high bird diversity, including native and nonnative songbirds, raptors, and waterfowl. However, in most cases these species would likely be attracted by water and would not reside permanently at or near this pond owing to lack of habitat required for life history needs, including foraging, breeding, perching, or escaping predation. Although the canals lie within the Project Area, impacts to any birds using them would likely be limited to noise, vibration, or human presence resulting from construction activities in the vicinity of the canal crossings.

The increase in potential perches for hunting from the additional power poles could improve hunting habitat for some species.

The Preferred Route would cross over Interstate 10 near the South La Palma Road overpass that could contain suitable nesting sites for cliff swallows (*Petrochelidon pyrrhonota*). This transmission line will not require any changes to structure, as the line would span over the bridges. All construction activities would occur during daylight hours (i.e., when swallows are active). While bridge roosting habitat would not be destroyed by the Project, impacts to cliff swallows arising from noise and vibration may occur, including avoidance, behavior changes, or loss of fitness for individuals, or nest failure resulting in death of eggs or nestlings. However, these impacts would be eliminated by following mitigation measures and

avoiding construction when cliff swallow nests are active in the Project Area. The impacts to swallows would be the same regardless of whether one or more of the Alternative Subroutes are chosen because each alternative would cross over Interstate 10 near an interchange with potential swallow roosting habitat, including either the South La Palma Road or South Sunshine Boulevard bridges.

Reptile Species

Potential impacts to reptiles including death, injury, or impacts arising from behavior changes and from the loss, degradation, and fragmentation of habitat would be similar to those described for terrestrial mammals, including changes in behavior due to the presence of workers and equipment, such as moving away from sources of noise and vibration and the potential for individuals being crushed or buried during ground disturbing activities. Fossorial reptiles, reptiles that are inactive from heat or cold, and small reptiles would have a higher chance of injury or death compared with those individuals that are more mobile. Reptile species near the additional power poles could experience predation because of the increase in available perches for reptile predators. Loss of vegetation from construction activities in the Project Area would not contribute meaningfully to habitat fragmentation for reptiles or decrease connectivity between habitats. There would be no difference in the impacts to reptiles among Alternative Subroutes.

Amphibian Species

Four amphibian species may occur in the Project Area (see Table D-4). Potential impacts to amphibians, including death, injury, or impacts arising from behavior changes and from the loss, degradation, and fragmentation of amphibian habitat, would be similar to those described for terrestrial mammals. Proposed ground-disturbing Project activities could impact individuals of these species, including the potential for individuals being crushed or buried during ground-disturbing activities. Because the Project Area contains water sources (e.g., canals), there is potential for loss of habitat for amphibians as a result of construction activities. However, agricultural canals are abundant in the Study Area and immediate vicinity, so the overall loss of habitat would be minor and would not contribute meaningfully to habitat fragmentation for amphibians or decrease connectivity between habitats. There would be no difference in the impacts to amphibians among Alternative Subroutes.

Fish Species

Although Project activities could increase the risk of injury or death to any individual fish occurring in the concrete-lined irrigation canals during construction, most or all introduced fish in the canals would likely end up dying in the absence of construction from lack of food, depredation, or desiccation or by being swept into agricultural areas during crop irrigation. The Project would not contribute to the loss of habitat, or any population impacts because these sportfish and introduced fish have only been accidentally swept into the canals within the Study Area and would not occur there otherwise. Fish would experience no additional impacts from construction activities, with the exception that fugitive dust may infiltrate water where fish occur within the Project Area.

Mitigation Measures

The following mitigation measures address measures to reduce risk of animal injury or spread of invasive species. For mitigation measures specific to special-status species, please see Exhibit C.

- Transmission lines pose a risk of collisions and electrocution for birds, particularly raptors. To minimize that risk, the Applicant will construct the proposed transmission line following the guidelines outlined in *Suggested Practices for Raptor Protection on Power Lines: The State of the*

Art in 2006 (APLIC 2006) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012).

- If vegetation-disturbing activities are planned during the migratory bird nesting season (March–September generally, or January–June for raptors), measures to avoid any active bird nests within the Project Area, such as preconstruction surveys for migratory bird nests by a qualified biologist, should be taken to maintain compliance with the MBTA because suitable nesting habitat for migratory bird species is present within the Project Area.
    - Prior to construction, Arizona Public Service Company will have a qualified biologist inspect the South La Palma Road overpass for current use by nesting swallows. If they are present, APS will avoid construction from February 1 to August 31 (i.e., the swallow nesting period) within 100 feet of the bridges to avoid affecting the nesting swallows and maintain compliance with the MBTA.
- To minimize the introduction and spread of invasive weed species, standard best management proctices (BMPs) will be used during construction. These BMPs can include measures such as cleaning equipment prior to and following mobilization to the Project Area.
- To reduce the potential of negative effects to terrestrial species through collisions, worker awareness trainings and low-level speed limits should be implemented.
- If trenching is included as part of Project construction, the following should be considered to minimize injury to wildlife: when trenches cannot be backfilled immediately, the escape ramps, which can be short lateral trenches or wooden planks sloping to the surface, should be constructed at least every 90 m; trench slopes should be less than 45 degrees (1:1); and any trenches left open overnight should be inspected to remove wildlife prior to backfilling.
- Standard BMPs will be employed during construction to prevent contamination of stormwater runoff from the site.
- The recommendations in AZGFD's *Wildlife Compatible Fencing Guidelines* (AZGFD 2025c) should be reviewed and implemented for the Project as applicable and feasible to minimize impacts to wildlife and their habitats.

Conclusion

Based on the assessment in this exhibit, the Project's Preferred Route and Alternative Subroutes would have low impacts to biological resources and would be environmentally compatible. The impacts from the Preferred Route would not appreciably differ from the impacts from the Alternative Subroutes.

Portions of the Project Area and Study Area occur within previously disturbed and developed areas with existing roads, residences, energy infrastructure, and agricultural fields. Existing distribution lines occur in the Project Area. Because the Project would disturb minimal vegetation within the Project Area, and there is abundant habitat in the Study Area and vicinity, impacts to general plants and wildlife would be minimal and restricted to individuals. Said impacts would be similar from either overhead or underground components, with no difference resulting from selection of either Alternative Subroute.

Bat and cliff swallow roosts have the potential to be impacted by Project activities. Roosting habitat would not be permanently lost, but any individuals that use the South La Palma Road or South Sunshine Boulevard bridges during construction may be impacted in the short term. Because the roosting habitat will remain after construction, and because other bridges and suitable habitat for bat and swallow roosting are in the Study Area and vicinity, Project activities are unlikely to cause population-level impacts to any species. Because the Alternative Subroutes each incorporate an interstate interchange bridge, either at South La Palma Road or South Sunshine Boulevard, there would be no difference in impacts to bats or swallows regardless of whether one or more of the Alternative Subroutes are chosen.

Whereas fewer wildlife species would be expected to occur in the disturbed, developed, and in-use agricultural areas than in native desert habitat, irrigation canals likely draw animals from surrounding areas to water or prey species there, and some wildlife species are specifically attracted to agricultural fields because of the open space or higher moisture. However, disturbance within the Project Area would be minimal, and active agricultural land occurs within the Study Area outside of the Project Area.
At a landscape level, the Project would not significantly reduce the amount of vegetation available for wildlife use, increase habitat fragmentation, or impact any likely wildlife dispersal or migration corridors. Therefore, the proposed Project may impact individuals (both wildlife and plant) but would be unlikely to have impacts at the population level for any species. The Alternative Subroutes are extremely similar in total acreage impacted and location of impacts. Therefore, there may be negligible differences in the number of individuals (wildlife for plant) that are impacted depending on whether one or more Alternative Subroutes are chosen. Neither Alternative Subroute would be expected to impact plants or wildlife at a landscape or population level.

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

As stated in the Arizona Administrative Code R14-3-219, Exhibit 1:

> *Exhibit E: 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.*

Scenic Areas and Visual Resources

SWCA Environmental Consultants conducted a review of scenic and visual resources in the Project Area (i.e., the Preferred Route and Alternative Subroutes) and the Study Area (i.e., the Project Area plus a one-mile buffer). The following sections include a description of the methodology applied for assessing scenic resources, results of the inventory of scenic resources and sensitive viewers, and a discussion of the potential effects of the Project within the Study Area.

The Project Area is under the jurisdiction of Towns of Coolidge and Eloy as well as Pinal County, Arizona. Coolidge and Eloy both have management plans but do not have any management objectives or guidance for visual resources. Details on management of visual impacts and resources within the Pinal County Comprehensive Plan are limited, but the following were identified:

General Commercial Planning Guidelines:

- Commercial development should be compatible with surrounding land uses, provide a proper transition or buffer, and minimize negative impacts of on-site activities to adjacent uses, which may include architectural relief.
- Negative visual impacts arising from the scale, bulk, and mass of large commercial buildings and centers should be mitigated.

Pinal County is working to create a comprehensive network of trails, open space, parks, and recreational facilities and amenities that connect to a regional system. This network is managed through the *Pinal County Open Space and Trails Master Plan,* which states that staff will work closely with owners of development projects to implement regional trail corridors and wildlife and wash corridors as shown in the Open Space and Trails Master Plan, which will be refined through future studies (Pinal County 2007). No direction for the protection or management of visual or aesthetic resources along county trails is given in the document.

The Project does not cross any federal public lands (e.g., Bureau of Land Management, U.S. Forest Service) that would require conformance with visual resource management objectives or guidelines. Furthermore, the Project is not located within any designated national or state scenic areas. The Project would, however, be bisected by the Juan Bautista de Anza National Historic Trail (Anza NHT), which is managed under the Juan Bautista de Anza Comprehensive Management and Use Plan from 1996 (NPS 2025a) and includes a list of high-potential route segments, high-potential historic sites, and an auto tour route that comprise the trail's Federal Protection Components. The Juan Bautista de Anza Comprehensive Management and Use Plan from 1996 (NPS 2025a) has limited direction for visual resources and does not identify any highly sensitive sites or segments within the Project Study Area, which has been modified by rural, agricultural, residential, commercial, and industrial development.

Additionally, the Butterfield Overland Mail and Stage Route crosses through the Study Area; however, this trail is not yet designated by Congress and does not have a formal nature and purpose or management plan. Both trails pass through the Study Area (in a generally north-south path) through areas of rural and agricultural development before meeting and following similar paths as that of Interstate 10 south.

Methodology

The purpose of the visual impact assessment is to identify and characterize the level and nature of changes to the visual landscape that would result from the construction and operation of the Project. Visual impacts are typically described in terms of the visual contrast created by the Project, which can potentially affect both scenic quality and sensitive viewers. Scenic quality refers to the general characteristics and inherent aesthetic value of the landscape as a resource regardless of specific viewers. The term "sensitive viewers" refers to specific individuals and/or groups whose views could be affected by the Project. The methods used to conduct this visual impact assessment are consistent with past visual resource studies conducted for similar projects that have been approved by the Arizona Power Plant and Transmission Line Siting Committee.

Visual resource information and data for the visual assessment of the Study Area were developed based on publicly available geographic information system (GIS) data, aerial photography, and on-site field verification and photographic documentation. These data were collected for all lands, regardless of jurisdiction, and used to develop a comprehensive understanding of the existing landscape and associated visual resources.

KEY OBSERVATION POINTS

To assess how the Project may visually modify the existing landscape, Arizona Public Service Company (APS) and the Project team developed photo-realistic visual simulations of Project components from representative viewing locations, referred to as key observation points (KOPs). The Project team visited the Study Area on October 8, 2024, and March 31, 2025, to assess potential views from residential areas, recreational areas, and travel routes from which the Project would likely be visible. SWCA and APS identified 14 KOPs (Table E-1; Exhibit E-1) to represent how the Project would appear in varying context. 360-degree views were collected from each KOP to document existing conditions and for use in developing visual simulations.

Table E-1. Key Observation Point Locations

KOP Number	KOP Name	Viewer Type	Distance to Nearest Transmission Structure (miles)	Rationale for Selection	Visual Simulation
6	East Selma Highway	Travel route	<0.1	Represents typical views from travel routes along East Selma Highway north of the Subroute Alternative A near an existing residence. Sensitivity of viewers is assessed as moderate.	Yes
8	Interstate 10 near exit 206	Travel route	0.6	Represents typical views from travel routes near Interstate 10 within the Study Area. This KOP focuses on Subroute Alternative B. Sensitivity of viewers is assessed as moderate.	Yes
9	Eleven Mile Corner Road near Alexis Lane	Travel route	<0.1	Represents typical views from travel routes along Eleven Mile Corner Road and the Pinal Central Substation. Sensitivity of viewers is assessed as low.	Yes

KOP Number	KOP Name	Viewer Type	Distance to Nearest Transmission Structure (miles)	Rationale for Selection	Visual Simulation
10	East Dakota Drive Residences	Residential area	0.1	Represents typical views from residential development within the Study Area along East Dakota Drive. Sensitivity of viewers is assessed as high.	Yes
11	Earley Road Residences	Residential area	0.4	Represents typical views from residential development along Earley Road. Sensitivity of viewers is assessed as high.	Yes
12	Picacho Reservoir	Recreational area	0.5	Represents typical views from the recreational area of Picacho Reservoir. Sensitivity of viewers is assessed as high.	Yes
13	State Route 87 South Anza NHT Auto Tour Route	Travel route	0.2	Represents typical views from travel routes along State Route 87 South Anza NHT Route within Study Area. Sensitivity of viewers is assessed as high.	Yes
14	La Palma Road Residences	Residential area	<0.1	Represents typical views from residential development along La Palma Road. Sensitivity of viewers is assessed as high.	Yes
15	Interstate 10	Travel route	0.2	Represents typical views from travel routes along Interstate 10. Sensitivity of viewers at is assessed as moderate.	Yes
16	Eleven Mile Corner Road near Milligan Substation	Travel route	<0.1	Represents typical views from travel routes near the Milligan Substation from Eleven Mile Corner Road. Sensitivity is assessed as moderate.	Yes
17	Eleven Mile Corner Road Private Residence	Residential area	<0.1	Represents typical views from a private residence within the Study Area along Eleven Mile Corner Road. Sensitivity of viewers at this location is assessed as high.	Yes
18	State Route 87	Travel route	<0.1	Represents typical views from the intersection of East Selma Highway and State Route 87. Sensitivity of viewers is assessed as moderate.	Yes

Photo-realistic simulations of the Project components were developed using ArcGIS, Google Earth Pro, Autodesk products (AutoCAD and 3DS Max), and Adobe Photoshop for each KOP (see Exhibit G, Exhibit G-4 through Exhibit G-15). Developing visual simulations involves creating a three-dimensional model of Project components, positioning the modeled Project components on a digital elevation model of the Project Area, and finally superimposing the resulting model onto the KOP photographs of existing conditions at the correct scale and distance. Date and time-of-day inputs determine shadows and reflected light, and the software accounts for distance and haze to increase accuracy of viewing conditions.

Using the resulting visual simulations, the Project team evaluated the potential for impacts to both scenic quality and sensitive viewers by evaluating the visual contrast the Project would have with the existing landscape. Visual contrast refers to the degree that the Project would either be perceived as harmonious with existing features or contrast with features in the existing landscape. The degree of visual contrast considers the existing landforms, vegetation, and built structures present in the landscape and is described in terms of the degree of perceivable change in the basic design elements of form, line, color, texture, and scale that would be evident by the introduction of the Project in the landscape.

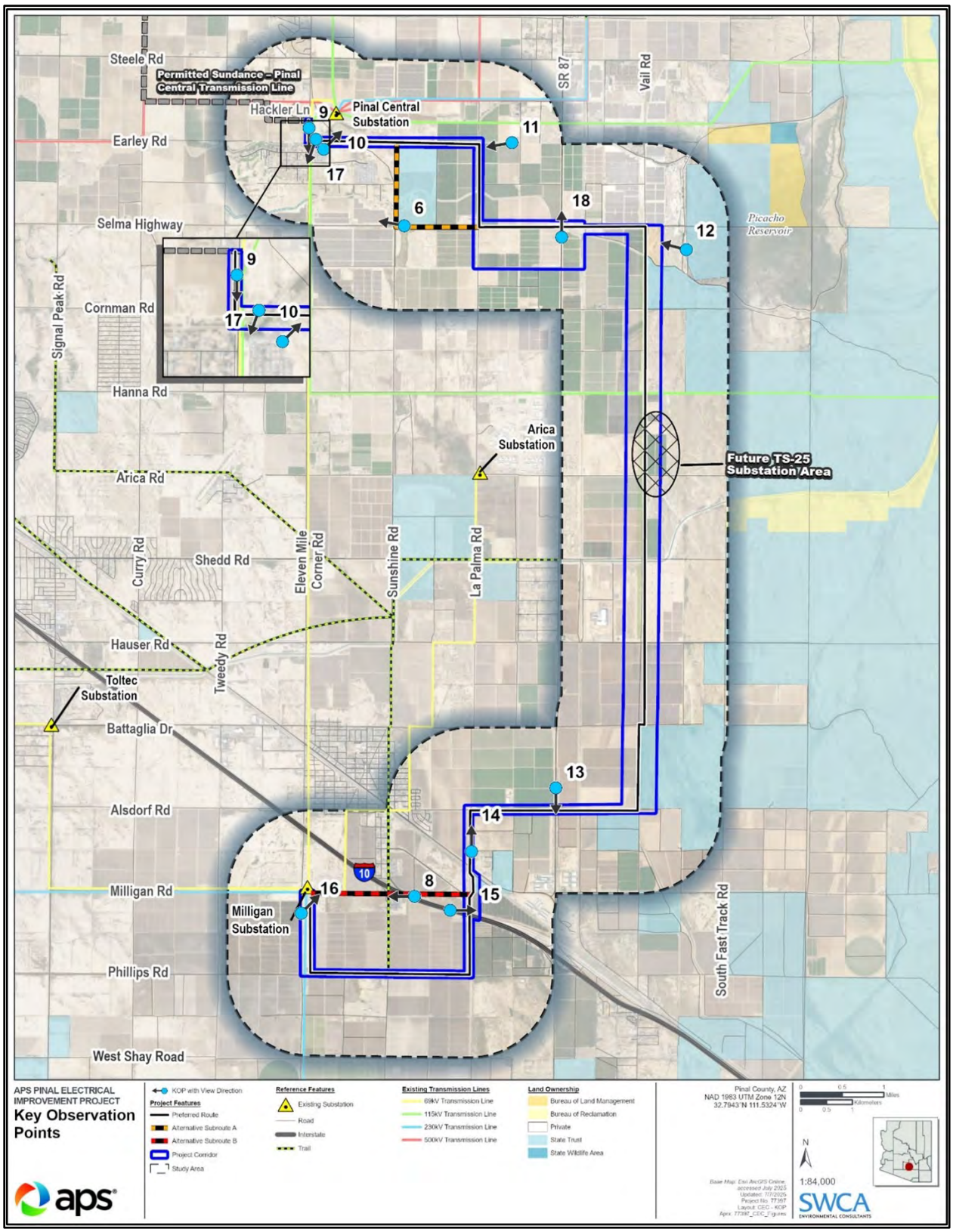

Exhibit E-1. Project KOPs.

Visual contrast is measured based on several factors, including viewing distance, exposure to Project components, duration of view, viewing condition, and degree of visibility. When combined, these factors indicate the overall visual dominance of the Project within the landscape as viewed from different locations. The term "viewing distance" refers to the viewer's physical distance from the Project components. The assessment of visual impacts is predicated on the fact that a person's ability to discern details decreases as viewing distance increases. The duration of view refers to the length of time and associated viewing angle; generally, a viewer's attention is attracted to a higher degree as the duration of view increases. Viewing conditions refer to whether the viewer is looking down at the Project from a superior position, looking up at the Project from an inferior position, or viewing the Project from an elevation that is similar to that of the Project (i.e., a neutral view). The term "degree of visibility" refers to whether views of the Project would be either open and unobstructed, or partially to fully obstructed by other features in the existing landscape (i.e., topography, vegetation, or built features). The degree of visibility also refers to whether the Project would be viewed against the sky (i.e., skylined) or viewed against a backdrop of landforms, vegetation, and/or built features.

The following distance zones were used for evaluating impacts on scenery from each KOP:

- **Immediate Foreground:** up to 0.25 miles
- **Foreground:** 0.25 miles to one mile
- **Middle Ground/Background:** one mile and outside the Study Area

The impact thresholds for this assessment are categorized as follows:

- **High:** Project features would result in a strong degree of contrast and would appear as dominant features within the existing landscape.
- **Moderate:** Project features would result in a moderate degree of contrast and would appear as codominant features within the existing landscape.
- **Low:** Project features would result in a weak degree of contrast and would be subordinate to the features of the existing landscape.

SCENERY

In the context of the Project, scenery is a qualitative measure of the landscape's inherent aesthetic value on the appearance of existing landscape features, including landforms, vegetation, and built features. In general terms, the scenic quality is based on the premise that landscapes with greater diversity and visual variety in landforms and vegetation, among other aspects, are more aesthetically pleasing and therefore hold greater value to viewers. For this analysis, impacts to scenic quality were assessed by comparing the quality of the existing scenery to the anticipated scenic quality considering visual contrast introduced as a result of the construction and operation of the Project.

SENSITIVE VIEWERS

Collectively, sensitive viewers are members of the public for whom the Project may be visible and who value certain views or may have concern for potential changes in the scenery because of the Project. Anticipated viewer sensitivities can be inferred by first assigning categories of viewer groups within the Study Area, based on their activities or setting. Residential and recreational viewer groups are typically considered to have high sensitivity to visual changes in the landscape, whereas viewers moving along travel routes are considered to have low or moderate sensitivities to visual changes (unless they are traveling along a designated scenic travel route or through a specially designated area or another unique environment).

Inventory Results

SCENERY

The Study Area falls within the Sonoran Basin and Range Level III ecoregion and more specifically within the Gila/Salt Intermediate Basins with the very southeastern edge of the Project in the Middle Gila/Slat River Floodplains ecoregion (U.S. Geological Survey [USGS] 2014). The Sonoran Basin and Range ecoregion consists of generally broad, open landscapes with scattered mountains and vegetation consisting of paloverde trees, saguaro cactus, and other various Sonoran Desert plants. The scenery in the Study Area consists of agricultural fields, industrial and commercial areas, recreational areas, and various types of residential development with interconnecting roads throughout the Study Area. Newman Peak is approximately 6 miles to the southeast, the town of Eloy approximately 0.5 miles to the west, Picacho approximately 1.9 miles to the southeast, Picacho Reservoir approximately 0.5 miles to the east, and Picacho Peak State Park approximately 9.3 miles to the southeast.

The Study Area is predominantly covered by cultivated agricultural fields. Built features include Interstate 10, several large manufacturing facilities, Casa Grande-Picacho Highway, Selma Highway, and local collector routes. The Study Area also encompasses the Milligan Substation and the Pinal Central Substation and associated existing electrical developments. The heights of these features, along with the co-located density of the infrastructure, make them highly visible and dominant features in many portions of the landscape as they intersect the Study Area.

The scenic quality within the Study Area is considered relatively low based on the general lack of visual variety of landforms and vegetation, and the clustering and scattered rural agricultural and residential development within the natural landscape.

SENSITIVE VIEWERS

Residences

Residences within the Study Area are primarily concentrated around Eloy to the south and off of Eleven Mile Corner Road to the north and are mainly single-family home subdivisions. The nearest residential clusters of viewers to the Project include the Azteca Drive residences, the East Dakota Drive residences, the Earley Road residences, and a residence near Selma Highway (from less than 0.1 miles to within 0.4 miles from the Project). Other rural residences are scattered along the Project Corridor but would have views similar to residences represented by the KOPs. Views from residences within the Study Area typically include other residential development, roadway infrastructure, industrial and commercial development, agricultural fields, and existing transmission lines and substations. When not surrounded by other homes or structures, rural residential views are generally open and panoramic in nature due to the mostly flat topography. Views of the distant landscape include the Picacho Mountains to the east, the Casa Grande Mountains to the northwest, the Sawtooth Mountains to the southwest, and Picacho Peak State Park to the southeast. Residential viewers are assumed to have relatively long-duration views and relatively high sensitivity to changes to the views from their homes.

Recreational Areas

Recreational areas within the Study Area include the 50-acre Picacho Reservoir 0.5 miles east of the Project (see Exhibit F). In addition, Jones Park (a community park in Eloy), the Pinal County Fairgrounds, and Tierra Grand Golf Course fall within the Study Area.

Recreational users' views at the Picacho Reservoir are a mixture of panoramic and open natural settings as well as views of rural and agricultural development and energy generation, including the Saint Solar Energy Center. Viewers at other recreational areas (city park, fairgrounds and golf course) would experience views of non-natural landscape settings and be surrounded by development including

transmission infrastructure similar to the Project. Existing transmission and distribution line infrastructure within the Study Area is pervasive, and the heights of the poles combined with their repeating structures make them highly visible and at times dominant features in many portions of the Study Area.

Recreational viewers are assumed to have relatively moderate durations of view and a moderate sensitivity to visual changes as a result of the mixture of existing visible development and infrastructure in the area in conjunction with more open natural views of surrounding mountainous landforms.

Travel Routes

As shown on Figure E-1, the primary travel routes in the Study Area include Interstate 10, Casa Grande-Picacho Highway, Selma Highway, State Route 87, Eleven Mile Corner Road, and other residential and local collector routes.

In terms of proximity, travel routes range from directly adjacent to the Project Corridor, such as along East Phillips Road, East Alsdorf Road, and East Selma Highway, to approximately 1 mile from the Project Area. Additionally, numerous collector routes support access from the primary travel routes to the dispersed commercial and residential areas throughout the Study Area. Views from travel routes typically include agriculture fields, residential developments, industrial and commercial sites, and existing transmission lines. The existing transmission and distribution infrastructure within the Study Area is visible to many travel route viewers as the infrastructure bisects or parallels the travel routes and the heights of these transmission line features make them highly visible and dominant features when present (for example areas near existing development like transmission and Milligan and Pinal Central Substation). Views from travel routes are generally open and panoramic due to the flat terrain, low-growing vegetation, and few structures. Motorists' views of the distant landscape would be similar to residential views but for briefer durations of time as they move through the landscape at travel speeds; views are typically focused on the foreground roadway while in motion and motorists can have relatively low sensitivities to visual changes, depending on their activities and purpose for travel, due to the developed character of the Study Area.

Also present within the study area is State Route 87, which includes the Anza NHT, which commemorates the route taken by Anza in 1775 and 1776, when he led a group of colonists from Mexico to establish a presidio and mission for New Spain at San Francisco Bay. The Anza NHT Comprehensive Management Plan (CMP) describes that "management objectives for visitor experience emphasize promotion of public understanding, appreciation, and enjoyment of the Anza Trail and outdoor recreation" (NPS 2025a). These objectives are obtained by conveying the experience of the colonists in settings similar to those of 1775, providing accurate interpretation at certified locations, and linking historic sites and trail segments with a recreational trail and an auto route. No trail-specific right-of-way (ROW) or management corridor is explicitly identified in the CMP, but the CMP does state that "the Anza Trail is defined as a historic trail corridor, an area of varying widths depending upon the specifics of the terrain and the historic and archaeological evidence" (NPS 2025a). No high-potential historic sites or high-potential route segments are located in the Study Area.

Impact Assessment Results

Below are general descriptions of the potential impacts on scenic quality and sensitive viewers based on the construction and operation of the Project. Overall, visual impacts associated with the Project would range between low to high depending on viewer location. Areas of low visual impact would occur from the Project appearing similar to the existing transmission and distribution lines present within the Study Area, which are widespread and visually prominent features in the landscape. Areas of high visual impact would occur from the Project appearing in areas of natural, mostly undisturbed landscape and areas of high sensitivity like residences and the Anza NHT Auto Tour Route where the landscape and viewers

would have a high sensitivity to changes to the natural landscape. Impacts per KOP are summarized in Table E-2.

Table E-2. Contrast and Impact Results Summary

KOP Number	KOP Name	Level of Sensitivity	Level of Contrast	Level of Impact
6	East Selma Highway	Moderate	Moderate	Moderate
8	Interstate 10 near exit 206	Moderate	Moderate	Moderate
9	Eleven Mile Corner Road near Alexis Lane	Low	Weak to moderate	Low to moderate
10	East Dakota Drive Residences	High	Moderate	Moderate
11	Earley Road Residences	High	Strong to moderate	High to moderate
12	Picacho Reservoir	High	Strong to moderate	High to moderate
13	State Route 87 South Anza NHT Auto Tour Route	High	Moderate	Moderate
14	La Palma Road Residences	High	Moderate	Moderate
15	Interstate 10	Moderate	Moderate	Moderate
16	Eleven Mile Corner Road near Milligan Substation	Moderate	Weak	Low
17	Eleven Mile Corner Road Private Residence	High	Strong to moderate	High to moderate
18	State Route 87 south of Selma Highway	Moderate	Moderate	Moderate

SCENERY

The lines, forms, colors, textures, and scale of the Project facilities would be similar in appearance to existing transmission line and substation infrastructure within the Study Area. Overall, the Project is expected to create low to moderate impacts to the existing relatively low scenic quality within the Study Area. Project components would be seen and would begin to attract attention when viewed with existing transmission components due to the difference in material, color, and scale of structures, but would be visually subordinate to the Milligan and Pinal Central Substations, being seen and not attracting attention, given that present electrical infrastructure already dominates the views within the Study Area.
The addition of the Project would result in a weak to moderate degree of contrast.

SENSITIVE VIEWERS

The following summarizes anticipated visual impacts to groups of sensitive viewers resulting from the construction and operation of the Project.

Residences

Views from residences within the Study Area would vary from unobstructed to partially or fully obstructed, based on viewing location. Due to the generally flat landforms within the Study Area, views from residences would generally be from a neutral position and would include skylined views of the transmission line and interconnection within the Milligan and Pinal Central Substations, where visible. However, depending on exact viewer location the Project could be partially obstructed by existing features within the landscape, such as existing trees, dense clusters of single-family home subdivisions, commercial and industrial buildings, and other built features. Four KOPs illustrate views from residential settings, as described below.

KOP 10 represents views from residences along East Dakota Drive. Views of the Preferred Route would be unobstructed (see Exhibit G-7). The Preferred Route would be located in the immediate foreground of these residences (approximately 500 feet to the nearest structure), and residents in this area are anticipated to have a long duration of view and a high sensitivity. The lines, forms, colors, and textures of the Project features would be similar to those of the existing transmission line infrastructure visible in the area with the presence of the Pinal Central Substation, which would be located behind the Preferred Route. Changes to the landscape from the development of the Preferred Route would result in a moderate degree of contrast in this location due to the presence of the Pinal Central Substation; however, viewer proximity and the size of the structures would be greater in scale than existing infrastructure.

KOP 11 represents views from residences along Earley Road. Residents would have unobstructed views of the Preferred Route (see Exhibit G-8). The Preferred Route would be located in the foreground approximately 0.5 miles (to the nearest structure) from this KOP, and residents in this area are anticipated to have a long viewing duration and high sensitivity. The lines, forms, and textures of the Project features would be similar to those of the existing transmission line infrastructure visible in the area. Changes to the landscape from the development of the Preferred Route would result in a strong to moderate degree of contrast in this location due to the presence of existing transmission infrastructure; however, the scale and difference of material and color of the proposed structures would contrast with existing infrastructure.

KOP 14 represents views from residences along La Palma Road. Residents would have unobstructed views of the Preferred Route (see Exhibit G-11). The Preferred Route would be located in the immediate foreground of these residences (approximately 1,000 feet to the nearest structure), and residents in this area are anticipated to have a long duration of view and high sensitivity. The lines, forms, and textures of the Project features would be similar to those of the existing transmission line infrastructure visible in the area. Changes to the landscape from the development of the Preferred Route would result in a moderate degree of contrast in this location due to the presence of existing transmission infrastructure; however, the scale and difference of material and color of the proposed structures would contrast with existing infrastructure.

KOP 17 represents views from a residence along Eleven Mile Corner Road. Views of the Preferred Route from this KOP would be unobstructed (see Exhibit G-14). The Preferred Route would be located in the immediate foreground of this residence (approximately 214 feet to the nearest structure), and residents in this area are anticipated to have a long duration of view and high sensitivity. The lines, forms, and textures of the Project features would be similar to those of the existing transmission line infrastructure visible in the area. Changes to the landscape from the development of the Preferred Route would result in a moderate degree of contrast in this location due to the presence of existing transmission infrastructure; however, the scale and difference of material and color of the proposed structures would contrast with existing infrastructure. Residents at this location would have direct, close, and unobscured views of the Preferred Route on two sides. The Preferred Route would dominate views from this location.

Recreational Areas

Views of the Project from recreational areas within the Study Area would vary from unobstructed to fully obstructed. Most views would be partially obstructed by existing features within the landscape, such as trees, existing buildings, and fences. Based on the relatively flat landform on which the Project would be located and the similar topography in which existing recreational viewers would be located, views of the Project from recreational viewers would typically be from a level viewing position and would typically include skylined views of the transmission line and interconnection with the substation.

KOP 12 represents views from the Picacho Reservoir looking northwest toward the Project. Recreational users would have mostly unobstructed views of the 230kV Preferred Route (see Exhibit G-9). The lines, forms, colors, textures, and scale of the Project features would be similar to those of the existing transmission line infrastructure visible in the area; however, the Proposed Route monopoles would be in

the foreground (approximately 0.5 miles) and closer in proximity to viewers than the existing transmission line infrastructure in the area and would be mostly skylined against the flat horizon. The duration of view and sensitivity at this location for recreational users is anticipated to be moderate, and the degree of contrast is anticipated to be strong to moderate.

Views from Jones Park in Eloy, the Pinal County Fairgrounds, the Tierra Grand Golf Course, and other passive recreational areas are anticipated to be similar to or less than those at the Picacho Reservoir.

Travel Routes

Views from travel routes within the Study Area would vary from unobstructed to partially or fully obstructed. The variability in views is a result of the degree of screening that would be caused by existing features within the landscape, such as trees, existing buildings, and other built features, based on viewing location. Based on the generally flat landform on which the Project would be located, views of the Project from travel routes would generally be from a neutral position and would include skylined views of the transmission line and interconnect with the substation, where visible.

KOP 9 represents views from travelers along Eleven Mile Corner Road near Alexis Lane. Travelers would have unobstructed views of the Preferred Route (see Exhibit G-6). The Preferred Route would be located in the immediate foreground to travelers at this KOP (approximately 250 feet), and travelers along this roadway are anticipated to have a short duration of view and low sensitivity. The lines, forms, and textures of the Project features would be similar to those of the existing numerous transmission lines and infrastructure visible in the area. Changes to the landscape from the development of the Preferred Route would result in a weak to moderate degree of contrast in this location due to the numerous and varied existing transmission line development in the area. However, the viewer's proximity to the Project and the size of the structures would be greater in scale than existing infrastructure.

KOP 16 represents views from travelers along Eleven Mile Corner Road near the Milligan Substation. Travelers would have unobstructed views of the Preferred Route (see Exhibit G-13). The Preferred Route would be in the immediate foreground to travelers at this KOP (approximately 300 feet), and travelers along this roadway are anticipated to have a short duration of view and moderate sensitivity. The lines, forms, colors, textures, and scale of the Project features would be similar to those of the existing transmission line and the Milligan Substation and associated infrastructure. Changes to the landscape from the development of the Preferred Route would be a weak degree of contrast in this location due to the similarity and degree of existing transmission development in the area.

KOP 8 represents views from travelers along Interstate 10 near exit 206. Travelers would have unobstructed to partially obstructed views of Subroute Alternative B (see Exhibit G-5). This alternative route would be in the immediate foreground (approximately 420 feet) views of travelers at this KOP, and travelers along this roadway are anticipated to have a short duration of view and moderate sensitivity. The lines, forms, and textures of the Project features would be similar to the existing transmission line infrastructure. Changes to the landscape from the development of the Preferred Route would result in a moderate degree of contrast in this location due to viewer proximity and the difference in scale, material, and color of the proposed structures, which would contrast with existing infrastructure.

KOP 15 represents views from travelers along Interstate 10. Travelers would have unobstructed to partially obstructed views of the Preferred Route (see Exhibit G-12). The Preferred Route would be located in the immediate foreground (approximately 775 feet) views of travelers at this KOP, and travelers along this roadway are anticipated to have a short duration of view and moderate sensitivity. The primary focus of travelers at this KOP would be the roadway and Newman Peak and surrounding mountains within the direct view of vehicular travelers. The lines, forms, and textures of the Project features would be similar to the existing repetitive roadway lighting infrastructure. Existing roadway signage supports would be similar in material and color to the proposed transmission structures. Changes to the landscape from the development of the Preferred Route would result in a moderate degree of

contrast in this location due to viewer proximity and the difference in scale, material, and color of the proposed structures, which would contrast with existing infrastructure.

KOP 13 represents views from travelers along State Route 87 South Anza NHT Auto Tour Route. Travelers would have unobstructed to partially obstructed views of the Preferred Route (see Exhibit G-10). The Preferred Route would be located in the foreground (approximately 0.3 miles) views of travelers at this KOP, and travelers along this roadway are anticipated to have a short duration of view and high sensitivity. The lines, forms, and textures of the Project features would be similar to the existing transmission line infrastructure. Changes to the landscape from the development of the Preferred Route would result in a moderate degree of contrast in this location due to viewer proximity and the difference in scale, material, and color of the proposed structures, which would contrast with existing infrastructure.

KOP 6 represents views from East Selma Highway. Travelers would have unobstructed views of Subroute Alternative A (see Exhibit G-3). This alternative route would be in the immediate foreground to travelers at this KOP (approximately 500 feet), and travelers along this roadway are anticipated to have a short duration of view and moderate sensitivity. The lines, forms, and textures of the Project features would be similar to the existing transmission line infrastructure. Changes to the landscape from the development of the alternative route would result in a moderate degree of contrast in this location due to viewer proximity and the difference in scale, material, and color of the proposed structures, which would contrast with existing infrastructure.

KOP 18 represents views from State Route 87 near the intersection of State Route 87 and East Selma Highway. Travelers would have unobstructed to partially obstructed views of the Preferred Route (see Exhibit G-15). The Preferred Route would be located in the immediate foreground to travelers at this KOP (approximately 150 feet from the nearest structure), and travelers along this roadway are anticipated to have a short duration of view and moderate sensitivity. The lines, forms, and textures of the Project features would be similar to the existing transmission line infrastructure. Changes to the landscape from the development of the alternative route would be a moderate degree of contrast in this location due to viewer proximity and the difference in scale, material, and color (the existing visible poles are wooden brown, and the Preferred Route would consist of steel gray poles) of the proposed structures, which would contrast with existing infrastructure.

CONCLUSION

The Preferred Route and Alternative Subroutes would result in low to high impacts to scenic areas and sensitive viewers. Overall, the Project structures would be similar in form, line, and texture to existing transmission line and substation infrastructure associated with the existing Milligan and Pinal Central Substations in the Study Area, which would result in low to moderate impacts to scenery. However, the scale of the Project towers, combined with their visual complexity due to the number of conductors compared with existing infrastructure, would increase the visual contrast introduced by the Project, especially from viewpoints where several Project towers are seen. Similarly, impacts to sensitive viewers would range from low to high as a result of perceived visual contrast due to intervening visual elements, similarities and differences with existing transmission infrastructure, and the duration of view of the Preferred Route and Alternative Subroutes within the Study Area.

Historic Sites and Structures, and Archaeological Sites

As required by the Arizona Corporation Commission *Rules of Practice and Procedure* R14-3-219, the potential effects of the proposed Project on historic sites and structures and archaeological sites were assessed. The assessment also was prepared to support Arizona Corporation Commission compliance with the State Historic Preservation Act (Arizona Revised Statutes 41-861 through 41-864), which requires state agencies to consider impacts of their programs on historic properties (i.e., properties that are listed in or eligible for listing in the Arizona Register of Historic Places [ARHP]), and to provide the State

Historic Preservation Office (SHPO) an opportunity to review and comment on the actions that affect such historic properties.

To be eligible for the ARHP, a property must be at least 50 years old (or sometimes less, if it has special significance) and have national, state, or local significance in American history, architecture, archaeology, engineering, or culture. The property should also possess integrity of location, design, setting, materials, workmanship, feeling, and association, and meet at least one of the four following criteria:

- Criterion (A): be associated with an event that made a significant contribution to the broad pattern of history
- Criterion (B): be associated with the life of a historically significant person
- Criterion (C): embodies a distinctive characteristic of a type, period, or method of construction, represents the work of a master, possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction
- Criterion (D): has yielded or is likely to yield important prehistorical or historical information.

Methodology

SWCA reviewed archival records to identify historic sites, historic structures and buildings, and archaeological sites within one mile of the Project Corridor (Study Area) and that intersect the Project Area and/or Project Corridor. Data sources searched include the AZSITE database, the National Register of Historic Places (NRHP) database, the ARHP, and General Land Office (GLO) plat maps and historic-era topographic maps.

The records review identified 78 prior cultural resources surveys that have taken place within the Study Area. These projects took place from 1955 to 2025 in support of road maintenance, telecommunications, water conveyance system, natural gas pipeline, and transmission line projects. Of these, 21 cultural resources surveys intersect and cover approximately 540 acres (19.5%) of the Project Area and/or Project Corridor (Table E-3).

The SHPO has provided guidance for the reliance on survey data that are 10 years or older (SHPO 2004). Surveys conducted before 1995 did not use the current Arizona State Museum (ASM) site definition criteria (ASM 1995). Ten surveys in the Project Area and/or Project Corridor predate 1995, and one survey (11.136.SHPO) is assumed to predate 1995 without additional information. These surveys, which cover 254 acres (9.2%) of the Project Area and/or Project Corridor, cannot be relied on for current inventory purposes. Of the remaining 10 surveys, all used a survey strategy that would meet current methodological standards for full coverage in Arizona. The principal investigators listed for these surveys meet current state and federal professional qualification standards. Lastly, it is unlikely that there are additional resources present in the current Project Corridor that have become at least 50 years old since the previous surveys. SWCA believes these 10 surveys, which cover 348 acres (12.6%) of the Project Corridor and/or Project Area, can be relied on for current inventory purposes. Furthermore, 61.5 acres of these surveys overlap the pre-1995 surveys.

Table E-3. Previous Surveys Intersecting the Project Area and/or Project Corridor

Agency Number	Project Name	Organization	Year
1955-3.ASM	Southern Pacific Pipeline Survey	Arizona State Museum	1955
1982-200.ASM	Coolidge-Saguaro 115kV Transmission Line	Complete Archaeological Services Associates	1982
1982-34.ASM	CAP Tucson Aqueduct Phase A Class III Survey	Arizona State Museum	1983

Agency Number	Project Name	Organization	Year
1983-1.ASM	Tucson Aqueduct Phase A Survey	Arizona State Museum	1983
1984-219.ASM	CAP-DD Santa Rosa Canal Phase A Task 6 and 21	Northland Research	1984
1985-231.ASM	Central Arizona Irrigation and Drainage District	Northland Research	1985
1987-222.ASM	U.S. Telecom Buried Fiber Optic Cable	Dames and Moore	1987
1990-63.ASM	CAIDD - Supplemental Class III	Bureau of Reclamation	1992
1992-239.ASM	Tucson-Phoenix III	Archaeological Consulting Services	1992
1992-270.ASM	State Route 84/Casa Grande-Eloy	Archaeological Research Services	1992
1996-306.ASM	Bridges/Coolidge, Pinal County	Archaeological Research Services	1996
2000-140.ASM	KMEP Arizona Anomaly Repair Project	William Self Associates	2000
2003-1548.ASM	Arizona Anomaly Repair Project	Western Cultural Resource Management	2003
2004-724.ASM	Riggs Road - Picacho Peak Road	HDR Engineering	2002
2007-175.ASM	Pinal South Substation Survey	Desert Archaeology, Inc	2007
2008-697.ASM	La Palma Rehabilitation	San Carlos Irrigation Project	2008
2011-203.ASM	Class III Cultural Resources Surveys in Pima and Pinal Counties, Arizona SCIP 2011 Second Quarter	San Carlos Irrigation Project	2011
2019-218.ASM	East Line Solar	SWCA Environmental Consultants	2019
SWCA.79575-001.07	Selma Energy Center	SWCA Environmental Consultants	2025
SWCA.86452	Pinal BESS Environmental Services	SWCA Environmental Consultants	2025
11.136.SHPO	Unknown	Unknown	Unknown

Note: Shading denotes surveys that SWCA believes can be relied on for current inventory purposes.

Archaeological Sites

The records review identified 49 archaeological sites within the Study Area (Table E-4). These consist of 34 precontact sites, 11 historic-era sites, and four multicomponent sites (sites with both historic-era mass produced artifacts and Ceramic period Hohokam artifacts). Hohokam sites consist of artifact scatters (some with thermal features or a midden), resource procurement areas, a reservoir, habitations, and a mortuary feature. Archaic sites consist of artifact scatters, a resource procurement site, and a campsite. Historic-era sites consist of artifact scatters, a dump, homesteads/habitations, an orchard, and irrigation systems.

Seven sites (AZ AA:2:341[ASM], AZ AA:2:370[ASM], AZ AA:3:78(ASM), AZ AA:3:117(ASM), AZ AA:3:118(ASM), AZ AA:3:119(ASM), and AZ AA:3:120[ASM]) intersect the Project Corridor, but not any of the proposed gen-tie lines. Four sites (AZ AA:2:294(ASM), AZ AA:2:366(ASM), AZ AA:2:367(ASM), and SWCA.86452.01) intersect the Preferred Route and three sites (AZ AA:2:100(ASM), AZ AA:2:368(ASM), and AZ AA:2:369[ASM]) intersect Alternative Subroute A.

Two of the sites that intersect the Preferred Route (AZ AA:2:294[ASM] and AZ AA:2:367[ASM]) are recommended eligible for the ARHP under Criterion D. Site AZ AA:2:294(ASM) is a Hohokam artifact scatter with a concentration. Artifacts consist of a small flaked stone assemblage, ceramics (plain ware, red-on-buff, and possible brown ware), and a mano fragment (Caldwell 2008). Site AZ AA:2:367(ASM)

is a Hohokam artifact scatter that may represent a habitation site. The site contains approximately 300 artifacts of a variety of material types (ceramics [plain ware and red-on-buff], flaked stone, ground stone, and shell jewelry), two thermal rock features, and a partially buried broken ceramic jar. The ceramic jar was lightly investigated, and no evidence of human remains were observed within the vessel. The site is likely to contain intact buried archaeological deposits (Hayden et al. 2019).

Unevaluated sites in the Project Area and/or Project Corridor (AZ AA:2:100[ASM], AZ AA:2:369[ASM], AZ AA:3:78[ASM], AZ AA:3:117[ASM], AZ AA:3:118[ASM], AZ AA:3:119[ASM], and AZ AA:3:120[ASM]) should be assumed eligible until they can be assessed. Unevaluated sites that intersect Alternative Subroute A are AZ AA:2:100(ASM) and AZ AA:2:369(ASM). AZ AA:2:100(ASM) is described as a reservoir with a Hohokam artifact scatter. It is unclear if the reservoir, labeled as OLD TANK on a GLO map from 1889, is Hohokam or historic. AZ AA:2:369(ASM) is a multicomponent site consisting of a Hohokam artifact scatter (containing ceramics, lithics, and ground stone) and a historic-era trash dump that dates to the 1950s–1970s. The historic component was recommended ineligible, and the ARHP eligibility recommendation for the precontact component was deferred until test excavations could be conducted (Hayden et al. 2019).

Unevaluated sites that intersect the Project Corridor, but do not intersect any proposed transmission line routes, include AZ AA:3:78(ASM), AZ AA:3:117(ASM), AZ AA:3:118(ASM), AZ AA:3:119(ASM), and AZ AA:3:120(ASM). Four are precontact sites consisting of a resource processing site, lithic scatter, and two temporary camps. Site AZ AA:3:120(ASM) is the remains of a post-1930 ranch house with outbuildings and a dump. Some precontact artifacts (plain ware ceramics and ground stone) were also observed (Quillan 1985d). Historic aerial imagery from 1957 shows a possible structure within the AZSITE boundaries, which was destroyed by the construction of a canal between 1983 and 1992 (NetrOnline 2025). The condition of the remainder of the site is unknown.

Table E-4. Previously Recorded Archaeological Sites in the Study Area

Site Name/Number*	Cultural/ Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Portion of Project Component Intersected	Distance from Project Area (miles)
AZ AA:2:67(ASM)	Hohokam AD 200–1500	Artifact scatter and midden	Unevaluated	Gila Pueblo 1928	—	0.5
AZ AA:2:84(ASM)	Hohokam AD 200–1500	Habitation	Recommended eligible (D)	Van Nimwegen and Henderson 1991	—	0.93
AZ AA:2:100(ASM)	Hohokam AD 200–1500	Reservoir	Unevaluated	Skibo 1984	Alternative Subroute A	—
AZ AA:2:211(ASM)*	European-American ca. 1950–1970s/ Hohokam AD 1000–1500	Multicomponent artifact scatter	Determined eligible (D)	Baker and Webb 2001	—	0.98
AZ AA:2:212(ASM)	Hohokam AD 200–1500	Artifact scatter	Determined eligible (D)	Baker and Webb 2001	—	0.96
AZ AA:2:284(ASM)*	European-American ca. 1900–1950s/ Hohokam AD 1000–1500	Multicomponent artifact scatter	Determined eligible (D)	Schilling et al. 2009	—	0.34

Site Name/Number*	Cultural/ Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Portion of Project Component Intersected	Distance from Project Area (miles)
AZ AA:2:285(ASM)	Hohokam AD 200–1500	Artifact scatter	Determined eligible (D)	Clark 2007	—	0.27
AZ AA:2:294(ASM)	Hohokam AD 200–1500	Artifact scatter	Recommended eligible (D)	Caldwell 2008	Preferred Route	—
AZ AA:2:295(ASM)	Hohokam AD 200–1500	Artifact scatter	Recommended eligible (D)	Darby 2008	—	0.54
AZ AA:2:305(ASM)	European-American 1908–2009	Historic farmstead	Determined eligible (D)	Lindman 2008	—	0.49
AZ AA:2:339(ASM)	European-American ca. 1954–1964	Irrigation system	Recommended ineligible	Rayle et al. 2010	—	0.44
AZ AA:2:341(ASM)	European-American ca. 1936–1960	Irrigation system	Recommended ineligible	Rayle et al. 2010	Project Corridor	0.3
AZ AA:2:346(ASM)	Hohokam AD 200–1500	Artifact scatter	Determined eligible D	Cook and Whitney 2012	—	0.3
AZ AA:2:347(ASM)	European-American ca. 1910–1920s	Homestead	Determined eligible (D)	Cook and Whitney 2012	—	0.43
AZ AA:2:356(ASM)*	European-American ca. 1900–1950s	Artifact scatter	Recommended ineligible	White et al. 2012	—	0.27
AZ AA:2:366(ASM)	Hohokam AD 200–1500	Artifact scatter	Recommended ineligible	Hayden et al. 2019	Preferred Route	—
AZ AA:2:367(ASM)	Hohokam AD 200–1500	Artifact scatter and thermal features	Recommended eligible (D)	Hayden et al. 2019	Preferred Route	—
AZ AA:2:368(ASM)	Hohokam AD 200–1500	Artifact scatter and thermal rock features	Recommended ineligible	Hayden et al. 2019	Alternative Subroute A	—
AZ AA:2:369(ASM)	European-American ca. 1950–1970s/ Hohokam AD 1000–1500	Multicomponent artifact scatter	Unevaluated—eligibility testing recommended	Hayden et al. 2019	Alternative Subroute A	—
AZ AA:2:370(ASM)*	European-American ca. 1950–1980s	Artifact scatter	Recommended ineligible	Petersen 2019	Project Corridor	0.02
AZ AA:3:76(ASM)	Archaic 8000 BC–AD 200/ Hohokam AD 200–1500	Artifact scatter Archaic-Hohokam	Unevaluated	Dart and Little 1983a	—	0.46
AZ AA:3:77(ASM)	Hohokam AD 200–1500	Resource procurement	Unevaluated	Dart and Little 1983b	—	0.26
AZ AA:3:78(ASM)	Archaic 8000 BC–AD 200/ Hohokam AD 200–1500	Resource processing	Unevaluated	Dart and Little 1983c	Project Corridor	0.01

Site Name/Number*	Cultural/ Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Portion of Project Component Intersected	Distance from Project Area (miles)
AZ AA:3:96(ASM)	Archaic 8000 BC–AD 200/ Hohokam AD 200–1500	Artifact scatter	Unevaluated	Marmaduke 1993	—	0.95
AZ AA:3:98(ASM)	Hohokam AD 200–1500	Artifact scatter	Unevaluated	Marmaduke 1993	—	0.85
AZ AA:3:99(ASM)	Hohokam AD 200–1500	Artifact scatter	Unevaluated	Marmaduke 1993	—	0.69
AZ AA:3:100(ASM)	Hohokam AD 200–1500	Artifact scatter	Unevaluated	Marmaduke 1993	—	0.57
AZ AA:3:101(ASM)	Hohokam AD 200–1500	Artifact scatter	Unevaluated	Marmaduke 1993	—	0.42
AZ AA:3:102(ASM)	Hohokam AD 200–1500	Artifact scatter and thermal feature	Unevaluated	Marmaduke 1993	—	0.19
AZ AA:3:103(ASM)	Hohokam AD 200–1500	Artifact scatter	Unevaluated	Marmaduke 1993	—	0.37
AZ AA:3:104(ASM)	European-American ca. 1950–1980s	Trash dump	Unevaluated	Marmaduke 1993	—	0.39
AZ AA:3:117(ASM)	Archaic 8000 BC–AD 200	Lithic scatter	Unevaluated	Quillan 1985a	Project Corridor	0.02
AZ AA:3:118(ASM)	Archaic 8000 BC–AD 200	Campsite	Unevaluated	Quillan 1985b	Project Corridor	0.01
AZ AA:3:119(ASM)	Archaic 8000 BC–AD 200	Campsite	Unevaluated	Quillan 1985c	Project Corridor	0.08
AZ AA:3:120(ASM)	European-American ca. 1930s	Historic ranch house	Unevaluated	Quillan 1985d	Project Corridor	0.06
AZ AA:3:132(ASM)	Unknown Native American 12,000 BC-AD1500	Artifact scatter	Unevaluated	Hutira 1987	—	0.62
AZ AA:3:219(ASM)	European-American ca. 1930s	Canal	Recommended eligible (UNK)	Madsen 1997	—	0.24
AZ AA:3:220(ASM)	Hohokam AD 200–1500	Mortuary feature	Recommended eligible (UNK)	Hill 1998	—	0.25
AZ AA:3:221(ASM)	Hohokam AD 200–1500	Artifact scatter	Recommended eligible (D)	Madsen 1997	—	0.21
AZ AA:3:222(ASM)	Hohokam AD 200–1500	Artifact scatter and thermal features	Recommended eligible (D)	Madsen 1997	—	0.26
AZ AA:3:223(ASM)	Hohokam AD 200–1500	Artifact scatter and hearth	Recommended ineligible	Hill 1998	—	0.41

Site Name/Number*	Cultural/ Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Portion of Project Component Intersected	Distance from Project Area (miles)
AZ AA:3:227(ASM)	Archaic 8000 BC–AD 200/ Hohokam AD 200–1500	Artifact scatter	Recommended eligible (D)	Hill 1998	—	0.34
AZ AA:3:279(ASM)	Hohokam AD 200–1500	Artifact scatter	Unevaluated	Tremblay and Ryden 2008	—	0.99
AZ AA:6:47(ASM)	Hohokam AD 200–1500	Habitation	Unevaluated	Heilman 2009	—	0.41
AZ AA:6:48(ASM)	Hohokam AD 200–1500	Artifact scatter	Recommended eligible (D)	William Self Associates 2005	—	0.10
AZ AA:6:51(ASM)	Hohokam AD 200–1500	Habitation	Determined eligible (D)	Kirvan et al. 2011	—	0.24
AZ AA:6:166(ASM)	European-American ca. 1950s	Orchard and buildings	Determined ineligible	Hellman 2009	—	0.92
AZ AA:6:96(ASM)*	European-American ca. 1900–1950s/ Hohokam AD 1000–1200	Multicomponent artifact scatter	Recommended eligible (D)	William Self Associates 2005	—	0.22
SWCA.86452.01	European-American ca. 1960s–present	Well and artifact scatter	Recommended ineligible	Whiting et al. 2025	Preferred Route	—

Note: Shading indicates site intersects the Project Corridor and/or Project Area.

* In February 2021, the ASM issued a policy exempting historic-era waste piles from needing to be recorded as archaeological sites (ASM 2021).

Historic-era In-use Structures and Buildings

The AZSITE database identified a total of 30 historic-era buildings and in-use structures, consisting of roads, canals, transmission lines, railroad lines, bridges, culverts, and a pipeline, in the Study Area (Table E-5). State Route 84 (AZ AA:2:118[ASM]) was previously recorded outside the Study Area but intersects the Project Area on historic maps.

Nineteen historic-era in-use structures intersect the Project Corridor, 17 of which intersect or about the Project Area. Six of the intersecting structures were determined eligible for the ARHP.

Table E-5. Previously Recorded Historic-era In-use Structures and Buildings in the Study Area

Site Name/ Number*	Cultural/ Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Portion of Project Components Intersected	Distance from Project Area (miles)
North LaPalma Road/ AZ AA:2:132(ASM)	European-American ca. 1869–present	Road	Determined ineligible	Bilsbarrow 1996	Preferred Route and Alternative Subroute A	—

Site Name/ Number*	Cultural/ Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Portion of Project Components Intersected	Distance from Project Area (miles)
Florence Casa Grande Canal Extension/ AZ AA:2:133(ASM)	European-American ca. 1928–present	Canal	Determined eligible (A, D)	Bilsbarrow 1996	Preferred Route and Alternative Subroute A	—
State Route 287/ AZ AA:2:149(ASM)	European-American ca. 1920s–present	Road	Determined eligible (A, D)	Stone 2000	—	0.76
Eleven Mile Corner Road/ AZ AA:2:175(ASM)	European-American ca. 1889–present	Road	Determined ineligible	Stone 2000	Preferred Route	—
Sunshine Road/ AZ AA:2:176(ASM)	European-American ca. 1889–present	Road	Determined ineligible	Stone 2000	Preferred Route and Alternative Subroute A	—
Arica Road/ AZ AA:2:217(ASM)**	European-American ca. 1922–present	Road	Determined ineligible	Jones 2008	Preferred Route	—
Hanna Road/ AZ AA:2:218(ASM)**	European-American ca. 1922–present	Road	Determined ineligible	Jones 2008	Preferred Route	—
Selma Highway/ AZ AA:2:219(ASM)/ AZ AA:2:333(ASM)	European-American ca. 1922–present	Road	Recommended ineligible	Jones 2008	Preferred Route and Alternative Subroute A	—
Historic Coolidge-ED2 #1 Transmission Line/ AZ AA:2:307(ASM)	European-American ca. 1954–present	Transmission line	Determined ineligible	Schilling et al. 2009	—	0.19
Laughlin Road/ AZ AA:2:330(ASM)	European-American ca. 1922–present	Road	Recommended ineligible	Rayle et al. 2010	—	0.49
Cornman Road/ AZ AA:2:332(ASM)**	European-American ca. 1940s–present	Road	Recommended ineligible	Rayle et al. 2010	Preferred Route	—
Unnamed transmission line/AZ AA:2:338(ASM)	European-American ca. 1940s–present	Transmission line	Recommended ineligible	Rayle et al. 2010	—	0.46
Unnamed road/ AZ AA:2:360(ASM)	European-American ca. 1928–present	Road	Determined ineligible	Teeter et al. 2014	Preferred Route	—
Casa Grande Canal/ AZ AA:3:209(ASM)	European-American 1889–present	Canal	Determined eligible (A, C, D)	Moreno et al. 1996	Preferred Route	—

Site Name/ Number*	Cultural/ Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Portion of Project Components Intersected	Distance from Project Area (miles)
State Route 87/ AZ AA:6:63(ASM)	European-American ca. 1920s–present	Road	Determined eligible (A, D)	Henderson et al. 2009	Preferred Route	—
Alsdorf Road/ AZ AA:6:82(ASM)	European-American ca. 1940s–present	Road	Determined ineligible	Jones 2008	Preferred Route	—
Coolidge-Saguaro 115 kV Transmission Line/ AZ AA:7:647(ASM)	European-American 1949–present	Transmission line	Determined ineligible	Cook and Whitney 2012	Preferred Route and Alternative Subroute B	—
El Paso Natural Gas Pipeline No. 1007/ AZ AA:12:875(ASM)	European-American ca. 1930s–present	Pipeline	Determined eligible (A)	Hesse and Gutierrez 2004	Preferred Route	—
Southern Pacific Railroad: Wellton-Phoenix-Eloy Spur/ AZ T:10:84(ASM)	European-American 1926–present	Railroad	Determined eligible (A)	William Self Associates 2005	Preferred Route	—
Southern Pacific Railroad Mainline - Southern Route/ AZ Z:2:40(ASM)**	European-American ca. 1870s–present	Railroad	Determined eligible (A)	McConville and Holzkamper 1955	Preferred Route	—
Culvert No. 04551 (ADOT)/ 04551(ADOT)	European-American 1956–present	Culvert	Determined ineligible	Fraser 2009	—	0.92
Culvert No. 04552 (ADOT)/ 04552(ADOT)	European-American 1956–present	Culvert	Determined ineligible	Fraser 2009	—	0.62
Picacho Overpass No. 00090 (ADOT)/ 00090(ADOT)	European-American 1932–present	Bridge	Recommended ineligible	Fraser 2009	—	0.98
Picacho Overpass No. 01048 (ADOT)/ 01048(ADOT)	European-American 1959–present	Bridge	Determined ineligible	Fraser 2009	—	0.98
Culvert No. 04625 (ADOT)/ 04625(ADOT)	European-American ca. 1950–1980s	Culvert	Determined ineligible	Fraser 2009	—	0.57
Wash Bridge No. 00355 (ADOT)/ 00355(ADOT)	European-American 1951–present	Bridge	Recommended ineligible	Fraser 2009	—	0.98
Culvert No. 04626 (ADOT)/ 04626(ADOT)	European-American 1956–present	Culvert	Determined ineligible	Fraser 2009	—	0.97
Casa Grande Canal Culvert No. 04628 (ADOT)/ 04628(ADOT)	European-American 1931–present	Culvert	Recommended ineligible	Fraser 2009	Project Corridor	0.03

Site Name/ Number*	Cultural/ Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Portion of Project Components Intersected	Distance from Project Area (miles)
Casa Grande Canal Bridge No. 08436 (ADOT)/ 08436(ADOT)	European-American ca.1940–present	Culvert	Recommended ineligible	Fraser 2009	Preferred Route	—
Casa Grande Canal Bridge No. 08437 (ADOT)/ 08437(ADOT)	European-American ca.1960–present	Bridge	Recommended ineligible	Fraser 2009	Preferred Route	—

Note: Shading indicates in-use structure intersects the Project Corridor.

* In 2017, the ASM stopped assigning archaeological site numbers to historic-era in-use structures and buildings. These resources continue to be depicted in AZSITE by their legacy ASM site numbers.

‡ In-use structure was previously recorded outside the Project Corridor but intersects the Project Area.

The Casa Grande Canal (AZ AA:3:209[ASM]) is an earthen canal constructed in 1889 as part of the San Carlos Irrigation Project (SCIP). It originates at Picacho Reservoir and flows west to a point 2.5 miles west of Casa Grande, Arizona (Moreno et al. 1996). On the 1889 GLO survey plat map the canal is labeled as the FLORENCE CANAL. It has also been documented as part of the Historic American Engineering Record (HAER) for the SCIP (Pfaff 1996). Segments of the canal have been determined eligible for the ARHP under Criteria A and D. The canal intersects the Preferred Route.

The Florence Casa Grande Canal Extension (AZ AA:2:133[ASM]) is an earthen canal that originates at the Ashurst-Hayden Diversion Dam on the Gila River and flows west to a point 11 miles west of Picacho Reservoir where it joins the Casa Grande Canal. The canal was completed between 1928 and 1930 by SCIP (Bilsbarrow 1996). It has also been documented as part of the HAER for the SCIP (Pfaff 1996). Segments of the canal have been determined eligible for the ARHP under Criteria A and D. The canal intersects the Preferred Route and Alternative Subroute A.

State Route 87 (AZ AA:6:63[ASM]) is a 30-foot-wide, north-south-oriented bituminous asphalt-paved road (Henderson et al. 2009). It was built in the 1920s and 1930s as part of the state highway system but was officially designated in 1924 and was one of the first numbered state highways. Its southernmost segment begins north of present-day Interstate 10 at a junction with an abandoned segment of State Route 84. The route ran through Casa Grande in 1926 but was rerouted in 1927 on the Coolidge to Picacho line (Arizona State Highway Commission 1926, 1927). Segments of the road have been determined eligible for the ARHP under Criterion A. State Route 87 intersects the Preferred Route.

The Southern Pacific Railroad (SPRR) Mainline-Southern Route began in Arizona in Yuma in the 1870s and reached Casa Grande in 1879 (Snell 2011). It was determined eligible for the ARHP under Criterion A. The railroad line intersects the Preferred Route.

The SPRR: Wellton-Phoenix-Eloy Spur (AZ T:10:84[ASM]) is a single-track railroad line linking Phoenix to Wellton as a passenger line of the SPRR. The rail was constructed in 1926 (Henderson et al. 2019) and has been determined eligible for the ARHP under Criterion A. The railroad line intersects the Preferred Route.

The El Paso Natural Gas Pipeline No. 1007 (AZ AA:12:875[ASM]) was constructed from 1933 to early 1934. It is one of the first long-distance, high-pressure natural gas pipelines in the United States and was the first natural gas pipeline to supply the Phoenix and Tucson areas (Hesse and Gutierrez 2004). The pipeline was determined eligible for the ARHP under Criteria C and D and was later the subject of HAER documentation (Jones et al. 2004). In-use natural gas pipelines are currently exempt from National Historic Preservation Act Section 106 review—except on Tribal land and for abandonments under

Section 7b of the Natural Gas Act—in accordance with a notice provided by the Advisory Council on Historic Preservation (*Federal Register* 67[66]:16364–16365). The pipeline intersects the Preferred Route.

Historic Maps and Aerial Imagery

Historic maps were also reviewed to identify any historic features that have not been previously recorded but that may intersect the Project Corridor or Project Area. The OLD SACATON ROAD, FLORENCE CANAL (now the Casa Grande Canal), OLD OVERLAND STAGE ROUTE, OLD ROAD, the road TO FLORENCE, the OLD ROAD TO TUCSON, SOUTHERN PACIFIC RAILROAD, and road FROM PICACHO TO MINES are depicted on GLO maps from 1889. All intersect the Project Area, but only the Florence Canal (present-day Casa Grande Canal) and the SPRR still exist. Several farmhouses are depicted in the Project Corridor and two roads intersect the Project Area on the 1914 GLO map, but these do not appear on modern aerial imagery and are assumed destroyed.

The present-day alignments of Selma Highway, Arica Road, Hanna Road, State Route 87, Selma Highway, La Palma Road, and Eleven Mile Corner Road are depicted on the 1922 USGS Signal Peak, Arizona, 1:62,500 quadrangle. All intersect the Project Area and still exist today. The 1965 Picacho Reservoir 1:24,000 quadrangle map depicts CORNMAN ROAD and HOUSER ROAD intersecting the Project Area; both are in use today.

In addition to the resources mentioned above, the 1940 SCIP map for Pinal County depicts the FLORENCE-CASA GRANDE CANAL EXTENSION, an in-use sublateral canal (SCIP Sublateral Canal No. 17-58-2), Well No. 82, multiple transmission lines, and the SPRR: Wellton-Phoenix-Eloy Spur. All intersect the Project Area except for the well, which intersects the Project Corridor. Historic aerial imagery from 1961 depicts many of the same features that have been identified on historic maps (NETROnline 2025).

The National Scenic and National Historic Trail webmap was searched to identify any nationally recognized historic trails that are in the Study Area. The results indicate that the Juan Bautista de Anza National Historic Trail alignment bisects the Study Area (NPS 2025b). The 1775–1776 Spanish expedition led by Juan Bautista de Anza from Nogales, Arizona, to San Francisco, California, is commemorated by the 1,200-mile-long Juan Bautista de Anza National Historic Trail (Anza Trail), established as a national historic trail in 1990 under the National Trails System Act (NPS 2025c). No direct evidence of the Anza expedition has been found within or near the Project Area, but the NPS has the estimated alignment intersecting Project Area at Eleven Mile Corner Road and also at Alsdorf Road. The Anza Trail, which is not a physical trail, but a commemorative route, is administered by the Secretary of the Interior, but development over the trail alignment, outside of the bounds of federal lands, is not restricted.

Assessment of Effects

A project can have direct and/or indirect effects on a historic-era site, structure, or archaeological site when it alters the characteristics that qualify it for the ARHP. Effects are adverse when they diminish the integrity of the historic property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:

- Physical destruction of or damage to all or part of the property
- Removal of the property from its historic location
- Change of the character of the property's use of physical features within the property's setting that contribute to its historic significance

- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic characteristics
- Neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to a Native American tribe
- Transfer, lease, or sale of a property out of government ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance

The records review identified 15 previously recorded historic properties (i.e., those properties eligible for the ARHP) or unevaluated, but potentially historic, properties that intersect the Project Area or the Project Corridor (Table E-6). Nine are archaeological sites and six are historic-era in-use structures.

Table E-6. Historic Properties Intersecting the Project Area and/or Project Corridor

Site Number	Cultural/Temporal Affiliation	Site Type	ARHP Eligibility Status	Intersects or Abuts
AZ AA:2:100(ASM)	Hohokam AD 200–1500	Reservoir	Unevaluated	Alternative Subroute A
AZ AA:2:294(ASM)	Hohokam AD 200–1500	Artifact scatter	Recommended eligible (D)	Preferred Route
AZ AA:2:367(ASM)	Hohokam AD 200–1500	Artifact scatter and thermal features	Recommended eligible (D)	Preferred Route
AZ AA:2:369(ASM)	European-American ca. 1950–1970s/ Hohokam AD 1000–1500	Multicomponent artifact scatter	Historic component ineligible/ Precontact component unevaluated—eligibility testing recommended	Alternative Subroute A
AZ AA:3:78(ASM)	Archaic 8000 BC–AD 200	Resource processing	Unevaluated	Project Corridor
AZ AA:3:117(ASM)	Archaic 8000 BC–AD 200	Lithic scatter	Unevaluated	Project Corridor
AZ AA:3:118(ASM)	Archaic 8000 BC–AD 200	Campsite	Unevaluated	Project Corridor
AZ AA:3:119(ASM)	Archaic 8000 BC–AD 200	Campsite	Unevaluated	Project Corridor
AZ AA:3:120(ASM)	European-American ca. 1930s	Historic Ranch House	Unevaluated	Project Corridor
Florence Casa Grande Canal Extension/ AZ AA:2:133(ASM)	European-American ca. 1928–present	Canal	Determined eligible (A, D)	Preferred Route and Alternative Subroute A
El Paso Natural Gas Pipeline No. 1007/ AZ AA:12:875(ASM)	European-American ca. 1930s–present	Pipeline	Determined eligible (A)	Preferred Route
Southern Pacific Railroad: Wellton-Phoenix-Eloy Spur/ AZ T:10:84(ASM)	European-American 1926–present	Railroad	Determined eligible (A)	Preferred Route
Southern Pacific Railroad Mainline - Southern Route/ AZ Z:2:40(ASM)	European-American ca. 1870s–present	Railroad	Determined eligible (A)	Preferred Route
Casa Grande Canal/ AZ AA:3:209(ASM)	European-American 1889–present	Canal	Determined eligible (A, C, D)	Preferred Route
State Route 87/ AZ AA:6:63(ASM)	European-American ca. 1920s–present	Road	Determined eligible (A, D)	Preferred Route

The six in-use structures were determined eligible for the ARHP. However, the proposed development of an overhead transmission line would not negatively impact these historic properties through visual and

audible elements as they are already in a developed area with existing transmission lines and the proposed transmission line would not physically impact the structures. Other resources identified on historic maps that intersect the Alternative Subroutes and have not yet been evaluated for the ARHP were mainly linear resources, such as roads and irrigation ditches; these resources are typically ineligible for the ARHP.

Two Hohokam sites (AZ AA:2:294[ASM], AZ AA:2:367[ASM]) were recommended eligible for the ARHP under Criterion D. The remaining seven sites have not been evaluated but should be considered eligible until they can be assessed. If these seven sites cannot be avoided, the project has the potential to adversely impact these sites through the physical removal of the components of these sites that contribute to their eligibility. Construction of the transmission line would also introduce visual and audible elements element to these areas, but it would not diminish the integrity of the characteristics of these properties for which they are eligible for the ARHP.

The records review also identified 16 historic properties previously recorded in the Study Area that do not intersect the Project Area or the Project Corridor. These consist of 10 precontact archaeological sites, three archaeological sites with precontact and historic elements, two historic-era homesteads (destroyed), and one in-use structure (State Route 287). Construction of the transmission line would add a visual element to these areas, but it would not diminish the integrity of the characteristics of these properties for which they are eligible for the ARHP.

Conclusion

Based on the assessment in this exhibit, the Project may have an adverse effect on two ARHP-eligible archaeology sites (AZ AA:2:294[ASM], AZ AA:2:367[ASM]) and seven potentially ARHP-eligible archaeology sites (AZ AA:2:100[ASM], AZ AA:2:369[ASM], AZ AA:3:78[ASM], AZ AA:3:117[ASM], AZ AA:3:118[ASM], AZ AA:3:119(ASM), and AZ AA:3:120[ASM]) if they cannot be avoided by spanning the transmission towers between the sites and placing access roads and staging areas outside the site boundaries.

To mitigate adverse effects on these sites, the potential for the Project to avoid the sites will be explored. If the sites cannot be avoided, ground disturbance within 50 feet of the site boundary will be monitored by a qualified archaeologist. If ground disturbance within the site is necessary, additional data recovery will occur within the Project footprint prior to construction, excluding any areas that have been previously investigated.

To ensure that other potential historic properties would not be impacted within the Project Area, the Applicant will complete a cultural resources inventory of the portions of the Project Area that have not been previously adequately surveyed to identify and evaluate the cultural resources that may be present. If any historic properties are encountered, the inventory would provide recommendations on how to mitigate any adverse effects on those historic properties.

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EXHIBIT F. RECREATION

As stated in the Arizona Administrative Code R14-3-219, Exhibit 1:

> *Exhibit F: 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.*

SWCA Environmental Consultants analyzed existing recreational resources within the Study Area including parks, open space, and other recreational opportunities. Existing and future recreational sites are under the jurisdictions and management of the City of Coolidge, City of Eloy, and Pinal County, Arizona.

Recreational Resources

Existing recreational uses within the Study Area include a city residential park as well as a golf course and other passive recreational uses (Table F-1) (City of Coolidge 2023, 2024; City of Eloy 2020; Google Earth 2025; Pinal County 2007). The two largest recreational facilities in the Study Area include the Tierra Grande Gold Course and the Pinal County Fairgrounds. The Pinal County Fairgrounds is located in the northern portion of the Study Area, adjacent to the Preferred Route. The fairgrounds is approximately 120 acres and contains areas available for camping and public events, such as the State Fair. The Tierra Grande Golf Course is also located in the northern portion of the Study Area and is approximately 150 acres. Other recreational areas within the Study Area include Jones Park and Picacho Reservoir. Jones Park is in the southern portion of the Study Area; consists of a baseball field, a basketball court, two outdoor swimming pools, green areas, picnic tables, and a playground; and is approximately 5 acres. Picacho Reservoir is a human-made reservoir in the northeast portion of the Study Area that provides bird/wildlife watching and hiking trails and is approximately 2,698 acres (4.2 square miles).

Table F-1. Recreational Areas in the Study Area

Recreational Area	Location	Approximate Distance from Preferred Route
Jones Park	421 E 1st St, Eloy. Located off of East 1st Street and Tyrone Avenue.	0.8 miles northwest
Tierra Grand Golf Course	813 W Calle Rosa, Casa Grande. Located west off of Eleven Mile Corner Road, north of West Selma Highway.	0.5 miles southwest
Pinal County Fairgrounds	512 Eleven Mile Corner Road, Casa Grande. Located on the southwest corner of State Route 287 and Eleven Mile Corner Road.	0.1 miles northwest
Picacho Reservoir	Coolidge, AZ. Located off of West Selma Highway, east of State Route 87, and north of east Cornman Road.	0.5 miles east

Sources: City of Coolidge (2023, 2024); City of Eloy (2020); Google Earth (2025); Pinal County (2007)

According to the Pinal County *Open Space and Trails Master Plan*, there are three planned trails within the Study Area. The first runs east-west north of Cornman Road and follows the canal. The second trail also runs east-west through the southern portion of the Study Area, north of Battaglia Drive, and also follows the canal. The last planned trail within the Study Area runs north-south, in the southern portion of the Study Area, along Sunshine Road. Once constructed, these trails would provide trail access for running, walking, and biking (Pinal County 2007).

Conclusion

Based on the assessment in Exhibit F, the Project's Preferred Route and Alternative Subroutes would be environmentally compatible. The Alternative Subroutes would have similar impacts to recreation as the Preferred Route. Recreation opportunities associated with planned trails could temporarily be limited during construction activities for the Preferred Route and Alternative Subroutes where the planned trails intersect.

Arizona Public Service Company will coordinate and cooperate with the appropriate planning authorities and communities, as needed, with regard to recreational uses within the Project Area, with due consideration for the operation, maintenance, and safety requirements of the Project and the local recreational facilities. No impacts to existing or future recreational resources are anticipated from the Project.

Literature Cited

City of Coolidge. 2023. *Regional Park Master Plan*. Available at: https://www.coolidgeaz.com/vertical/sites/%7BAE188E70-DD7F-47BE-99EF-B58B70641DF9%7D/uploads/COOLIDGE_REGIONAL_PARK_MASTER_PLAN.pdf. Accessed April 2025.

———. 2024. *2035 General Plan*. Available at: https://www.coolidgeaz.com/vertical/sites/%7BAE188E70-DD7F-47BE-99EF-B58B70641DF9%7D/uploads/1-Cover_Page_Table_of_Contents__Introduction_(2035)-1.pdf. Accessed: April 2025.

City of Eloy. 2020. General Plan Readaptation. Available at: https://eloyaz.gov/133/Eloy-General-Plan. Accessed April 2025.

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Pinal County. 2007. *Open Space and Trails Master Plan*. Available at: https://www.pinal.gov/DocumentCenter/View/7115/Open-Space-and-Trails-Master-Plan-2007-pdf. Accessed April 2025.

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EXHIBIT G. CONCEPTUAL DRAWINGS OF TRANSMISSION FACILITIES

As stated in the Arizona Administrative Code R14-3-219, Exhibit 1:

> *Exhibit G: Attach any artist's or architect's conception of the proposed plan or transmission line structures and switchyards, which applicant believes may be informative to the committee.*

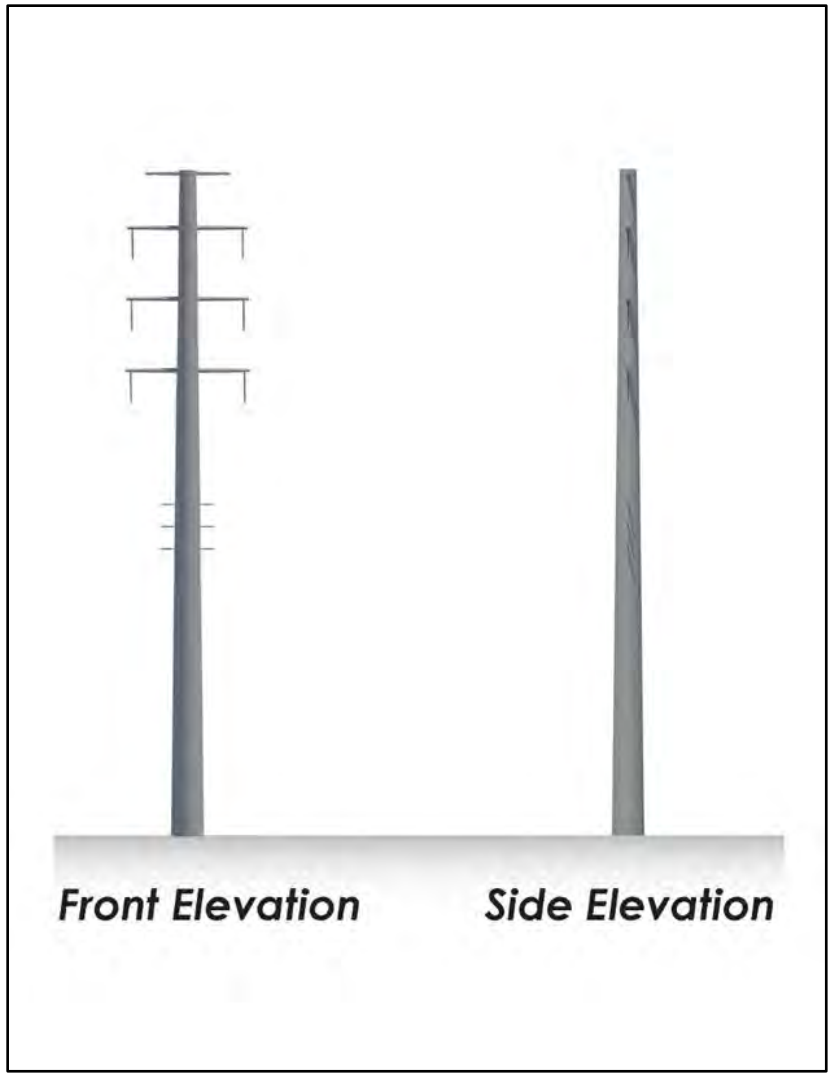

Exhibit G-1. Typical double-circuit 230kV tangent monopole transmission structure capable of double-circuit 69kV underbuild.

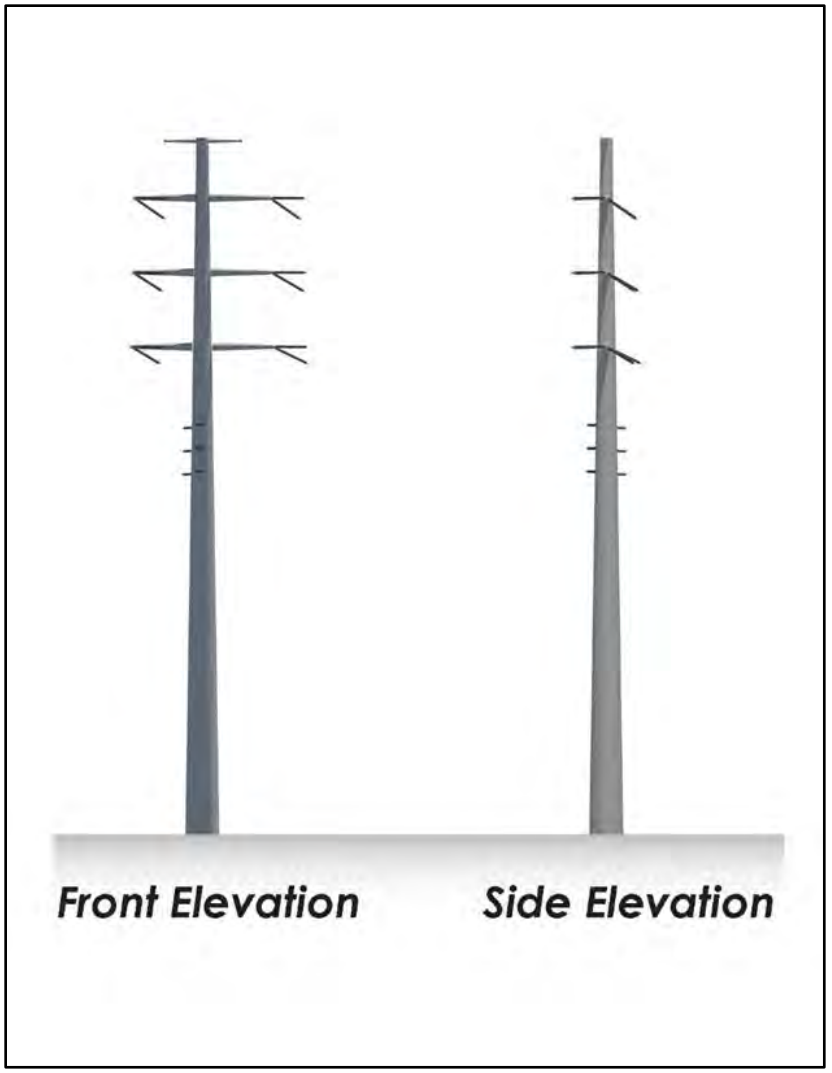

Exhibit G-2. Typical double-circuit 230kV turning monopole transmission structure capable of double-circuit 69kV underbuild.

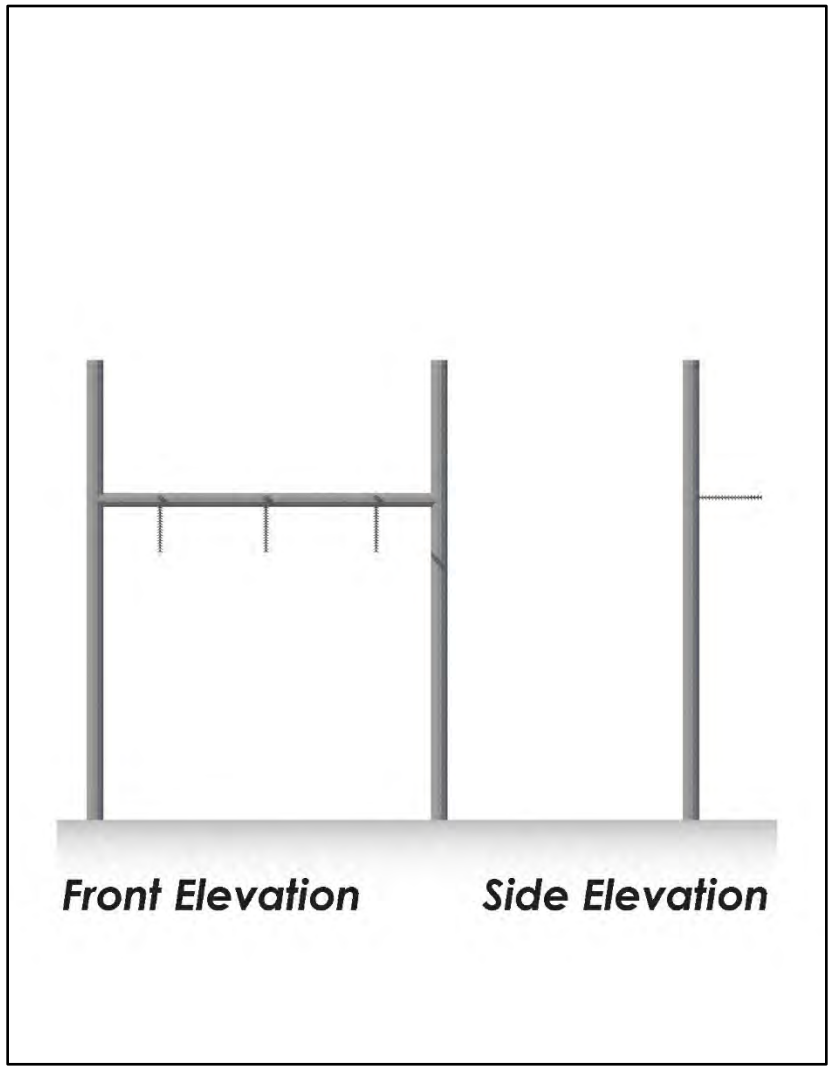

Exhibit G-3. Typical single-circuit 230kV H-Frame structure.

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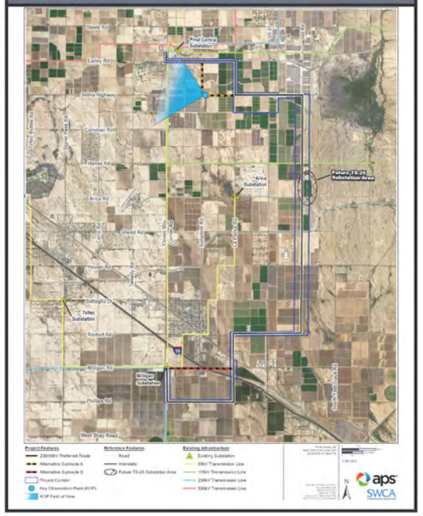
Existing Condition KOP 6: View from East Selma Highway looking northwest

Simulated Condition KOP 6: View from East Selma Highway looking northwest

Viewing Location



Typical 230kV Structures

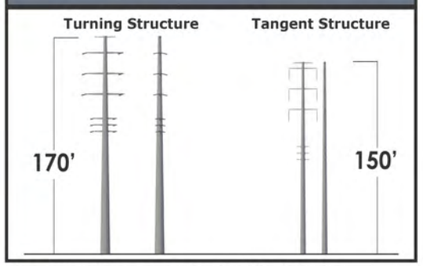


Photo Date and Time: October 8, 2024, 9:54 am
Sim Completed: May 2025

View Location: Approximate distance to nearest new structure from photo location is 500 feet.

Simulations were prepared using information provided by APS. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

APS Pinal Electrical Improvement Project | 230kV Alternate Subroute A
Simulation from KOP 6: View from East Selma Highway

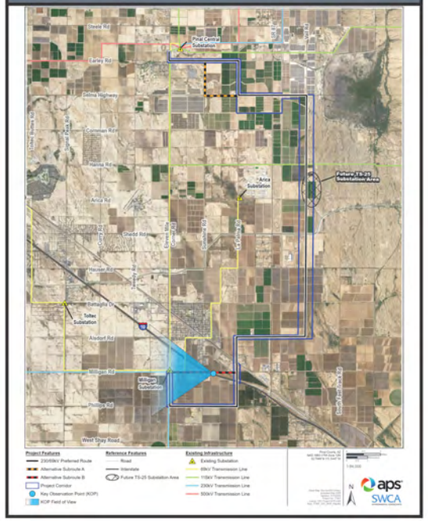
Exhibit G-4. Photosimulation of the Project along Alternative Subroute A from KOP 6.

Existing Condition KOP 8: View from Interstate 10 near exit 206 looking west

Simulated Condition KOP 8: View from Interstate 10 near exit 206 looking west

APS Pinal Electrical Improvement Project | 230kV Alternate Subroute B
Simulation from KOP 8: View from Interstate 10 near exit 206

Viewing Location



Typical 230kV Structures

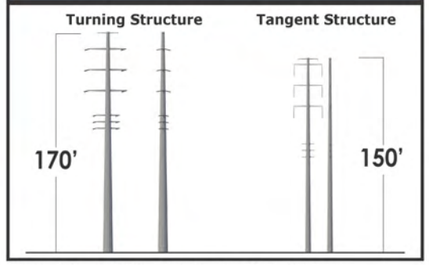


Photo Date and Time: October 8, 2024, 1:14 pm
Sim Completed: May 2025

View Location: Approximate distance to nearest new structure from photo location is 420 feet.

Simulations were prepared using information provided by APS. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

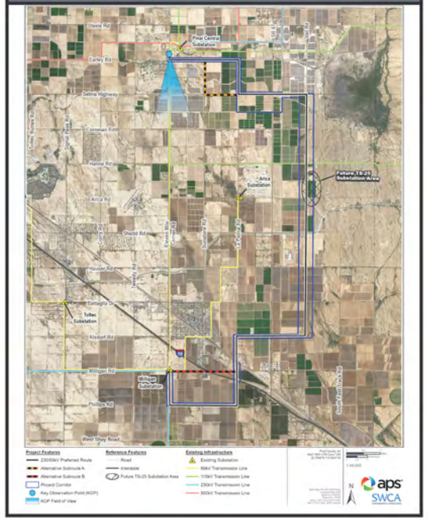
Exhibit G-5. Photosimulation of the Project along Alternative Subroute B from KOP 8.

Existing Condition KOP 9: View from Eleven Mile Corner Road near Hackler Lane looking south

Simulated Condition KOP 9: View from Eleven Mile Corner Road near Hackler Lane looking south

APS Pinal Electrical Improvement Project | 230kV Preferred Route
Simulation from KOP 9: View from Eleven Mile Corner Road near Hackler Lane

Viewing Location



Typical 230kV Structures

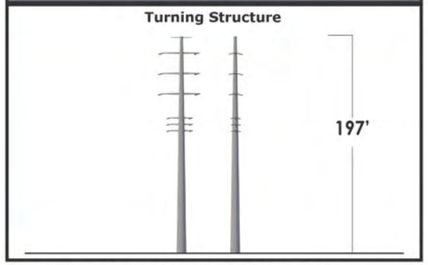


Photo Date and Time: October 8, 2024, 8:59 am
Sim Completed: June 2025

View Location: Approximate distance to nearest new structure from photo location is 250 feet.

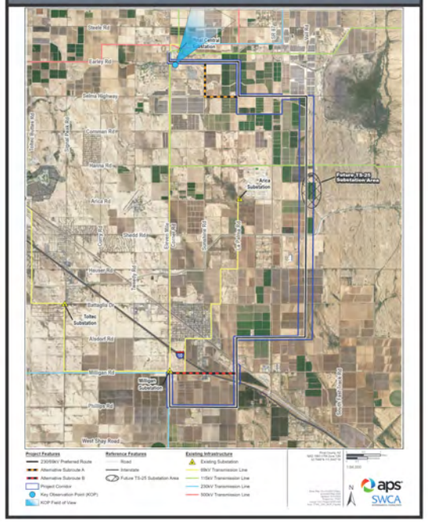
Simulations were prepared using information from "APS_PEIP_Sundance-Milligan_230kV_DXF" provided by APS on 6/2/25. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

Exhibit G-6. Photosimulation of the Project along the Preferred Route from KOP 9.

Existing Condition KOP 10: View from East Dakota Drive Residences looking northeast

Viewing Location



Simulated Condition KOP 10: View from East Dakota Drive Residences looking northeast

Typical 230kV Structures

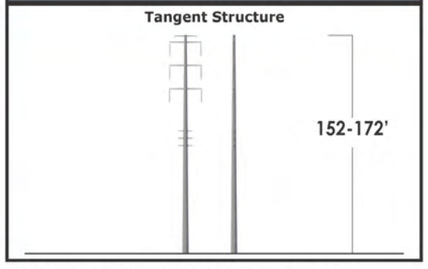


Photo Date and Time: October 8, 2024, 9:07 am
Sim Completed: June 2025

View Location: Approximate distance to nearest new structure from photo location is 500 feet.

Simulations were prepared using information from "APS_PEIP_Sundance-Milligan_230kV_DXF" provided by APS on 6/2/25. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

APS Pinal Electrical Improvement Project | 230kV Preferred Route
Simulation from KOP 10: View from East Dakota Drive Residences

Exhibit G-7. Photosimulation of the Project along the Preferred Route from KOP 10.

Existing Condition KOP 11: View from Earley Road Residences looking southwest

Simulated Condition KOP 11: View from Earley Road Residences looking southwest

APS Pinal Electrical Improvement Project | 230kV Preferred Route
Simulation from KOP 11: View from Earley Road Residences

Viewing Location

Typical 230kV Structures

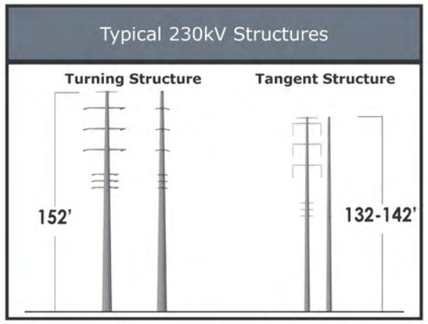


Photo Date and Time: October 8, 2024, 10:10 am
Sim Completed: June 2025

View Location: Approximate distance to nearest new structure from photo location is 0.5 mile.

Simulations were prepared using information from "APS_PEIP_Sundance-Milligan_230kV_DXF" provided by APS on 6/2/25. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

Exhibit G-8. Photosimulation of the Project along the Preferred Route from KOP 11.

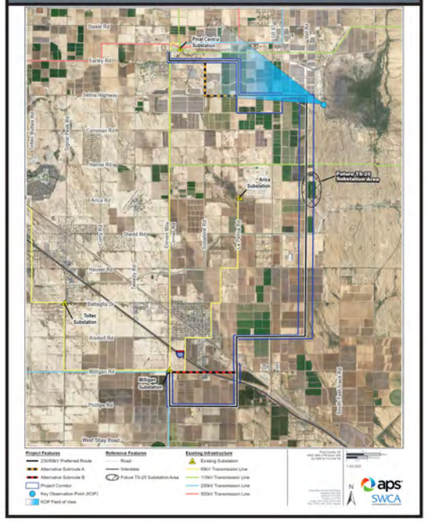
Existing Condition KOP 12: View from the Picacho Reservoir looking northwest

Simulated Condition KOP 12: View from the Picacho Reservoir looking northwest

APS Pinal Electrical Improvement Project | 230kV Preferred Route

Simulation from KOP 12: View from the Picacho Reservoir

Viewing Location



Typical 230kV Structures

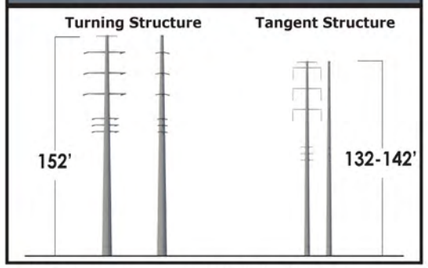


Photo Date and Time: October 8, 2024, 3:04 pm
Sim Completed: June 2025

View Location: Approximate distance to nearest new structure from photo location is 0.5 mile.

Simulations were prepared using information from "APS_PEIP_Sundance-Milligan_230kV_DXF" provided by APS on 6/2/25. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

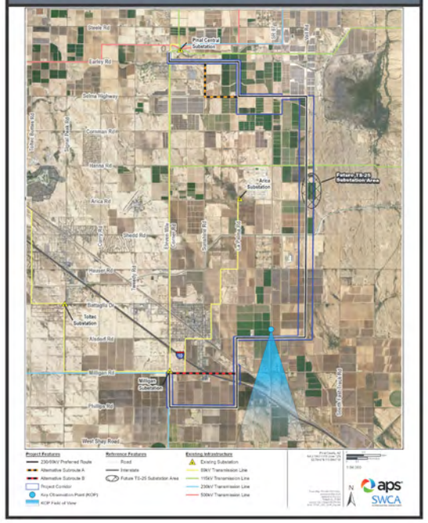
Exhibit G-9. Photosimulation of the Project along the Preferred Route from KOP 12.

Existing Condition KOP 13: View from State Route 87 South looking south

Simulated Condition KOP 13: View from State Route 87 South looking south

APS Pinal Electrical Improvement Project | 230kV Preferred Route
Simulation from KOP 13: View from State Route 87 South

Viewing Location



Typical 230kV Structures

Tangent Structure

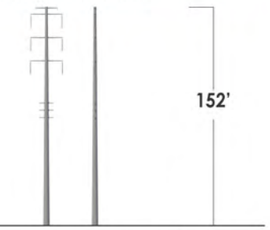


Photo Date and Time: October 8, 2024, 3:20 pm
Sim Completed: June 2025

View Location: Approximate distance to nearest new structure from photo location is 0.3 mile.

Simulations were prepared using information from "APS_PEIP_Sundance-Milligan_230kV_DXF" provided by APS on 6/2/25. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

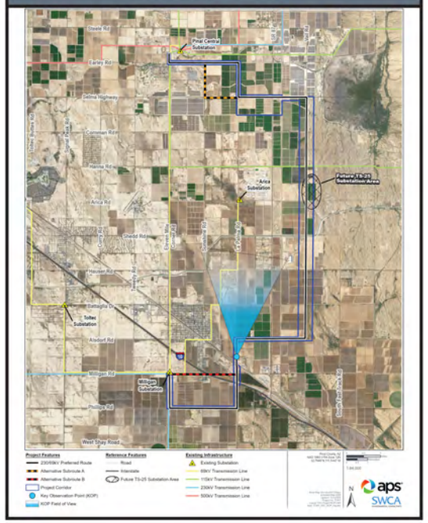
Exhibit G-10. Photosimulation of the Project along the Preferred Route from KOP 13.

Existing Condition KOP 14: View from La Palma Road Residences looking north

Simulated Condition KOP 14: View from La Palma Road Residences looking north

APS Pinal Electrical Improvement Project | 230kV Preferred Route
Simulation from KOP 14: View from La Palma Road Residences

Viewing Location



Typical 230kV Structures

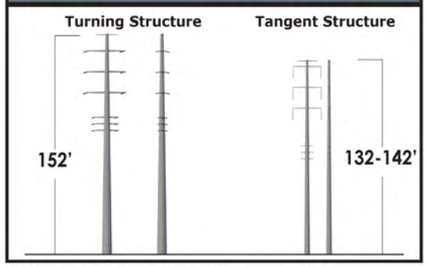


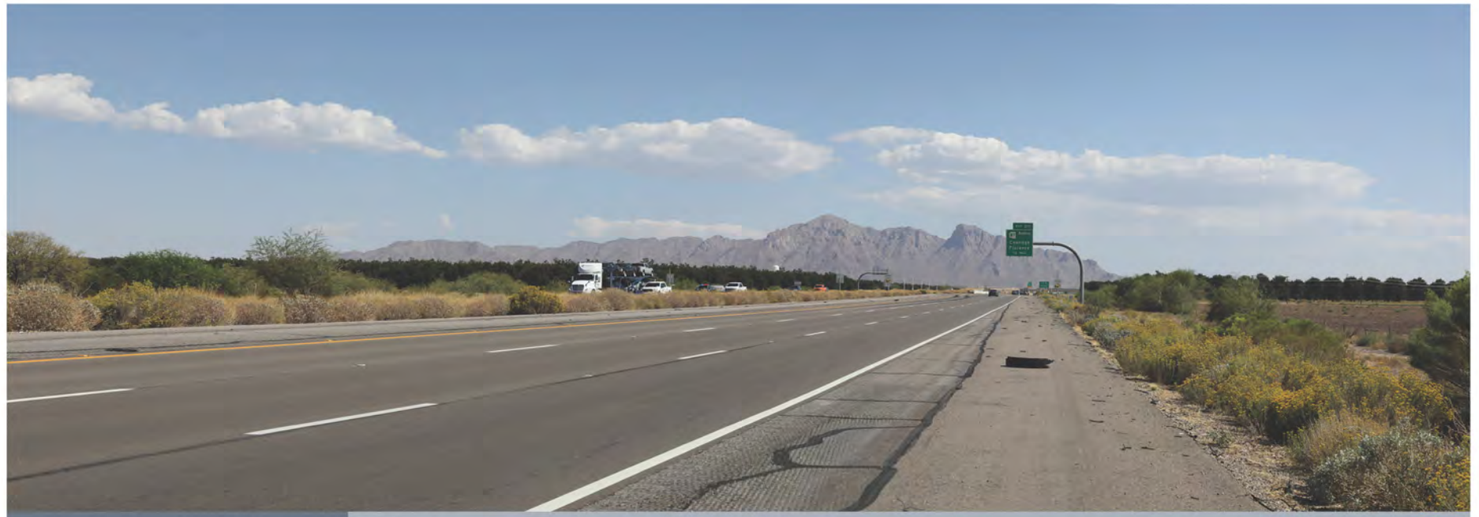
Photo Date and Time: October 8, 2024, 11:39 am
Sim Completed: June 2025

View Location: Approximate distance to nearest new structure from photo location is 0.18 mile.

Simulations were prepared using information from "APS_PEIP_Sundance-Milligan_230kV_DXF" provided by APS on 6/2/25. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

Exhibit G-11. Photosimulation of the Project along the Preferred Route from KOP 14.

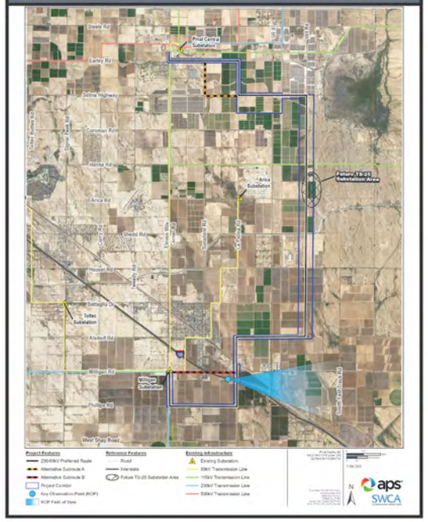


Existing Condition KOP 15: View from Interstate 10 looking east

Simulated Condition KOP 15: View from Interstate 10 looking east

APS Pinal Electrical Improvement Project | 230kV Preferred Route
Simulation from KOP 15: View from Interstate 10

Viewing Location



Typical 230kV Structures

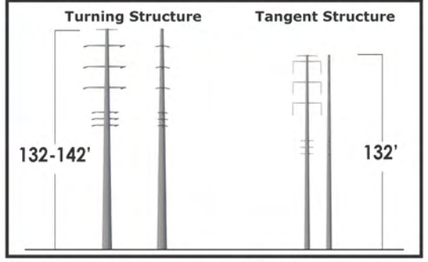


Photo Date and Time: October 8, 2024, 1:01 pm
Sim Completed: June 2025

View Location: Approximate distance to nearest new structure from photo location is 0.15 mi.

Simulations were prepared using information from "APS_PEIP_Sundance-Milligan_230kV_DXF" provided by APS on 6/2/25. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

Exhibit G-12. Photosimulation of the Project along the Preferred Route from KOP 15.

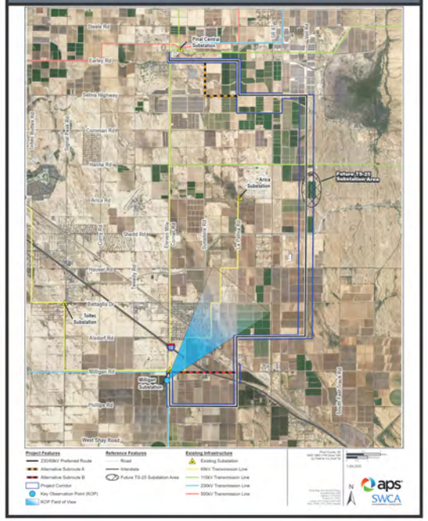
Existing Condition KOP 16: View from Eleven Mile Corner Road near Milligan Substation looking northeast

Simulated Condition KOP 16: View from Eleven Mile Corner Road near Milligan Substation looking northeast

APS Pinal Electrical Improvement Project | 230kV Preferred Route

Simulation from KOP 16: View from Eleven Mile Corner Road near Milligan Substation

Viewing Location



Typical 230kV Structures

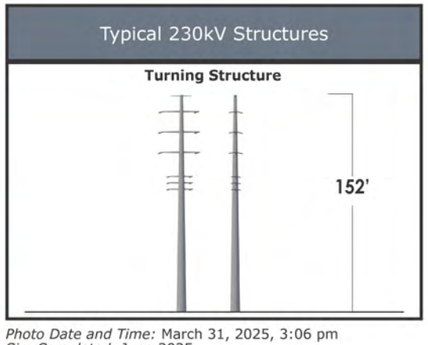


Photo Date and Time: March 31, 2025, 3:06 pm
Sim Completed: June 2025

View Location: Approximate distance to nearest new structure from photo location is 300 feet.

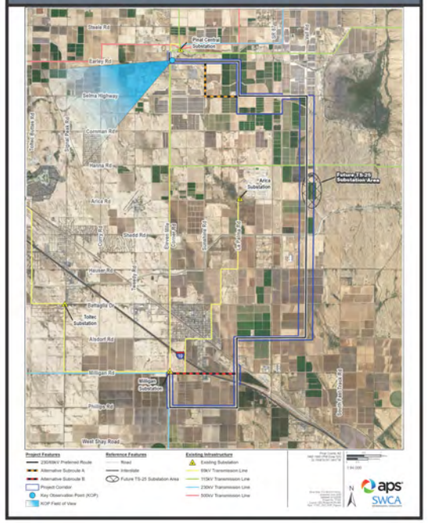
Simulations were prepared using information from "APS_PEIP_Sundance-Milligan_230kV_DXF" provided by APS on 6/2/25. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

Exhibit G-13. Photosimulation of the Project along the Preferred Route from KOP 16.

Existing Condition KOP 17: View from Eleven Mile Corner Road Residence looking southwest

Viewing Location



Simulated Condition KOP 17: View from Eleven Mile Corner Road Residence looking southwest

Typical 230kV Structures

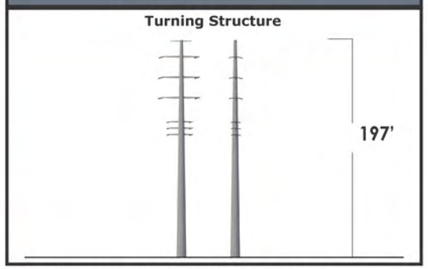


Photo Date and Time: May 2, 2025, 10:57 am
Sim Completed: June 2025

View Location: Approximate distance to nearest new structure from photo location is 214 feet.

Simulations were prepared using information from "APS_PEIP_Sundance-Milligan_230kV_DXF" provided by APS on 6/2/25. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

APS Pinal Electrical Improvement Project | 230kV Preferred Route
Simulation from KOP 17: View Eleven Mile Corner Road Residence

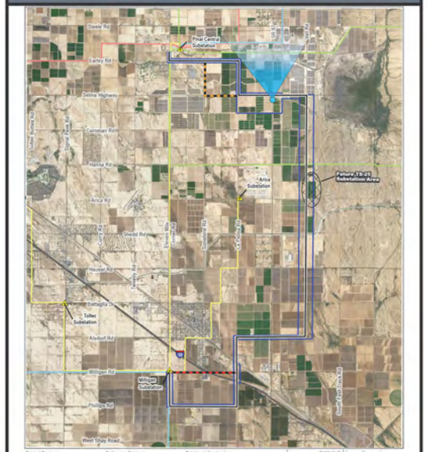
Exhibit G-14. Photosimulation of the Project along the Preferred Route from KOP 17.

Existing Condition KOP 18: View from State Route 87 looking north

Simulated Condition KOP 18: View from State Route 87 looking north

APS Pinal Electrical Improvement Project | 230kV Preferred Route
Simulation from KOP 18: View from State Route 87

Viewing Location



Typical 230kV Structures

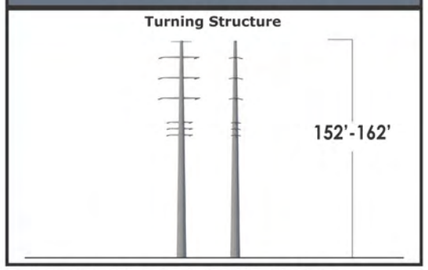


Photo Date and Time: April 10, 2024, 10:00 am
Sim Completed: May 2025

View Location: Approximate distance to nearest new structure from photo location is 150 feet.

Simulations were prepared using information provided by APS. Structure locations, colors, and heights may be different based on final engineering and design.

aps SWCA ENVIRONMENTAL CONSULTANTS

Exhibit G-15. Photosimulation of the Project along the Preferred Route from KOP 18.

EXHIBIT H. EXISTING PLANS

As stated in the Arizona Administrative Code R14-3-219, Exhibit 1:

> *Exhibit H: 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.*

Land uses are mapped in Exhibit A-2 and Exhibit A-3 and discussed in Exhibit B. As part of the land use study, both general and comprehensive plans were gathered for land within one mile of the Project Area (Study Area) from Pinal County and the Cities of Eloy, Casa Grande, and Coolidge. The Project team met with representatives from these entities, and they were also invited to participate in the Project open house meetings. The purpose of this representation was to ensure consistency with plans and to identify potential issues throughout the environmental and public planning and outreach process.

In April 2025, letters were sent to the entities listed in Table H-1 to provide Project information, announce the Preferred Route, and request new or additional information on plans or planned developments. Exhibit H-1 provides a copy of this letter, and subsequent Exhibit H-2 includes the written response from the Arizona Game and Fish Department.

Table H-1. Entities that Received Letters with Project Information

Jurisdiction/Agency	Name	Title
Arizona Department of Transportation	Priscilla Thompson	Assistant District Engineer, Southcentral
Arizona Department of Transportation	Nicholas Edwards	Arizona Department of Transportation North-South Study Project Manager
Arizona Game and Fish Department	Ginger Ritter	Project Evaluation Supervisor
Arizona State Land Department	Ruben Ojeda	Assistant Director, Real Estate Division
Bureau of Reclamation, Lower Colorado Basin Region	Alexander Smith	Phoenix Area Office Manager
Central Arizona Irrigation and Drainage District	Ron McEachern	General Manager
City of Casa Grande	Larry Rains	City Manager
City of Coolidge	Gilbert Lopez	City Manager
City of Eloy / Eloy Municipal Airport	David Malewitz	City Manager
Electrical District No. 2	Ken Robbins	General Manager
Hohokam Irrigation and Drainage District	Grace Garcia	District General Manager
Pinal County	Brent Billingsley	Community Development Director
Salt River Project	David Felix	Manager of Regulatory Affairs
Salt River Project	Jayson Carpenter	Supervisor, Land
San Carlos Irrigation and Drainage District	Brandi Ogle	General Manager
San Carlos Irrigation Project	Juan (Johnny) Federico	Power Manager
San Carlos Irrigation Project	Kyle Varvel	Branch Manager
SkyDive Arizona	Shawn Hill	Regional Director
Tucson Electric Power	Clark Bryner	TEP Manager, Siting, Outreach and Engagement

Jurisdiction/Agency	Name	Title
Western Area Power Administration, Desert Southwest Region	Eduardo Uribe	Electrical Engineer
Western Area Power Administration, Desert Southwest Region	Natalie Ortega	Environmental Manager

SWCA
ENVIRONMENTAL CONSULTANTS

April 9, 2025

Larry Rains
City Manager
510 E Florence Boulevard
Casa Grande, AZ 85122

Re: Arizona Public Service Company, Pinal Electrical Improvement Project

Dear Larry Rains,

Arizona Public Service Company (APS) plans to apply for a Certificate of Environmental Compatibility (CEC) for the Pinal Electrical Improvement Project. This project involves building, operating, and maintaining an approximately 19-mile-long, 230-kilovolt(kV)/69kV aboveground power line. The line will connect the APS Milligan Substation to the future TS25 substation, which will then link with the previously permitted 230kV Sundance - Pinal Central Transmission Line near the Pinal Central Substation. This project is needed to enhance transmission capability, redundancy, and reliability to meet current and future electrical demands in this area.

APS and its consultants, SWCA Environmental Consultants (SWCA), conducted a comprehensive planning process, including environmental studies, to identify the best route for the project, minimizing environmental and community impacts. The preferred route and subroute alternatives that have been identified are shown on the attached map (Figure 1). APS plans to submit its CEC application in July 2025, seeking approval from the Arizona Power Plant and Transmission Line Siting Committee (Siting Committee).

Arizona Administrative Code Rule R14-3-219 requires that CEC applications include an exhibit that identifies *"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."*

We are seeking your organization's input on development plans within the vicinity of the proposed project area (see attached map). Please submit written comments detailing existing or future development plans that you are aware of.

To ensure your comments are included in our CEC application and reviewed by the Siting Committee, please send your written feedback by May 9th, 2025. You can email me at [redacted] or by physical mail: Attn: Devin Petry, SWCA, 20 East Thomas Road, Suite 1700, Phoenix AZ 85012.

Thank you for your cooperation.

Respectfully,

Devin Petry, Environmental Project Manager
SWCA Environmental Consultants
Cc: Stephen Eich, APS Senior Siting Consultant

Attachment: Figure 1

Exhibit H-1a. Example April 2025 Exhibit H letter, page 1 of 2.

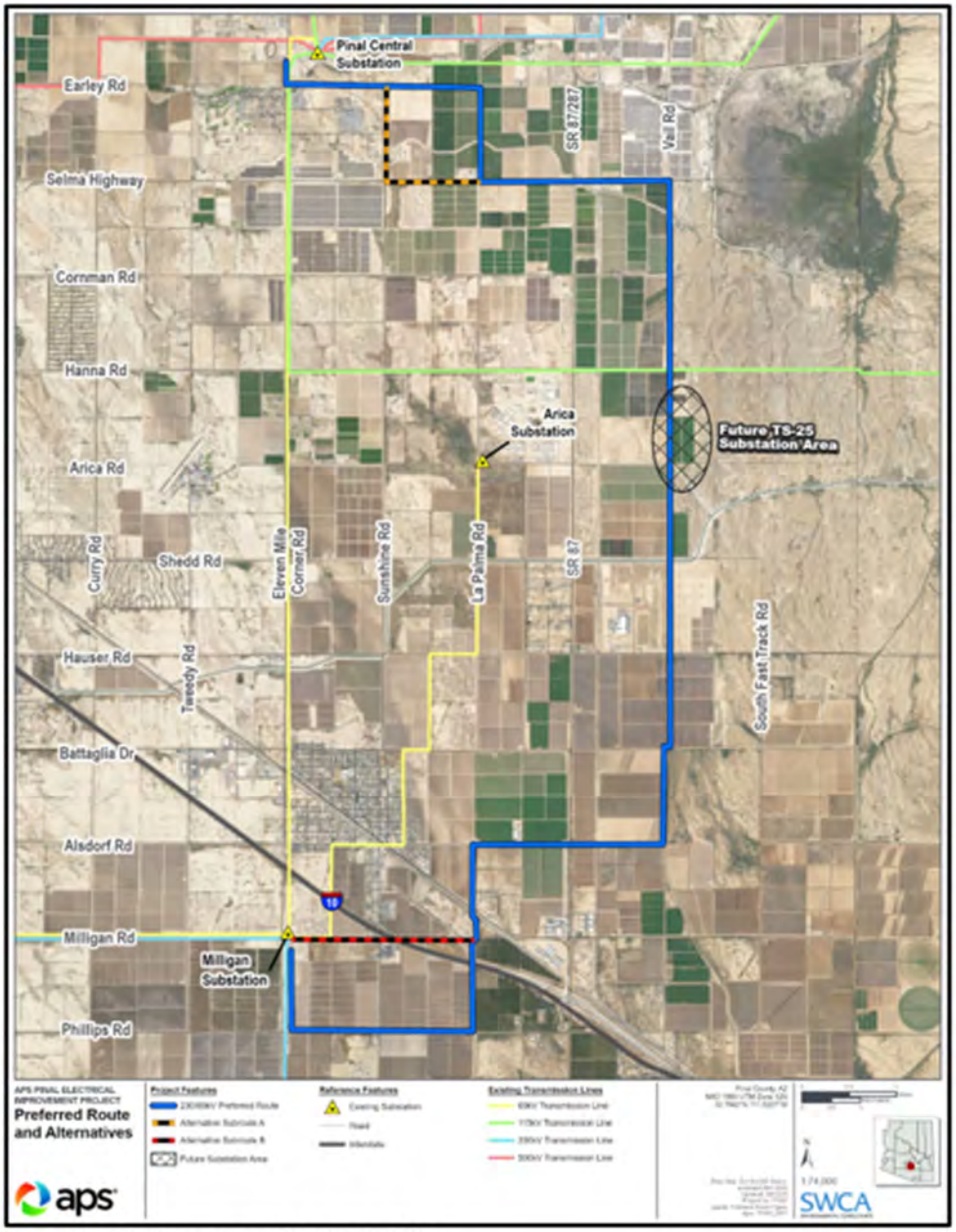


Figure 1. Pinal Electrical Improvement Project Route Map

Exhibit H-1b. Example April 2025 Exhibit H letter, page 2 of 2.

May 9, 2025

Mr. Devin Petry
SWCA Environmental Consultants
20 East Thomas Road, Suite 1700
Phoenix, Arizona 85012

Electronically submitted to: devin.petry@swca.com

RE: APS Pinal Electrical Improvement Project

Dear Mr. Petry:

The Arizona Game and Fish Department (Department) appreciates the opportunity to review the Arizona Public Service Company (APS) Pinal Electrical Improvement Project. The Department understands that APS proposes to construct a 19-mile 230kV/69kV transmission line and associated infrastructure to connect the APS Milligan Substation to the proposed TS25 substation. The project is located on private lands near Casa Grande in Pinal County, Arizona, primarily within agricultural fields and Sonoran desert scrub. Picacho Reservoir is located approximately half a mile east of the project.

Under Title 17 of the Arizona Revised Statutes, the Department, by and through the Arizona Game and Fish Commission, has jurisdictional authority and public trust responsibilities to conserve and protect the state fish and wildlife resources. In addition, the Department manages threatened and endangered species through authorities of Section 6 of the Endangered Species Act and the Department's Section 10(a)(1)(A) permit. It is the mission of the Department to conserve and protect Arizona's diverse fish and wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

The Department recognizes the importance of planning efforts to develop energy infrastructure that contribute to regional and state economic growth needs and would like to work closely with APS and SWCA during the planning and development of this project. The Department recognizes that appropriate coordination, proper planning, and voluntary implementation of best management practices allow projects to be developed that avoid, minimize, or offset potential impacts to wildlife and recreational access during development and operation of the facilities. For your consideration, the Department provides the following comments based on the agency's statutory authorities, public trust responsibilities, and special expertise related to wildlife resources and recreation:

ARIZONA
azgfd.gov | 602.942.3000
5000 W. CAREFREE HIGHWAY, PHOENIX AZ 85086

Exhibit H-2a. Arizona Game and Fish Department response, page 1 of 3.

- The western burrowing owl, a special status species that is regulated under the Migratory Bird Treaty Act (MBTA), has been recorded in the vicinity of the project. If suitable habitat for this species is present within or adjacent to the project area, the Department recommends conducting an occupancy survey for western burrowing owls to determine if this species occurs within the project footprint. Guidelines for conducting this survey are found in *Burrowing Owl Project Clearance Guidance for Landowners*[1]. Please note that the survey should be conducted by a surveyor who is certified by the Department or has similar training and qualifications. If an active burrowing owl burrow is detected, please contact the Department and the USFWS for direction, in accordance with the Guidelines.
- The Sonoran desert tortoise, which is a federal and state species of special concern, has been recorded within three miles of the project. While work is being conducted within suitable Sonoran Desert tortoise habitat, construction crews should refer to the *Sonoran Desert Tortoise Conservation Guidelines*[2] for general handling guidelines for this species should a tortoise be encountered.
- The Department recommends following the Avian Power Line Interaction Committee (APLIC) guidelines for new power lines, which can be found in the current version of *Suggested Practices for Avian Protection on Power Lines and Reducing Avian Collisions with Power Lines*. Large bodied birds, such as hawks, owls, vultures, and eagles, may be vulnerable to line strikes and electrocution during construction and operation of power lines and substations; power poles can also serve as perches for large-bodied birds. These potential impacts can be avoided or minimized by following the APLIC guidelines which include designing the power lines with enough space between energized components to reduce the likelihood of a bird electrocution or installing bird flight diverters in sections of line where elevated bird strikes are anticipated (such as canal crossings). The Department's Raptor Coordinator, who can be contacted at raptors@azgfd.gov or 623-236-7575, can provide further information on specific design features and best management practices.
- Avian species that are regulated under the Migratory Bird Treaty Act (MBTA) and protected under state law may nest within the project area. Breeding season for birds in the project vicinity is generally January through late June. If it is anticipated the project will not be in compliance with the MBTA, the Department recommends contacting the USFWS for technical assistance and compliance options. Additionally, if any nesting raptors are detected, the Department recommends planning construction activities for the non-breeding season or coordinating with the Department's Raptor Coordinator on appropriate set-backs from active raptor nests.
- If other wildlife are encountered during construction activities, the Department recommends moving them out of harm's way, no more than 0.25 mile outside the project boundary within similar habitat.
- If trenching or digging of large holes is necessary, the Department recommends trenching/digging and backfilling crews be close together to minimize the amount of open holes at any given time. Where trenches or holes cannot be back-filled immediately,

[1] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/nongame/eagles/BurrowingOwlClearanceProtocol_2009.pdf
[2] https://azgfd-portal-wordpress-pantheon.s3.us-west-2.amazonaws.com/wp-content/uploads/2025/01/16114611/Rubke-2024.-Sonoran-Desert-Tortoise-Conservation-Guidelines.pdf

Exhibit H-2b. Arizona Game and Fish Department response, page 2 of 3.

the Department recommends escape ramps be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The Department recommends that slopes be less than 45 degrees (1:1) and trenches and holes that have been left open be inspected to remove animals prior to backfilling.

- Artificial lighting could impair the ability of nocturnal animals to navigate (e.g., owls, migratory birds, bats, and other nocturnal mammals) and may affect wildlife behavior and populations (Davies et. al. 2013[3]). The Department recommends using only the minimum amount of light needed for safety. If feasible, "warmer" narrow spectrum lighting (amber, orange, red) is wildlife-friendly and should be used as often as possible to minimize the number of species affected by lighting. It is also beneficial that all lighting is shielded, canted, or cut to minimize the amount of upward shining light.
- To minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects, and pathogens, the Department encourages taking precautions to wash and/or decontaminate equipment before entering and leaving the site. See the Arizona Department of Agriculture's website[4] for a list of prohibited and restricted noxious weeds and the Arizona Native Plant Society[5] for recommendations on how to control them. To view a list of documented invasive species or to report invasive species in or near your project area, visit iMapInvasives[6], which is a national cloud-based application for tracking and managing invasive species.
- The Department recommends revegetating disturbed areas with native drought-tolerant species that represent the natural surrounding landscape. Landscaping with native plants can help support wildlife and pollinator species in the area while reducing dust and erosion. In addition, the applicable land management agencies should be consulted regarding guidelines for revegetation efforts.

Thank you for the opportunity to provide input on the APS Pinal Electrical Improvement Project. For further coordination, please contact Jessica Potter at jpotter@azgfd.gov or 623-236-7618.

Sincerely,

Callie Cavalcant

Callie Cavalcant
Habitat, Evaluation, and Lands Branch Chief

cc: Dave Daniels – Regional Supervisor, Tucson
Kriselle Colvin – Regional Supervisor, Mesa

AZGFD #M25-04142509

[3] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3657119
[4] https://agriculture.az.gov/pestspest-control/agriculture-pests/noxious-weeds
[5] https://aznps.com/invas
[6] https://imap.natureserve.org/imap/services/page/map.html

Exhibit H-2c. Arizona Game and Fish Department response, page 3 of 3.

ARIZONA DEPARTMENT OF TRANSPORTATION

KATIE HOBBS
GOVERNOR

JENNIFER TOTH
DIRECTOR

June 16, 2025

Mr. Stephen Eich,
APS
Senior Siting Consultant
P.O. Box 53933, M.S. 3808
Phoenix, AZ 85702

Subject: PEIP 230 kV Alternative Route Alignment

Dear Mr. Eich:

I am writing in response to the email dated 5/8/2025 from Devin Petry on APS' behalf requesting a letter for this project noting the coordination that has occurred and the commitment for APS and ADOT to work together in coordinating future infrastructure projects.

The Tier 1 Environmental Impact Statement (EIS) for the North-South Corridor Study identified a 1,500-foot corridor to accommodate a future roadway alignment. As stated in the Tier 1 EIS, subsequent Tier 2 studies would address specific impacts on private and public property, planned developments, and zoning regulations. Future projects within this corridor may require relocations to accommodate the selected alignment. Additional information may be found on the project's website: https://azdot.gov/north-south-corridor-study-proposed-new-transportation-route-pinal-county.

The Arizona Department of Transportation (ADOT) North-South Segment 2 Tier 2 Study (NS Segment 2) team previously met with APS regarding this proposed project on February 12, 2025. During this meeting, it was discussed that portions of the APS PEIP 230 kV alignment are situated within the NS Segment 2 1,500-foot corridor. However, it is currently unknown where an alignment may occur within the parcel because no alternative alignments have been generated yet as the project is in the early stages of development. The NS Segment 2 team explained that all identified constraints required under the National Environmental Policy Act (NEPA), including the APS project, will be evaluated in detail during the alternatives analysis to develop alternatives that meet the North South study purpose and need and avoid or minimize impacts where possible.

If you have any additional questions or concerns, please contact Nicholas Edwards, Project Manager, at nedwards2@azdot.gov or 480-670-2964.

Sincerely,

Nicholas P. Edwards

Nicholas Edwards, PE
Project Manager – MPD

ecc: Katie Rodriguez, Environmental Program Manager
Tazeen Dewan, Corridor Planning Manager

ARIZONA DEPARTMENT OF TRANSPORTATION
206 S. 17th Ave. | Phoenix, AZ 85007 | azdot.gov

Exhibit H-3. Arizona Department of Transportation response.

EXHIBIT I. NOISE

The following information is provided as stipulated by the Arizona Corporation Commission Article 2 - Rules of Practice and Procedure Before Power Plant and Transmission Line Siting Committee Exhibit 1, which states the following under the section titled “Exhibit I”:

> *Exhibit I: 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 of the transmission line with one of the effects being corona discharge. Corona effects are manifested as audible noise (AN), radio interference, and television interference (TVI). This effect is minimized by line location, line design, and construction practices. The project line was modeled using the Bonneville Power Administration Corona and Field Effects Program Ver. 3.1 to calculate the electromagnetic effects, which are presented here. The project involves a double circuit 230kV transmission line that is modeled from the APS Milligan Substation to the connection point of the future Sundance to Pinal Central 230 kilovolt (kV) transmission line (see Exhibit I-1). The highest modeled results will be summarized.

Corona

Corona is a luminous discharge due to ionization of the air surrounding a conductor and is caused by a voltage gradient that exceeds the breakdown strength of air. Corona is a function of the voltage gradient at the conductor surface. This voltage gradient is controlled by engineering design and is a function of voltage, phase spacing, height of conductors above ground, phase geometry, and meteorological conditions. Irregularities on the surface of the conductor such as nicks, scratches, contamination, insects, and water droplets, increase the amount of corona discharge. Consequently, during periods of rain and foul weather, corona discharges increase. For the transmission design configurations considered for this project, the calculated peak voltage gradient at the conductor surface was consistently in the range of approximately 10.3–11.5 kV root mean square per centimeter (rms/cm). For comparison purposes, the breakdown strength of air is 21.1 kVrms/cm at 25°C and 76 mm barometric pressure.

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

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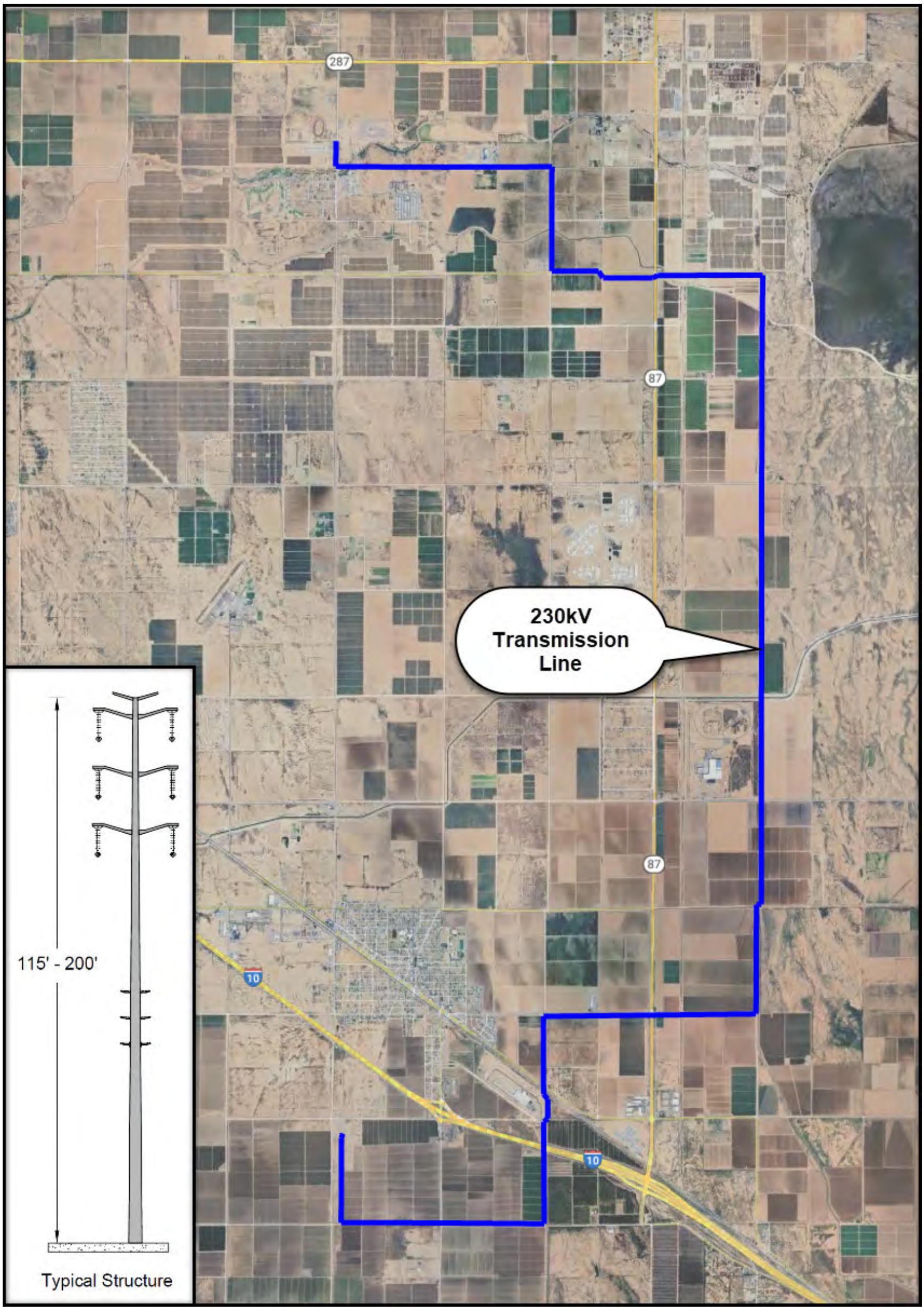

Exhibit I-1. Map of Modeled PEIP 230kV Transmission Line.

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Transmission Line Audible Noise

AN 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 AN levels generated by this transmission line design during foul weather (rain) may occasionally reach 43.5 decibels measured on an "A" weighted scale (dB(A)) at the edge of the right-of-way. These noise levels will occur during very heavy rain conditions[1], which will serve to mask the noise. During light rain[2], or wet conductor conditions, the expected AN may occasionally reach 40.0 dB(A) or lower at the edge of the right-of-way. During fair weather conditions, the expected AN is significantly reduced with a calculated value of 15.0 dB(A) at the edge of the right-of-way.

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 100 feet from the centerline of a line has been found to generate no complaint. The noise generated by this transmission line is well below this value and no noise problems due to this line are expected. Exhibit I-2 shows the calculated L50 fair weather and L50 rain AN levels for the worst-case scenario of the segment modeled.

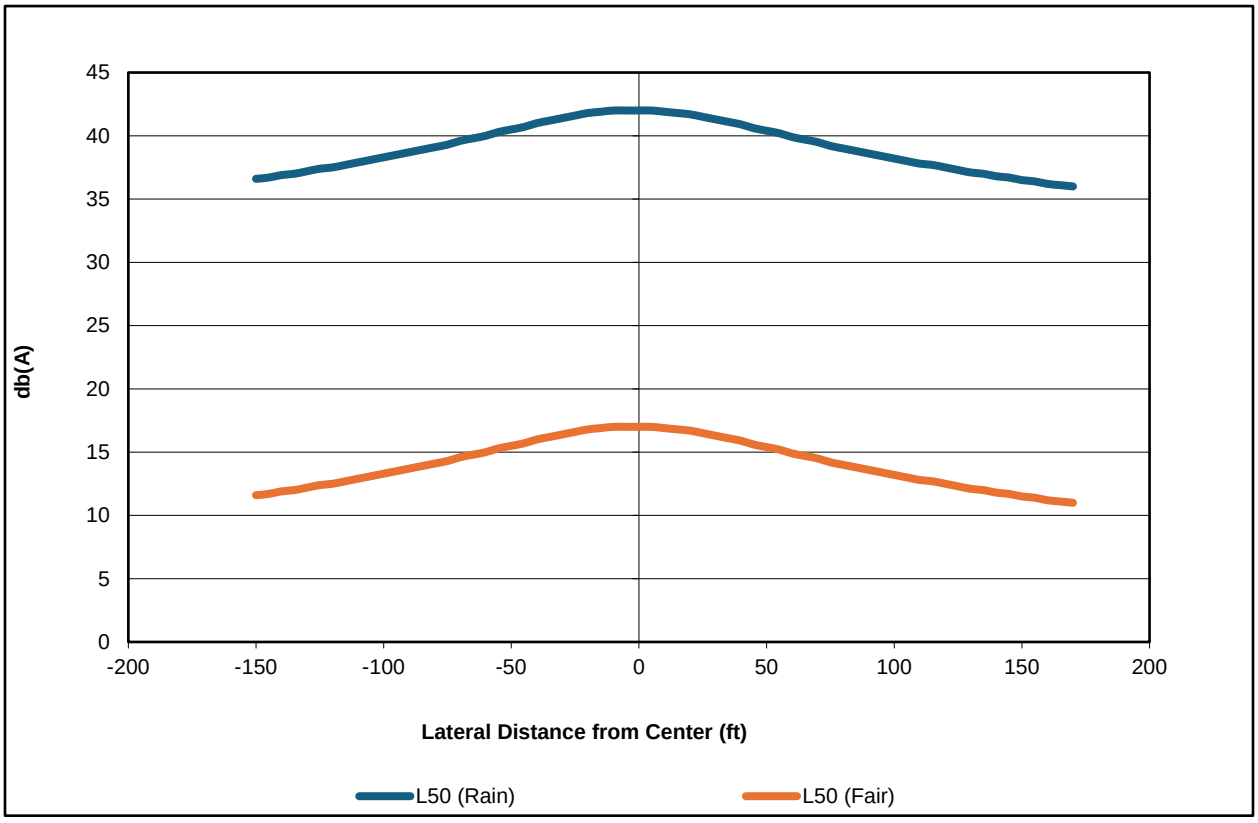

Exhibit I-2. Audible Noise at L50 Fair & Rain Conditions

[1] Heavy rain conditions are designated statistically as L5 conditions (95% of the time noise levels are at or below the specified values).

[2] Light to moderate rain levels are designated statistically as L50 conditions (50% of the time noise levels are at or below the specified values).

Radio Interference

Radio interference is the reception of spurious energy not generated by the transmitting station. This energy affects the amplitude modulated radio band, but not the frequency modulated 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 compose 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). As the frequency of interest increases, corona-produced radio noise reduces with typical reductions in the range of 20 – 40 dB(A) for a frequency increase from 1 MHz to 100 MHz [EPRI] depending on the distance to the conductor.

Comparison of the calculated radio noise levels for the transmission line design shows stable fair weather radio noise levels generated by this transmission line is 27.8 dB(A) at 100 feet from the centerline. This compares favorably with the maximum suggested noise level of 40.0 dB(A). [IEEE]. During inclement weather, transmission line noise levels increase to 44.8 dB(A) at 100 feet from the outside phase.
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 acceptable. It is noted that other transmission lines traverse the area near the proposed location. Should radio interference caused by the transmission line become unacceptable in each situation, the utility is willing to work with the complainant to resolve the interference problem. Calculated radio interference plots for average stable fair weather and foul weather are given in Exhibit I-3.

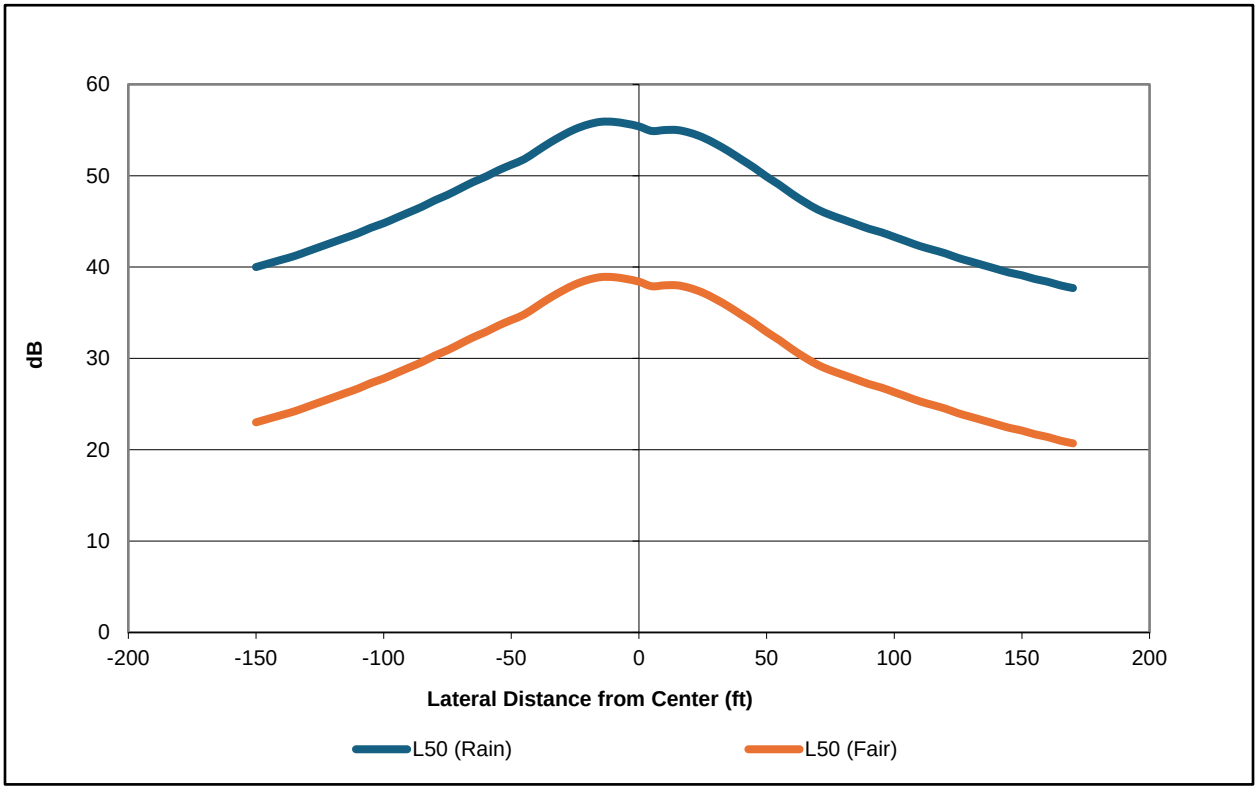

Exhibit I-3. Radio Interference at L50 Fair & Rain Conditions

Television Interference

TVI effects are similar to radio interference. Traditional analog television broadcasts occur in three ranges:

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

Transmission line interference reduces with increasing frequency above 100 MHz. Consequently, TVI only affects the lower very high frequency (VHF) band (Channels 2–6) and no interference will be experienced in the upper VHF (Channels 7–13) and ultra high frequency (UHF) bands (Channels 14–83), even during foul weather.

No transmission line generated TVI is expected along the lines, even during periods of inclement weather since expected TVI levels at the edge of the right-of-way are expected to be similar to other operating 230kV lines that traverse similar terrain.

In cases where transmission line-generated TVI has been found to be a problem, it is generally the result of induced voltage on fences, conductors, and hardware, which are adjacent to the right-of-way. In these situations, the interference can be easily corrected by grounding the objects, or by realigning, relocating, or providing higher gain television antennas. APS is prepared to assist affected parties in resolving TVI problems resulting from the operation of our facilities. However, with the increasing popularity of newer technologies such as cable, satellite, and internet-based television, transmission line TVI problems warranting any sort of corrective action are even more unlikely. Calculated television interference plot for foul weather is given in Exhibit I-4.

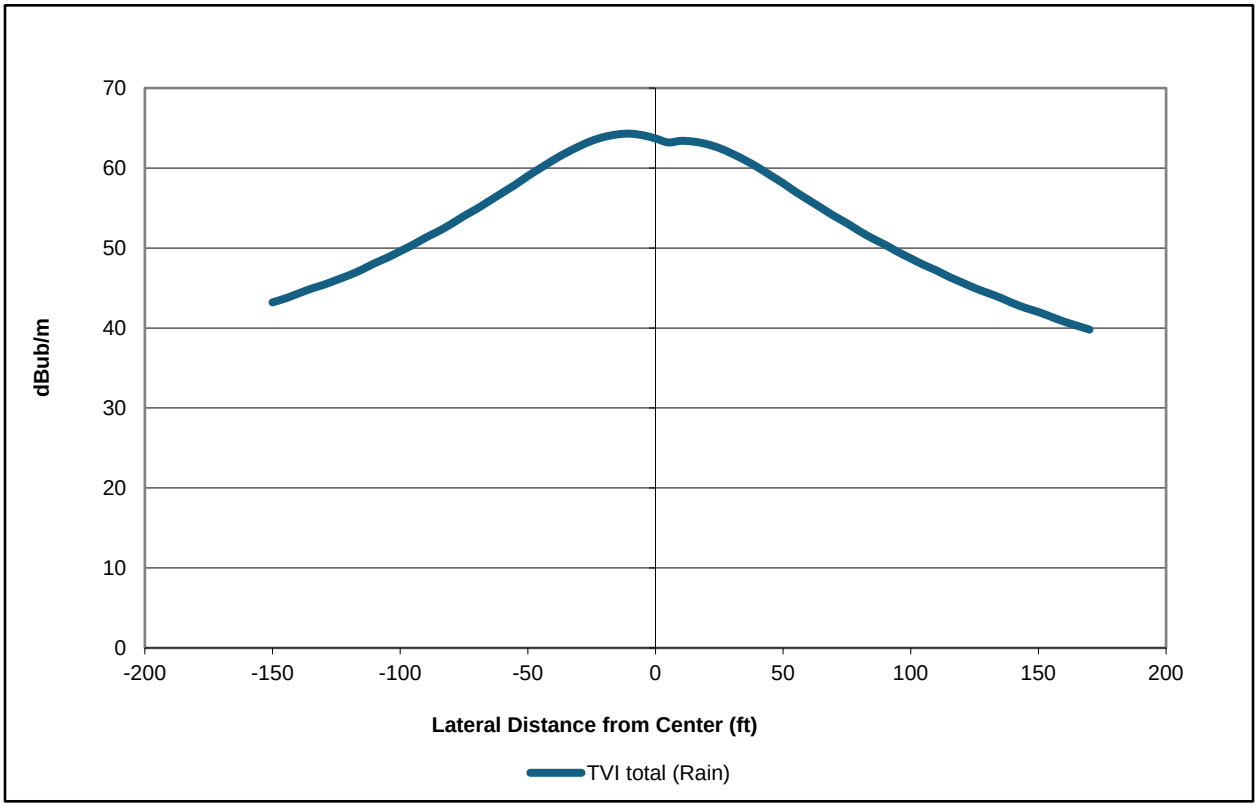

Exhibit I-4. Television Interference at L50 Rain Condition

Electric and Magnetic Field Effects

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

Electrostatic induction is the capacitive coupling of a voltage onto insulated objects near the transmission line. The induced voltage is a function of the electric field associated with the line, which 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 if 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 similar existing 230kV transmission lines. No electrostatic induction problems are anticipated. Should any electrostatic induction problems occur, they can be easily corrected by grounding the conductive objects. The transmission lines will be designed to limit the value of short-circuit current from the conductive objects. Exhibit I-5 shows the expected electric field (calculated 1 m above ground) for the expected configuration of the line segment. Note that the expected electric fields are well below the 5 kV/m limit outside the right-of-way and 10 kV/m inside the right-of-way as specified by IEEE Standards [IEEE C95.6].

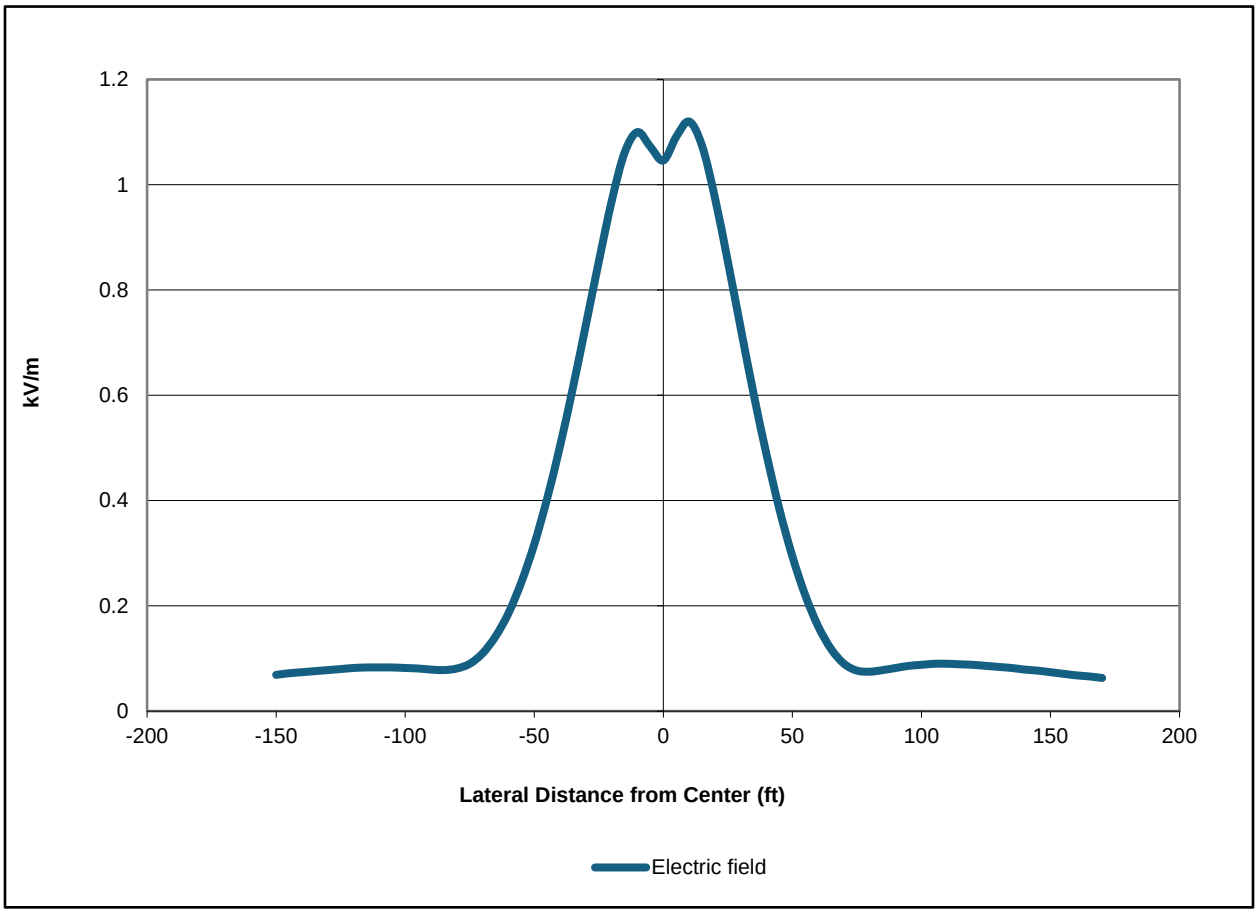

Exhibit I-5. Calculated Electric Field (kV/m)

The magnetic fields associated with transmission lines can also induce voltages and currents in conductive objects (e.g., fences, communication lines, railroads, pipelines, etc.), that 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 electric and magnetic field induction issues described above, scientific and public interest regarding potential health effects of human exposure to 60 hertz EMF has led to extensive study for more than 30 years. One recent example of such research was a study completed in 2007 by the World Health Organization (WHO). The report titled *Extremely Low Frequency Fields Environmental Health Criteria Monograph No. 238* details the results of a health risk assessment of extremely low frequency EMF up to 100kHz. The WHO study found that scientific evidence that demonstrates a consistent pattern of increased risk for childhood leukemia due to chronic low-intensity power-frequency magnetic field exposure is based on epidemiological studies. The report goes on to state that "Virtually all of the laboratory evidence and the mechanistic evidence fail to support a relationship between low-level extremely low frequency magnetic fields and changes in biological function or disease status." [WHO] The report concludes that "Thus, on balance, the evidence is not strong enough to be considered causal, but sufficiently strong to remain a concern." [WHO]. The results of the WHO report support previous findings by the National Institute of Environmental Health Science [NIEHS] and International Agency for Research on Cancer [IARC] that the use of electricity does not pose a major unrecognized health danger.

As noted above, the WHO report did concur with the overall conclusions of the 2002 IARC report on Electric and Magnetic Fields. The 2002 IARC report did not conclude that power frequency fields present a specific health risk, however, IARC did state that, with respect to childhood leukemia, power frequency magnetic fields are "possibly carcinogenic to humans." This finding was based on limited human evidence and inadequate evidence in experimental animals [IARC].

The actual EMF associated with these power lines will depend on the final construction, the amount of current in the lines, the height of the conductors, and other nearby sources of fields. Based on computer modeling of expected construction configuration and operating conditions, the EMFs associated with these lines are comparable to other already existing lines of this voltage in the state. Exhibit I-6 shows the calculated magnetic field for the expected line configurations (calculated 1 m above ground).

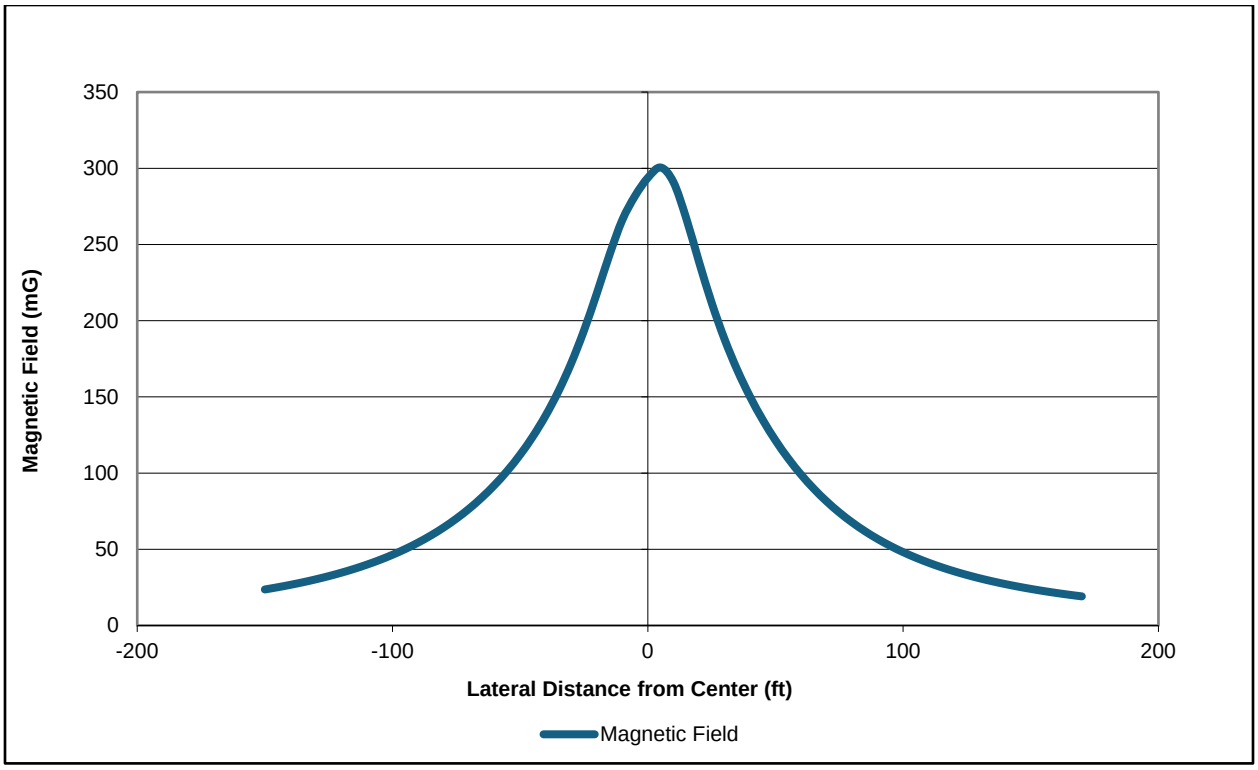

Exhibit I-6. Calculated Magnetic Field, Optimum Phasing

Calculation Notes

The Bonneville Power Administration Corona and Field Effects Program Ver. 3.1 program was used to calculate the various corona, noise, and EMF quantities reported herein based on the expected transmission line designs for the lines of interest. Different cases based on the different expected conductor configurations of the lines were modeled to represent the conditions expected along the entire line lengths.

Literature Cited

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

[IEEE C95.1] "IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz.", 2019.

[NIEHS] 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 1999.

[IARC] IARC 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, 2002: Lyon, France.

[WHO] Extremely Low Frequency Fields Environmental Health Criteria Monograph No. 238 (2007), World Health Organization, Geneva, Switzerland, ISBN 978-92-4-157238-5

[EPRI] EPRI Transmission Line Reference Book, 2nd Edition, 1982, The Electric Power Research Institute.

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EXHIBIT J. SPECIAL FACTORS

As stated in the Arizona Administrative Code R14-3-219, Exhibit 1:

> *Exhibit J: Describe any special factors not previously covered herein, which applicant believes to be relevant to an informed decision on its application.*

Introduction

In addition to the environmental studies completed for the Project—including impact assessments for existing and future land use, and biological, visual, cultural, and recreational resources for land within one mile of the Project Area (Study Area) —Arizona Public Service Company (APS) and SWCA Environmental Consultants are conducting an ongoing, multifaceted public and agency involvement program for the Project. The various outreach efforts are detailed below.

Public, Agency, and Tribal Involvement Program Summary

The purpose of the public and agency involvement program is to ensure that local jurisdictions, relevant agencies, community residents, and other stakeholders are informed of the Project and provided with opportunities to relay information or potential concerns related to the Project. The outreach efforts provided information to stakeholders, solicited feedback on the proposed Project, and helped to identify potential issues relative to the Project. To reach public, agency, and Tribal stakeholders, APS and SWCA distributed newsletters via the mail and email; published newspaper and social media advertisements; hosted multiple open house meetings (virtual and in-person); maintained a Project website and telephone hotline; and conducted one-on-one coordination via email, phone, and virtual meetings with local jurisdictions and select landowners.

PROJECT NEWSLETTERS

APS mailed Project newsletters prior to each of the two open house meetings to inform members of the public residing within the Preliminary Siting Area about the proposed Project and methods for providing comments. The Preliminary Siting Area for the Project (discussed in detail in Appendix B-1: *APS Pinal Electrical Improvement Project Environmental and Siting Process Summary Report*) is bounded by West Storey Road/Cottonwood Lane to the north, South Wheeler Road to the east, East Shay Road to the south, and South Overfield Road, Interstate 10, and North Colorado Street to the west. APS also mailed newsletters to identified agency and Tribal stakeholders. APS followed the physical mailing of newsletters to agency and Tribal stakeholders with emailed electronic copies of the newsletters and offers to meet and discuss the Project.

Newsletter One

The first Project newsletter (Exhibit J-1 and Exhibit J-2) was prepared and distributed in April 2024 to more than 14,000 residents, businesses, landowners, agencies, Tribal contacts, and key stakeholders within the Preliminary Siting Area. This newsletter served to announce the Project to the public and invited them to attend the first open house, held two nights on April 16 and 18, 2024, at the Pinal County Fairgrounds in Casa Grande, Arizona. It also provided notice of the first virtual public open house, which launched April 16, 2024. The content of the newsletter included an overview of the Project's purpose and need, an overview of the siting process, a description of the infrastructure being proposed, and information about when, where, and how the public could be involved in the siting process.

Newsletter Two

The second Project newsletter (Exhibit J-3 and Exhibit J-4) was prepared and distributed in November 2024 to the same mailing list of over 14,000 recipients used in previous mailings. This newsletter served to announce the second open house meeting, which was held virtually and in person at the Pinal County Fairgrounds in Casa Grande, Arizona. The virtual open house was updated on November 19, 2024, to coincide with the in-person open house that was held the evenings of November 19 and 20, 2024. The content of the newsletter included an update on the Project's status, a map of preliminary links, and information about when, where, and how the public could be involved in the siting process.

Newsletter Three

A third newsletter (Exhibit J-5 and Exhibit J-6) was prepared and distributed in May 2025. This third newsletter announced the identification of a Preferred Route for 230kV facilities, as well as a "Selected Route" for the 69kV facility siting effort, and provided continued opportunity for questions or comments.

Newsletter Four (Pending)

A fourth newsletter will be prepared with an anticipated distribution in August 2025. The fourth newsletter will announce the filing of this Certificate of Environmental Compatibility (CEC) Application, as well as the dates of the Project's Arizona Power Plant and Transmission Line Siting Committee hearings. The fourth newsletter will be sent to the same mailing list of over 14,000 recipients used in previous mailings.

Newsletter Five (Pending)

A fifth newsletter will be mailed following any Project decision made relative to this CEC Application by the Arizona Corporation Commission (Commission). The newsletter will announce the Commission's decision to provide further information on the anticipated timing of the construction and operation of the Project facilities. The fifth newsletter will be sent to the same mailing list of over 14,000 recipients used in previous mailings.

WEBSITE

In March 2024, a Project website (aps.com/pinalproject) was created and maintained by APS to provide access to Project information and electronic copies of distributed materials. Through the website, viewers can read about Project updates, watch a Project overview video, and access maps, Project newsletters, and the virtual open house. Viewers can also provide questions or comments through the email or virtual open house hyperlinks posted on the website. The website address was advertised in the newsletters, in newspaper advertisements, on the telephone information line, through customer email, social media advertisements, and at each public open house meeting. The website has received 1,355 views, and the average engagement time per active user is 46 seconds. Screenshots from the website are included in Exhibit J-7 through Exhibit J-10.

PUBLIC OPEN HOUSES

Two open house meetings were held in person as part of the public involvement program. A virtual open house was also launched and updated to coincide with each in-person open house and will remain available to the public throughout the duration of the Project. These meetings provided a central location where members of the public could view Project information and provide input to APS.

Virtual Open Houses

The virtual open house (pinalopenhouse.com) was announced in the newsletters, newspaper, social media ads, and via email to stakeholders. The first virtual open house was launched April 16, 2024, and

remained available for public viewing and commenting until the site was updated for the second virtual open house that launched November 19, 2024. The content on the site will remain accessible until the Commission decision is made. The virtual open house provides a central, 24/7 accessible location where members of the public can view and download Project information and maps, as well as provide input and ask questions (through an online comment form). Exhibit J-11 through Exhibit J-16 show the virtual open house layout. Exhibit J-17 through Exhibit J-43 are the Project information boards for the first open house posted online; Exhibit J-44 through Exhibit J-84 are for the second open house. Each open house had the same layout, but Project information was updated as the Project progressed.

The virtual open house format consisted of an interactive website, with Project information boards, a video, and comment forms provided in clickable modules, which allowed interested parties to visit and review the material at their convenience and to ask questions, request information, or provide comment through embedded forms. Both open houses highlighted details such as the Project's purpose and need, location, proposed facilities, maps, information about the siting process, schedule, and opportunity for comment.

Analytical data were recorded since the initial launch of the virtual open house, including for each virtual open house public comment period. These data show 166 visits to the site during the first comment period and 98 visits during the second comment period. Some of the most frequently visited pages include "Project Information," "Project Description," and "Project Schedule and Status." Overall, approximately 1,294 users visited the website from April 16 to February 20, 2025. The virtual open house website will continue to remain active throughout the CEC process.

The virtual open house website received higher visitations following dates coinciding with newsletter mailings, email blasts, and social media outreach. Exhibit J-85 through Exhibit J-88 highlights public open house visitations and duration spent reviewing content. Exhibit J-89 highlights peaks in visitation. Most notably, visitations peaked on April 17 and November 18 through 27, 2024, likely corresponding with the first and second open house events.

In-person Open House Meetings

In-person open house meetings were held for the Project on the evenings of April 18 and 20, 2024, and November 19 and 20, 2024, from 5 p.m. to 7 p.m. at the Pinal County Fairgrounds, located at 512 South Eleven Mile Corner Road, Casa Grande, Arizona 85194. The format of the meetings was an informal open house arrangement, which allowed community members to attend at their convenience, review informational displays, and have personal communication with members of the Project team. Space was provided for attendees to sit and fill out comment forms. Comments were received verbally and via the comment forms (Table J-1). The sign-in sheets for both sets of open house dates are provided in Exhibit J-90 through Exhibit J-96.

The in-person open house meetings included display boards that mimicked the virtual open house boards and relayed the same information (see Exhibit J-17 through Exhibit J-84).

MEDIA RELATIONS

Several newspaper advertisements were placed in the *Casa Grande Dispatch* and the *Tri Valley Dispatch*. The *Casa Grande Dispatch* is distributed throughout Casa Grande and surrounding areas, whereas the *Tri Valley Dispatch* is distributed specifically in Casa Grande, serving Pinal County. The advertisements introduced the Project, provided a brief Project description, announced the virtual open house meetings, and provided options for submitting public comments (Exhibit J-97 through Exhibit J-100).

SOCIAL MEDIA

Facebook and Instagram advertisements were purchased to inform the public of the Project and public open house meetings (Exhibit J-101 through Exhibit J-114). The first round of advertisements introduced

the Project, provided links to the first virtual open house and Project website, and solicited public input. The first round of advertisements ran for 2 weeks starting April 9, 2024, reaching 67,141 people with 75,796 impressions and 72 clicks. The second round of advertisements announced the second virtual open house meeting and in-person open house meeting, provided links to the virtual open house meeting and Project website, and solicited public input. The second round of advertisements ran for 2 weeks starting November 6, 2024, reaching 13,000 people with 53,268 impressions and 387 clicks. The third round of advertisements announced the identification of a Preferred Route for 230kV facilities, as well as a "Selected Route" for the 69kV facility siting effort, and provided continued opportunity for questions or comments. The third round of advertisements ran for 2 weeks starting May 16, 2025, reaching 9,861 people with 39,118 impressions and 563 clicks. A fourth round of advertisements will be placed in summer of 2025, will run for 2 weeks, and will notify the public of the upcoming CEC hearing anticipated the week of September 8, 2025.

EMAIL

APS sent email notifications to customers with available email addresses within the Preliminary Siting Area on March 29, November 7, and November 26, 2024, prior to each of the two open house meetings and following the November 2024 open house meetings (Exhibit J-115 through Exhibit J-118). The emails introduced the Project, provided links to the virtual open house meeting and Project website, and solicited public input. An additional email notification was sent on May 15, 2025 to coincide with the newsletter mailings announcing the Preferred Route for 230kV facilities, and "Selected Route" for the 69kV facility siting effort (Exhibit J-118). Based on data collected by APS, the March 29, 2024, email was sent to 7,659 email addresses, was opened by 3,605 unique recipients, and received 126 clicks. The November 7, 2024, email was sent to 7,469 email addresses, was opened by 3,706 unique recipients, and received 41 clicks. The November 26, 2024, email was sent to 7,351 unique email addresses, was opened by 2,940 unique recipients, and received 64 clicks. The May 15, 2025, email was sent to 7,318 unique email addresses, was opened by 3,534 unique recipients, and received 547 clicks.

Additionally, APS followed the physical mailing of newsletters to agency and Tribal stakeholders with emailed electronic copies of the newsletters with an offer to meet and discuss the Project.

TELEPHONE LINE

A Project information hotline was created to provide additional opportunity for members of the public to learn about the Project and to leave comments or questions. The telephone number was provided in each newsletter mailing, in newspaper advertisements, on the Project website, and at each open house meeting. Initially, the telephone line provided information about the Project and announced the first virtual open house. The telephone line was later updated to inform callers of the second virtual open house, and to inform callers about the Project process of reviewing comments, refining Project alternatives, and developing a CEC Application. The telephone line continues to provide callers with the opportunity to leave a voicemail comment or a request for more information. All voicemail messages requesting further information were returned by a Project team member.

AGENCY AND LOCAL OFFICIALS BRIEFINGS

To relay information, answer questions, and request feedback throughout the Project process, APS coordinated with the City of Casa Grande, City of Coolidge, City of Eloy, and Pinal County representatives including elected officials, planning staff, and others. APS also coordinated with Arizona Department of Transportation (ADOT), Arizona State Land Department, Central Arizona Irrigation and Drainage District, Electric District No 2, Hohokam Irrigation and Drainage District, Saint Holdings, San Carlos Irrigation Project and San Carlos Irrigation and Drainage District, SkyDive Arizona, and other landowners. These meetings enabled the Project team to identify stakeholder issues, consider suggestions during the planning process, and relay information on developments of the Project.

PUBLIC COMMENTS

Throughout the public involvement program, public comments were solicited and considered in the planning process. Comments received during the public involvement process, including responses when applicable, are included in Table J-1. Public comments were received via the virtual open house, in-person open house, email, and telephone line. In summary, the comments either expressed general support of the Project or requested additional information from Project team members. SWCA and APS provided additional information to the public as requested.

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Table J-1. Public Comments

Comment Number	Comment	Date	Comment Agency	Response (if necessary)	Date
1	Summary of Voicemail: Resident at [redacted], would like to know if they will continue to receive service from ED 2 or if they will be switched to APS.	4/10/2024	N/A	SWCA called Mr. Salis and indicated that the project is intended to strengthen the APS transmission infrastructure within the region, and that there are no plans for transfer of electrical service provider. SWCA also noted that the Project open houses were being held this week and invited Mr. Salis to attend. Mr. Salis thanked SWCA for the returned call and had no other questions.	4/12/2024
2	Summary of Voicemail: Resident at [redacted], would like to know if they will continue to receive service from ED 4 [Electric District No 4] or if they will be switched to APS.	4/10/2024	N/A	SWCA called Mr. Linderman and indicated that the Project is intended to strengthen the APS transmission infrastructure within the region, and that there are no plans for transfer of electrical service provider. SWCA also noted that the Project open houses were being held this week and invited Mr. Linderman to attend. Mr. Linderman thanked SWCA for the returned call and had no other questions, though he did note that his wife worked for Salt River Project (SRP) as a land agent for over 30 years.	4/15/2024
3	Voicemail: “I am the owner of the property at [redacted]- APN #404-20-03204. I do not want the installation of #1 Arica L-10 69kV Transmission Line to be sited south of W. Shedd Road. The area south of W. Shedd Road is residential and putting a high voltage transmission line through the community will erode property values and quality of life. Please include me on all communications and meetings concerning this project.”	4/12/2024	N/A	The APS Siting Consultant contacted the commenter and thanked them for their email. The APS Siting Consultant stated that the suggestion had been recorded and would be submitted to the public record as part of the application process. The APS Siting Consultant stated that they valued their opinion and appreciate their input.	4/16/2024
4	Voicemail: "Hey? Yes, I was trying to speak with the project manager for the so now Canada apps power lines are going up. My name is Ken Melton. I own some property off of Interstate 10 just south of Florence Boulevard and Costa Gran And I saw it pretty close to the route, and I just had some questions regarding how Aps does like if they lease the land, or if they just buy the land out from the actual person that owns the property. I have about 11 acres right off of interstate 10 that I'd be considering to help facilitate the power lines going up. My number [redacted]. Again, my name is Ken Melton. I'm calling on behalf of the Aps power lines that are going up to see if I could have some questions answered. Thank you. "	4/15/2024	N/A	The APS Siting Consultant contacted the commenter and noted Mr. Melton is eager to expedite the sale of this property and indicated a preference for concluding the transaction with APS, if possible, due to his plans to move on from the property soon. Mr. Melton expressed interest in potentially facilitating the Project through his land but also shared his concerns about his ability to participate in decision-making due to his age and health circumstances with the long build time for this project. The APS Siting Consultant discussed the options APS typically explores, such as leasing or purchasing land, and reassured him that they would take his situation into consideration in any arrangements. Given his current health challenges, the APS Siting Consultant assured him of APS’s commitment to making the process as straightforward and considerate as possible.	4/18/2024
5	Open House #1: "Your projects are welcomed here in Pinal County. We need more power to grow."	4/16/2024	N/A	No response required.	
6	Open House #1: "I would like to express my concerns regarding the transmission siting project. I support it."	4/16/2024	N/A	No response required.	
7	Voicemail: “My name is Charles Feenstra. I live in [redacted]. My phone number is [redacted]. All I want to know is the project. Is it possibly being built on this parcel? Number 401 dash 4, 8 dash! Oh, 1, 9, 8 6 would like someone to inform me. Thank you."	4/17/2024	N/A	SWCA returned Mr. Feenstra's call and let him know that his approximate 80-acre parcel is located in the southeast corner of the TS-25 Siting Area. Mr. Feenstra thanked SWCA for the call and had no further comments.	4/17/2024
8	Voicemail: "My name is Carlotta Gonzales. My phone number is [redacted] I would just like to know if somebody can call me back. I do not live in Arizona, and I'm not too familiar. I own 3 parcels of land there, but I don't know if my parcels of land are included in this Aps. A. PS. Improvement project. If you can give me a call back at ([redacted]. Thank you very much. "	4/24/2024	N/A	SWCA returned Ms. Gonzales’ call and left a voicemail providing a call back number.	4/24/2024
9	We received a flyer in the mail regarding new power lines coming to my area. When I looked at the map provided it looks like it is in the Totlec area/Eleven Mile Corner Road area. We live on Trekell and Manor Dr. Will be affected? If yes, how so?	4/19/2024	N/A	The APS Siting Consultants responded that they were currently working to identify optimal locations for new electrical transmission infrastructure and appreciate the questions and input. The APS Siting Consultants clarified that for the location near Trekell and Manor Drive, they would not likely be directly impacted by the Project. As illustrated on the map provided, the facilities being proposed nearest this location would be the “Future L-10 Substation” and the “Existing Transmission Line (to be rebuilt)” where an additional 69kV line is proposed to be added to an existing line. These facilities are located approximately 2 miles southwest of the intersection of Trekell and Manor Drive. The APS Siting Consultant encouraged them to contact them with any additional questions or comments.	4/26/2024
10	Voicemail: "This is Brenda Endris. My phone number is [redacted]. and I'd be appreciate a call back about the project. I also like to request a hard copy of the open house material which we were unable to attend. Thank you. "	4/30/2024	N/A	SWCA called Ms. Endris back and discussed the Project with her. Ms. Endris was interested in learning more about potentially selling her land south of Interstate 1- in Eloy and would like a call back from an APS land agent. Ms. Endris also requested that we send her a printed copy of the open house materials which were sent on May 1, 2024. APS Land Agent Clyde Gregory spoke with Ms. Endris on May 7, 2024, noting that Ms. Endris is interested in selling her properties in Pinal County APN [Assessor Parcel Number] 403-13-155 and -154. Mr. Gregory indicated that as APS designs the line and decides on the preferred route they [APS] will contact her again with an offer for property/rights if her property is affected.	4/30/2024; 5/7/2024
11	A call recorded but no message was left.	5/2/2024	N/A	No response required.	N/A

Comment Number	Comment	Date	Comment Agency	Response (if necessary)	Date
12	Voicemail: Represents Linmark, LLC and the Musulin Irrevocable Education Trust (James Benham - Trustee). These two entities own approximately 1,100 acres generally located along the NWC and SWC of Toltec Rd. & Milligan Rd. in Eloy, AZ.	4/25/2024	Linmark, LLC	SWCA called Mr. Markakis and provided an update on the current schedule and status of the Project, in particular the removal of siting the TS-32 substation as part of the Project - noting that that siting would be a future effort. Mr. Markakis expressed a general support for the Project, and a desire to be kept apprised of Project updates.	8/21/2024
13	Voicemail: “Hello! Good morning. This is Chino. My phone number is [redacted]. I I receive a letter from your company saying that the project is gonna be through my property. I would like to touch to somebody, and the company probably the one that I supposed to tag is Lupe Martinez. Yeah. can you please call me to this? The number that I just I just gave right now. Thank you very much. Bye.”	9/10/2024	N/A	SWCA called Mr. Banuelos back and discussed Mr. Banuelos' property at Estrella/Alsdorf Roads and noted that current alternatives are identified in this location. Mr. Banuelos was interested in how APS handles coordination for easements or purchase of property when proposing transmission lines, and noted that he would reach back out once the next newsletter is sent out announcing the second open house.	10/22/2024
14	Voicemail: "Hi! This is Hayden Reycraft with Insight Land. I am calling in regards to the Pinal Electrical Improvement Project. I just had a few questions for your siting team in regards to the TS. 25. Substation area. Give me a call back when you get a chance. [redacted], one. Thank you very much. Bye, bye. "Working with landowner within the substation siting area - willing to sell a site to APS; looking at possible solar project on remainder of acreage. interested in speaking with Lands Team.”	10/11/2024	Insight Land	SWCA called Mr. Reycraft back and provided an update on the current schedule and status of the Project, in particular the removal of siting the TS-25 substation as part of the Project - noting that that siting would be a future effort. SWCA noted that he would pass along Mr. Reycraft's contact information to the APS Lands Team, and that they would contact him in regard to available properties within proximity of the TS-25 siting area.	10/11/2024
15	Voicemail: "Yeah, this is Barbara and Guy Digregory. We have land down on [redacted] and the map that was sent to us I can't understand. So could somebody. Please call us [redacted]. About this Aps lines and substations and all this stuff. Appreciate it. Thank you so much. Bye. "	11/12/2024	N/A	SWCA called Ms. Digregory back and identified where her parcel is located (west of the intersection of Cornman Road and La Palma Road) and that it is approximately 0.35 miles west of the 69kV Alternative route (**links 340 and 369**). Ms. Digregory expressed dissatisfaction with any transmission lines or facilities being placed near her parcel, and noted specifically that she wanted any facilities to be placed as far from her parcel as possible. Ms. Digregory was most concerned about the visual impacts and perceived property value impacts to her parcel.	11/12/2024
16	Voicemail: "Hi. My name is Gary Lane. I represent Eloy, 170 LLC. Which is a holding company that owns a substantial amount of property south of I. 10 on Milligan Road. I've looked at the alternative plan and the Aps, you know. Obviously your preferred routes and your alternatives, and I'd like to have a conversation with you regarding that. My number is [redacted]. Again, it's Gary Lane, representing Eloy, 170 LLC. You have a substation site location and a transmission line location. There's actually going to be a 500 residential homes on the south side of Milligan, that I think, probably have a massive effect that lines would have a pretty big effect on. So I'd like to have a conversation with you about that again. [redacted]. I look forward to hearing from you. Bye-bye. "	11/19/2024	XLC Engineering, representing Eloy 170 LLC	SWCA called Mr. Lane back and discussed the route alternatives identified for the Project. Mr. Lane noted that Milligan Road is planned to be rerouted from Sunshine Boulevard/Interstate 10 to the east by the City of Eloy and ADOT. Mr. Lane noted that he and his client will be going to the hearing for their rezoning application for 500+ residential development on the South side of Milligan Road in the near future, **and would prefer the route alternative along Phillips Road. (links 714, 723, 735, 733, 731, and 708)**. Mr. Lane noted that his colleague, Mr. Omar Cervantes, will be attending the open house on November 20.	11/19/2024
17	Open House #2: "I support all preferred routes. This was so informative. APS did a great job with this event and explanations."	11/19/2024	N/A	No response required.	N/A
18	Open House #2: "A residential development is currently on the works and under review by City of Eloy and ADOT. The sections 686 & 688 are incompatible with this residential development. Route 708, 731, 733, 735, 723, & 714 are preferred due to the new construction of a solar field north of East Phillips Road."	11/20/2024	XLC Engineering, representing Eloy 170 LLC	Mr. Cervantes, I hope this message finds you well. I am writing to provide an update regarding our Preferred Route alignment for the new 230kV transmission line, which was initially proposed to run along Milligan Road. As you may recall, during our open house in November, you informed us about the plans for a new residential development just west of the I-10 along Milligan Road, which would conflict with our proposed line. In response to this, we have re-evaluated the area and have identified a new alignment that avoids conflicts with your planned development. We will now be pursuing an alternative alignment along Philips Road, situated further to the south. We kindly ask that you forward this information to your colleague, Gary Lane, as we do not have his email address on file. Thank you once again for your participation in the process, and for helping us identify the appropriate route for this new transmission line, which is essential to support the growing energy needs in the area. Sincerely, Stephen Eich	N/A
19	Open House #2: "We need quality electricity. This power delivery improvement is the only way to do it. I plan to build my future house in the Eloy/Casa Grande area."	11/20/2024	N/A	No response required.	N/A
20	Open House #2: "We like the proposed main lines along Vail coming from the Milligan Substation. We also like the proposed lines to the north connecting the Arica Substation to Pinal Central. The biggest ask is to build a substation in the Inland Port Arizona (IPAZ) that will power all the manufacturing locating in IPAZ. Is great for regional economic development."	11/20/2024	City of Coolidge	No response required.	N/A

Comment Number	Comment	Date	Comment Agency	Response (if necessary)	Date
21	Email: "Hello, If this is not a way to provide input please redirect me. As residents who live just north of Hauser Rd, we would like to see APS take the route options as far to the South of Hauser as possible. This includes: ---The TS-25 to Milligan preferred route. (This option never travels along Hauser) ---The Arica to L10 alternate route that travels farthest South of Hauser Rd (by this we mean the route that drops to Battaglia Dr). The reason for our feedback includes: 1.) Minimizing sound pollution for developing neighborhoods. 2.) Minimizing other kinds of pollution for developing neighborhoods. (EMF and etc.) 3.) Minimizing radio signal interference. The nearby developing neighborhoods have zero options for cable Internet due in part to the area being newly developed. We truly rely on satellite and/or antenna sourced Internet. We cannot work without uninhibited access to Internet. Internet access is not a luxury in 2024, it is a basic necessity, a home utility, and serves many rapidly expanding functions. Please let us know what reports or assurances APS provides regarding these concerns. From wary homeowners: Thaddaeus Gassie Julianna Clayton James McFarland Vernon Jefferson"	11/26/2024	N/A	Hello Mr. Gassie, Thank you for your participation in the Pinal Electrical Improvement Project. We appreciate the detailed comments you've provided, which will be part of the considerations made as final routes are identified. The nature of this project includes building two separate power lines: a 69,000-volt (69kV) line and a 230,000 volt (230kV) line. The higher voltage 230kV line (TS25 to Milligan) will require a Certificate of Environmental Compatibility (CEC), which includes conducting certain environmental studies such as those you listed (noise, EMF, and TV/radio interference). However, the 69kV line (Arica to L10) is a much lower voltage line that does not require a CEC nor the same environmental studies. Although the environmental studies we conduct will be specific to the much higher 230kV portion of the project (TS25 to Milligan), it may provide some context for the lower voltage 69kV line (Arica to L10). The 230kV study will be available to the public once we file the CEC application, and I'd be happy to provide you a link to the application at that time. You can also reach out to Ben Dowler (Benjamin.Dowler@aps.com), our Environmental Scientist at APS, and would be happy to help answer any EMF questions or concerns you might have. Although we do our best to minimize environmental impacts, we encourage customers to please call our main line at (602) 371-7171 or (800) 253-9405 if there is cause for concern regarding health, safety, TV/radio interference, etc. Thank you again for your input.	12/9/2024
22	Voicemail: "Elbert Netters. I'd like additional information in reference to the Penel project that is upcoming under study, and I'd like additional material that is more in layman's terms, I should say. because I want to ensure that I have all the correct knowledge and sharing feedback with you. Would you mind? And you could email this to me if you wish, and Ebert dot net EBER t.net. At gmail.com. My phone number is [redacted]. Thank you. Oh, another question is the Open house facility presently available? I'm noticing online here that it looks like a building with project information is inside. So I'd like an opportunity to visit there. And in addition to ask some other questions, I would appreciate your feedback. "	12/2/2024	N/A	Devin Petry spoke with Mr. Netters and let him know that his undeveloped parcel was approximately 1.63 miles northwest of the nearest route alternative (Arica-L10), and noted that all the information available at the in-person and/or virtual open houses is available for download via the virtual open house. Mr. Netters thanked Devin for the information, and noted that his biggest concern (proximity to proposed facilities) was alleviated; he also indicated that he would review the information on the virtual open house and call back with any further questions.	12/3/2024
23	Mail: "I am writing on behalf of Eloy 170, LLC, a property owner that owns 170 acres either side of [redacted] The company objects to the proposed APS electric route along the future 400-unit residential development of Eloy Commons, a mixed-use community, located either side of Milligan Road. As a concerned landowner I believe this route poses significant impacts, challenges and risks to the well-being of the future community, individuals as well as our surrounding development and environment. Eloy 170 LLC concerns are as follows: **Health and Safety Impacts:** Proximity to high-voltage power lines has been linked to potential health risks, including increased exposure to electromagnetic fields (EMF). Placing these lines near homes could create health risks, unnecessary anxiety for future residents and detract from the quality of life in the area and the success of the multi-use development. **Visual and Property Value Impact:** Large electrical infrastructure can significantly alter the visual appeal of a residential area, reducing property values and making the neighborhood less desirable to prospective buyers. **Existing Development:** It will be difficult for APS to complete construction of the current alignment because a Maverick truck stop will impede the route. The truck was will sit in the middle of the route. **Alternative Routing Options:** I urge APS to explore alternative routes that are designed on the alternatives plan. These include a route 1 mile south of Milligan that surrounds a solar farm use, far away from the residential developments. Options may include, rerouting the infrastructure along existing utility corridors or industrial zones instead of a planned residential area which would mitigate these concerns while maintaining service reliability. I strongly encourage APS to prioritize the health, safety, welfare and aesthetic quality of the area as part of your planning process. I also request that APS engage further consultations with stakeholders, including future residents and community representatives, to ensure a mutually acceptable solution. Please provide updates on the status of this project and information on any public meetings or additional opportunities for community input. I am eager to collaborate on solutions that balance community well-being with APS's service goals. Thank you for your attention to this matter. I look forward to your response."	12/12/2024	XLC Engineering, representing Eloy 170 LLC	Mr. Cervantes, I hope this message finds you well. I am writing to provide an update regarding our Preferred Route alignment for the new 230kV transmission line, which was initially proposed to run along Milligan Road. As you may recall, during our open house in November, you informed us about the plans for a new residential development just west of the I-10 along Milligan Road, which would conflict with our proposed line. In response to this, we have re-evaluated the area and have identified a new alignment that avoids conflicts with your planned development. We will now be pursuing an alternative alignment along Philips Road, situated further to the south. We kindly ask that you forward this information to your colleague, Gary Lane, as we do not have his email address on file. Thank you once again for your participation in the process, and for helping us identify the appropriate route for this new transmission line, which is essential to support the growing energy needs in the area. Sincerely, Stephen Eich	2/5/2024

24	Email: Hello: My name is Jacque Geller and recently we were notified of a proposed Electric Improvement Project that would run right by our property at [redacted]. I would like to first greatly thank your public relations team for the phone call regarding this project as we have received NO information regarding this project. We have worked diligently at our current property to advocate against these lines and have spoke at public hearings to do so. I'm not sure how we missed this information that was supposedly sent, but I can assure you we would have been at every meeting opposing the route near the canal/our new home property. I would like to take some time to express our deep concern for these lines and urge you to run them anywhere but our property and beg you to choose a different route away from our home. To begin, my husband and I have lived in AZ for the last 17 years. We are high school sweethearts and moved to AZ to follow my Husband's calling to serve our country as a federal employee. He has done this for the last 18years. During this time I obtained my Registered Nurse Licensure and served our community as a nurse and we had our first child nearly 16 years ago. We have went on to have 5 biological children and have adopted 4 children from the AZ foster system and have cared for more than 30 children over the last decade in our home. We currently live on small acreage near the pinal county fairgrounds. When we bought this home, 3 kids in, it was our absolute dream. About two years after we moved in, transmission lines were built near us, much to our dismay. As we have continued to grow as a family and have watched solar/transmission lines/ and further infrastructure be proposed near our current home, we knew it was time to start looking "outside of the solar/line chaos"for our new forever dream home. We are being 100% honest in saying that this is one of the key factors in what kind of land we looked at, staying away from these lines. Our children thrive in a quiet country setting but even the current fear of illness and noise of the transmission lines near our current house hasn't been favorable. We spent several years waiting out all this solar development around us and in our community and waiting to find the right property that would leave us as clear as possible from all of this solar/line development. Heck, I even compromised and bought near Selma Hwy (a semi busy road) because we struggled so much to find secluded land we could afford. We built tall fences so we could protect our children from the dangers of the hwy, to keep them safe from outsiders, and live "off grid". We truly thought most development was complete for current solar fields/ high voltage lines and while we hated being near solar fields, we knew the property to the east of our new location was state owned and surely no one would ever disrupt that, boy were we wrong apparently. Our new home is our dream home, it will serve as a safe haven to children that have had the unthinkable done to them. Children that need rigid routine and continuous consistency in their lives. We pushed the house as far away from the solar field as we could due to my fear of health associated risks and planned to butt a shop up to the field to protect the kids from transmission/ugly views and have spent countless moments enjoying the incredible Mountain View's we have to the east. This home is a multimillion dollar home and we have poured every penny from our savings into it to give our kids the space they need to heal and grow. We haven't even completed construction and now are devastated to learn of this potential transmission line to be ran right near/ through our property. I am writing you to beg you to choose a route nowhere near our new home for some, but surely not all of these reasons: 1. Currently, we have a transmission line that runs near our home that was not present when we bought it. The constant buzzing from the lines is unfavorable and causes concern of health implications in what is being transmitted through this buzzing/lines. We have read articles of cancer/leukemia in children/decreased milk production in animals (we have therapeutic animals for our kids and raise our own meat)/reproductive concerns for our 6 beautiful girls, etc. we INTENTIONALLY bought our new property to move away from this. 2. Our family (children) does not do well with change. Our kids won't handle the constant noise/chaos of workers being near our property. Our children are outside frequently in their healing journey. I know this is hard to phathom, but often we are dealing with aggression, running away, self harm and more over simply changing the type of cereal offered in the morning. Adding years of construction near our home will cause immense distress for them. 3. We currently have the most beautiful view of the mountains. The kids and I will sit on our porch and just stare out at the view when trying to regulate them. Transmission lines will impede that view and cause immense eye sores for our property. 4. We are building our dream home, due to our children's past, we wanted to make sure they each had their own space when they need it. We have spent MILLIONS on this home and it being our forever, and having transmission line near it will significantly devalue this home. This is our life savings going into helping to give our kids everything they need, the lines will devalue it greatly, which we simply can't afford 5. We bought this property to move AWAY from the current lines we have near our home, we don't want/need them near us. 6. The property is currently quiet without neighbors near/zero access to our property. Again, in building our forever home for our children we needed a quite uncontested space that had immense privacy due to bio families attempting to take them in the past (we have had court and restraining orders over this). The high voltage lines near our home will pollute our privacy by allowing a service road that can be accessed by anyone. Currently there are no egress on sunshine so no one has access to that side of our property. Running high voltage lines through this opens our family up to safety threats for our home/children by providing public access near our home. 7. The noise pollution will again add terrible pollution to our families lives and take away the calm/tranquil environment we thought we had purchased. 8. We are worried about the health and safety of our animals as the metal fencing we have begun to install and catch the lines stray voltage.	1/12/2025	N/A	Dear Jacque Geller, Thank you for sharing your concerns and feedback regarding the proposed Pinal Electric Improvement Project route near your property at [redacted]. We appreciate your willingness to share your vision for your future home and understand the significance of your concerns. Please be assured that we are carefully reviewing all potential routes and will take your request into account. Your contributions to the community are commendable. We would be happy to arrange a meeting at your convenience. To start, may we suggest an initial meeting online through Microsoft Teams or Zoom? Following this, we can schedule an in-person meeting if we feel it would be warranted. Please provide us with a few dates and times that work for you, and we will do our best to accommodate your schedule. Looking forward to your response. Sincerely, Stephen	1/15/2025

Comment Number	Comment	Date	Comment Agency	Response (if necessary)	Date
	These are just a few of the many (and we can continue to produce them) reasons we are writing to bed/urge you to please choose a route far away from our home. We are pleading/begging/crying for you to please consider our family in this. We understand we are “just one family", but the impact of this to our family is grave and immense. We would like to schedule a time to sit down and meet with your team or have them come out and meet our family and our vision for our home at [redacted]. Please let us know when you are available. Sincerely, Jacque Geller				
25	Email: Thomas Jefferson once said, "Only aim to do your duty and mankind will give you credit where you fail." It is because I agree with Thomas Jefferson that I write today. My duty is to ensure my community remains strong and beneficial for those to come after me. I am writing as a fifteen-year-old sickened by what has taken over our once beautiful farmland - the "Improvement Projects." The only thing that these projects are improving is the pockets of these big corporations - i.e. APS. However, I will tell you who it has never once benefitted - the residents of the community that these projects happen in. It has never been beneficial for me, nor my community. Before I get any further, I will recognize one thing - I am grateful for electricity. What I am not grateful for is powerlines that in no way positively affect me. These power lines are transmitting electricity from New Mexico to be further sold to somebody else. Please explain to me how this helps. Never once is it mentioned how it will help me. Instead, all that is coming is the negative consequences. I will try my best to refrain from emotional arguments as I am sure very emotionally convincing arguments have already been presented. Instead, I hope to be blunt and present valid arguments as to why these power lines are a disaster of an idea. I will further detail how it does so in the following points. - Depreciating the value My family has been working day and night for the ability to build our dream house over on [redacted]. When we bought the property, we understood what we were signing up for - land with a pretty view. One of the goals of moving to this new land was to escape what had taken over our previous location - the classic "Improvement projects." Our loved home and the property was surrounded by every form of these projects- including transmission lines. It has been deemed by various studies that properties located within the proximity of these powerlines will face between 10% to 30% decrease of the overall property value (pg 2.) Not only will we lose our beloved view, but also our property value! In what world, does this appear beneficial to my family? - Increased Energy Loss I know this sounds like a counterintuitive, but it has been one that has been proven significantly. According to the U.S. Energy Information Administration, these lines lose about 5-7 % of all energy. Well, you may be curious as to what happens when this energy is lost. It then turns into heat. How does it do this? The remaining electrons released move back and forth, crashing into each other, increasing heat to surrounding areas. I do not have a PHD in physics and electricity, but I can logically use my brain (unlike the people who zoned this project) and physics to see how this will increase the temperature of the surrounding areas. This includes my permanent residence. Arizona is already hot enough. - Increased Safety Hazards When you put big projects near private residents, there will be maintenance (in the best case scenario). However, what happens when maintenance does not occur? Well, they are more liable to fall during a storm, and Arizona is notorious for its desert storms. Furthermore, the likelihood of increased childhood cancer from High Voltage lines has been proven in various studies, starting in 1979. As the oldest of twelve kids, this is terrifying. I hope the risk of ruining someone's life is worth the few bucks you will make. However, this is just one example of HV lines negatively impacting the surrounding community. The World Health Organization identifies that people "can suffer from insomnia, anxiety, headache, skin burns, fatigue, and muscle pain because of radiations from HV power lines." When we bought our new land, we did not agree to that. Instead this is being thrust upon us. - Reduced Privacy During construction, there will be an increased level of traffic on the road that leads to my residence. Why is this an issue? Well, if you intentionally wanted a more private residence due to various security issues (as my family did), this is your worst nightmare. However, the effects go even further than a few months of construction. Under the assumption that proper maintenance will occur (which will need to be proven), there will be continued maintenance. With continued maintenance, there will be service roads. Guess who can use the service roads? Anybody who gets on them. This is an issue. I will stop with these four arguments as I see these to be the most pertinent. However, I would love to present even more if given the opportunity. Thank you for taking the time to read this email. I highly doubt this will change anything, but in good conscience I could not sit around and watch as my community is destroyed. I fervently hope there was some truth in Thomas Jefferson's statement.	1/14/2025	N/A	Dear Cambri, Thank you for your email. Your comments have been noted. Sincerely, Stephen	1/25/2025

Comment Number	Comment	Date	Comment Agency	Response (if necessary)	Date
26	Email: 1. TS-25 to Milligan 230kV Routes o If possible, routing from Milligan down 11-Mile Corner to Philips and then back up to La Palma. is the preferred option. o Outside of this alteration, we are fine with the TS-25 preferred route. 2. TS-25 to Pinal Central 230kV Routes o No issues with the preferred route. 3. Arica to L-10 69kV Routes o No issues with the preferred route. 4. Arica to TS-25 69kV Routes o No issues with the preferred route. 5. Eloy170 and Milligan Road Realignment o The realignment of Milligan Road will be a requirement of the Eloy 170 subdivision and Maverik development along Sunshine Blvd. o Estimated Timeline: From a staff perspective we wouldn't be able to provide that feedback but If we had to give an estimate, we'd say the Eloy 170 residential development is probably somewhere between 3-5 years out. o Current status on commercial component along sunshine: The Maverik project is moving through our planning process now, and is likely to initiate within the year. o Please refer to the attached documents for the proposed realignment of Milligan Road. 6. Solar Projects o We've included a GIS map outlining solar projects near the route plans. o After consulting with our Community Development Director, we don't anticipate any significant impact on solar projects due to your proposal as you're primarily following road configurations/alignments. Let me know if you need additional clarification or further details.	1/14/2025	City of Eloy	Mackenzie, Thank you for your comments below. This is very helpful and much appreciated. Might you help us to clarify the anticipated future Milligan Road alignment? Are we correct in understanding that Milligan Road will be realigned along the southern yellow line ("Site Boundary") indicated in the image below? Thank you again for your detailed input throughout this process!	1/16/2025

Comment Number	Comment	Date	Comment Agency	Response (if necessary)	Date
27	Email: I'm writing this regarding the proposed transmission line that affects our primary residence on Selma Highway near the sunshine County easement at [redacted]. We bought this property about a year and a half ago, and this is the first mention of any further infrastructure development projects that would be near our property. We intentionally bought this piece of land because it couldn't be developed around. The land to the east of our property is state trust land, to the north is the San Carlos Irrigation canal. Also, the sunshine easement on the east of our property is currently listed as a county drainage ditch. There is no ingress nor egress, or public access currently granted there. If you guys use this location to run your powerline through, there will be a permanent road with public access running right beside our property. I spent nearly 6 months and moved thousands of yards of dirt, building a privacy fence and landscaping that protects our house and property from public view on both the front and the back of our property. We have 12 kids, most of them have special needs, some of them come from challenging backgrounds, and are still haunted by their past as their biological families constantly stalk and harass us. We bought this property and we will spend nearly $2 million developing it to give our children security and a safe place to grow up. Your powerline project will allow unimpeded access to one full side of our property. If we would've had any idea that there was a proposed Powerline project that would run close to our property, We would not have purchased nor sunk our life savings and $1 million in debt into this property. This project will also devalue our property. We currently have tremendous views that will be obstructed by powerlines and their massive poles. We are very familiar with the crackling and rattling that these powerlines produce. In fact, that is one of the main reasons we are moving from our current location as we are trying to escape the constant annoyance and health concerns that the high tension powerlines built next to our property also after we purchased. Our current house is over 300 feet away from the powerlines and we can still hear the sizzling, crackling, and rattling that these powerlines produce. The worst part is what you can't see or hear, the numerous known and verified health effects of stray voltage. We built this property to keep our children safe from visible threats and invisible ones. I don't need to bore you with the facts about stray voltage. There are plenty of studies that show the dangers, and we both know there are studies that were paid for by power companies that say it is safe or undetermined risk. Either way we did not buy a a house that was near high voltage, powerlines. In fact, we built our house to be as far away from them as we could. I understand eminent domain, I understand the power companies answer to virtually no one, and have unlimited funds to work with. I understand this is falling on deaf ears, but as I do in everything, my time on earth is spent for my kids and my family, I will work as hard as I can to keep them safe. As a father and husband, I am begging you to please use an alternate route for this project. Run it beside existing power lines, run it down a major highway, please any where except beside my house and my family. We would like to schedule an in person meeting at our property at your earliest convenience. Thank you for your time. Jeremy Geller [redacted]	1/21/2025	N/A	Mr. Geller, It was good to talk to you the other day, and I appreciate the opportunity to clarify a few things regarding our project. I just wanted to follow up our conversation in an email to ensure we have your correct mailing address and summarize the key point of our discussion. I understand that you have recently moved into your new home on Selma Highway and given that recent move I want to be sure we have your current mailing address in our mailing list. We have your prior mailing address listed as [redacted]. Is this still the best mailing address for you, or should we update our information to reflect the address of your new home? Rest assured, we hear your concerns and take every comment seriously to help determine the best routes for these lines. As we discussed, based on recent stakeholder feedback, including valuable input from agencies and landowners like yourself, we have identified an alternative alignment further east of your property along La Palma Road. This route appears to be a better fit for the preferred path, rather than the Sunshine Blvd alignment. Thank you once again for being involved in the process to help us find the best routes for power lines, which are crucial for providing reliable energy to the growing communities in the region. Please feel free to reach out to me via email or phone if you have any further questions or concerns.	1/24/2025
28	Email: Good morning, Richard and Stephen - This is a follow up to our meeting on January 15, 2025 regarding the proposed preferred and alternative routes for the line siting within the APS Pinal Electrical Improvement Project. Thank you for arranging the meeting and allowing County staff the opportunity to provide input into APS plans for upgrading and improving electrical service in central Pinal County. After hearing the SWCA presentation and reviewing the routes, there was consensus to support the preferred routes as proposed - TS-25 to Pinal Central; TS-25 to Milligan 230kv; Arica to L-10 Preferred Route; and Arica to TS-25 Preferred Route. Please let me know if you have any questions on this staff input on APS improvement plans. Thank you. Harvey Krauss, Planning Manager, [redacted]	1/29/2025	Pinal County	No response required.	N/A
29	Email: "Lupe Martinez/Stephen Eich - I am representing Sellers who have property at [redacted]. They shared with me recently some mail they received from you regarding some new power lines that will be installed. In looking at the overall map on your website, it is difficult to determine if this will positively impact their particular subdivision (Toltec). If you would have time to share a bit more insight that would be greatly appreciated! They have had the lot for sale for almost 2 years, but are wondering if they should wait until these lines are installed to re-list if these lines will be close enough to this subdivision to improve the value of their lot. Thank you! Kelly"	5/28/2025	Coldwell Banker Realty	Dear Kelly, Thank you for your inquiry, and I apologize for the late reply. I used Google Earth to measure the distance of about 1.1 miles from [redacted] to the nearest point of the planned powerline, shown as the green line in the image below. I couldn't say if or how this might affect the property value of your clients, perhaps a licensed appraiser may have some input on that. However, even though this project is not specific to any one particular customer/subdivision, it will help to improve the reliability and redundancy for APS customers in the area. Please feel free to contact me with any further questions or concerns related to this project. Or, for any other power related questions in general, you can contact our main customer service line at (800) 253-9405. Sincerely, Stephen Eich Siting Consultant Senior	6/23/2025

Comment Number	Comment	Date	Comment Agency	Response (if necessary)	Date
30	Email: "Good Afternoon, I own property at the following address: [redacted] I had a difficult time seeing if the power line is coming near my property. Please provide additional information to me. Thank you, Glenice Vipond"	5/30/2025	N/A	Dear Glenice, Thank you for your inquiry, and I apologize for the late reply. I used Google Earth to measure the distance from your property to the planned powerlines: 69kV (green line): About 2.6 miles to the south/southeast 230kV (blue line): About 4.5 miles to the northeast The effort to determine the location of the lines has been completed, but construction for both lines is not anticipated until later this year or early 2026. The 230kv line (blue line) will need a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission (ACC) before construction can begin. We will apply for that CEC in late July, and a hearing is scheduled before the Arizona Power Plant and Transmission Line Siting Committee in September. If the Committee approves the project, the ACC will review it and make a final decision by November. Information will continue to be updated on our project website at www.aps.com/pinalproject. Please feel free to contact us with any further questions or concerns. Sincerely, Stephen Eich Siting Consultant Senior	6/23/2025
31	Email: "Good morning, We received the attached notice from your office. Are there any expect easements needed for this project? If so, when can we expect to be alerted of such? Additionally, are any power outages expect during the project timeline? Kind Regards, Shanna Smith Manager, Lease Administration"	5/30/2025	CVS Health	Dear Shanna, Thank you for your inquiry, and I apologize for the late reply. Based on the address name shown on your newsletter (1686 East Florence LLC), it appears the property is located at [redacted]. A street view shows a CVS located here (NW corner of Florence Blvd & Arizola Rd), and I assume this is the site you're referring to based on your subject line. If this is indeed the site, you can rest assured that none of the powerlines for this project will cross the CVS property. In fact, it appears your property would be more than 8.5 miles west of the closest part of the preferred route for the project. Construction is anticipated to begin later this year or early 2026, but I do not anticipate any outages to your property during construction. However, if any outages are required for this, or any APS project, proper notification will be given and arrangements can be made to mitigate any outage concerns. Please feel free to contact me with any further questions or concerns related to this project. Or, for any other power related questions in general, you can contact our main customer service line at (800) 253-9405). Sincerely, Stephen Eich Siting Consultant Senior	6/23/2025

Exhibit J-1. April 2024 newsletter, front.

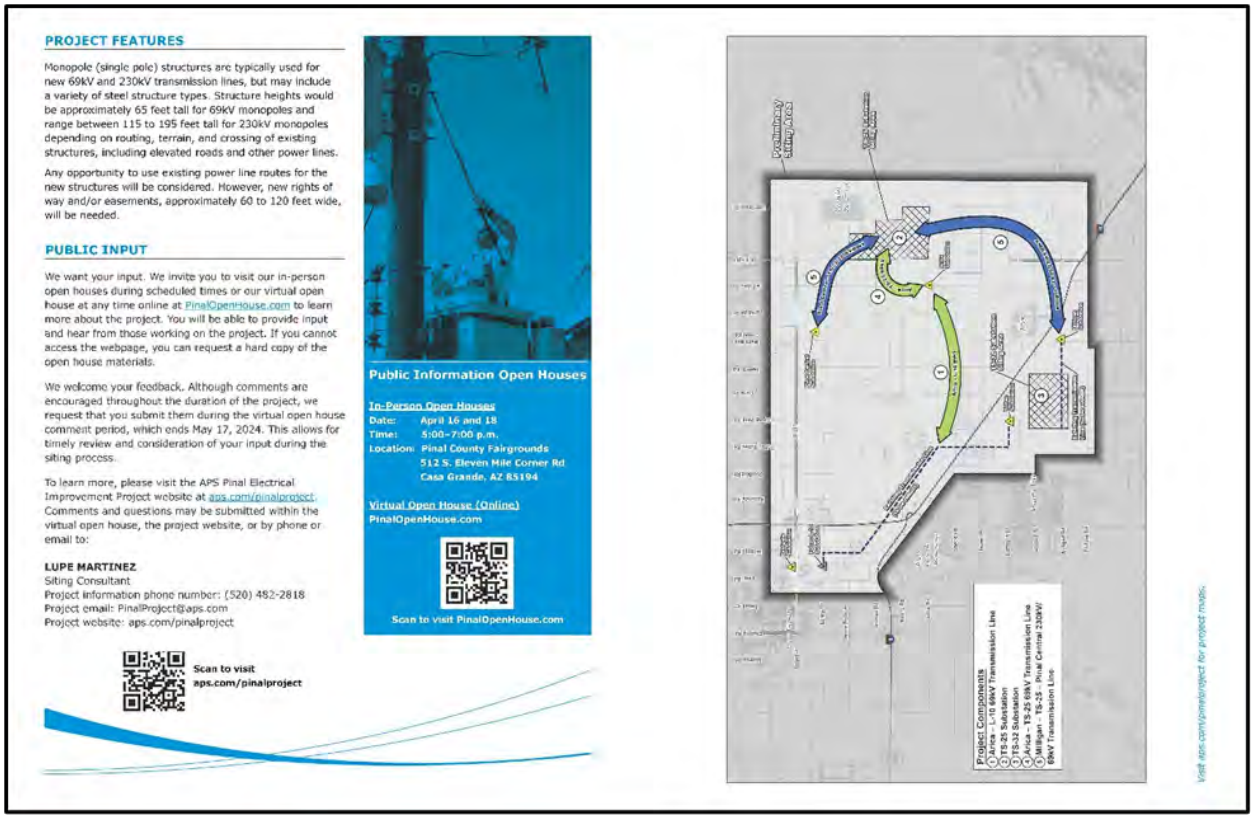


Exhibit J-2. April 2024 newsletter, back.

Exhibit J-3. November 2024 newsletter, front.

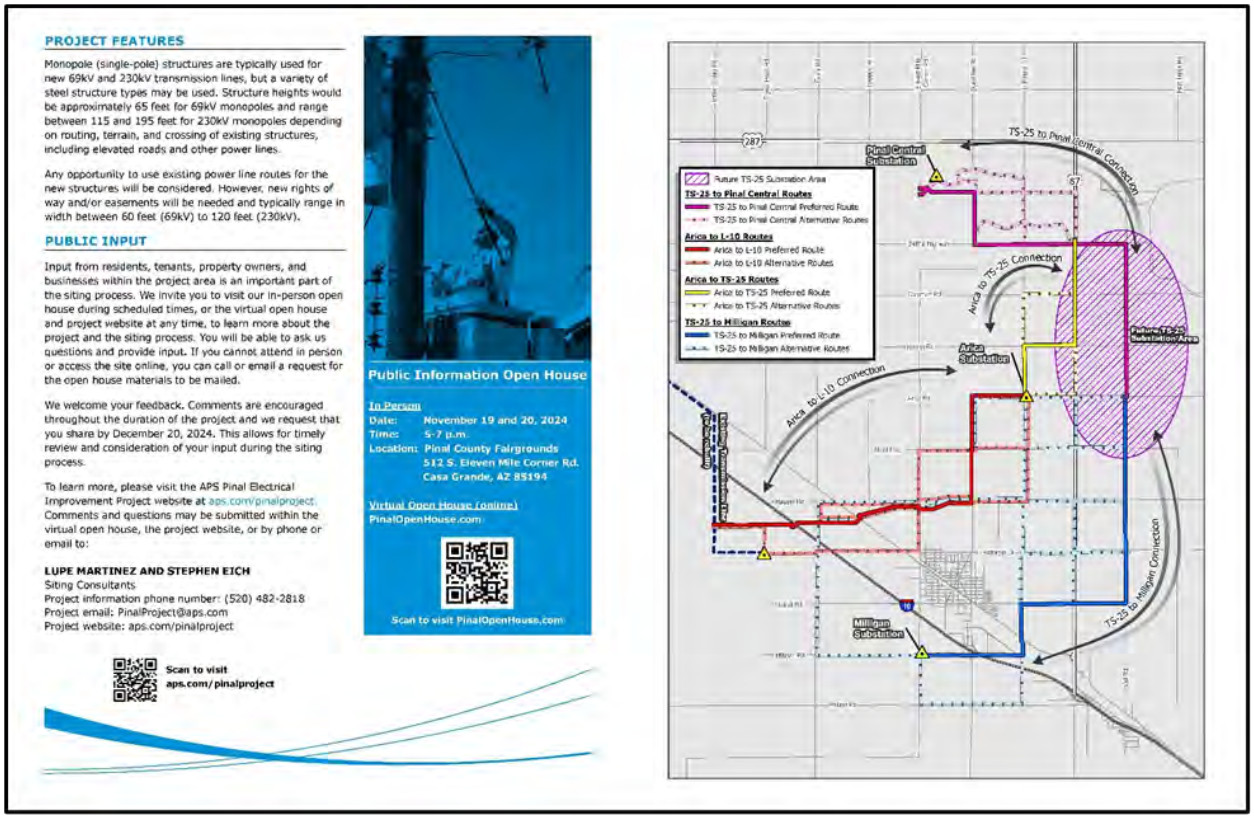
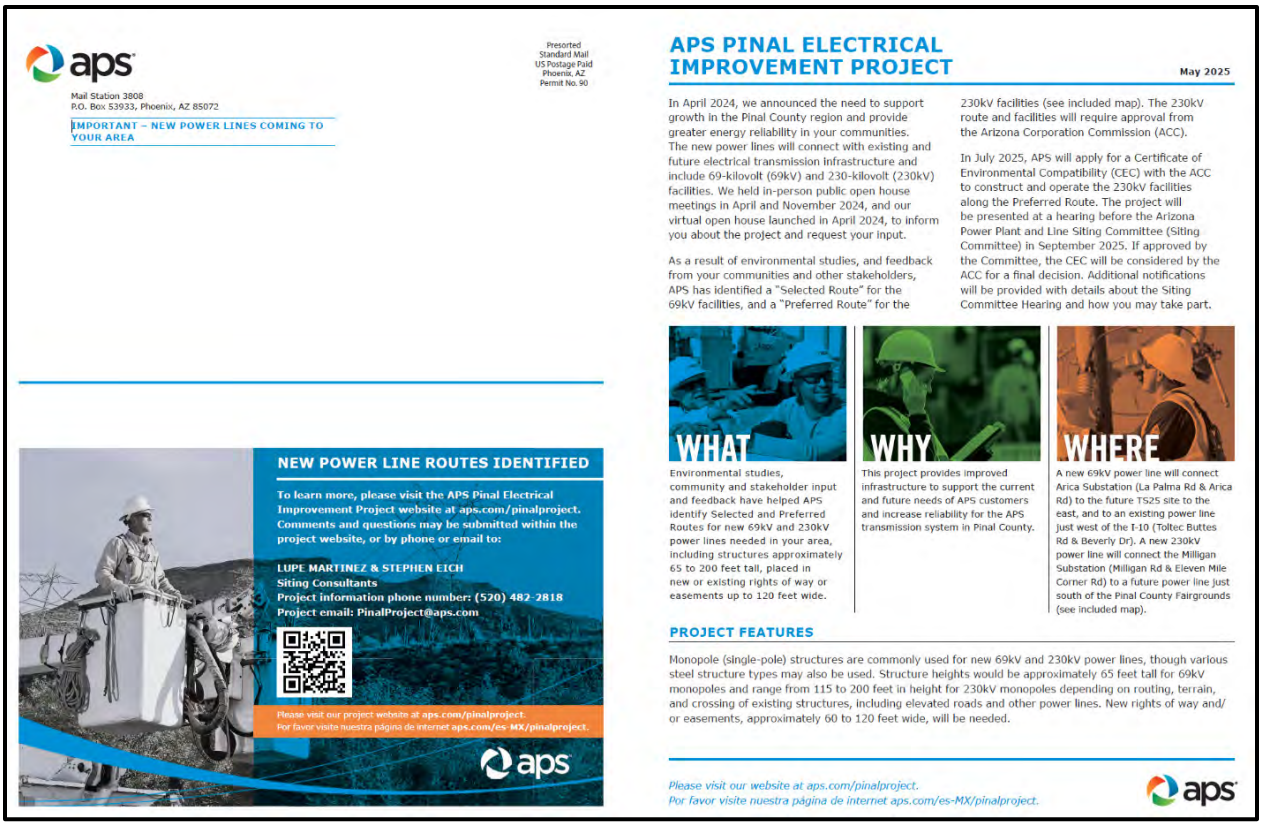


Exhibit J-4. November 2024 newsletter, back.



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Mail Station 3808
P.O. Box 53933, Phoenix, AZ 85072

IMPORTANT – NEW POWER LINES COMING TO YOUR AREA

Presorted
Standard Mail
US Postage Paid
Phoenix, AZ
Permit No. 90

NEW POWER LINE ROUTES IDENTIFIED

To learn more, please visit the APS Pinal Electrical Improvement Project website at aps.com/pinalproject. Comments and questions may be submitted within the project website, or by phone or email to:

LUPE MARTINEZ & STEPHEN EICH
Siting Consultants
Project information phone number: (520) 482-2818
Project email: PinalProject@aps.com

Please visit our project website at aps.com/pinalproject.
Por favor visite nuestra página de internet aps.com/es-MX/pinalproject.

aps

APS PINAL ELECTRICAL IMPROVEMENT PROJECT

May 2025

In April 2024, we announced the need to support growth in the Pinal County region and provide greater energy reliability in your communities. The new power lines will connect with existing and future electrical transmission infrastructure and include 69-kilovolt (69kV) and 230-kilovolt (230kV) facilities. We held in-person public open house meetings in April and November 2024, and our virtual open house launched in April 2024, to inform you about the project and request your input.

As a result of environmental studies, and feedback from your communities and other stakeholders, APS has identified a "Selected Route" for the 69kV facilities, and a "Preferred Route" for the 230kV facilities (see included map). The 230kV route and facilities will require approval from the Arizona Corporation Commission (ACC).

In July 2025, APS will apply for a Certificate of Environmental Compatibility (CEC) with the ACC to construct and operate the 230kV facilities along the Preferred Route. The project will be presented at a hearing before the Arizona Power Plant and Line Siting Committee (Siting Committee) in September 2025. If approved by the Committee, the CEC will be considered by the ACC for a final decision. Additional notifications will be provided with details about the Siting Committee Hearing and how you may take part.

Environmental studies, community and stakeholder input and feedback have helped APS identify Selected and Preferred Routes for new 69kV and 230kV power lines needed in your area, including structures approximately 65 to 200 feet tall, placed in new or existing rights of way or easements up to 120 feet wide.

This project provides improved infrastructure to support the current and future needs of APS customers and increase reliability for the APS transmission system in Pinal County.

A new 69kV power line will connect Arica Substation (La Palma Rd & Arica Rd) to the future TS25 site to the east, and to an existing power line just west of the I-10 (Toltec Buttes Rd & Beverly Dr). A new 230kV power line will connect the Milligan Substation (Milligan Rd & Eleven Mile Corner Rd) to a future power line just south of the Pinal County Fairgrounds (see included map).

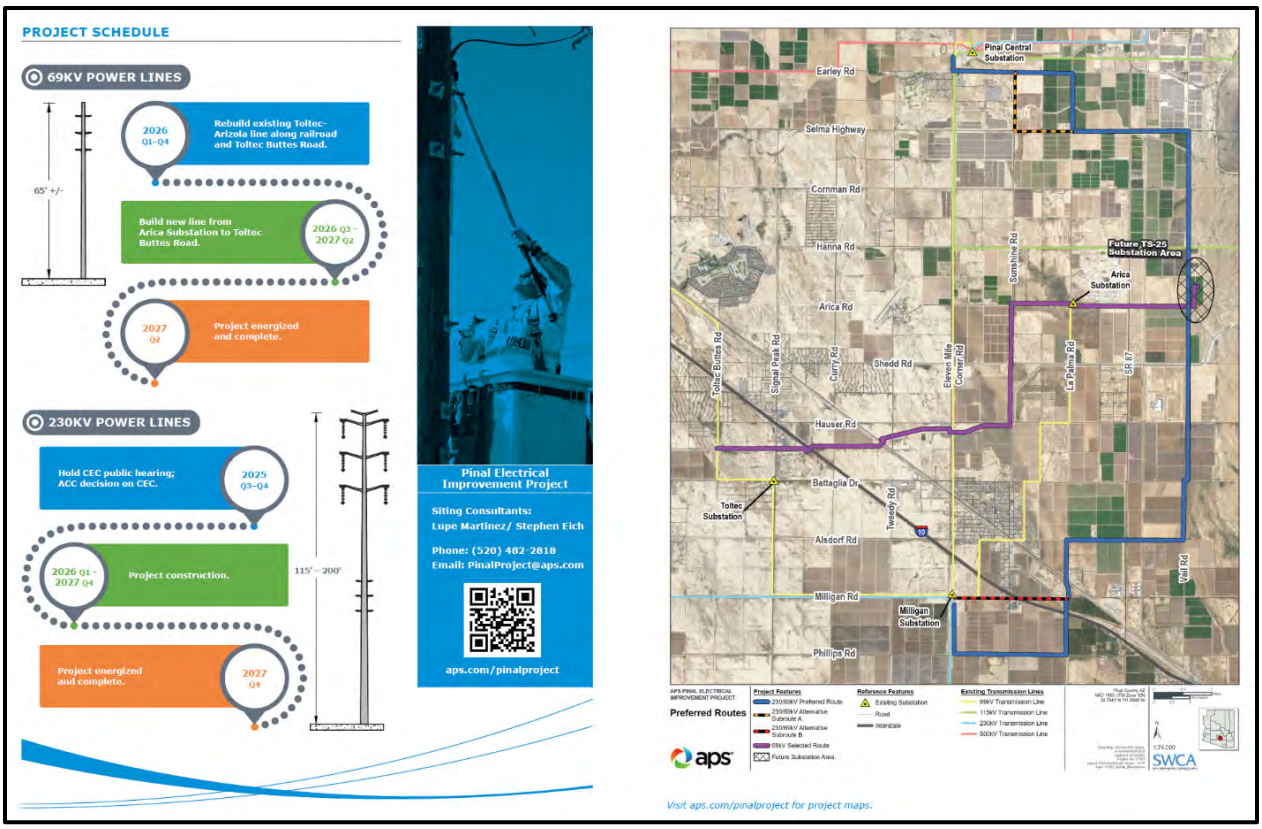
PROJECT FEATURES

Monopole (single-pole) structures are commonly used for new 69kV and 230kV power lines, though various steel structure types may also be used. Structure heights would be approximately 65 feet tall for 69kV monopoles and range from 115 to 200 feet in height for 230kV monopoles depending on routing, terrain, and crossing of existing structures, including elevated roads and other power lines. New rights of way and/or easements, approximately 60 to 120 feet wide, will be needed.

Please visit our website at aps.com/pinalproject.
Por favor visite nuestra página de internet aps.com/es-MX/pinalproject.

aps

Exhibit J-5. May 2025 newsletter, front.



PROJECT SCHEDULE

69KV POWER LINES

65' +/-

2026 Q1–Q4 — Rebuild existing Toltec–Arizola line along railroad and Toltec Buttes Road.

Build new line from Arica Substation to Toltec Buttes Road. — 2026 Q3 – 2027 Q2

2027 Q2 — Project energized and complete.

230KV POWER LINES

115' – 200'

Hold CEC public hearing; ACC decision on CEC. — 2025 Q3–Q4

2026 Q1 – 2027 Q4 — Project construction.

Project energized and complete. — 2027 Q4

Pinal Electrical Improvement Project

Siting Consultants:
Lupe Martinez/ Stephen Eich

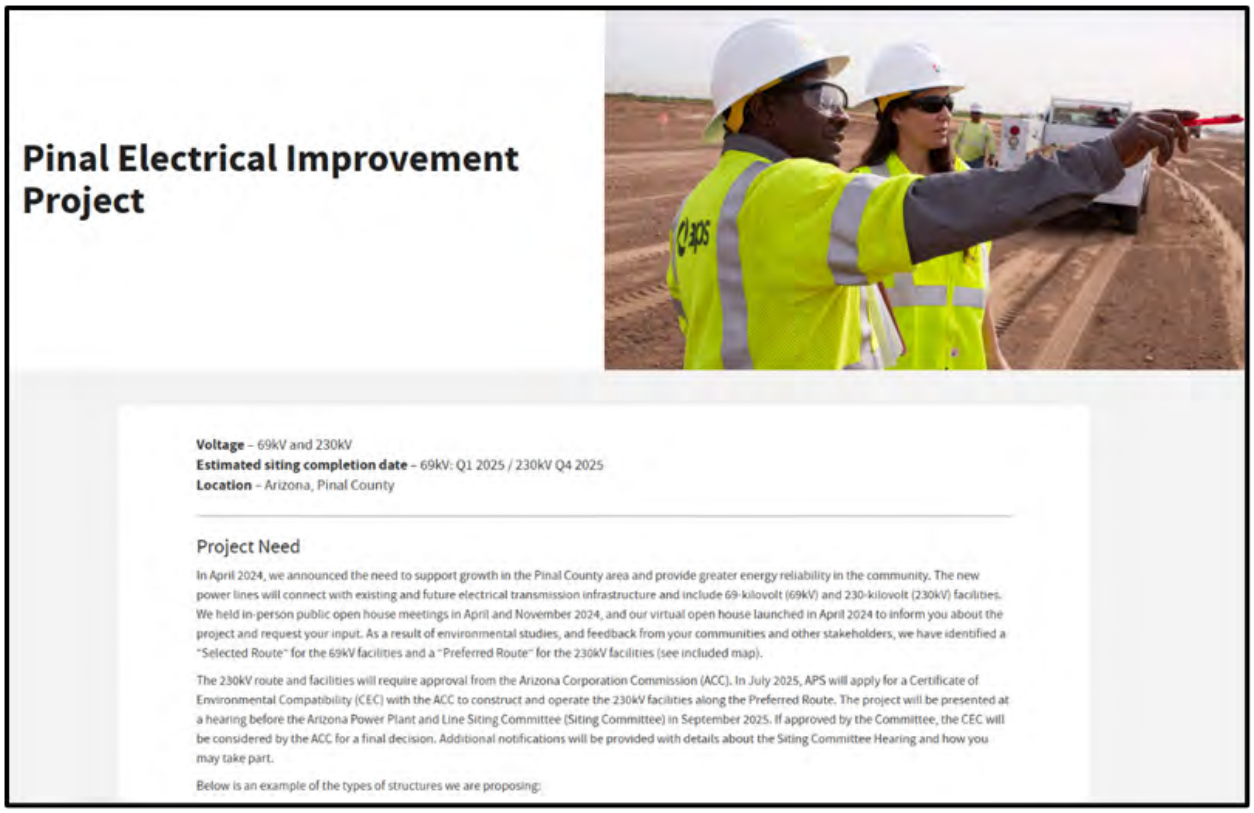
Phone: (520) 482-2818
Email: PinalProject@aps.com

aps.com/pinalproject

aps

Visit aps.com/pinalproject for project maps.

Exhibit J-6. May 2025 newsletter, back.



Pinal Electrical Improvement Project

Voltage – 69kV and 230kV
Estimated siting completion date – 69kV: Q1 2025 / 230kV Q4 2025
Location – Arizona, Pinal County

Project Need

In April 2024, we announced the need to support growth in the Pinal County area and provide greater energy reliability in the community. The new power lines will connect with existing and future electrical transmission infrastructure and include 69-kilovolt (69kV) and 230-kilovolt (230kV) facilities. We held in-person public open house meetings in April and November 2024, and our virtual open house launched in April 2024 to inform you about the project and request your input. As a result of environmental studies, and feedback from your communities and other stakeholders, we have identified a "Selected Route" for the 69kV facilities and a "Preferred Route" for the 230kV facilities (see included map).

The 230kV route and facilities will require approval from the Arizona Corporation Commission (ACC). In July 2025, APS will apply for a Certificate of Environmental Compatibility (CEC) with the ACC to construct and operate the 230kV facilities along the Preferred Route. The project will be presented at a hearing before the Arizona Power Plant and Line Siting Committee (Siting Committee) in September 2025. If approved by the Committee, the CEC will be considered by the ACC for a final decision. Additional notifications will be provided with details about the Siting Committee Hearing and how you may take part.

Below is an example of the types of structures we are proposing:

Exhibit J-7. Project website screenshot, Page 1 of 4.

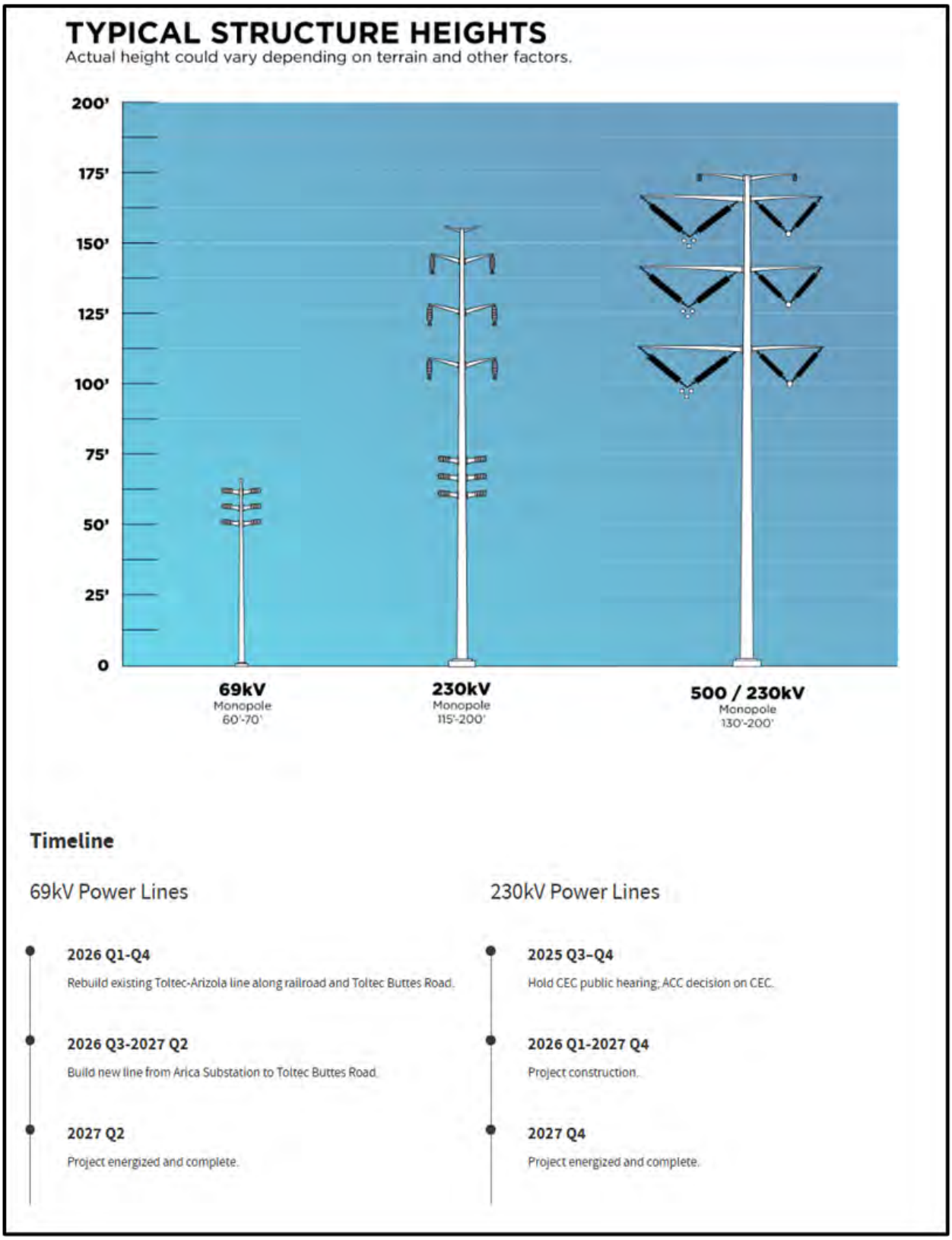


Exhibit J-8. Project website screenshot, Page 2 of 4.

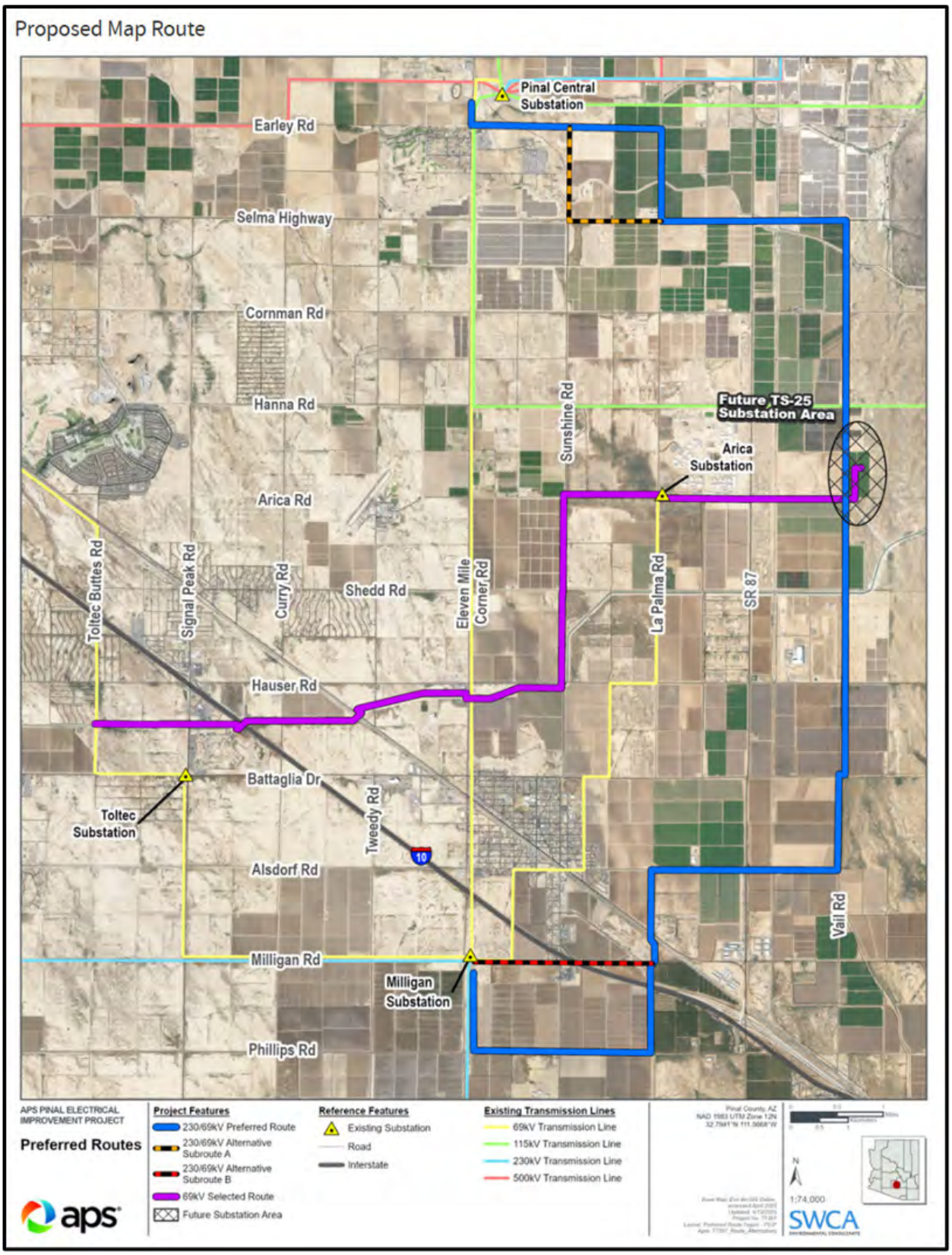


Exhibit J-9. Project website screenshot, Page 3 of 4.

For more information:

Project information phone line:(520) 482-2818

Project email: **PinalProject@aps.com**

Lupe Martinez and Stephen Eich, Siting Consultants

Arizona Public Service

2121 West Cheryl Drive

Mail Station 3808

Phoenix, AZ 85021

Thank you for providing valuable input that helps us serve your area with safe and reliable energy now and into the future.

Watch the video below to learn more about the project.

Related materials

- **November 2024 Newsletter**
- **April 2024 Newsletter**
- **Open House 1 Materials**
- **Open House 2 Materials** (19.6MB PDF)
- **May 2025 Newsletter**

Exhibit J-10. Project website screenshot, Page 4 of 4.

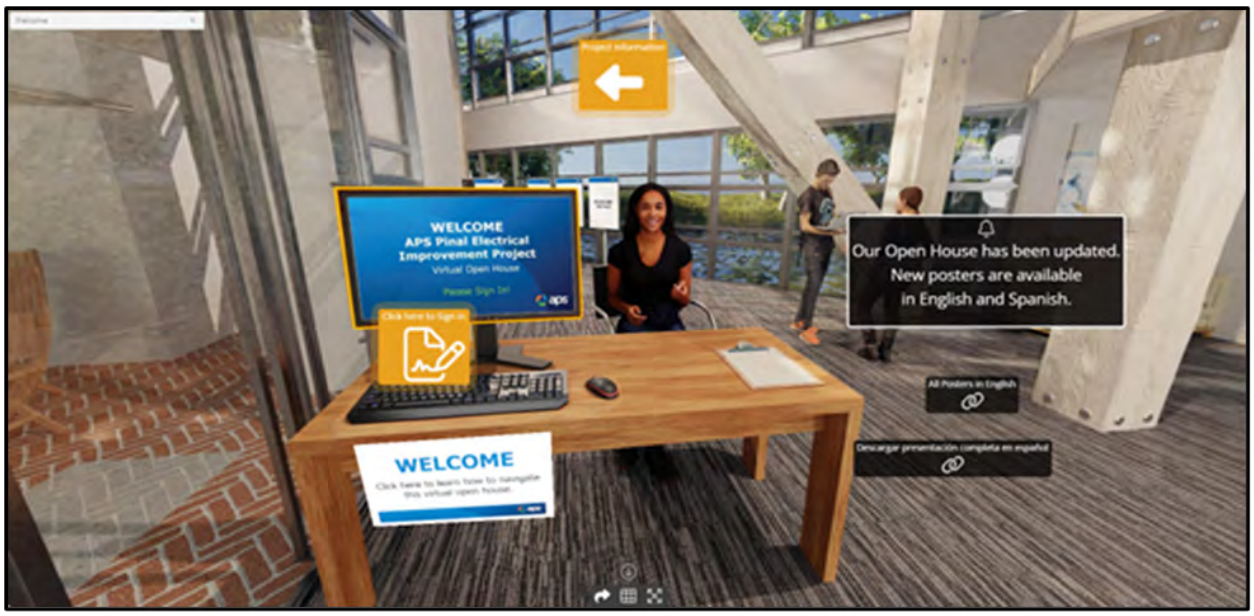


Exhibit J-11. Project virtual open house, Welcome area.

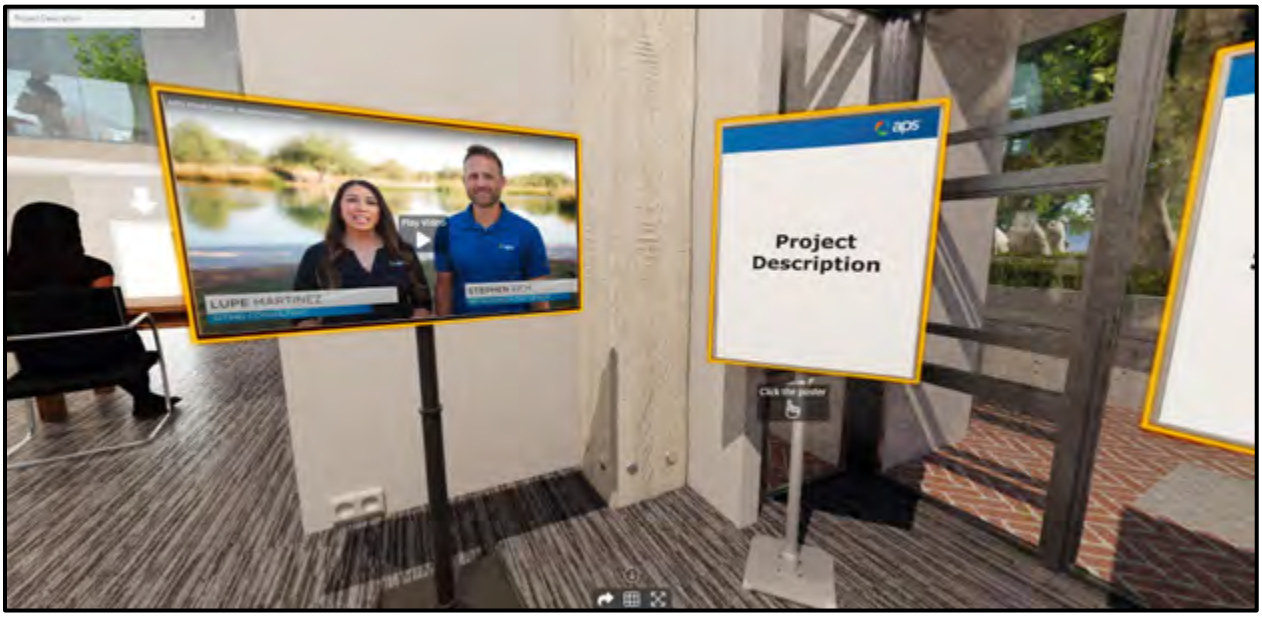


Exhibit J-12. Project virtual open house, Project Information area, left.

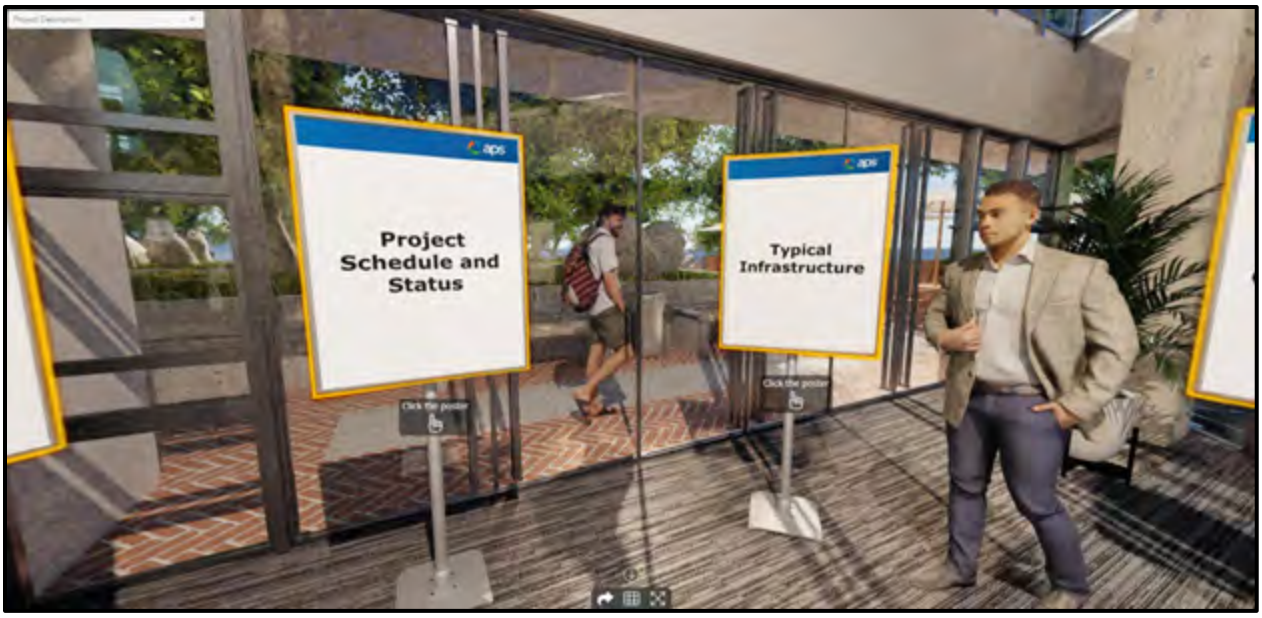


Exhibit J-13. Project virtual open house, Project Information area, center.

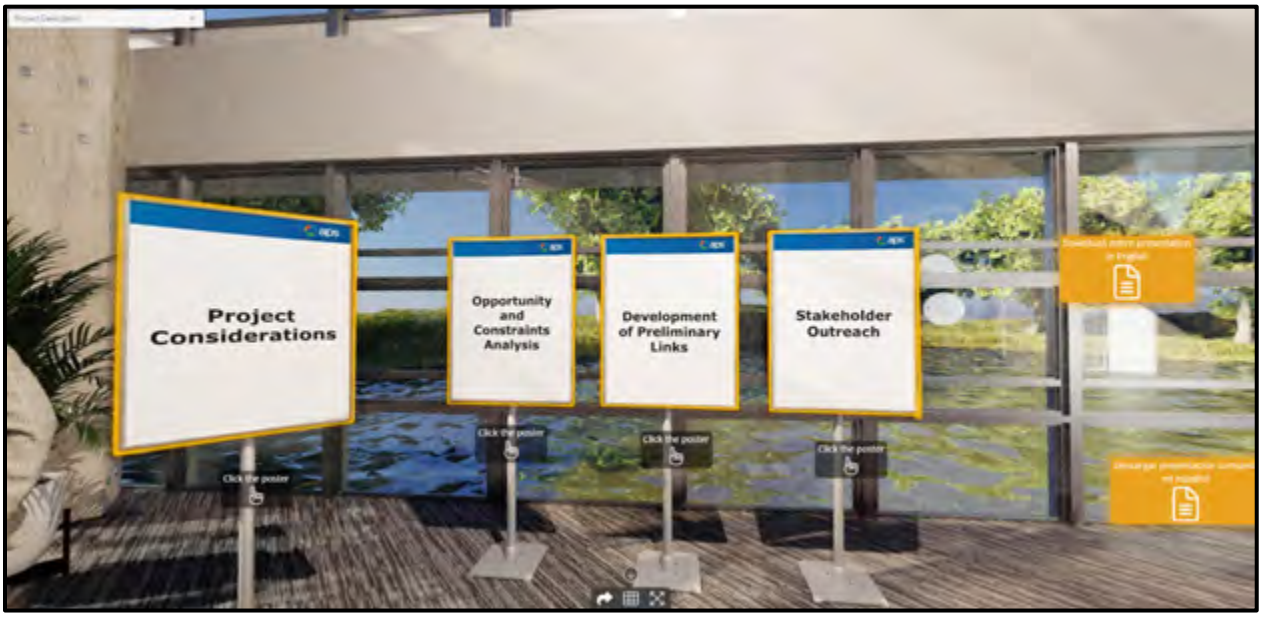


Exhibit J-14. Project virtual open house, Project Information area, right.

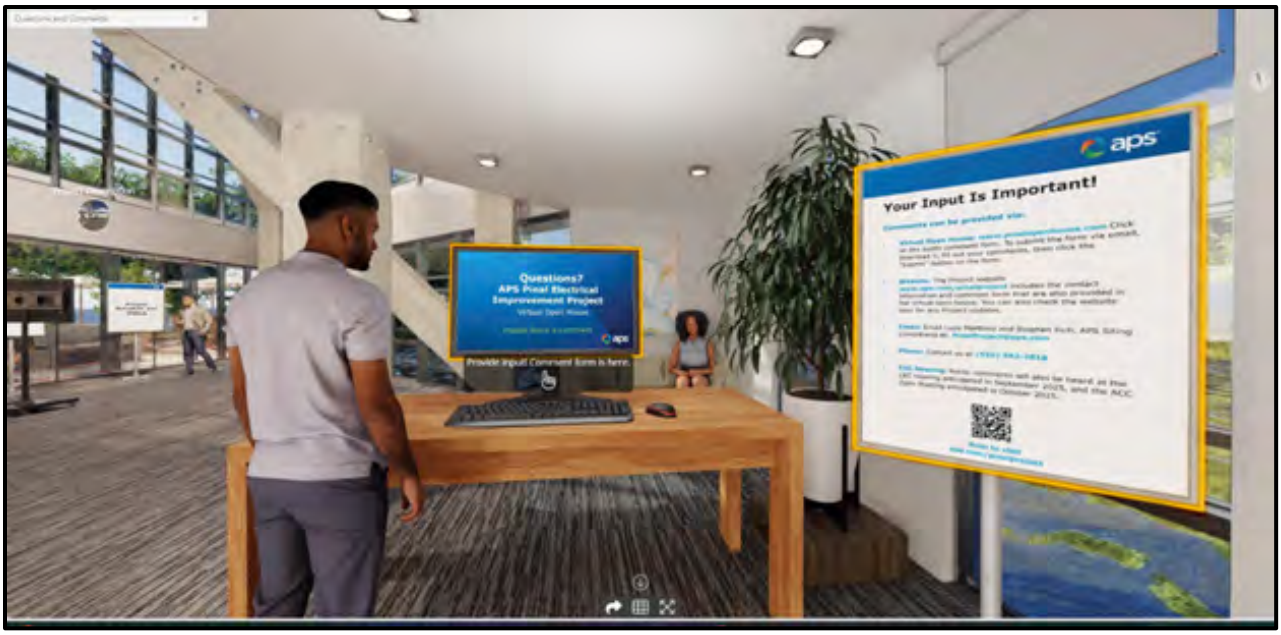


Exhibit J-15. Project virtual open house, Questions and Comments area.

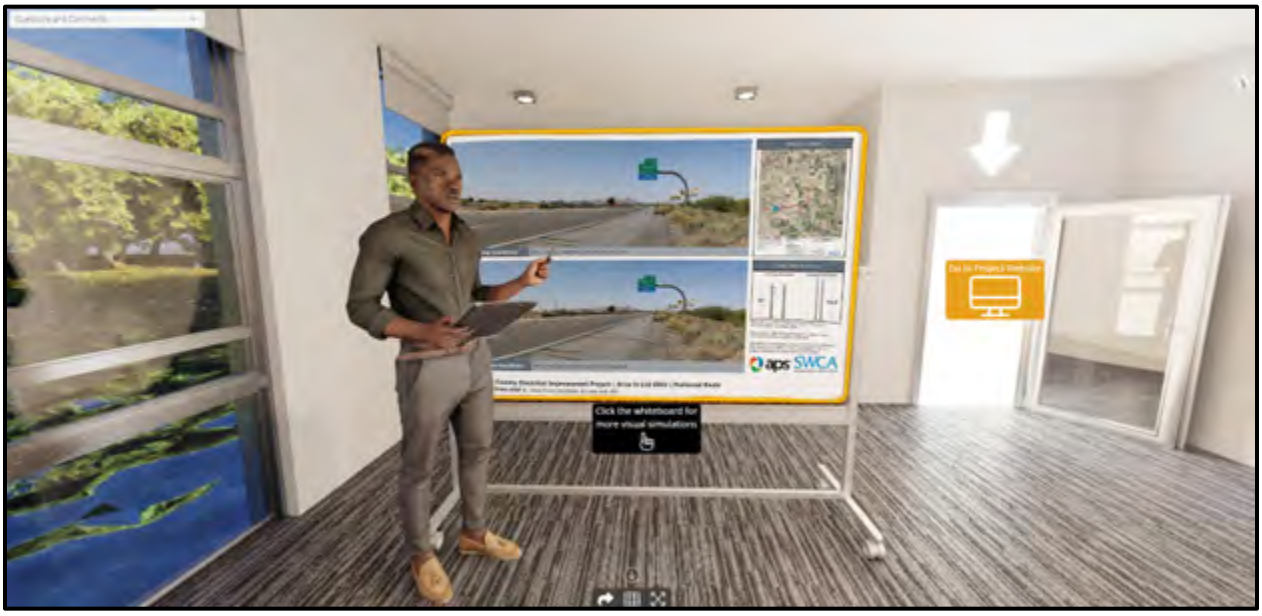


Exhibit J-16. Project virtual open house, Visual Simulation area, right.

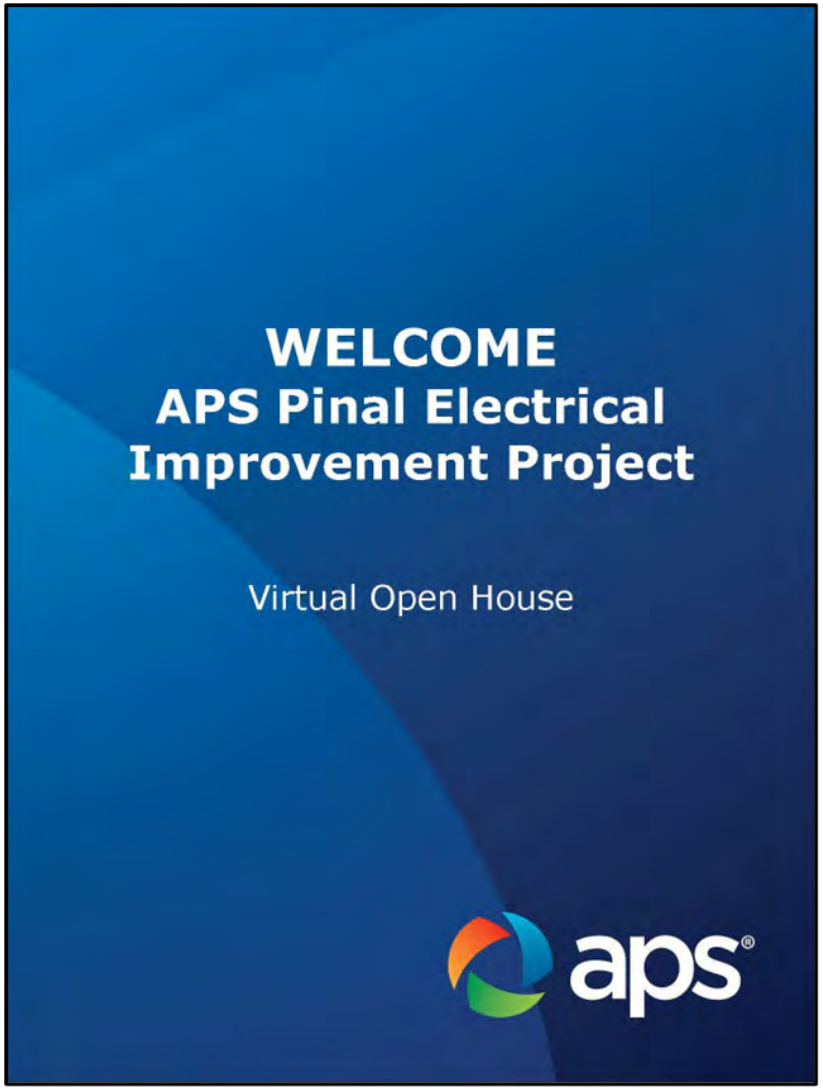


Exhibit J-17. April 2024 virtual open house, Slide 1.

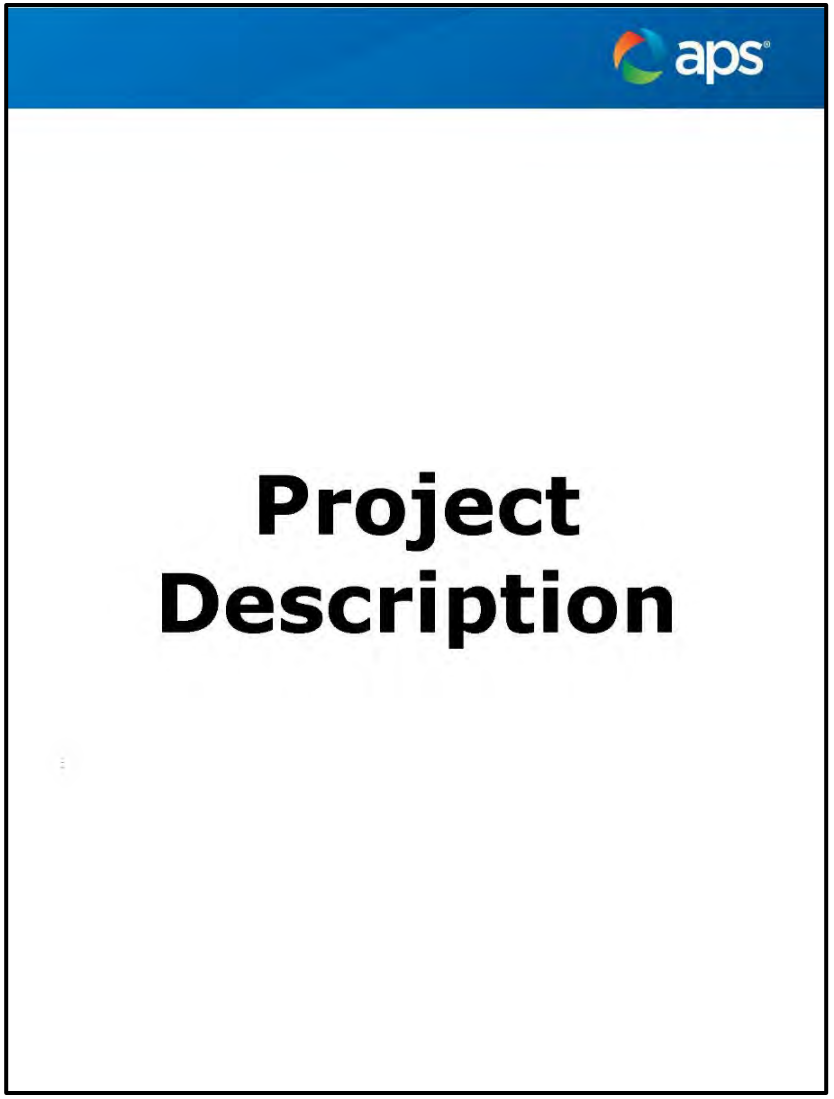


Exhibit J-18. April 2024 virtual open house, Slide 2.

Project Overview

Arizona Public Service (APS) has started studies for the **Pinal Electrical Improvement Project** to determine appropriate locations for three new transmission lines and two new substations in the Pinal County area.

These 230kV and 69kV facilities will connect with existing transmission infrastructure and include the five Project components listed below.

1. **Arica – L-10 69kV Transmission Line –** Approximately 15-mile-long, 69kV overhead line from the existing Arica substation to the future L-10 substation
2. **TS-25 Substation –** 20-acre 230/69kV substation in a 2,845-acre siting area
3. **TS-32 Substation –** 20-acre 230/69kV substation in a 1,942-acre siting area
4. **Arica –TS-25 69kV Transmission Line –** Approximately 3.2-mile-long, 69kV transmission line from TS-25 substation to Arica substation
5. **Milligan –TS-25 – Pinal Central 230kV/69kV Transmission Line –** Approximately 20-mile 230/69kV transmission line, which may include new and rebuilt portions. Will require State of Arizona CEC permitting.

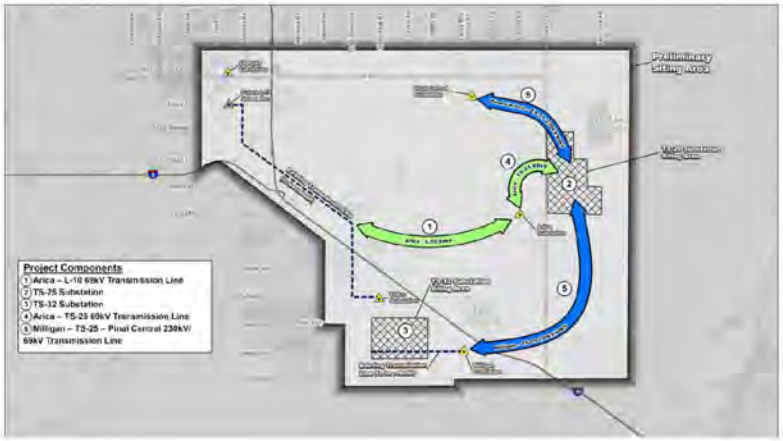


Exhibit J-19. April 2024 virtual open house, Slide 3.

Project Need and Details

- The Project provides route options to support current and future APS customers. These Project components will provide additional reliability and redundancy for the APS transmission system in Pinal County.
- The Project will require new electrical infrastructure, including new steel poles. Refer to the "Typical Infrastructure" board for examples of typical structures.

Exhibit J-20. April 2024 virtual open house, Slide 4.

Project Location

- The preliminary siting area that is being evaluated includes existing substations and infrastructure needed to support the proposed improvements and is large enough to allow for the analysis of multiple routes that meet the Project need.
- The preliminary siting area is located largely within Casa Grande, Eloy, Coolidge, and unincorporated Pinal County, Arizona.
- The Project will connect existing 230kV transmission lines near Interstate 10 to existing and planned substations near the intersection of Curry Road and Milligan Road and near the intersection of State Route 87 and Selma Highway.

Exhibit J-21. April 2024 virtual open house, Slide 5.

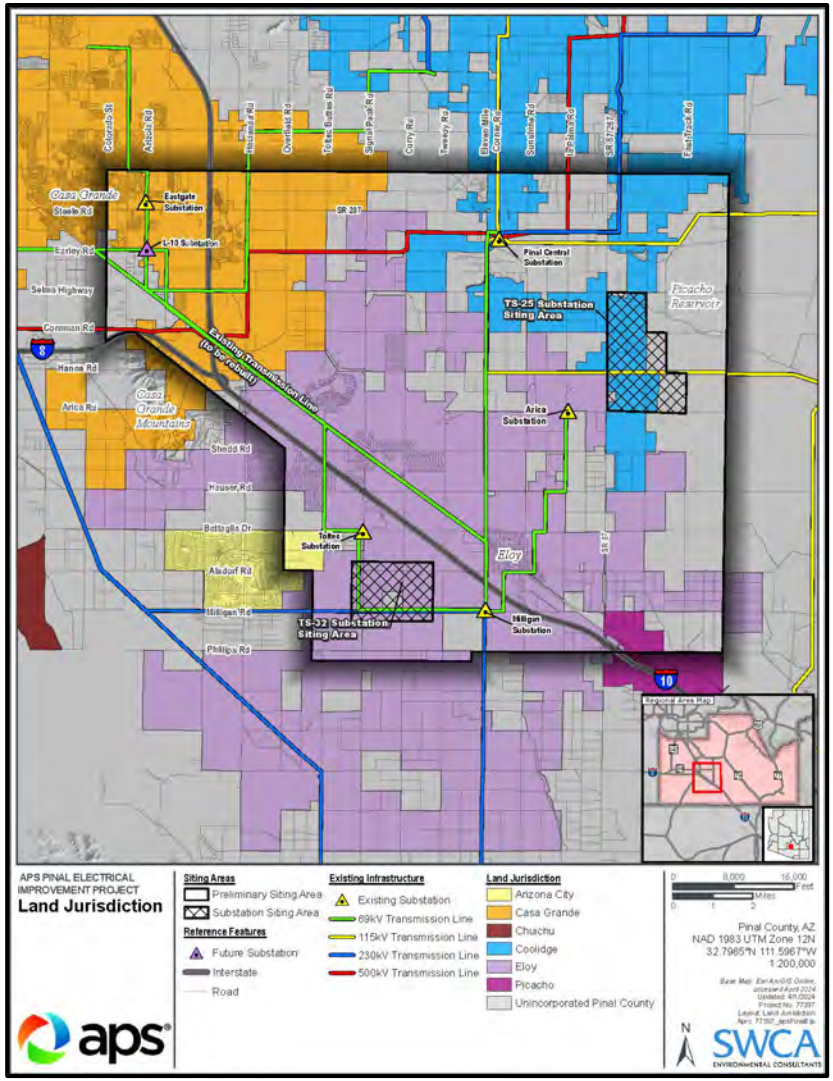


Exhibit J-22. April 2024 virtual open house, Slide 6.

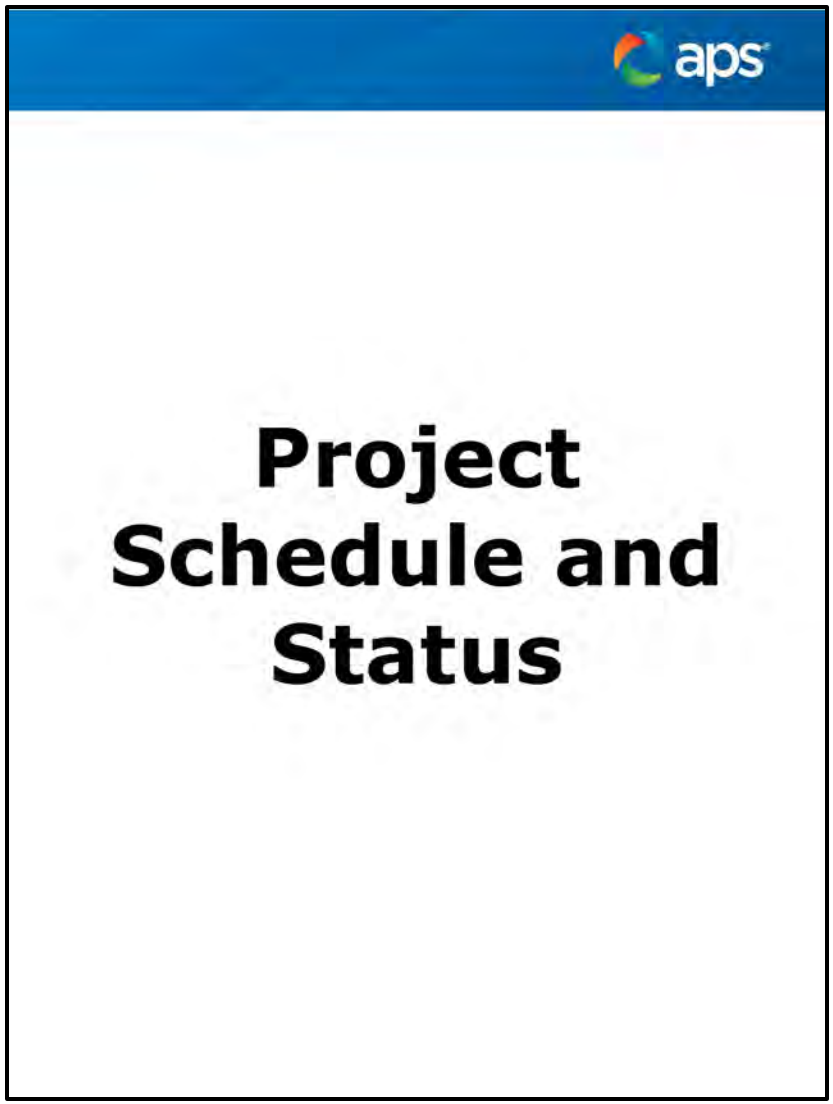


Exhibit J-23. April 2024 virtual open house, Slide 7.

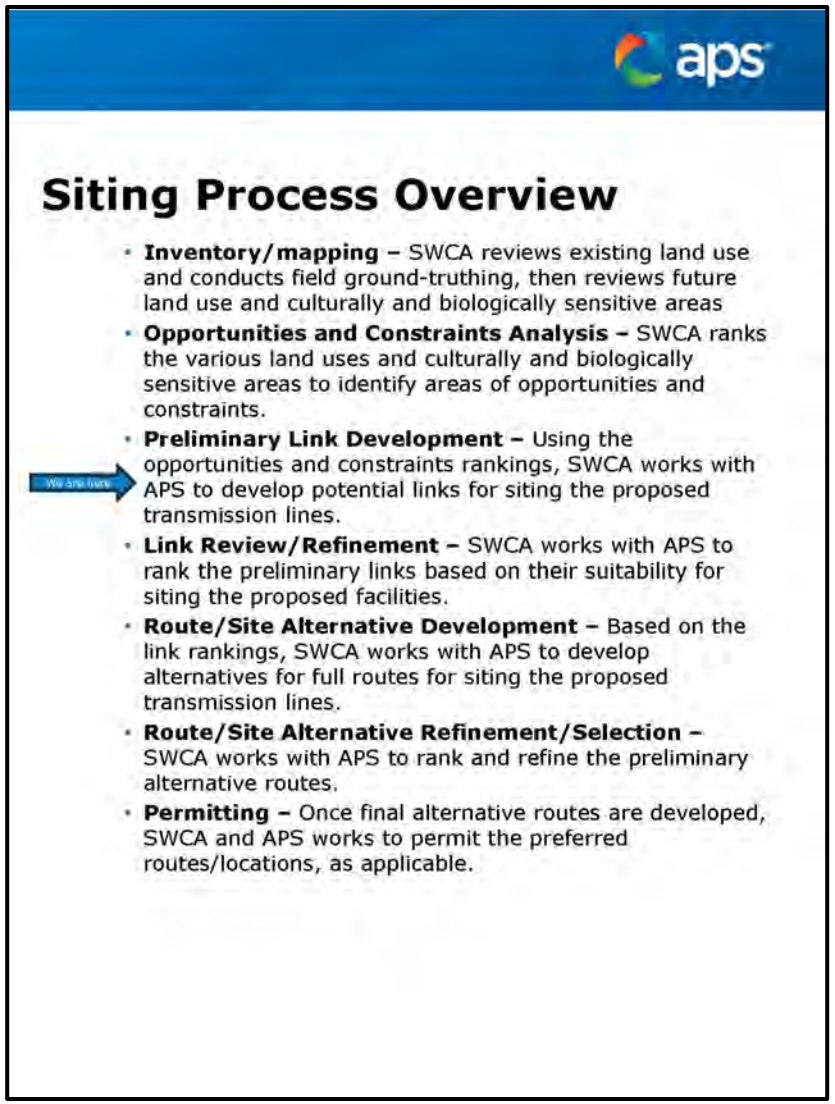


Exhibit J-24. April 2024 virtual open house, Slide 8.

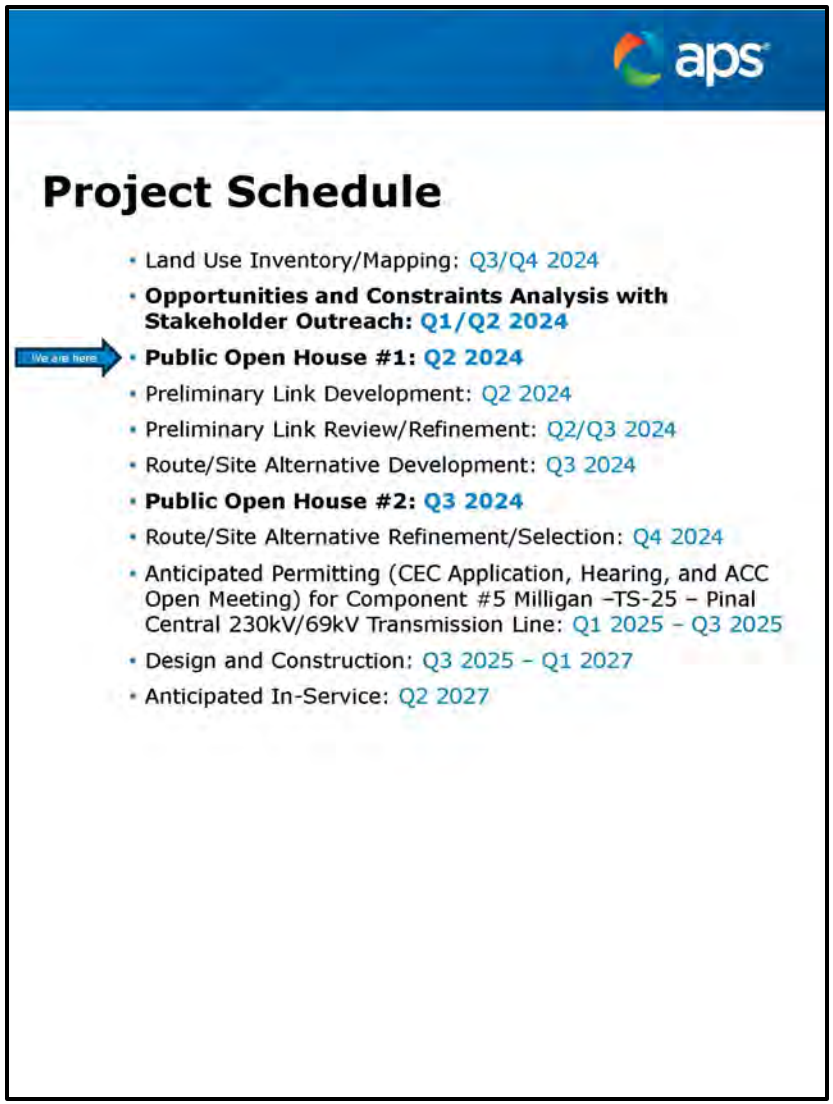


Exhibit J-25. April 2024 virtual open house, Slide 9.

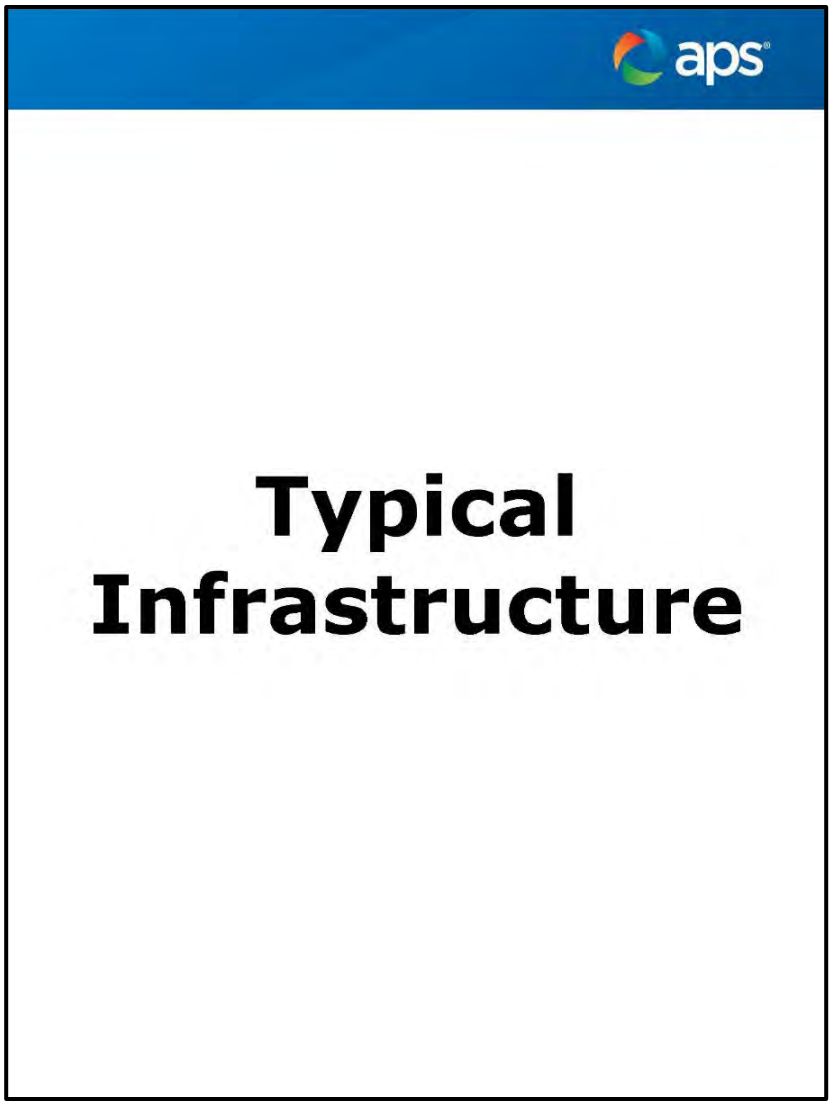


Exhibit J-26. April 2024 virtual open house, Slide 10.

Typical Infrastructure

The **APS Pinal Electrical Improvement Project** includes the addition of 69kV and 230kV components. The diagram below provides an overview of how 69kV and 230kV components fit within the larger electrical transmission and distribution system.

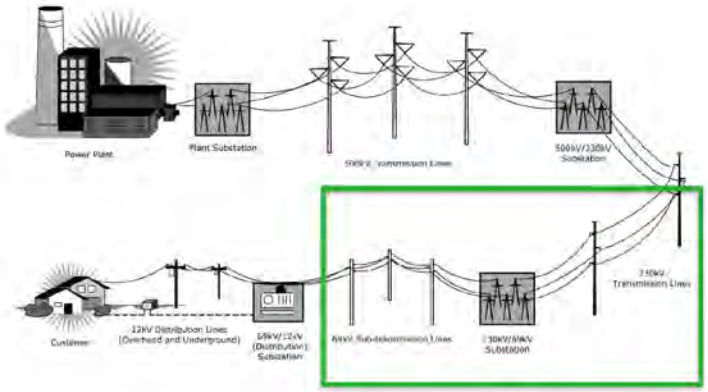
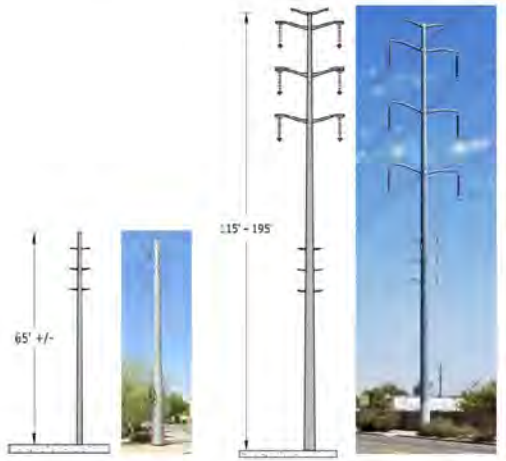


Exhibit J-27. April 2024 virtual open house, Slide 11.

Typical Structures

- The new 69kV transmission line pole structures will be approximately 65 feet tall, placed in new or existing rights-of-way or easements up to 60 feet in width.
- The new double-circuit 230/69kV transmission line pole structures will be approximately 115 to 195 feet tall, placed in new or existing rights-of-way or easements up to 120 feet in width.
- Examples of 69kV and 230kV structures are displayed below.



Double-circuit 69kV monopole structure

Double-circuit 230kV with 69kV underbuild monopole structure

Exhibit J-28. April 2024 virtual open house, Slide 12.

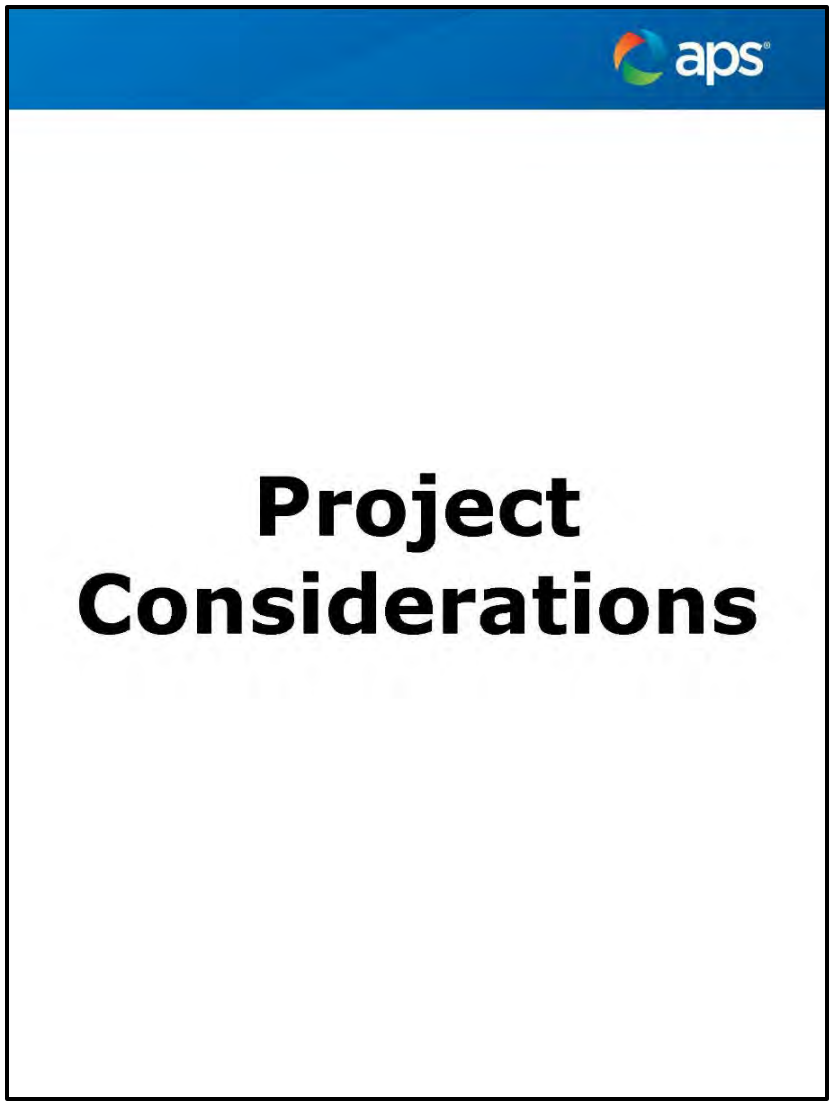


Exhibit J-29. April 2024 virtual open house, Slide 13.

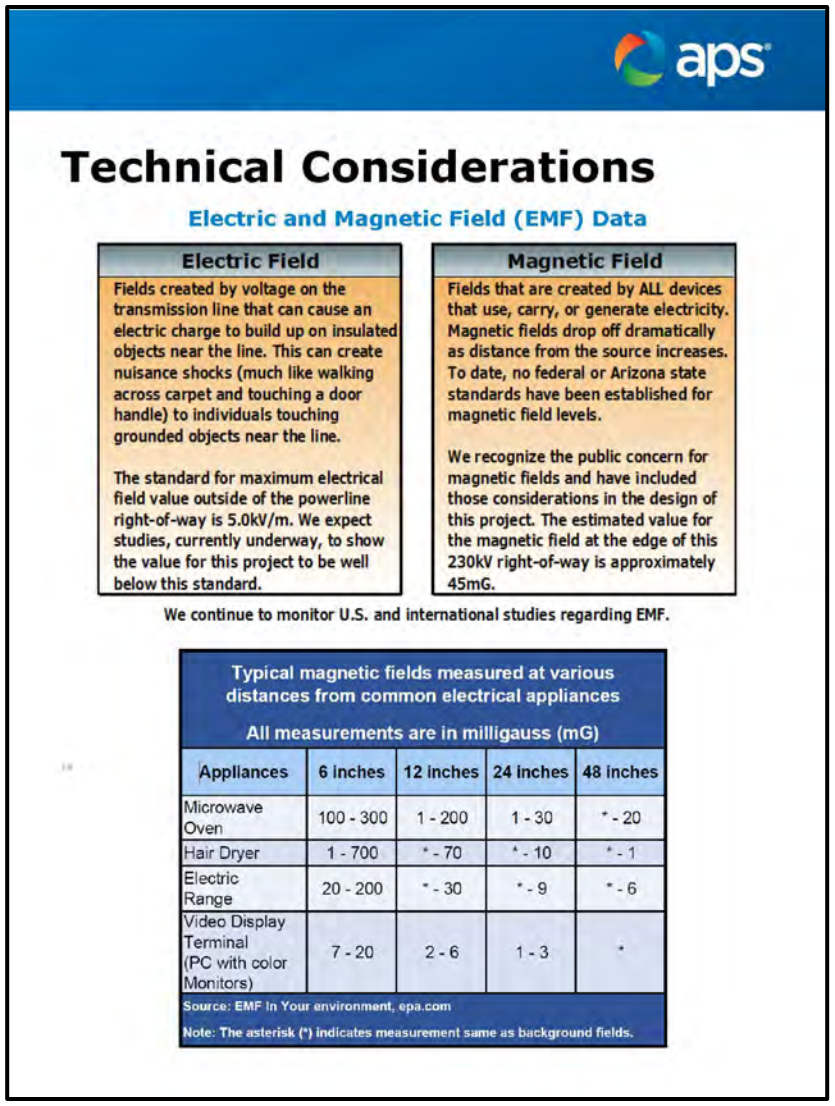


Exhibit J-30. April 2024 virtual open house, Slide 14.

Siting Considerations

Factors Considered in Route Identification

- When siting new electrical facilities, we strive to **minimize impacts** to sensitive resource areas (i.e., residential developments, airports, etc.) and **maximize use of siting opportunities**, including locating near existing linear features and/or compatible land uses (i.e., transmission lines, roads, canals, substations, etc.).
- Examples of factors are depicted in the graphic below.

Exhibit J-31. April 2024 virtual open house, Slide 15.

Environmental Considerations

- **Land Use** - compatibility with existing and future land uses, transportation facilities (roadway and aviation), and jurisdictional planning guidelines.
- **Visual** - minimization of impacts to sensitive viewers (residences, parks, and travel routes)
- **Cultural** - avoidance of culturally or archaeologically sensitive areas
- **Biological** - avoidance of sensitive habitat

Exhibit J-32. April 2024 virtual open house, Slide 16.

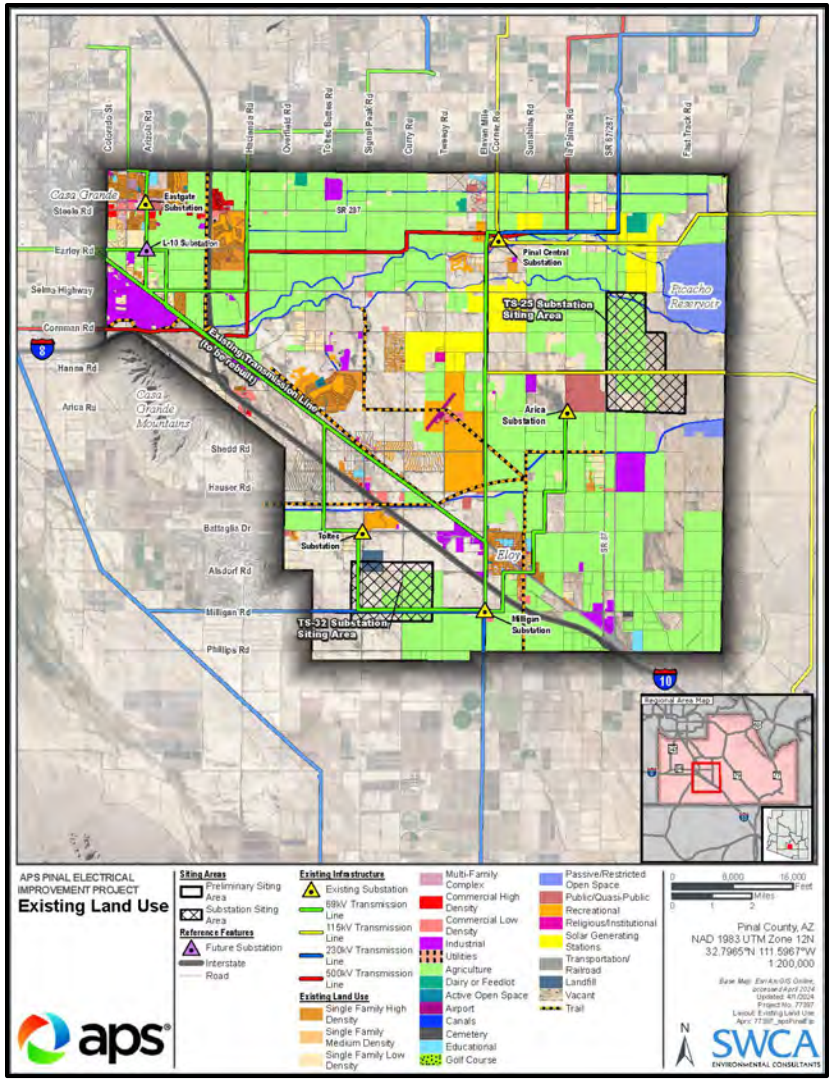


Exhibit J-33. April 2024 virtual open house, Slide 17.

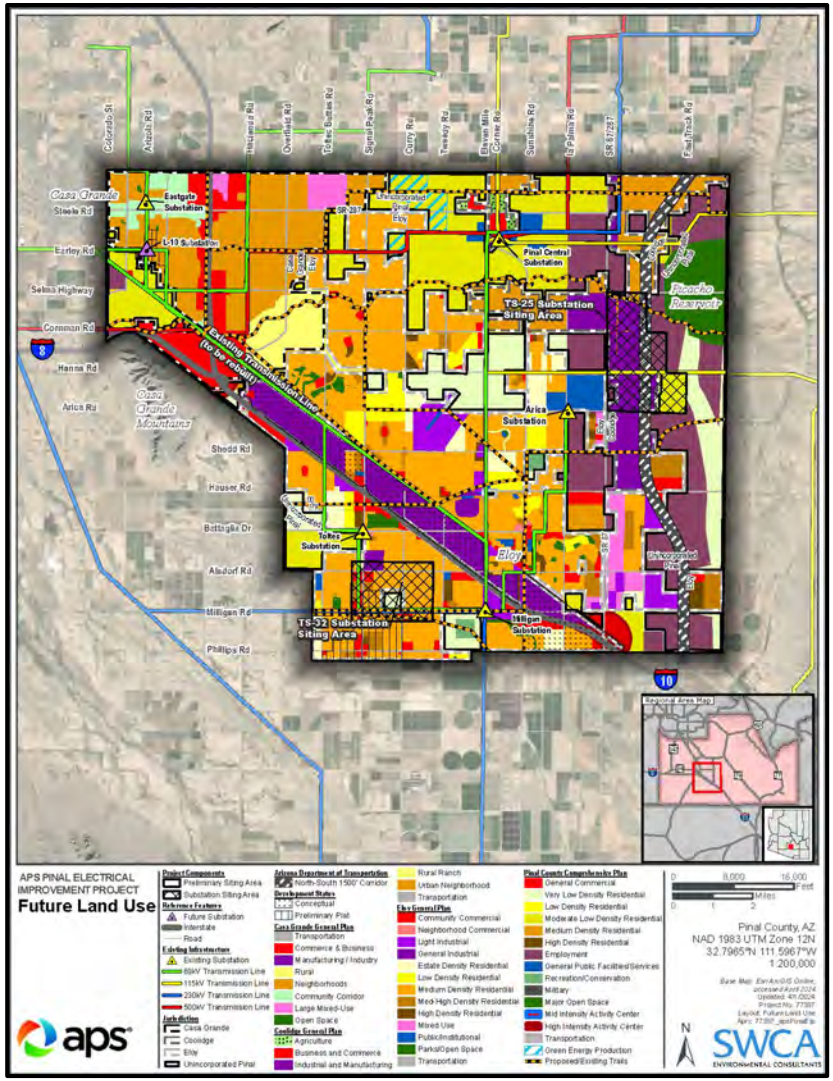


Exhibit J-34. April 2024 virtual open house, Slide 18.

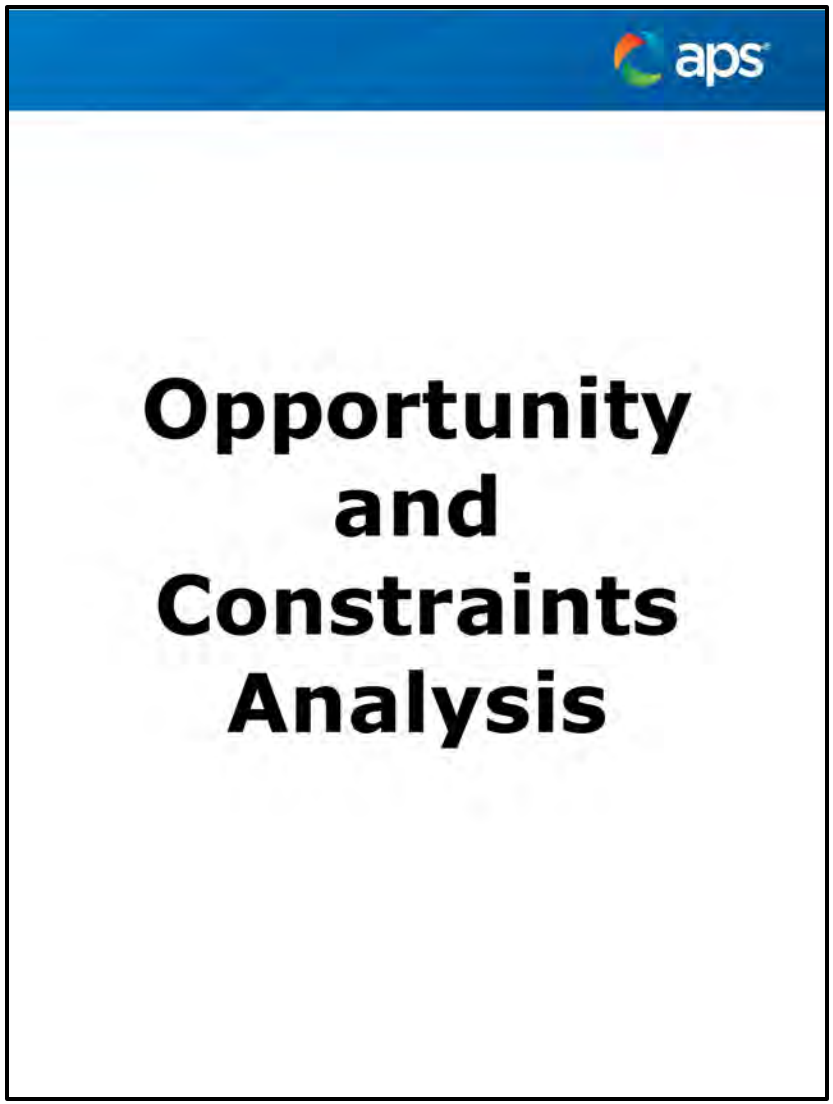


Exhibit J-35. April 2024 virtual open house, Slide 19.

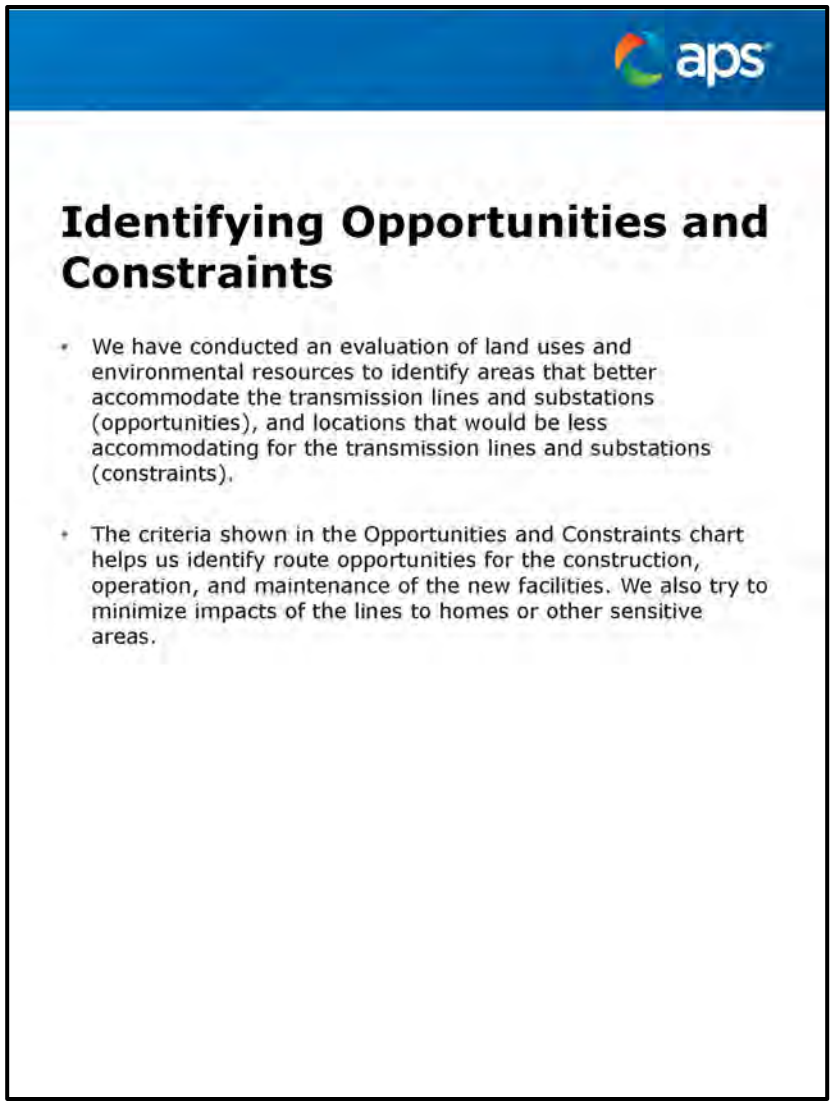


Exhibit J-36. April 2024 virtual open house, Slide 20.

Siting Opportunities

Existing and Future Land Use Opportunities	Opportunity Level
Large Overhead Transmission Lines and Corridors	High
Freeways/Interstates, existing or planned	High
Utilities	High
Canals	Moderate
Major Roadway ROW	Moderate
Arterial Roadways	Low
Railroads	Low
All Other Areas	None

Exhibit J-37. April 2024 virtual open house, Slide 21.

Siting Constraints

Existing Land Use Constraints	Sensitivity Level
Single Family High Density Residential	High
Single Family Medium Density Residential	High
Single Family Low Density Residential	High
Multi-Family Complex	High
Active Open Space	High
Airport	High
Cemetery	High
Educational	High
Religious/Institutional	High
Golf Course	Moderate-High
Recreational	Moderate-High
Commercial High Density	Moderate
Commercial Low Density	Moderate
Public/Quasi-Public	Moderate
Passive/Restricted Open Space	Low-Moderate
Industrial	Low
Utilities	Low
Agriculture	Low
Dairy or Feedlot	Low
Canals	Low
Solar Generating Stations	Low
Transportation/Railroad	Low
Landfill	Low
Vacant	Low

Future Land Use Constraints	Sensitivity Level
General Commercial	Moderate
Very Low Density Residential	Moderate
Low Density Residential	Moderate
Moderate Low Density Residential	Moderate
Medium Density Residential	Moderate
High Density Residential	Moderate
Recreation/Conservation	Moderate
Major Open Space	Moderate
Mid Intensity Activity Center	Moderate
High Intensity Activity Center	Moderate
Neighborhood Commercial	Moderate
Estate Density Residential	Moderate
Med-High Density Residential	Moderate
Mixed Use	Moderate
Parks/Open Space	Moderate
Commerce & Business	Moderate
Rural	Moderate
Neighborhoods	Moderate
Community Corridor	Moderate
Large Mixed-Use	Moderate
Open Space	Moderate
Business and Commerce	Moderate
Rural Ranch	Moderate
Urban Neighborhood	Moderate
Green Energy Production	Low
Employment	Low
General Public Facilities/Services	Low
Military	Low
Community Commercial	Low
Light Industrial	Low
General Industrial	Low
Public/Institutional	Low
Manufacturing / Industry	Low
Agriculture	Low
Industrial and Manufacturing	Low

Cultural Resources Constraints	Sensitivity Level
Locations of known NRHP-eligible or -listed sites and structures.	High
Areas surveyed before 2004, and sites and structures that have not been evaluated for the NRHP eligibility.	Moderate
Areas surveyed after 2004 with no sites or structures, and sites and structures that have been determined ineligible for the NRHP.	Low

*NRHP=National Register of Historic Places

Natural Resources Constraints	Sensitivity Level
Special designation areas (such as designated critical habitat or other special areas) where the designation prohibits development and areas where species occur in high numbers (e.g., bat roosts or ESA-listed species established territory).	High
Areas where special-status species could occur or special designation areas (e.g., designated wildlife movement areas) do occur, but impacts can be minimized and mitigated.	Moderate
Areas generally compatible with development, including areas where special-status species could occur or special designation areas do occur, but any impacts could easily be mitigated or avoided.	Low

*ESA=Endangered Species Act

Exhibit J-38. April 2024 virtual open house, Slide 22.

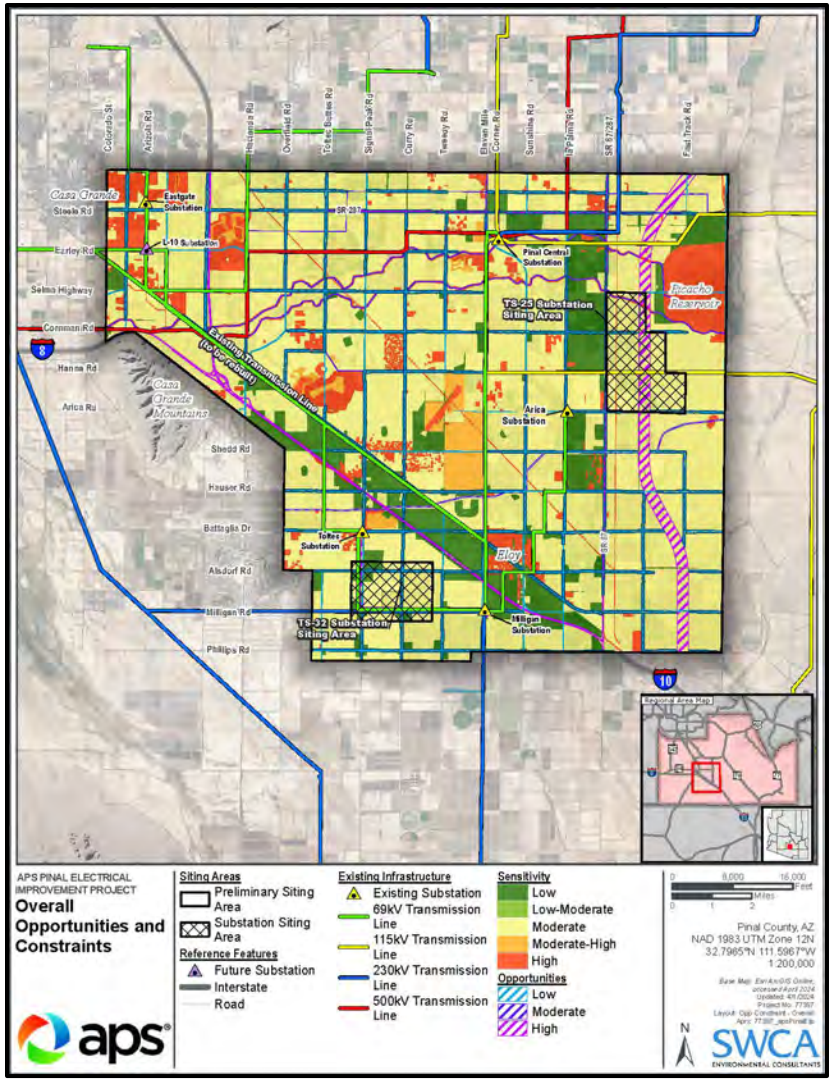


Exhibit J-39. April 2024 virtual open house, Slide 23.

Development of Links and Alternatives

- In the next step of the Project, APS will take the opportunity and constraints information developed, as well as the stakeholder input provided, and create preliminary transmission line links that will be analyzed further for development into alternatives.
- Preliminary links are typically identified in areas of higher opportunity and/or lower constraint.
- Additional opportunities for stakeholder input will be provided following the development of alternatives.
- Following public review of route alternatives, APS will identify and select preferred routes and substation locations.

Exhibit J-40. April 2024 virtual open house, Slide 24.

Exhibit J-41. April 2024 virtual open house, Slide 25.

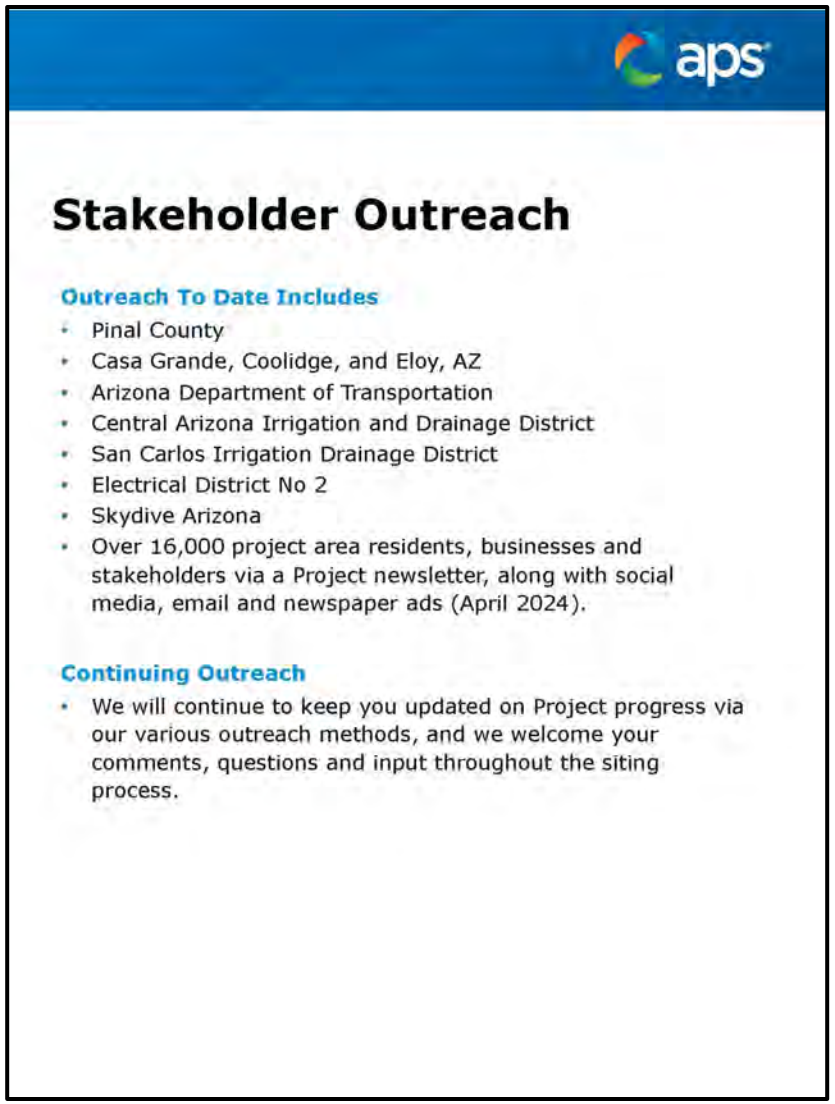


Exhibit J-42. April 2024 virtual open house, Slide 26.

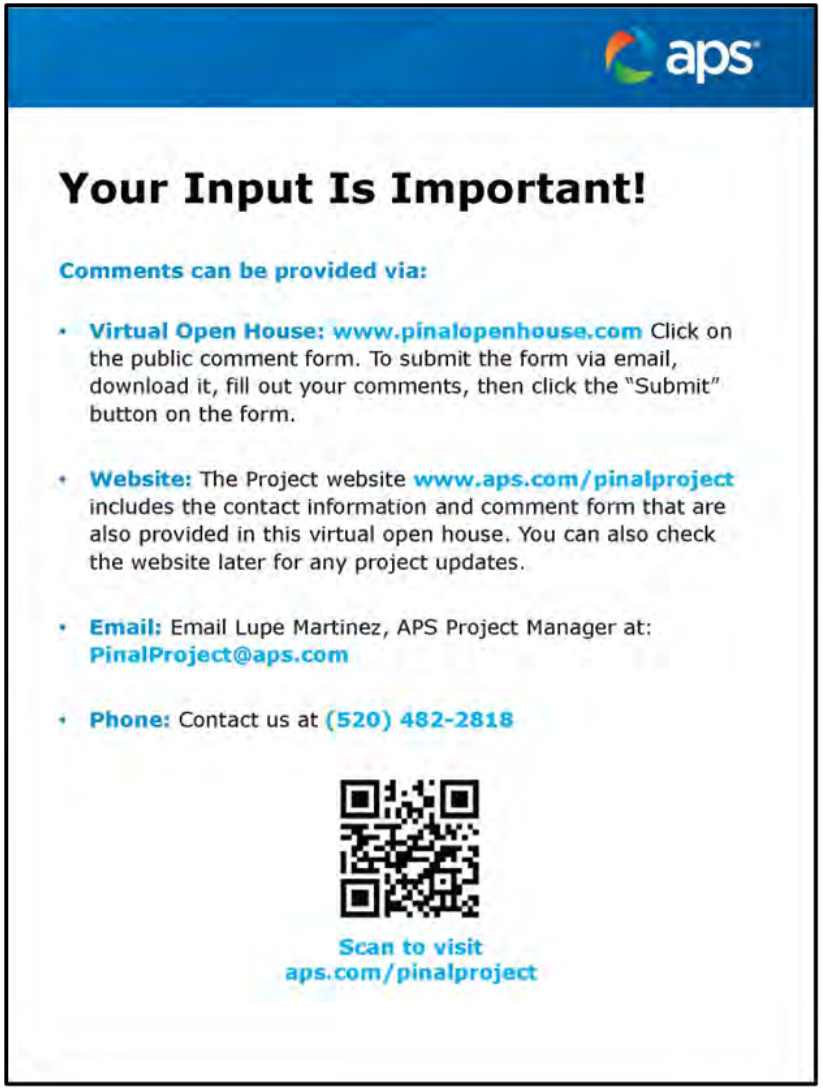


Exhibit J-43. April 2024 virtual open house, Slide 27.

Exhibit J-44. November 2024 virtual open house, Slide 1.

Exhibit J-45. November 2024 virtual open house, Slide 2.

Project Overview

Arizona Public Service (APS) has started studies for the **Pinal Electrical Improvement Project** to determine appropriate locations for new transmission lines in the Pinal County area.

These 230kV and 69kV facilities will connect with existing transmission infrastructure and include the Project components listed below.

1. **Arica – L10 69kV Transmission Line –** Approximately 15-mile-long, 69kV transmission line from the existing Arica substation to the future L10 substation
2. **Arica –TS25 69kV Transmission Line –** Approximately 3-mile-long, 69kV transmission line from TS25 substation to Arica substation
3. **TS25 – Pinal Central 230kV/69kV Transmission Line –** Approximately 10-mile-long, 230/69kV transmission line, which may include new and rebuilt portions connecting to permitted "Sundance" transmission line near Pinal Central Substation. Will require State of Arizona CEC permitting.
4. **TS25 – Milligan 230kV/69kV Transmission Line –** Approximately 10-mile-long, 230/69kV transmission line, which may include new and rebuilt portions. Will require State of Arizona CEC permitting.

Exhibit J-46. November 2024 virtual open house, Slide 3.

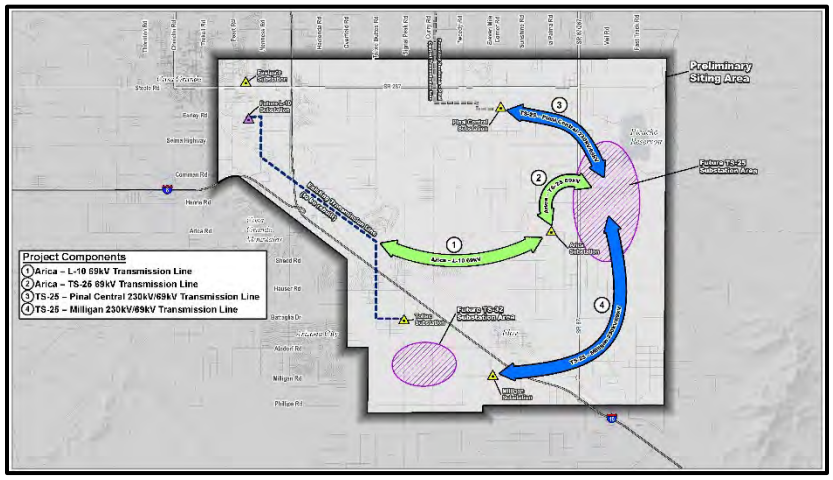


Exhibit J-47. November 2024 virtual open house, Slide 4.

Project Need & Details

- The Project provides route options to support current and future APS customers. These Project components will provide additional reliability and redundancy for the APS transmission system in Pinal County.
- The Project will require new electrical infrastructure, including new steel poles. Refer to the "Typical Infrastructure" board for examples of typical structures.

Exhibit J-48. November 2024 virtual open house, Slide 5.

Project Location

- The preliminary siting area that is being evaluated includes existing substations and infrastructure needed to support the proposed improvements and is large enough to allow for the analysis of multiple routes that meet the Project need.
- The preliminary siting area is located largely within Casa Grande, Eloy, Coolidge, and unincorporated Pinal County, Arizona.
- The Project will connect 69kV lines from Arica Substation to the future TS25 substation site 1-2 miles to the east, and 8-9 miles to the west to an existing power line just west of the Interstate 10. A separate 230kV line will connect the Milligan substation 17-18 miles north to the permitted "Sundance" power line near Pinal Central Substation that continues north 6-7 miles to the TS33 Substation.

Exhibit J-49. November 2024 virtual open house, Slide 6.

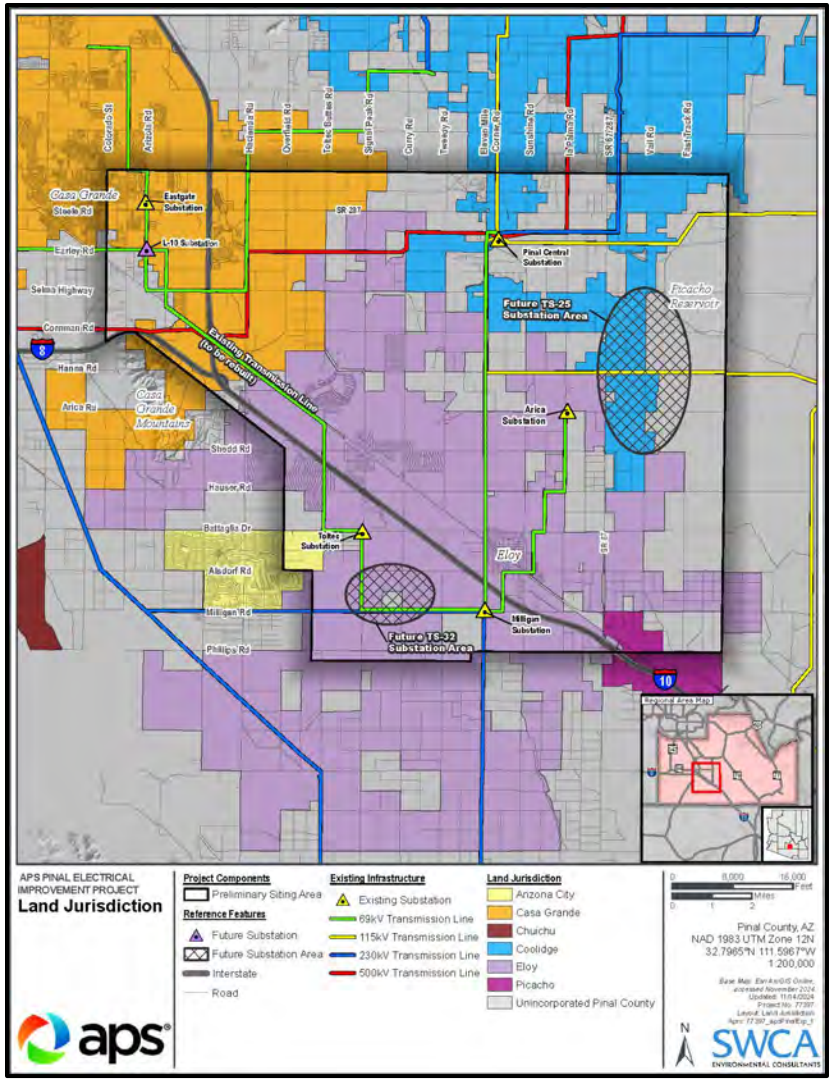


Exhibit J-50. November 2024 virtual open house, Slide 7.

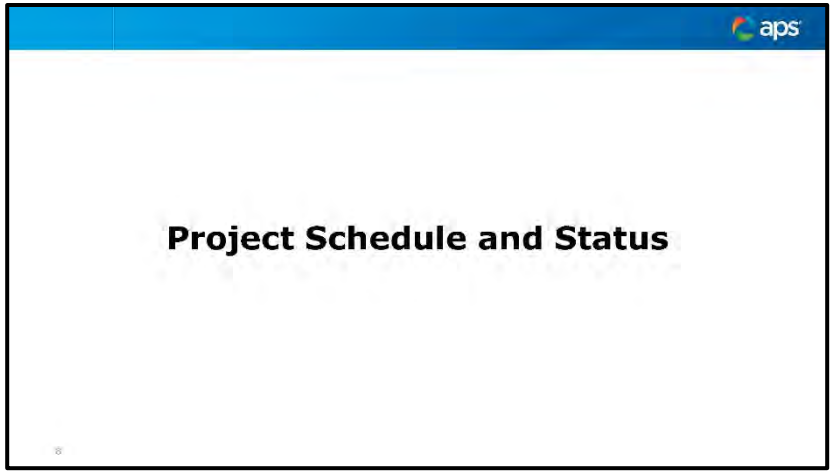


Exhibit J-51. November 2024 virtual open house, Slide 8.

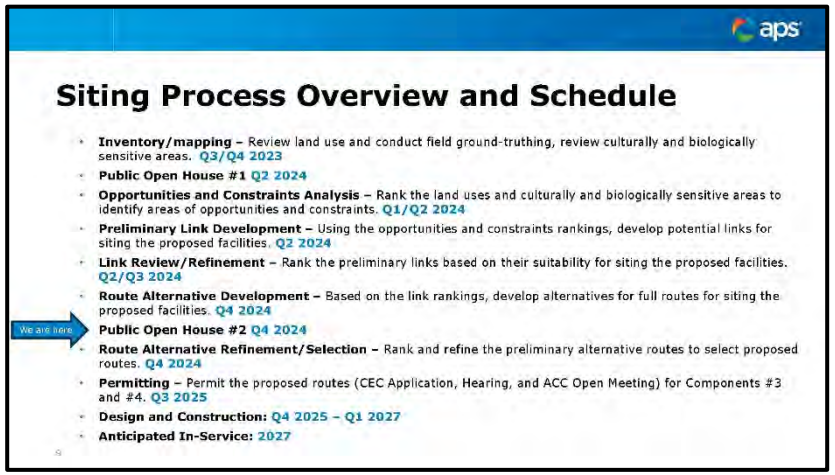


Exhibit J-52. November 2024 virtual open house, Slide 9.

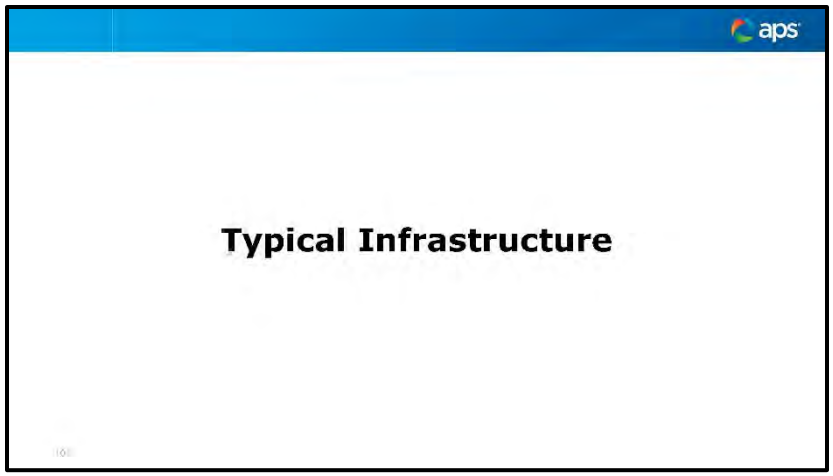


Exhibit J-53. November 2024 virtual open house, Slide 10.

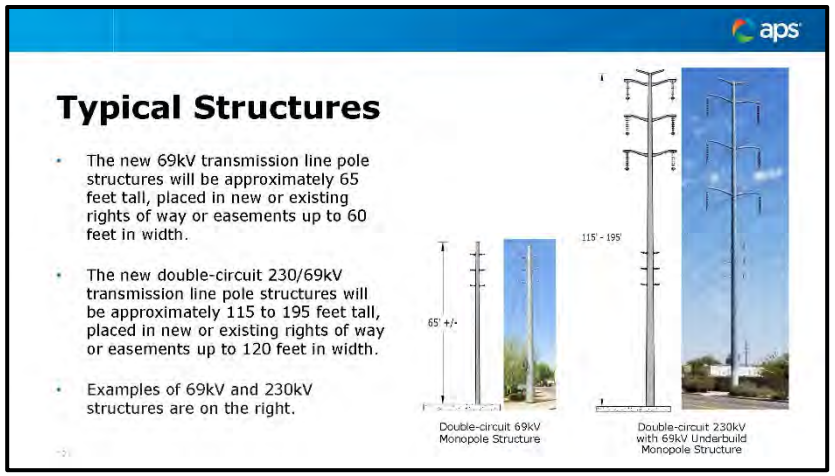


Exhibit J-55. November 2024 virtual open house, Slide 12.

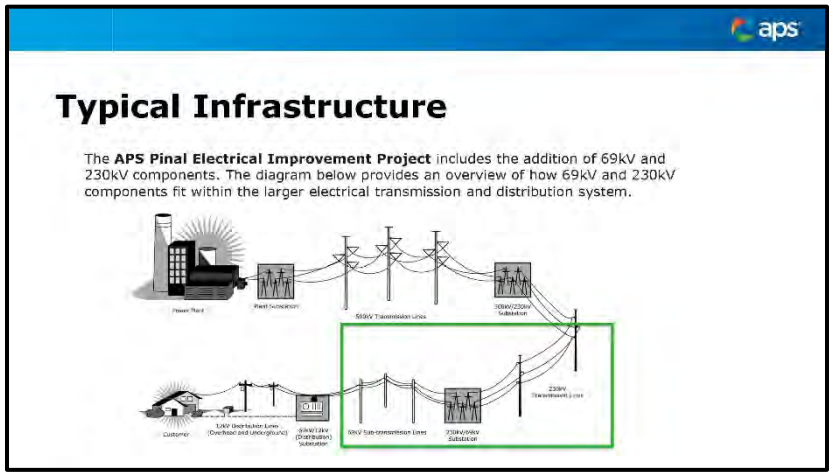


Exhibit J-54. November 2024 virtual open house, Slide 11.

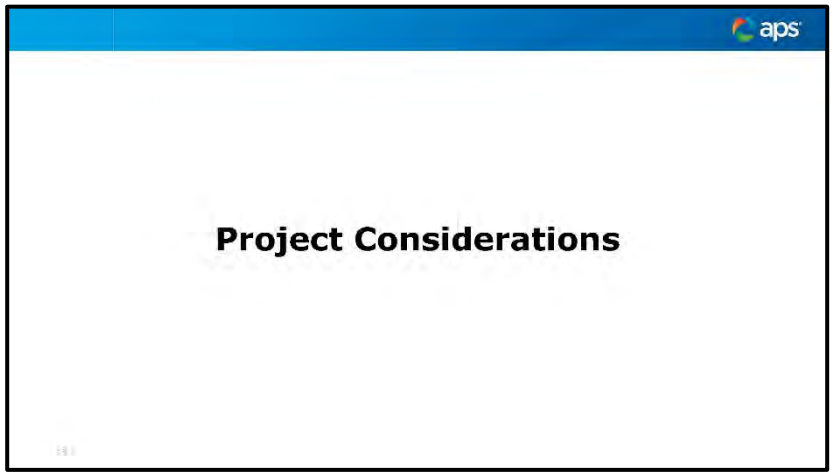


Exhibit J-56. November 2024 virtual open house, Slide 13.

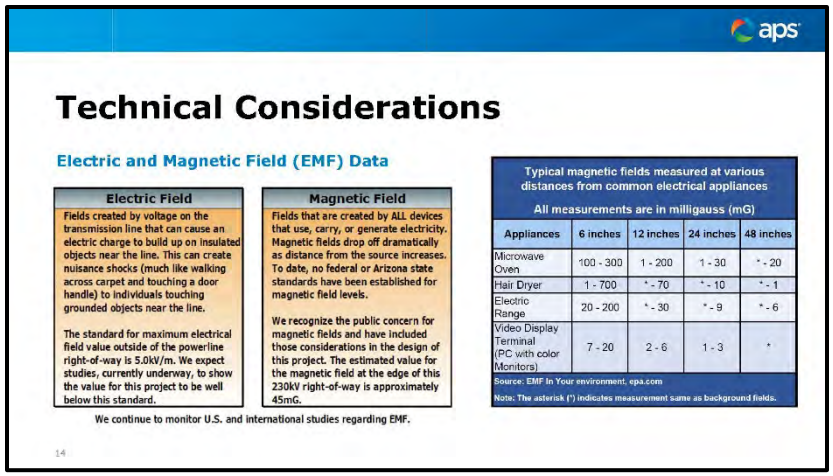


Exhibit J-57. November 2024 virtual open house, Slide 14.

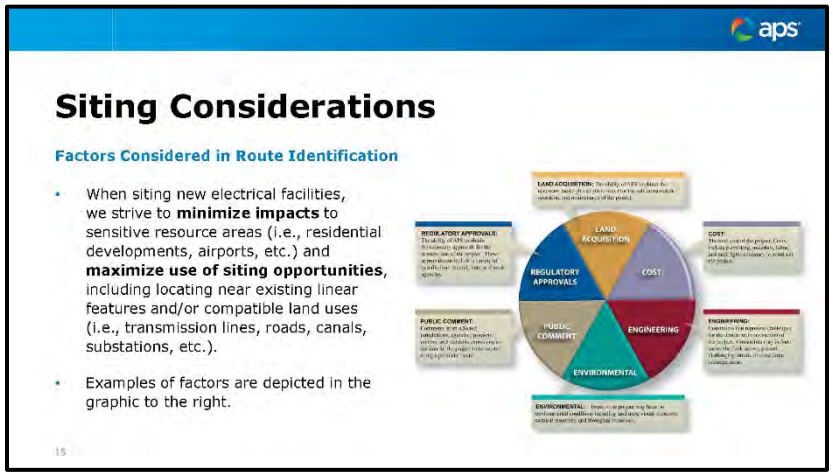


Exhibit J-58. November 2024 virtual open house, Slide 15.

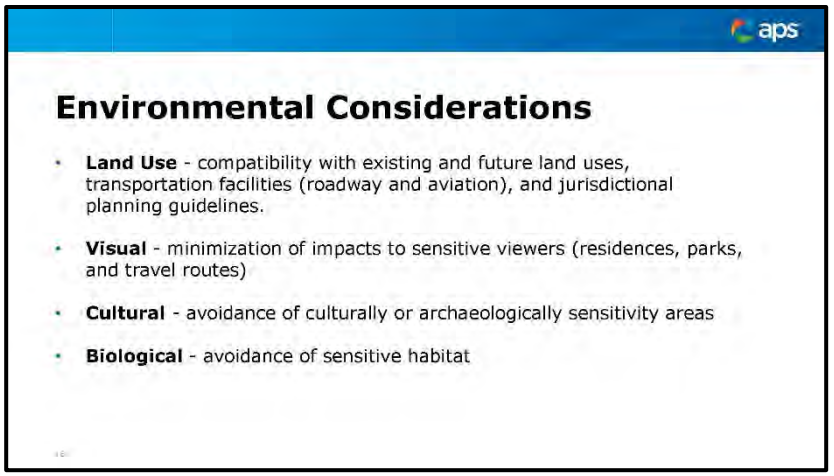


Exhibit J-59. November 2024 virtual open house, Slide 16.

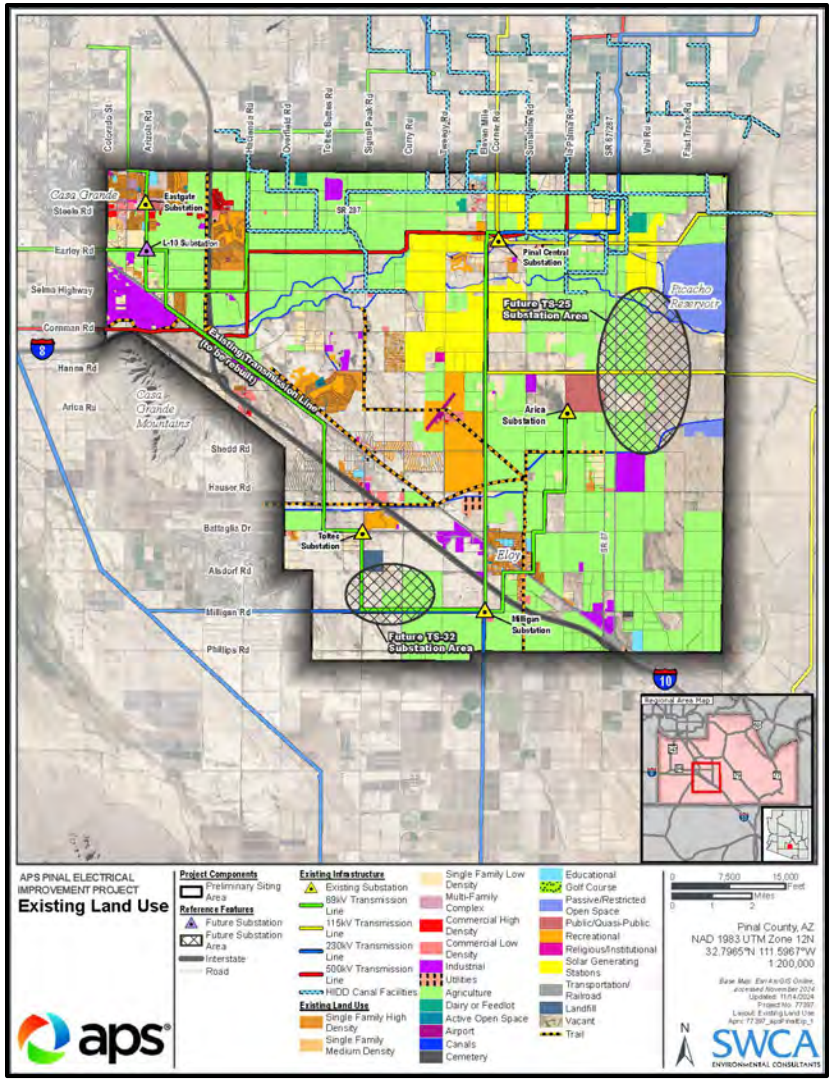


Exhibit J-60. November 2024 virtual open house, Slide 17.

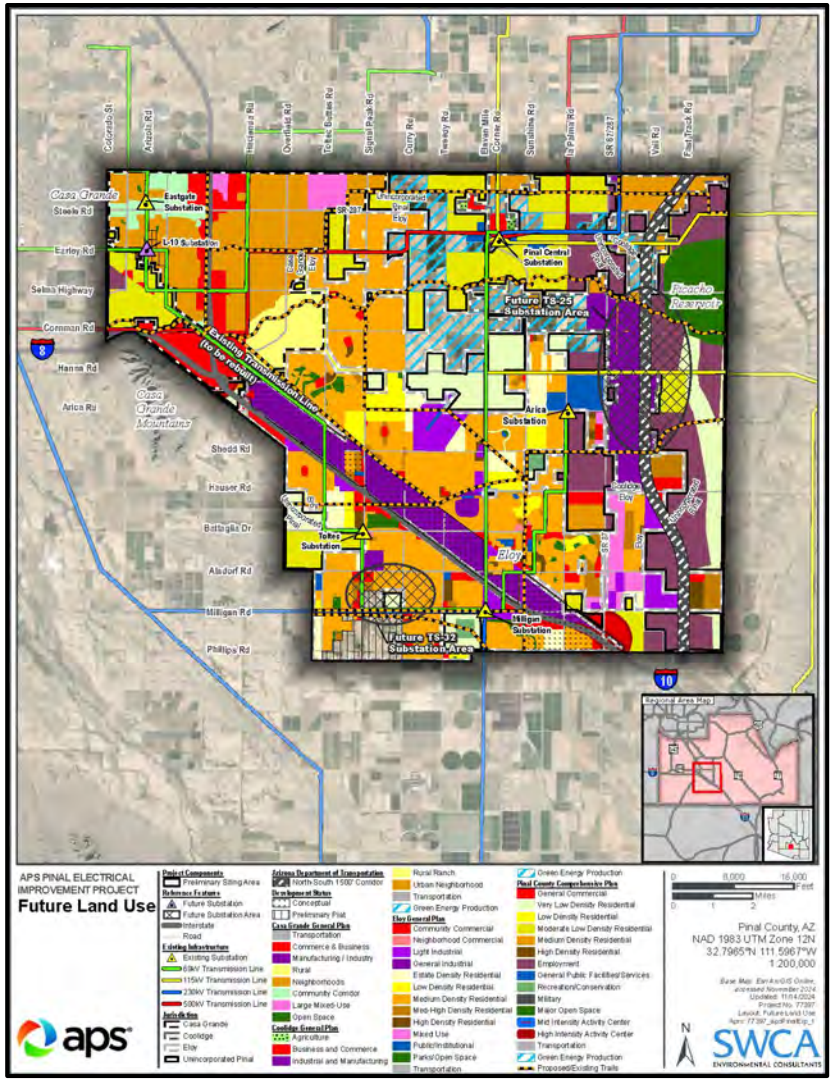


Exhibit J-61. November 2024 virtual open house, Slide 18.

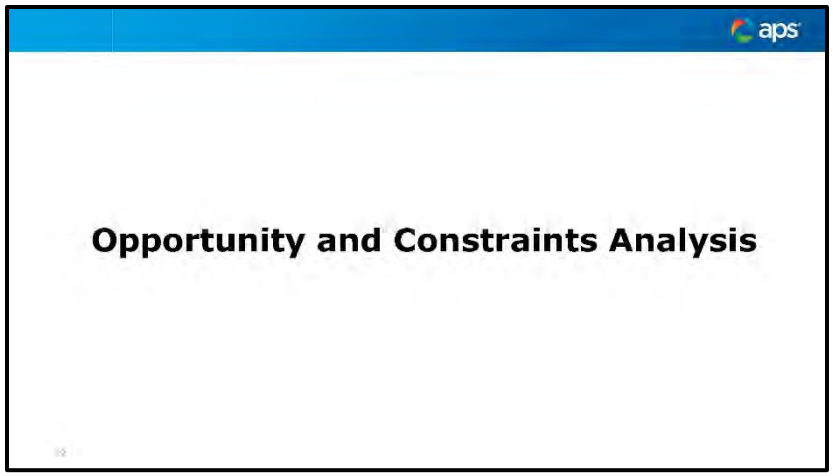


Exhibit J-62. November 2024 virtual open house, Slide 19.

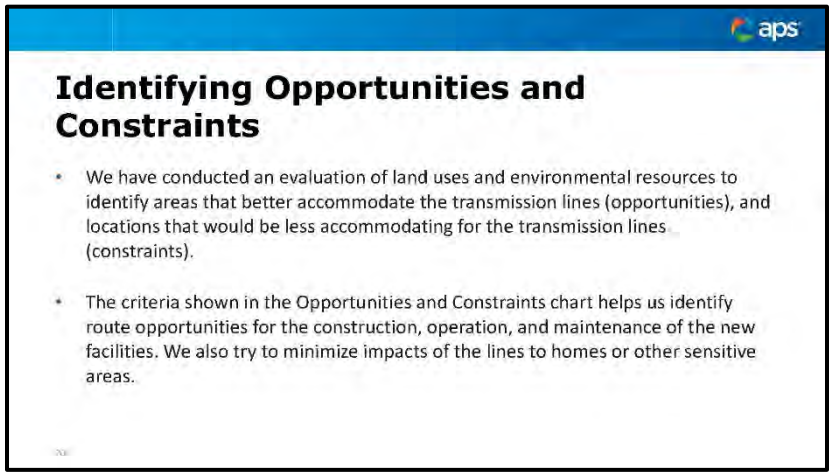


Exhibit J-63. November 2024 virtual open house, Slide 20.

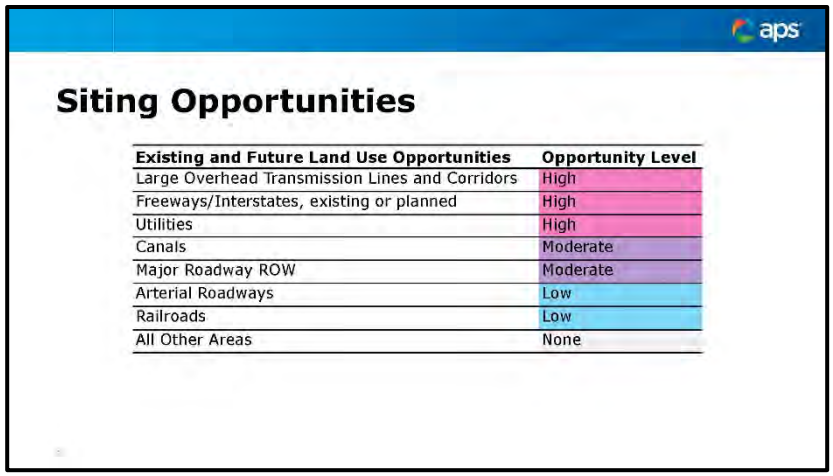


Exhibit J-64. November 2024 virtual open house, Slide 21.

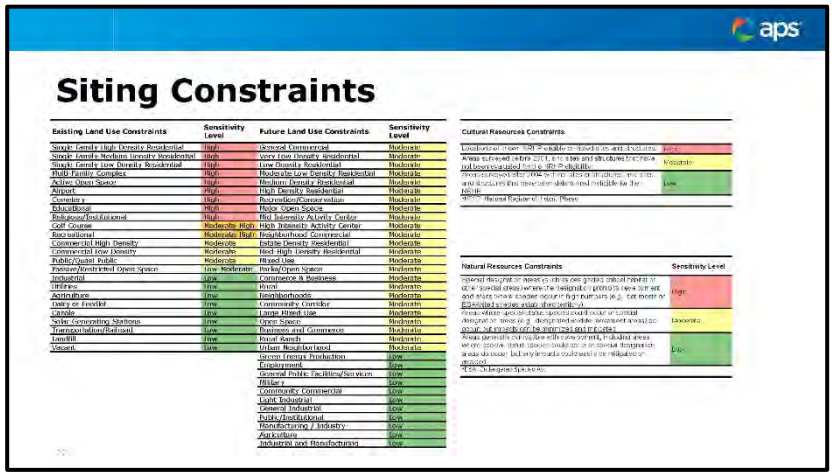


Exhibit J-65. November 2024 virtual open house, Slide 22.

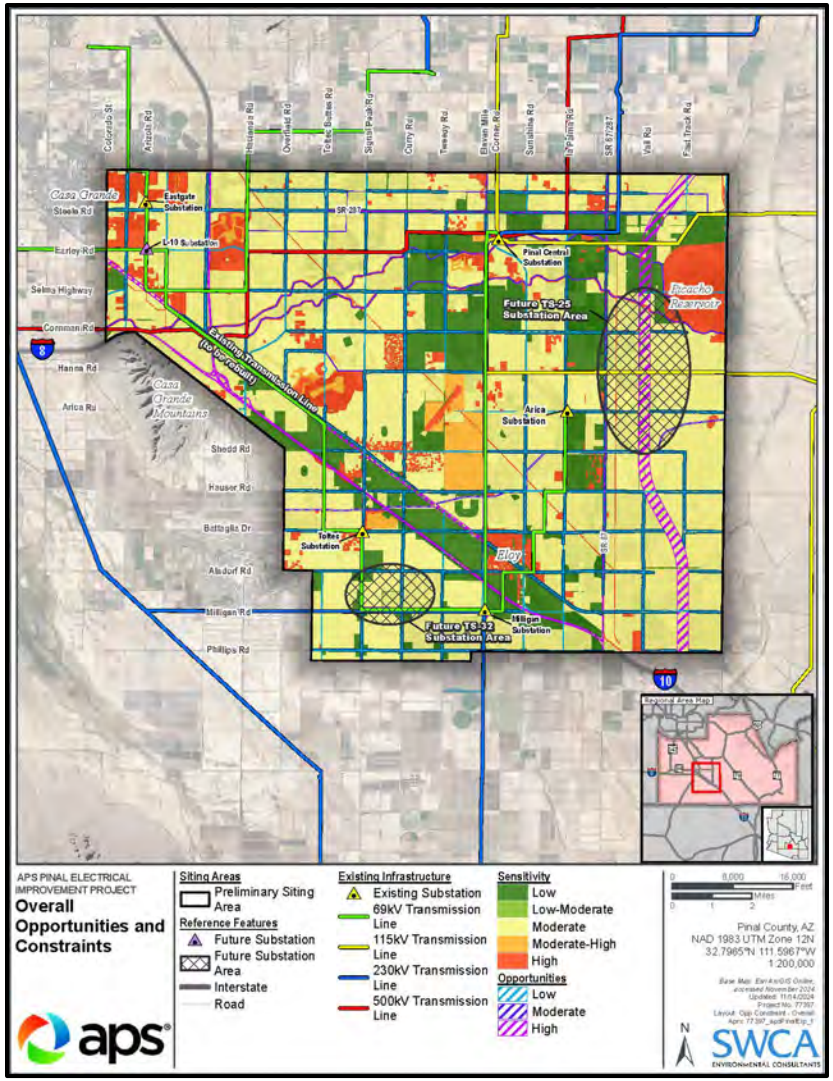


Exhibit J-66. November 2024 virtual open house, Slide 23.

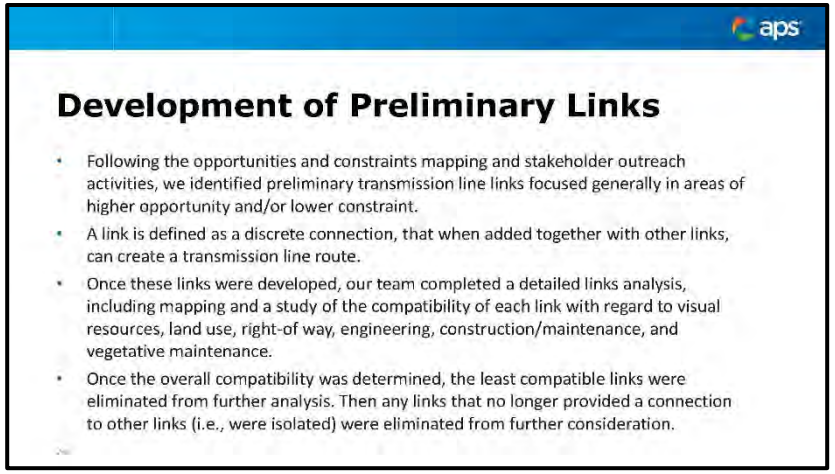


Exhibit J-67. November 2024 virtual open house, Slide 24.

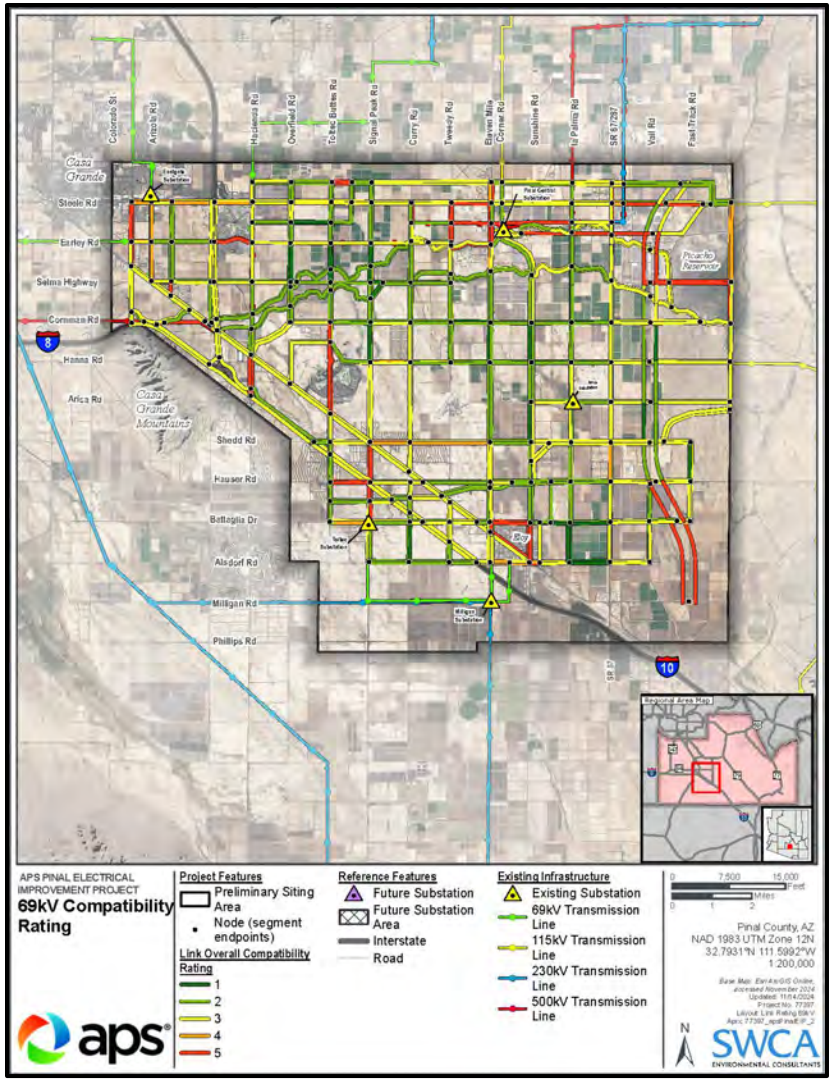


Exhibit J-68. November 2024 virtual open house, Slide 25.

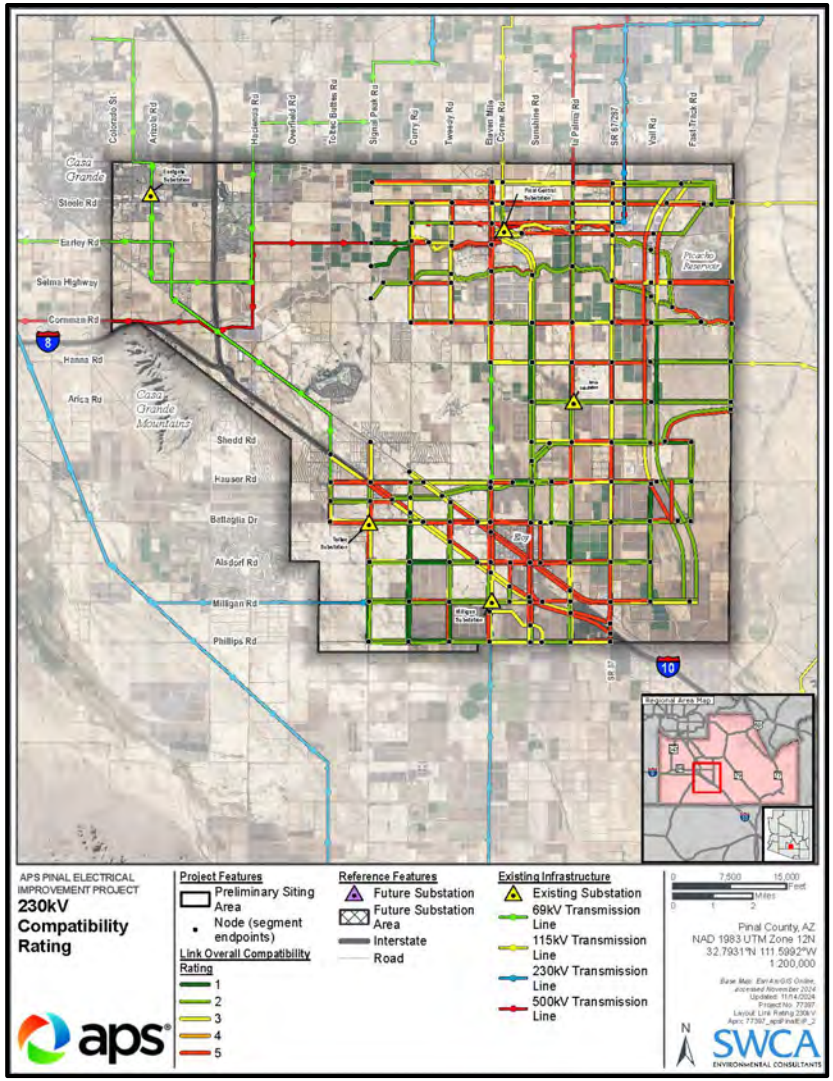


Exhibit J-69. November 2024 virtual open house, Slide 26.

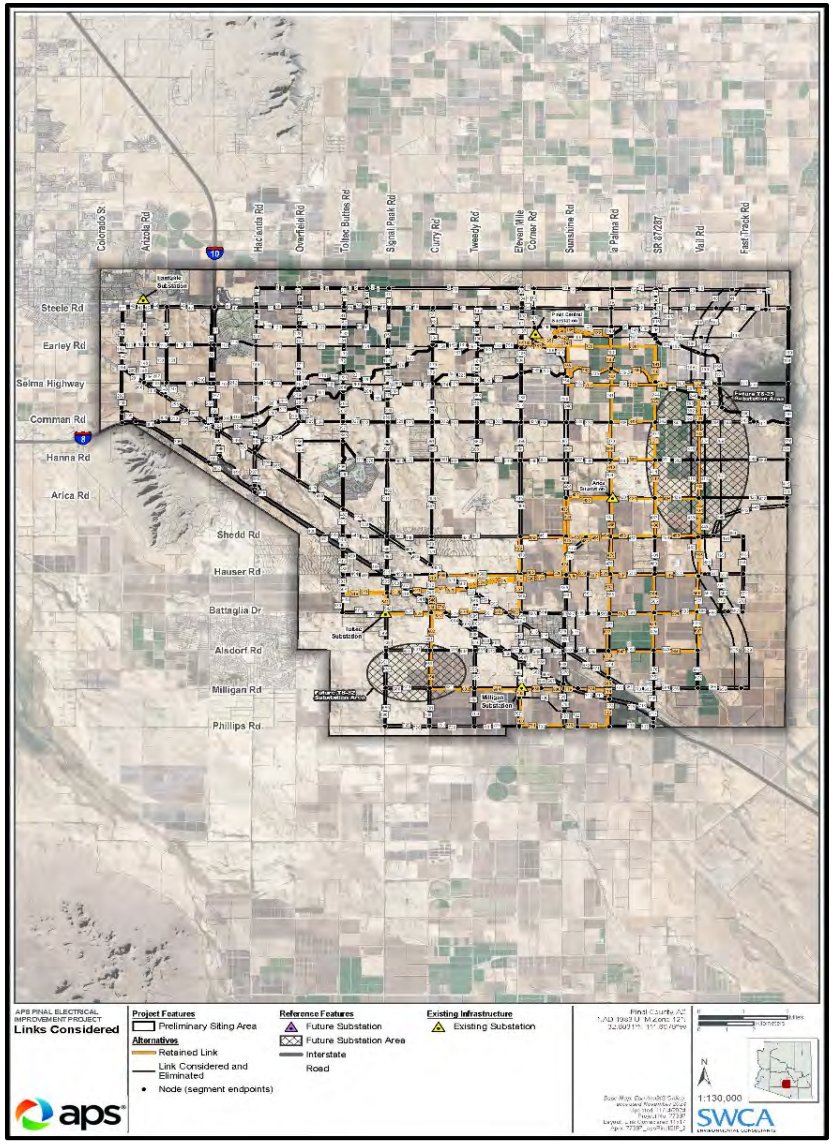


Exhibit J-70. November 2024 virtual open house, Slide 27.

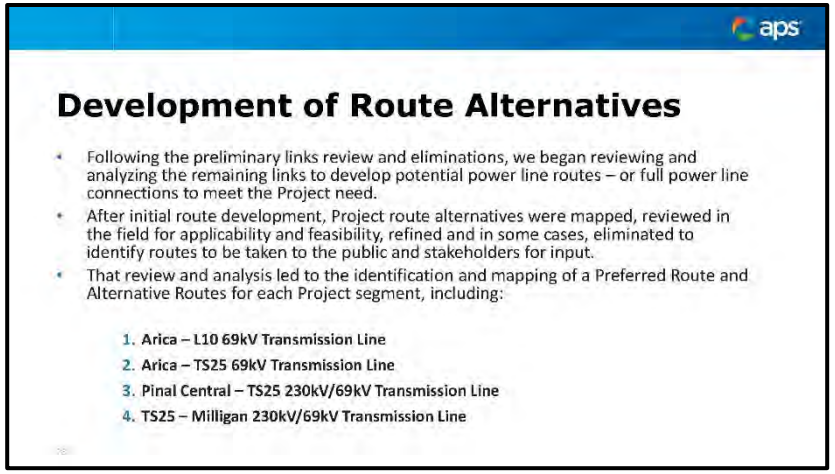


Exhibit J-71. November 2024 virtual open house, Slide 28.

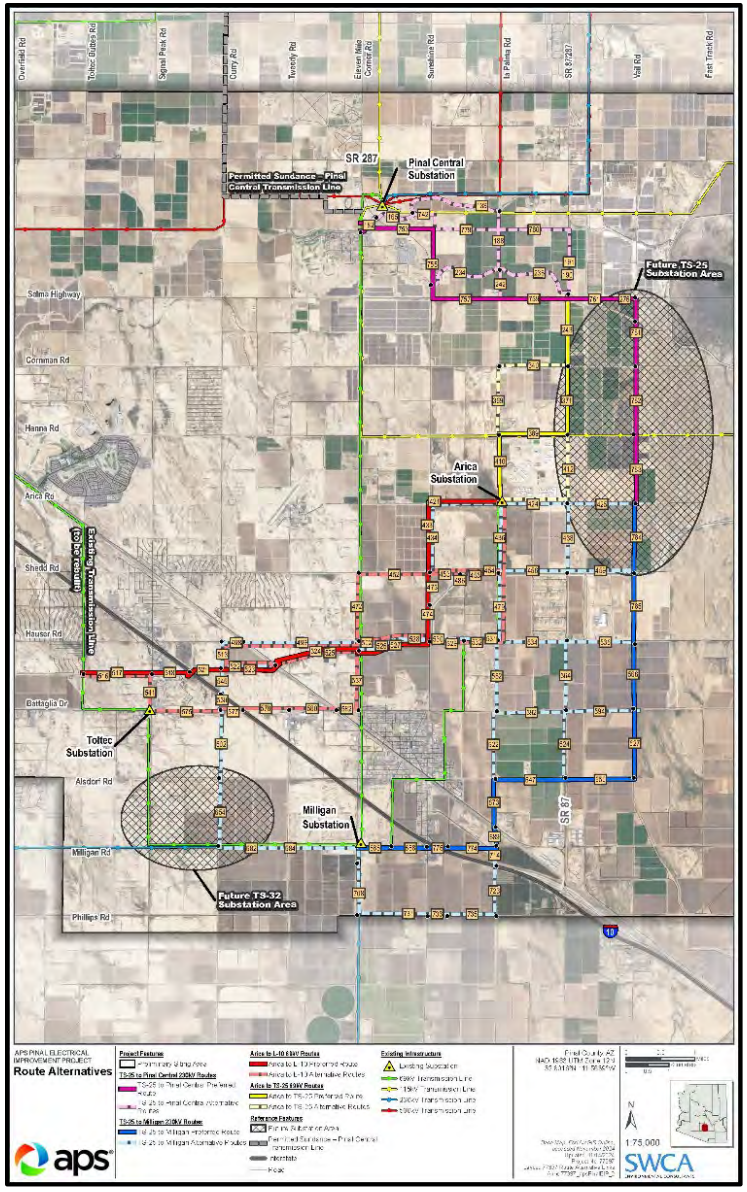


Exhibit J-72. November 2024 virtual open house, Slide 29.

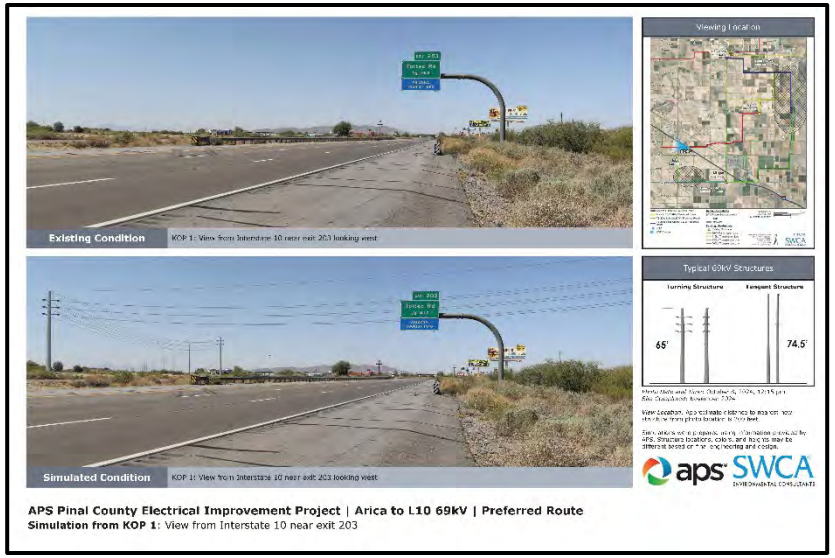


Exhibit J-73. November 2024 virtual open house, Slide 30.

Exhibit J-74. November 2024 virtual open house, Slide 31.

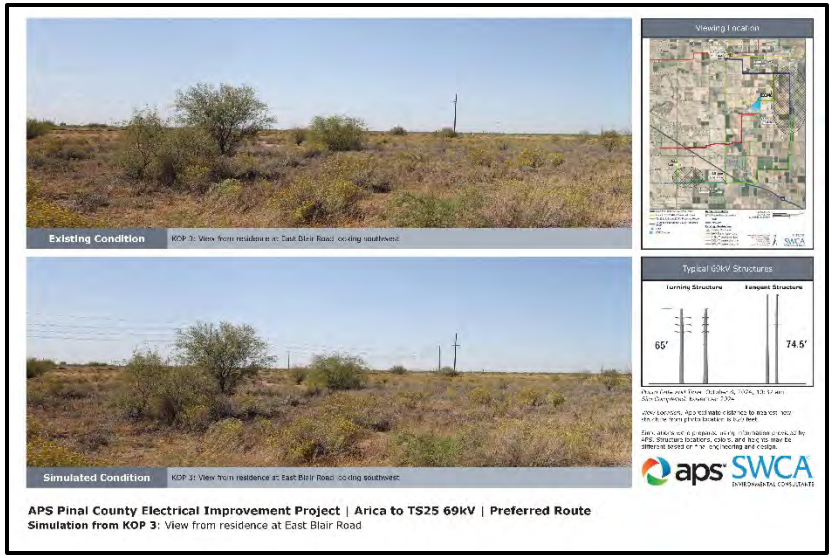


Exhibit J-75. November 2024 virtual open house, Slide 3

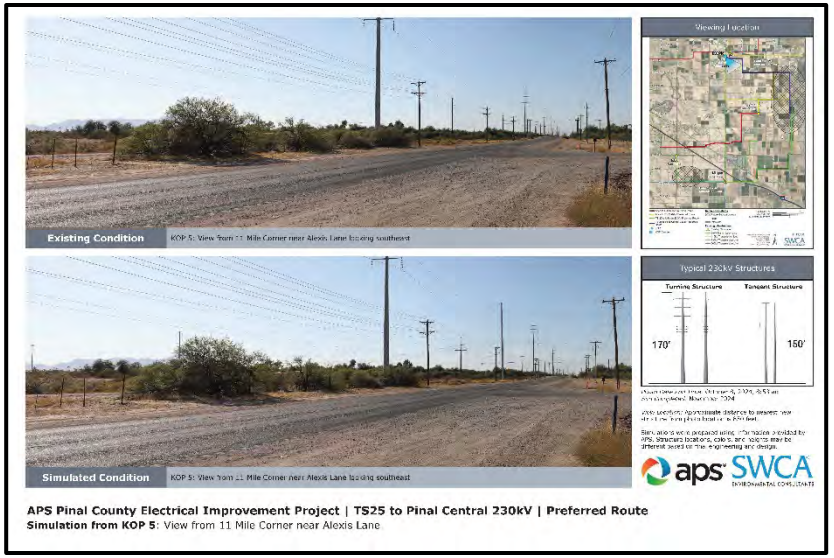


Exhibit J-77. November 2024 virtual open house, Slide 34.

Exhibit J-76. November 2024 virtual open house, Slide 33.

Exhibit J-78. November 2024 virtual open house, Slide 35.

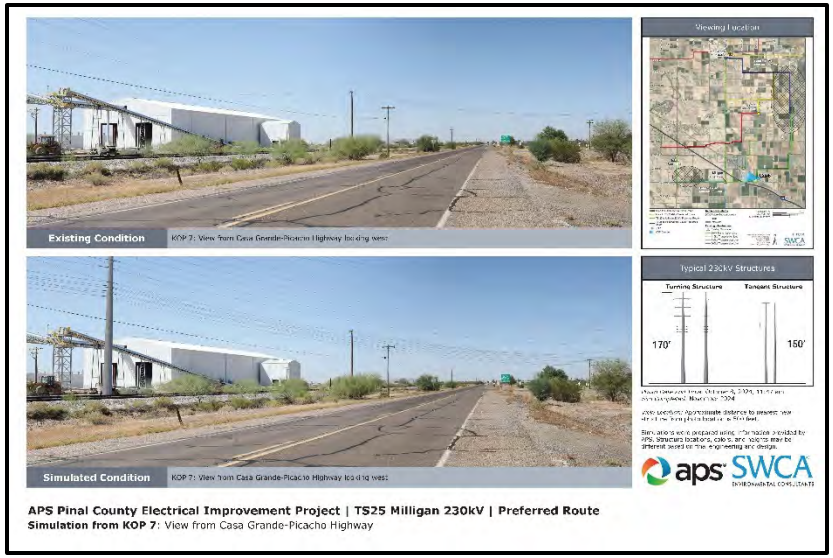


Exhibit J-79. November 2024 virtual open house, Slide 36.

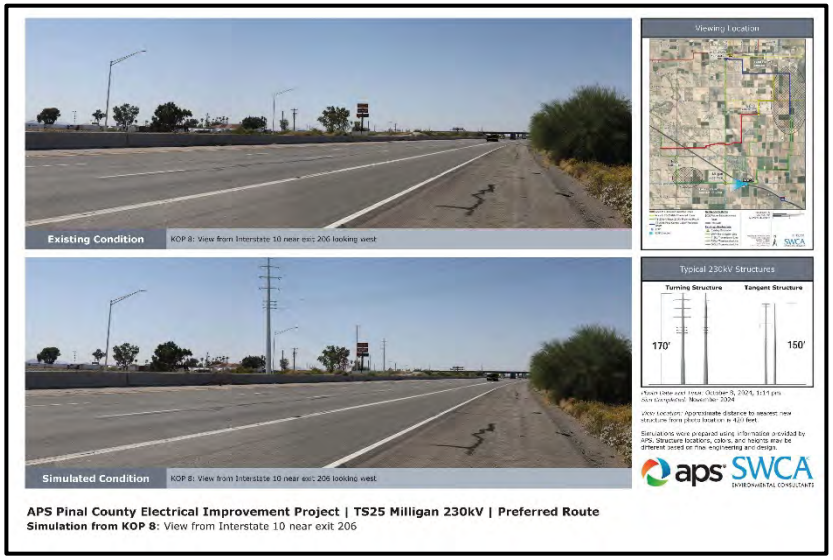


Exhibit J-80. November 2024 virtual open house, Slide 37.

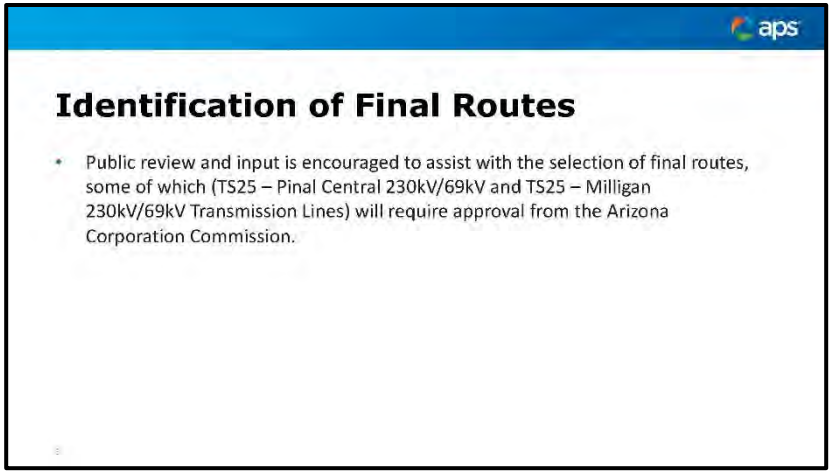


Exhibit J-81. November 2024 virtual open house, Slide 38.

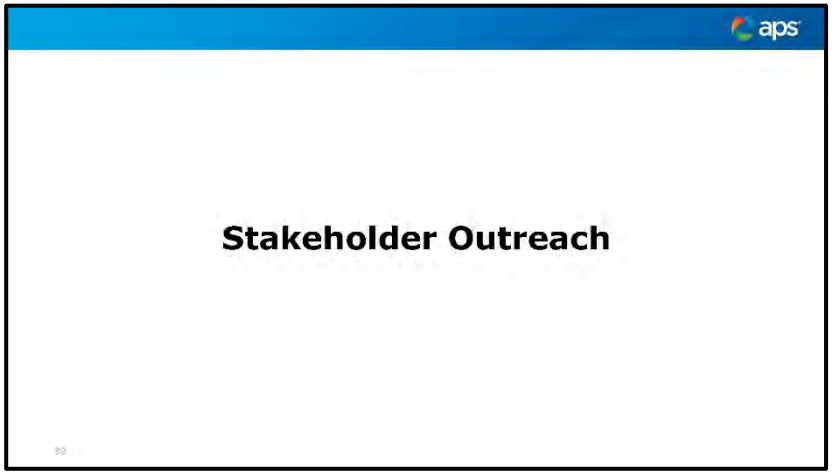


Exhibit J-82. November 2024 virtual open house, Slide 39.

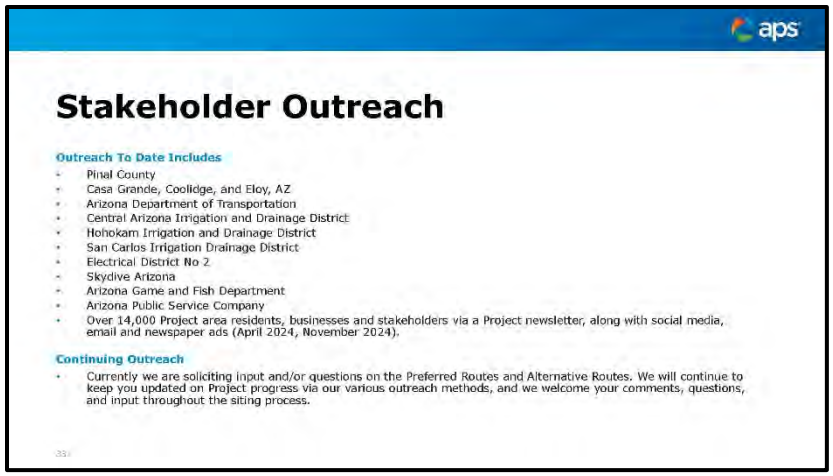


Exhibit J-83. November 2024 virtual open house, Slide 40.

Exhibit J-84. November 2024 virtual open house, Slide 41.

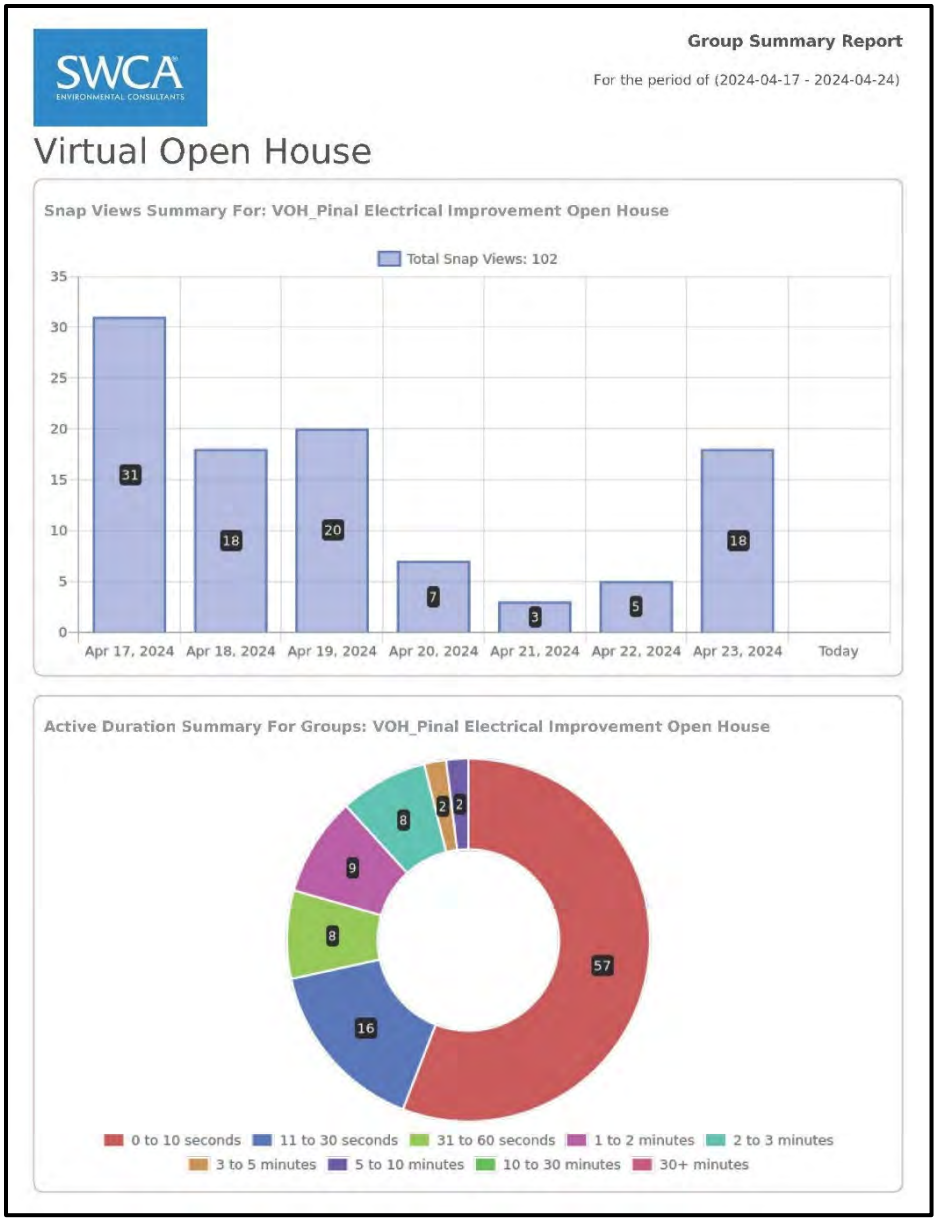


Exhibit J-85. Virtual open house metrics April 17–23, 2024 – snap view and activity duration.

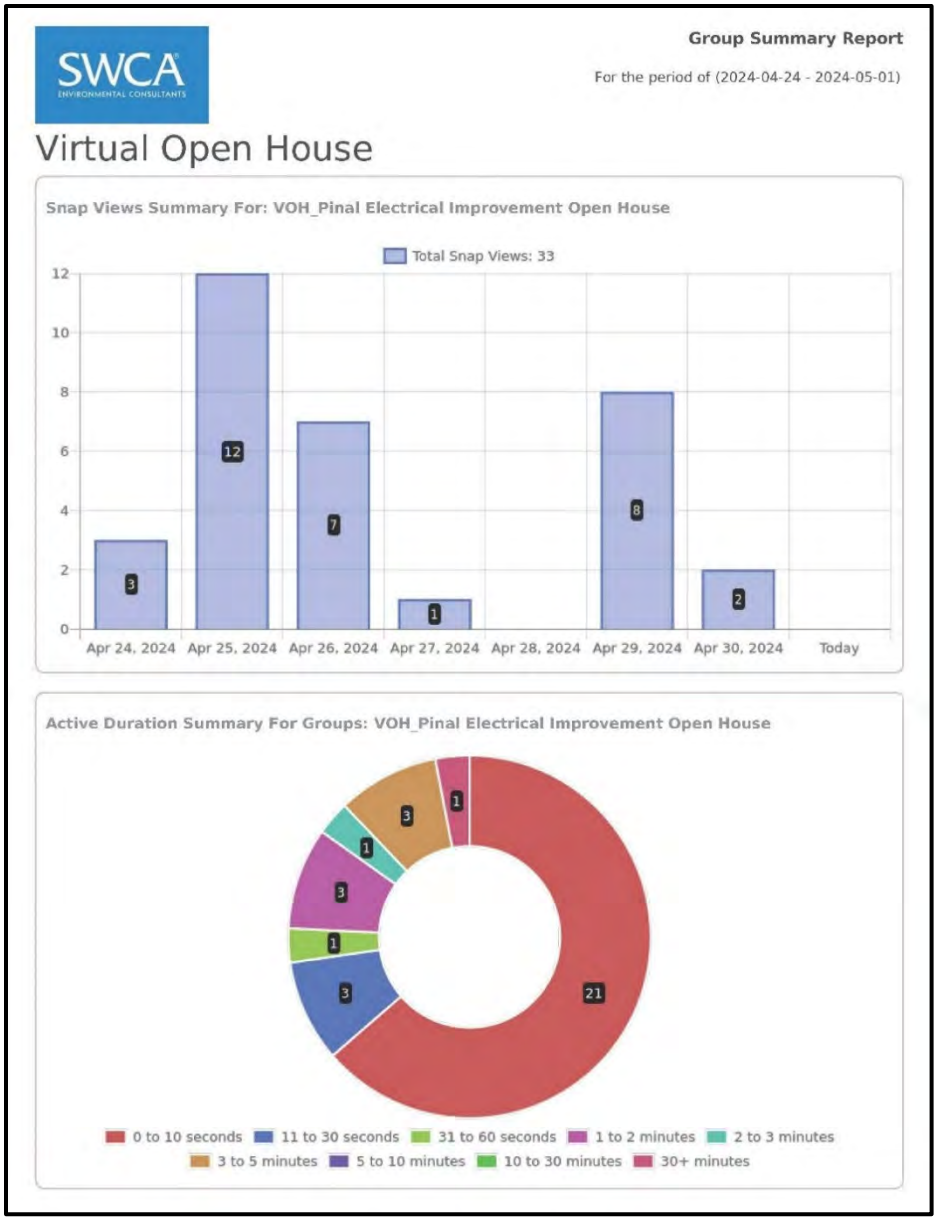


Exhibit J-86. Virtual open house metrics April 24–30, 2024 – snap view and activity duration.

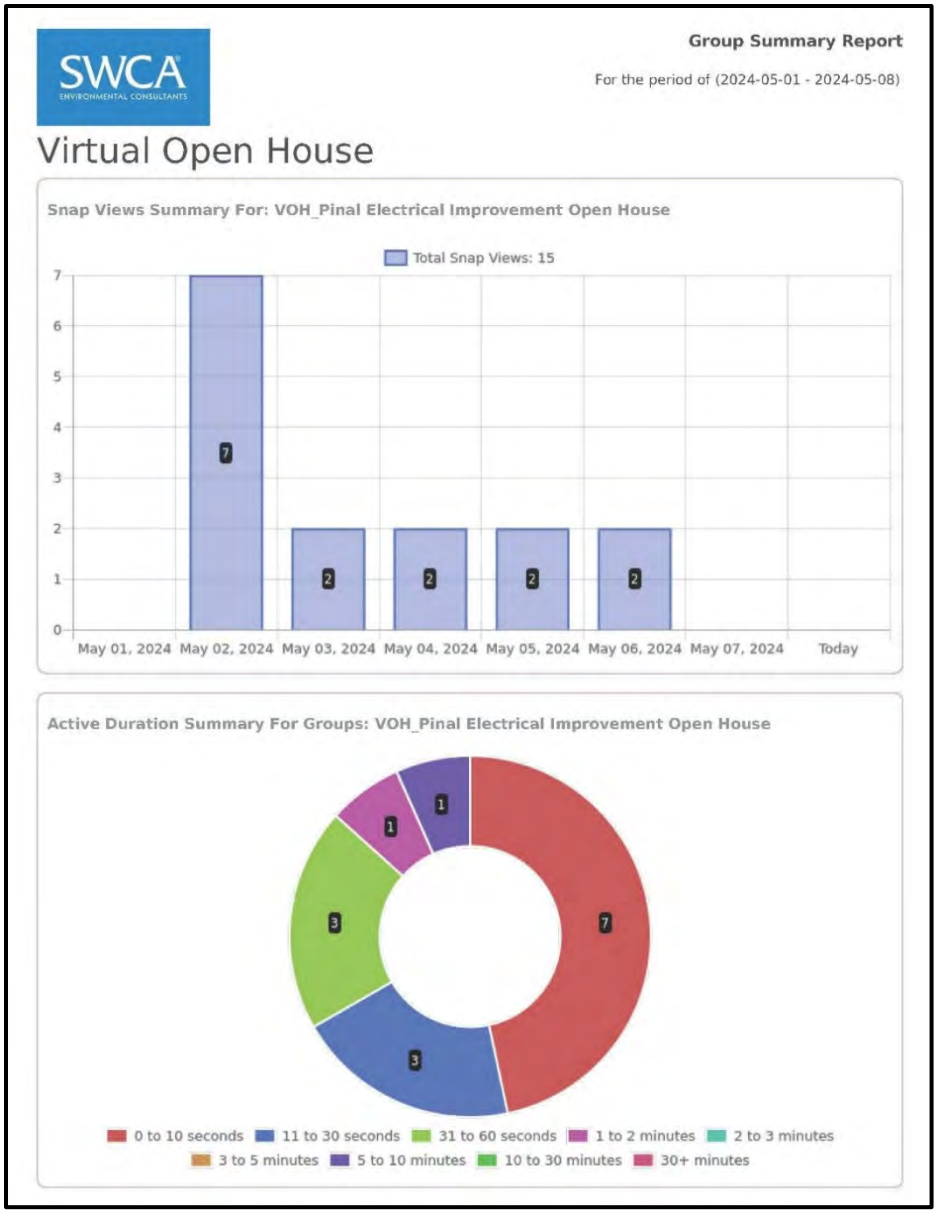


Exhibit J-87. Virtual open house metrics May 1–7, 2024 – snap view and activity duration.

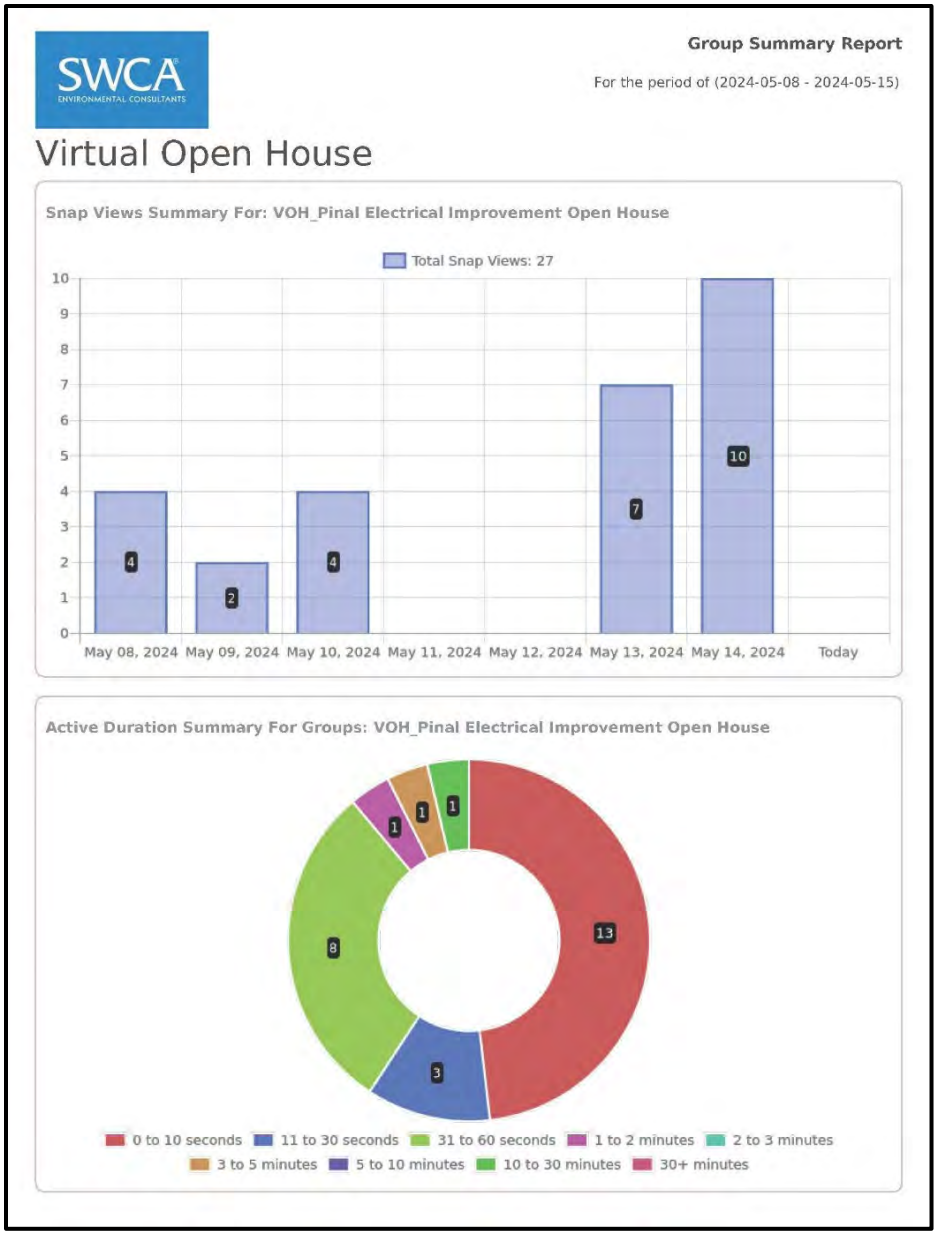


Exhibit J-88. Virtual open house metrics May 8–14, 2024 – snap view and activity duration

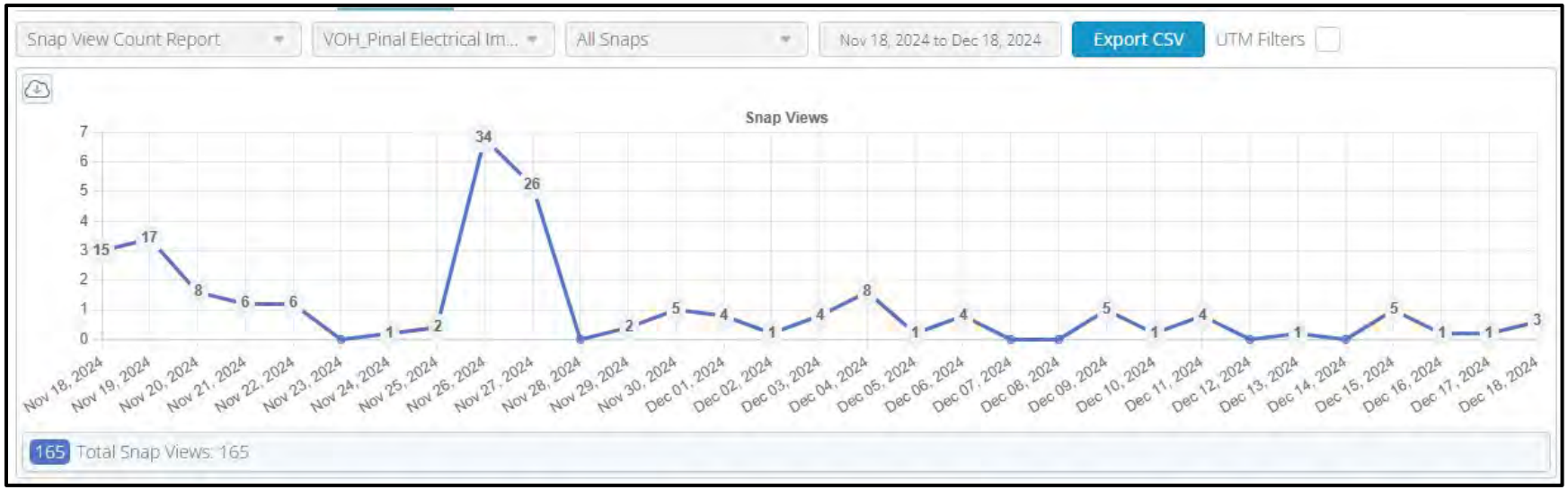


Exhibit J-89. Virtual open house metrics November 18–December 18, 2024 – snap view.

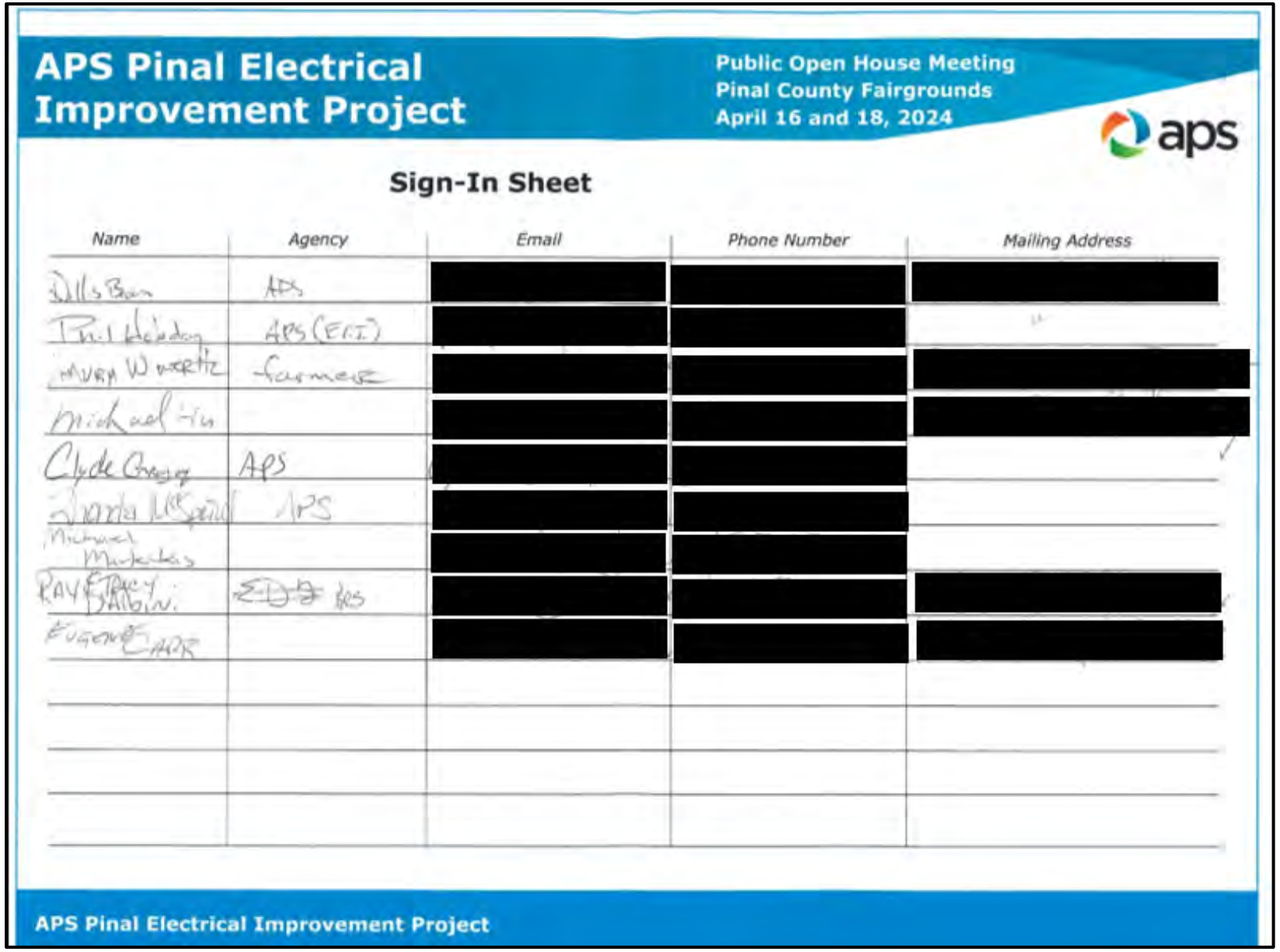
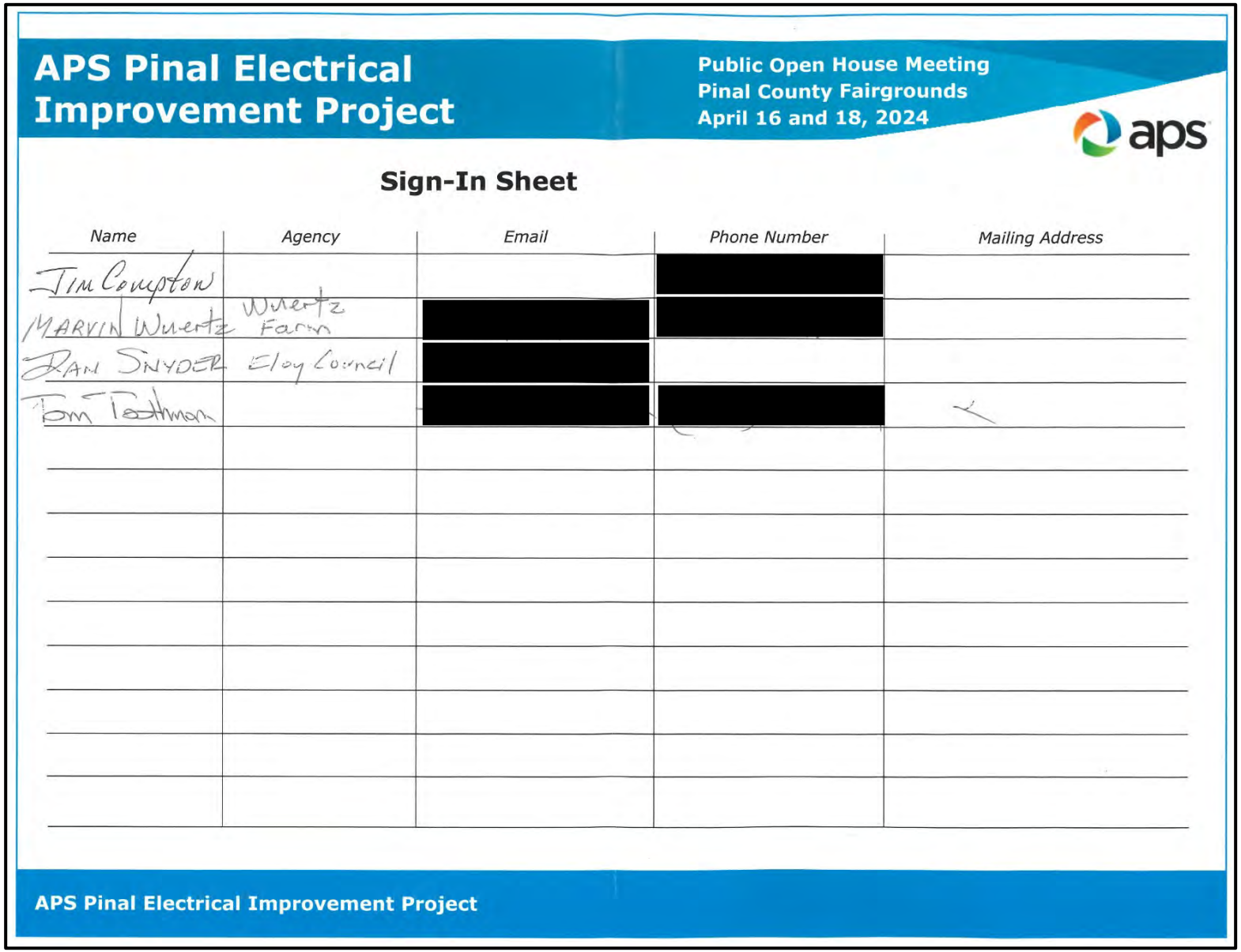


Exhibit J-90. Sign-in sheet for the in-person open house on April 16, 2024.



APS Pinal Electrical Improvement Project

Public Open House Meeting
Pinal County Fairgrounds
April 16 and 18, 2024

aps

Sign-In Sheet

Name	Agency	Email	Phone Number	Mailing Address
Jim Compton			[redacted]	
Marvin Wuertz	Wuertz Farm	[redacted]	[redacted]	
Ram Snyder	Eloy Council	[redacted]		
Tom Toothman		[redacted]	[redacted]	

APS Pinal Electrical Improvement Project

Exhibit J-91. Sign-in sheet for the in-person open house on April 16, 2024.

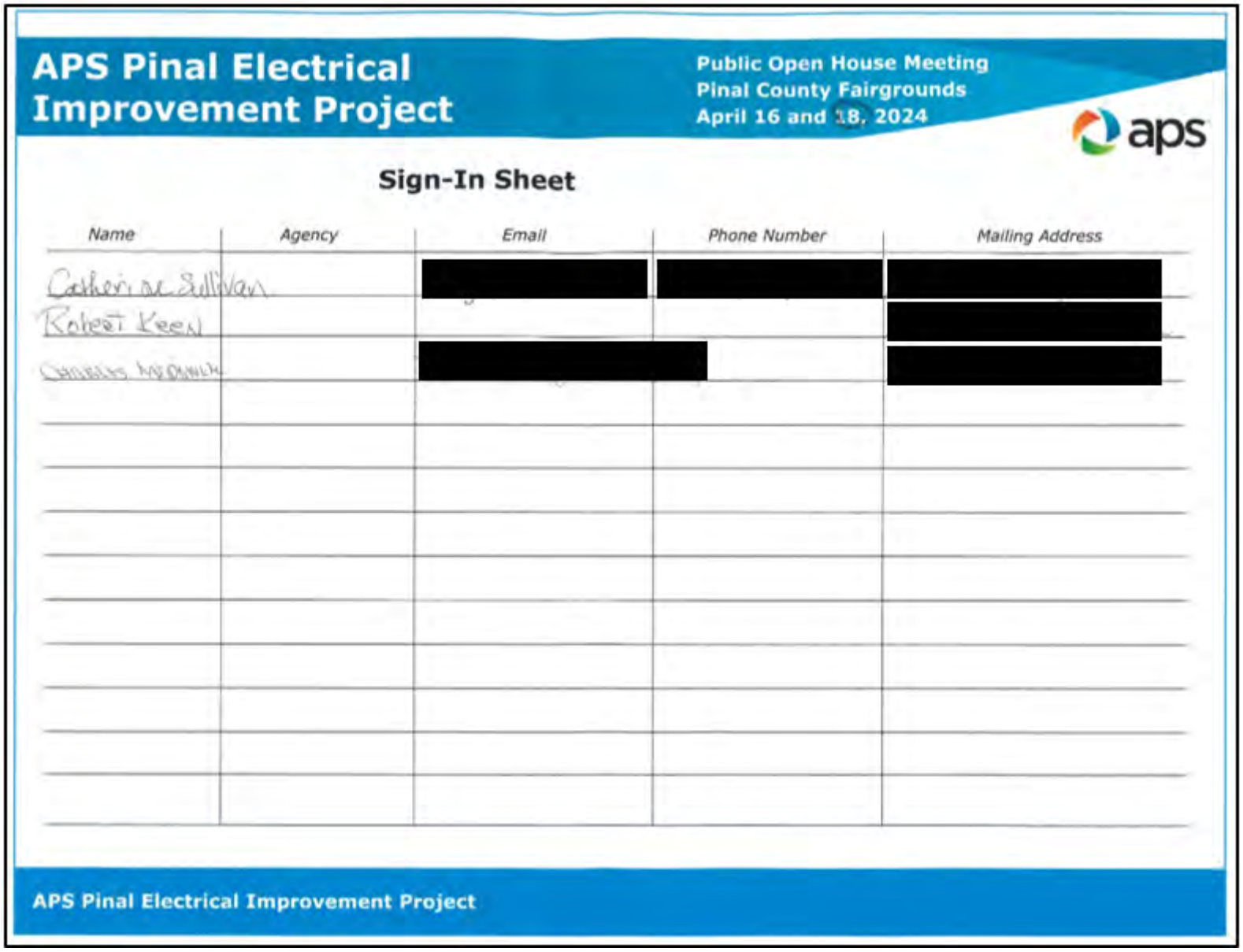


Exhibit J-92. Sign-in sheet for the in-person open house on April 18, 2024.

Exhibit J-93. Sign-in sheet for the in-person open house on April 18, 2024.

APS Pinal Electrical Improvement Project

Public Open House Meeting
Pinal County Fairgrounds
November 19 and 20, 2024

aps

Sign-In Sheet

Name	Agency	Email	Phone Number	Mailing Address
Hector P Cobi.			[redacted]	
Laura Wuertz	Sup Co		[redacted]	
Judy Gillum		[redacted]		
Jon Thompson	City of Coolidge			
Ron McEachern	E.D. #4	[redacted]		
KATHY + MARVIN WUERTZ	WUERTZ FARM	[redacted]	[redacted]	
		[redacted]		
Ashley Johnson	NCEER	[redacted]		
Charles Cardinal		[redacted]	[redacted]	

APS Pinal Electrical Improvement Project

Exhibit J-94. Sign-in sheet for the in-person open house on November 19, 2024.

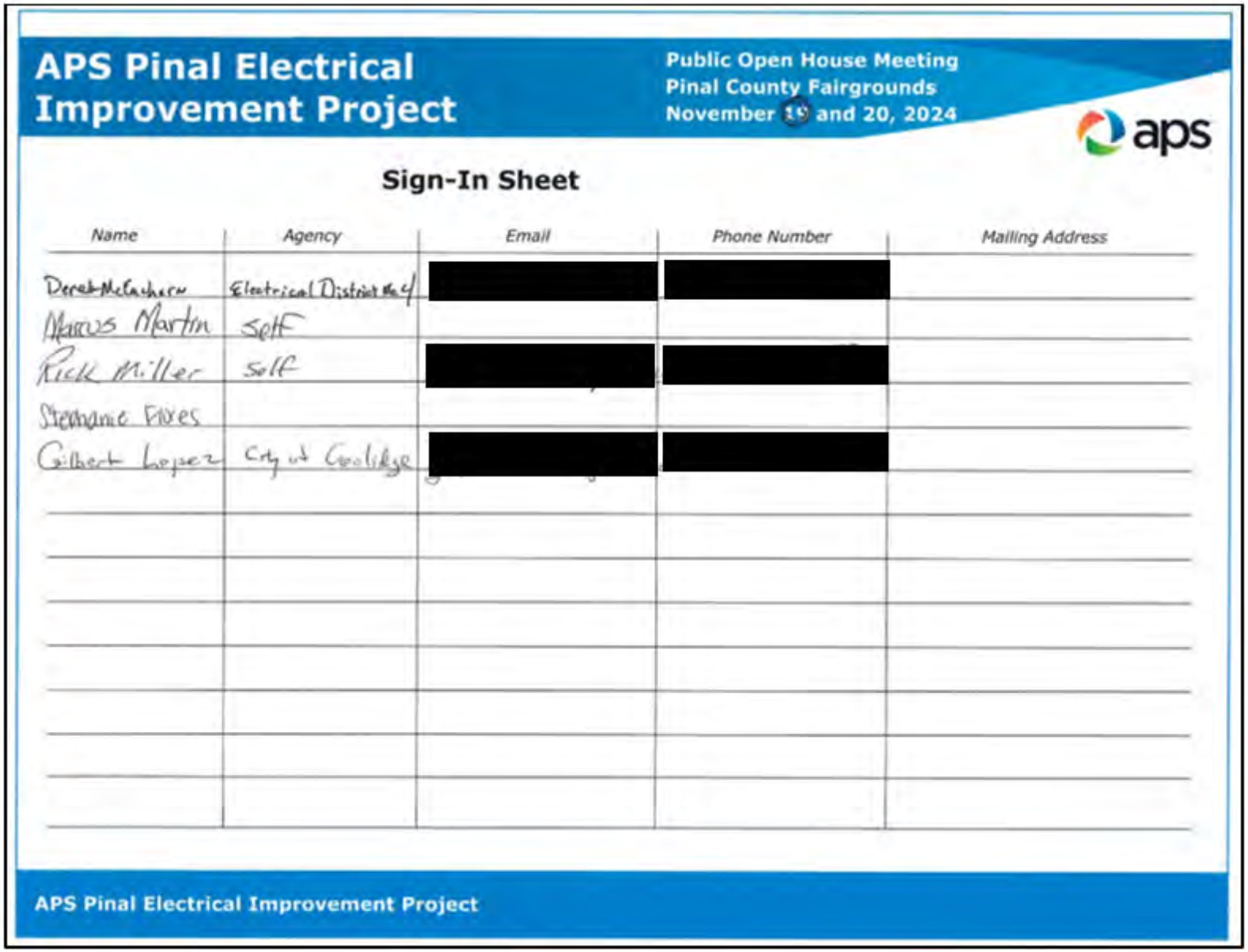
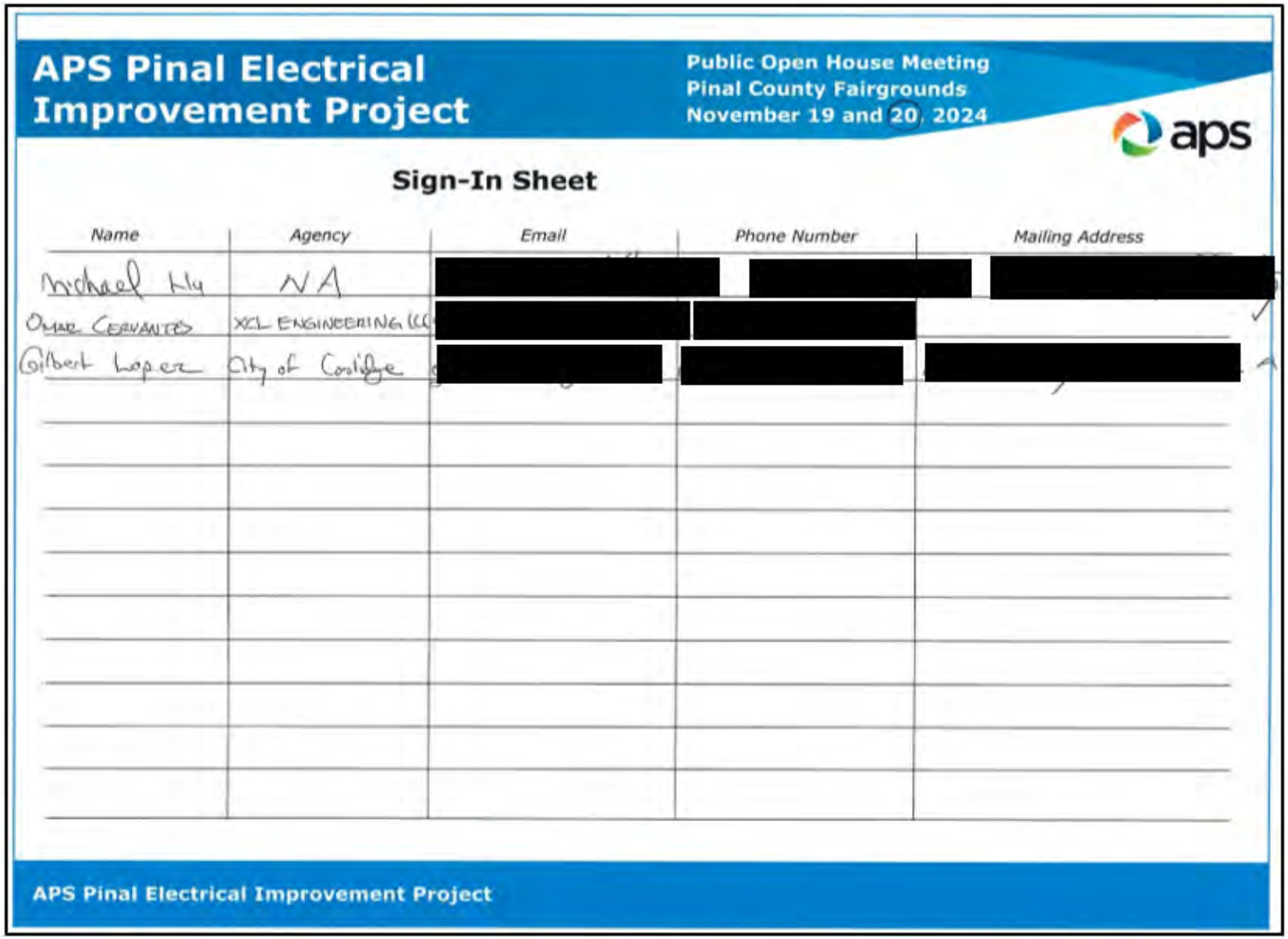


Exhibit J-95. Sign-in sheet for the in-person open house on November 19, 2024.



APS Pinal Electrical Improvement Project

Public Open House Meeting
Pinal County Fairgrounds
November 19 and 20, 2024

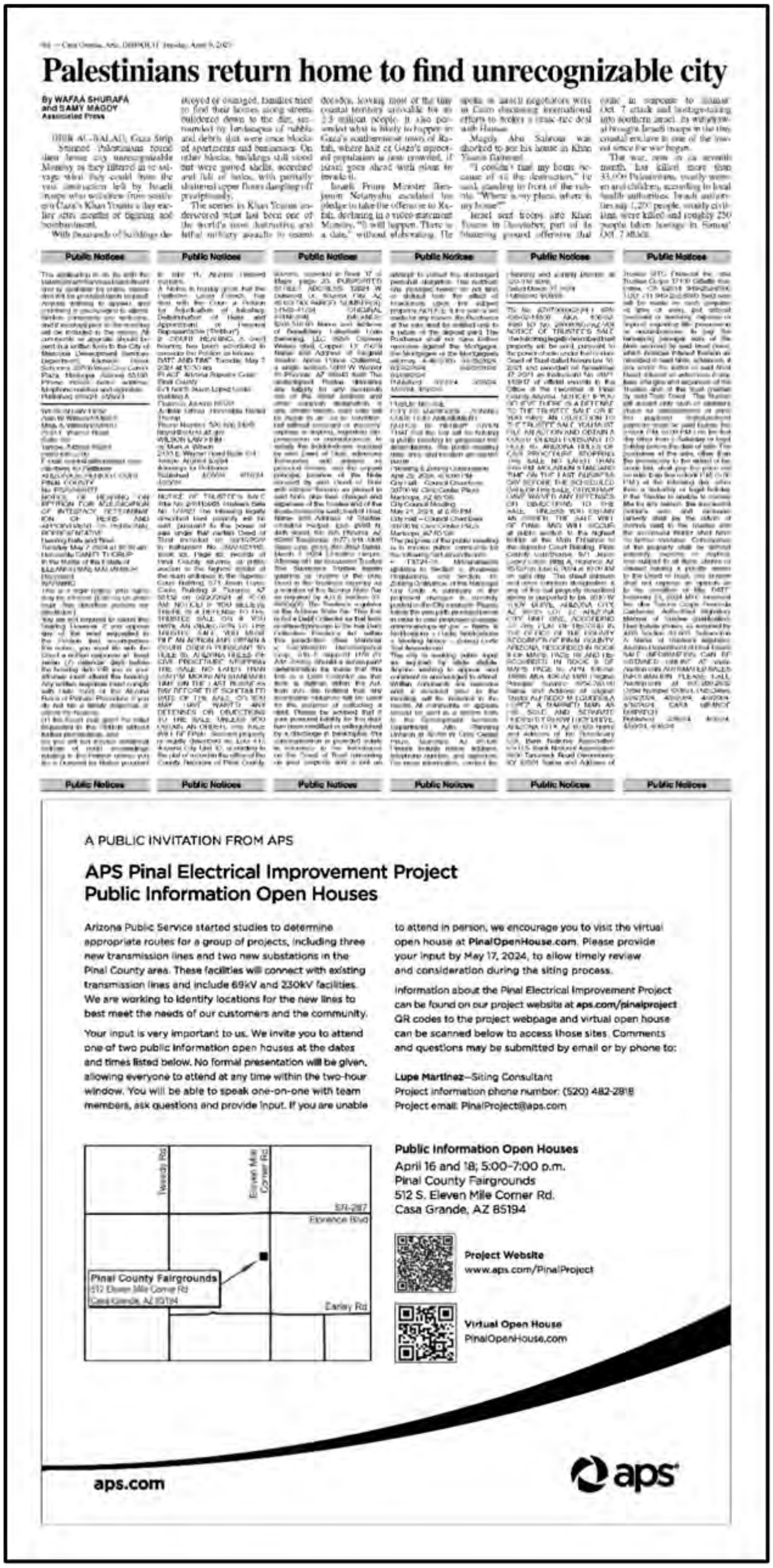
aps

Sign-In Sheet

Name	Agency	Email	Phone Number	Mailing Address
Michael Hu	NA	[redacted]	[redacted]	[redacted]
Omar Cervantes	XCL Engineering LL[redacted]	[redacted]	[redacted]	
Gilbert Lopez	City of Coolidge	[redacted]	[redacted]	[redacted]

APS Pinal Electrical Improvement Project

Exhibit J-96. Sign-in sheet for the in-person open house on November 20, 2024.



Palestinians return home to find unrecognizable city

By WAFAA SHURAFA and SAMY MAGDY
Associated Press

Public Notices

A PUBLIC INVITATION FROM APS

APS Pinal Electrical Improvement Project Public Information Open Houses

Arizona Public Service started studies to determine appropriate routes for a group of projects, including three new transmission lines and two new substations in the Pinal County area. These facilities will connect with existing transmission lines and include 69kV and 230kV facilities. We are working to identify locations for the new lines to best meet the needs of our customers and the community.

Your input is very important to us. We invite you to attend one of two public information open houses at the dates and times listed below. No formal presentation will be given, allowing everyone to attend at any time within the two-hour window. You will be able to speak one-on-one with team members, ask questions and provide input. If you are unable to attend in person, we encourage you to visit the virtual open house at **PinalOpenHouse.com**. Please provide your input by May 17, 2024, to allow timely review and consideration during the siting process.

Information about the Pinal Electrical Improvement Project can be found on our project website at **aps.com/pinalproject** QR codes to the project webpage and virtual open house can be scanned below to access those sites. Comments and questions may be submitted by email or by phone to:

Lupe Martinez—Siting Consultant
Project information phone number: (520) 482-2818
Project email: PinalProject@aps.com

Tweedy Rd
Eleven Mile Corner Rd
SR-287
Florence Blvd
Pinal County Fairgrounds
512 Eleven Mile Corner Rd
Casa Grande, AZ 85194
Earley Rd

Public Information Open Houses
April 16 and 18; 5:00–7:00 p.m.
Pinal County Fairgrounds
512 S. Eleven Mile Corner Rd.
Casa Grande, AZ 85194

Project Website
www.aps.com/PinalProject

Virtual Open House
PinalOpenHouse.com

aps.com

aps

Exhibit J-97. Newspaper advertisement, the *Casa Grande Dispatch*, April 9, 2024.

Earlier days

Here is another from a series of museum collection photos from earlier days. The Museum of Casa Grande would appreciate any information about faces and names available for the pictures featured each week in the Tri-Valley Dispatch, referring to the photo by number. This photo is No. 1986-053-005. The museum, at 110 W. Florence Blvd., is open from noon to 4, Wednesday to Saturday. Call 520-836-2223.

Ford recalls nearly 43,000 SUVs due to gas leaks

DETROIT (AP) — Ford is recalling nearly 43,000 small SUVs because gasoline can leak from the fuel injection rail, increasing the risk of fires. But the recall reportedly does not include repairing the fuel leaks.

The recall covers certain Bronco Sport SUVs from the 2022 and 2023 model years, as well as Escape SUVs from 2022. All have 1.5-liter engines.

Ford says in documents filed with U.S. safety regulators that fuel injection can crack, and gasoline or vapor can accumulate near ignition sources, possibly touching off fires.

Dealers will install a tube to let gasoline flow away from hot surfaces to the ground below the vehicle. They'll also update engine control software to detect a pressure drop in the fuel injection system. If that happens, the software will disable the high pressure fuel pump, reduce engine power and cut temperatures in the engine compartment, according to documents posted Wednesday on the National Highway Traffic Safety Administration website.

Owners were to be notified by letter starting April 1.

The company says in documents it has reports of five accidents, fires and 16 warranty replacements of fuel injectors, but no reports of crashes or injuries.

In an email, Ford said it is not replacing fuel injectors because the problem happens only in about 1% of the SUVs. The new software also will trigger a dashboard warning light and allow customers to drive to a safe location, stop the vehicle and arrange for service, the company said.

The company also said it will extend warranty coverage for cracked fuel injectors, so owners who experience the problem will get replacements. Ford said repairs are already available, and details of the extended warranty will be available in June.

The company said the recall is an extension of a 2022 recall for the same problem. The repair has already been tested on vehicles involved in the previous recall, and Ford said it's not aware of any problems.

Ford also said it isn't recommending that the SUVs be parked only outdoors because there's no evidence that fires happen when vehicles are parked and the engines are off.

Michael Brooks, executive director of the nonprofit Center for Auto Safety, called Ford's remedy for the fuel leaks a "Band-Aid type recall."

Fighting escalates in Myanmar as army holds out

By GRANT PECK
Associated Press

BANGKOK — Fighting appeared to be escalating in Myanmar on Wednesday as guerrilla fighters from the Karen ethnic minority and pro-democracy forces battle soldiers holding on to a major trading town on the border with Thailand, witnesses said.

The fall of Myawaddy, which is also Myanmar's most active trade crossing with Thailand, would be another major setback in the army's war against resistance forces seeking to topple the military-run government.

The fighting has alarmed top officials in Bangkok, who fear it may drive large numbers of people across the border. Thai Foreign Minister Parnpree Bahiddha-Nukara said Tuesday that Thailand can accommodate about 100,000 people in safe areas on a temporary basis.

Myawaddy lies just across the Moei River from the Mae Sot district, which has served in the past to shelter villagers fleeing the fighting.

Despite its advantage in arms and manpower, Myanmar's army had been on the defensive since last October, when an alliance of three ethnic rebel groups launched an offensive in the country's northeast. Resistance forces since then have captured major swaths of territory in northern Shan state on the border with China, made significant gains in Rakhine state in the west, and continue to pressure the army elsewhere.

A drone attack last week by a resistance group loyal to the National Unity Government, an umbrella organization for pro-democracy forces, at the airport in Myanmar's capital, Naypyitaw. Little damage was reported but it highlighted the vulnerability of the military government, which seized power in 2021 by ousting the elected government of Aung San Suu Kyi and now finds itself embroiled in a civil war.

The Karen National Union — the leading political body for the Karen ethnic minority — said last week that its armed wing, the Karen National Liberation Army, along with pro-democracy allies, had captured a regional army base at Thin Gan Nyi Naung on the road to Myawaddy.

More than 600 members of the security forces and their family members reported had surrendered.

A journalist covering the fighting in the area told The Associated Press that the pro-democracy fighters assaulted the garrison of Infantry Battalion 275, about 3 miles to the west of Myawaddy, on Tuesday night.

Exhibit J-98. Newspaper advertisement, the *Tri Valley Dispatch*, April 11, 2024.

WE THE PEOPLE ...

have the right to know what's happening in our cities, towns and neighborhoods.

Casa Grande Valley Newspapers Inc. has transitioned to a new self-serve system to make it more convenient for you to place public notices with our publications: Casa Grande Dispatch, PinalCentral, Dispatch, Tri-Valley Dispatch and Maricopa Monitor.

This improved process has been made possible through our new partnership with Column, a software company dedicated to making the publishing of public notices easier for newspapers and their customers.

To submit a public notice please visit casagrande.column.us/place

If you have any questions or concerns, please use the online chat box through Column, email us at publicnotices@pinalcentral.com or leave us a message at (520) 423-9602. We will get back to you as soon as possible.

Public notices are vital to our democracy. We value your business and look forward to continuing to serve Pinal County. To view a list of local notices please go to **PinalCentral.com**. There is also a database of all Arizona notices available at **www.arizonapublicnotices.com/**

Public Notices

A PUBLIC INVITATION FROM APS

Pinal Electrical Improvement Project
Public Information Open House

To meet the expanding energy needs of more people and businesses throughout the Casa Grande area, we are looking to upgrade our system. Our proposal includes building new power lines and substations in the Pinal County area. The new power lines will connect with existing and future electrical transmission infrastructure and include 69-kilovolt (69kV) and 230-kilovolt (230kV) facilities. We are working to identify locations for the new power lines to best meet the needs of our customers and the community.

Your input is very important to us. We invite you to attend a public open house at the dates and times listed below. No formal presentation will be given, allowing everyone to attend at any time within the two-hour window. You will be able to speak one-on-one with team members, learn more about the project, ask questions and provide additional comments. If you are unable to attend in person, we encourage you to visit the project webpage at aps.com/PinalProject to learn more or view the virtual open house to provide input. QR codes to the project webpage and virtual open house can be scanned below to access those sites. Comments and questions may be submitted by email or phone:

Lupe Martinez and Stephen Eich – Siting Consultants
Project information phone number: (520) 482-2818
Project email: PinalProject@aps.com

Public Information Open House
November 19 and 20, 2024; 5:00-7:00 p.m.
Pinal County Fairgrounds
512 S. Eleven Mile Corner Road
Casa Grande, AZ 85194

Project Website
aps.com/PinalProject

Virtual Open House
PinalOpenHouse.com

aps.com

aps

Exhibit J-99. Newspaper advertisement, the *Casa Grande Dispatch*, November 12, 2024.

Waymo's robotaxis now open to give driverless rides in Los Angeles

By MICHAEL LIEDTKE
AP Technology Writer

Terry Chea/Associated Press

Two Waymo driverless taxis stop before passing one another Feb. 15, 2023, on a San Francisco street.

Toy Hall

Continued from Page TVD1

STD cases

Continued from Page TVD3

Public Notices | Public Notices | Public Notices | Public Notices | Public Notices | Public Notices

A PUBLIC INVITATION FROM APS

Pinal Electrical Improvement Project Public Information Open House

To meet the expanding energy needs of more people and businesses throughout the Casa Grande area, we are looking to upgrade our system. Our proposal includes building new power lines and substations in the Pinal County area. The new power lines will connect with existing and future electrical transmission infrastructure and include 69-kilovolt (69kV) and 230-kilovolt (230kV) facilities. We are working to identify locations for the new power lines to best meet the needs of our customers and the community.

Your input is very important to us. We invite you to attend a public open house at the dates and times listed below. No formal presentation will be given, allowing everyone to attend at any time within the two-hour window. You will be able to speak one-on-one with team members, learn more about the project, ask questions and provide additional comments. If you are unable to attend in person, we encourage you to visit the project webpage at aps.com/PinalProject to learn more or view the virtual open house to provide input. QR codes to the project webpage and virtual open house can be scanned below to access those sites. Comments and questions may be submitted by email or phone:

Lupe Martinez and Stephen Eich – Siting Consultants
Project information phone number: (520) 482-2818
Project email: PinalProject@aps.com

Public Information Open House
November 19 and 20, 2024; 5:00–7:00 p.m.
Pinal County Fairgrounds
512 S. Eleven Mile Corner Road
Casa Grande, AZ 85194

Project Website
aps.com/PinalProject

Virtual Open House
PinalOpenHouse.com

aps.com

Exhibit J-100. Newspaper advertisement, the *Tri Valley Dispatch*, November 14, 2024.

Exhibit J-101. Facebook social media advertisement, April 9 through April 18, 2024.

Exhibit J-102. Facebook social media post, April 9 through April 18, 2024.

Exhibit J-103. Facebook social media advertisement, November 6 through November 18, 2024.

Exhibit J-104. Facebook social media post, November 6 through November 18, 2024.

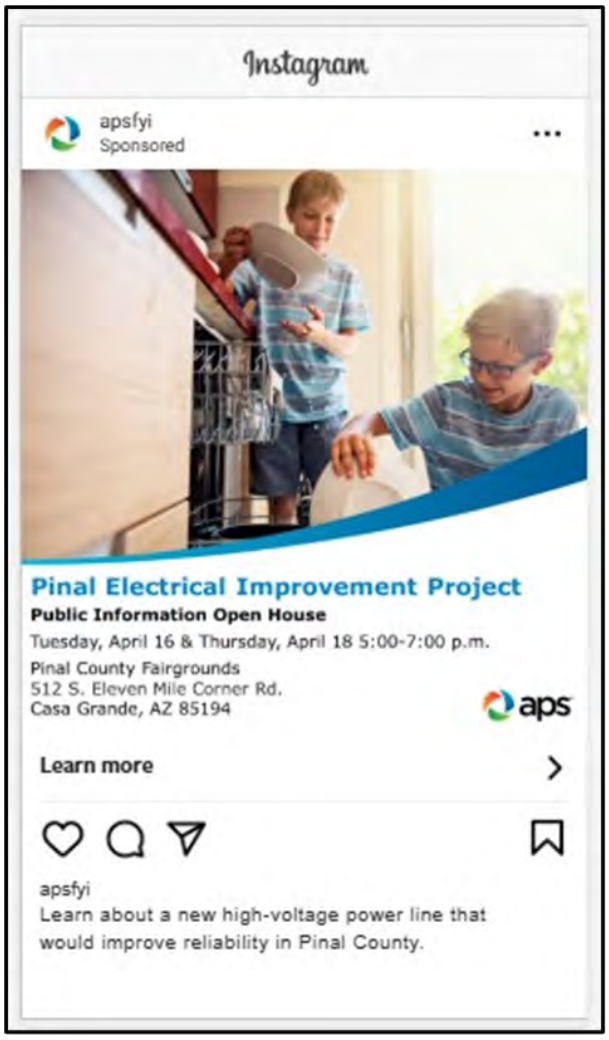


Exhibit J-105. Instagram social media advertisement, April 9 through April 18, 2024.

Exhibit J-106. Instagram social media advertisement, April 9 through April 18, 2024.

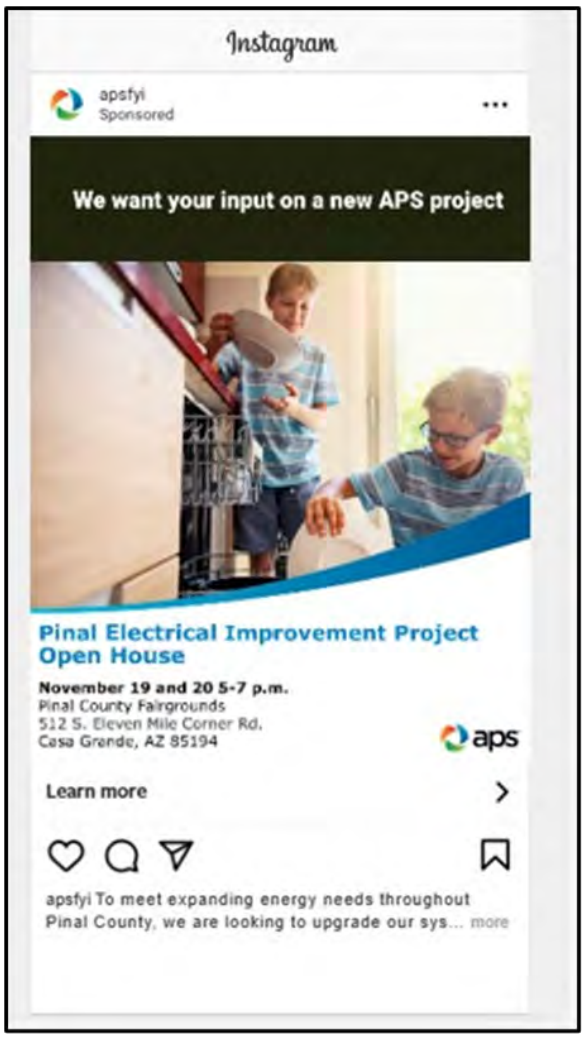


Exhibit J-107. Instagram social media advertisement, November 6 through November 18, 2024.

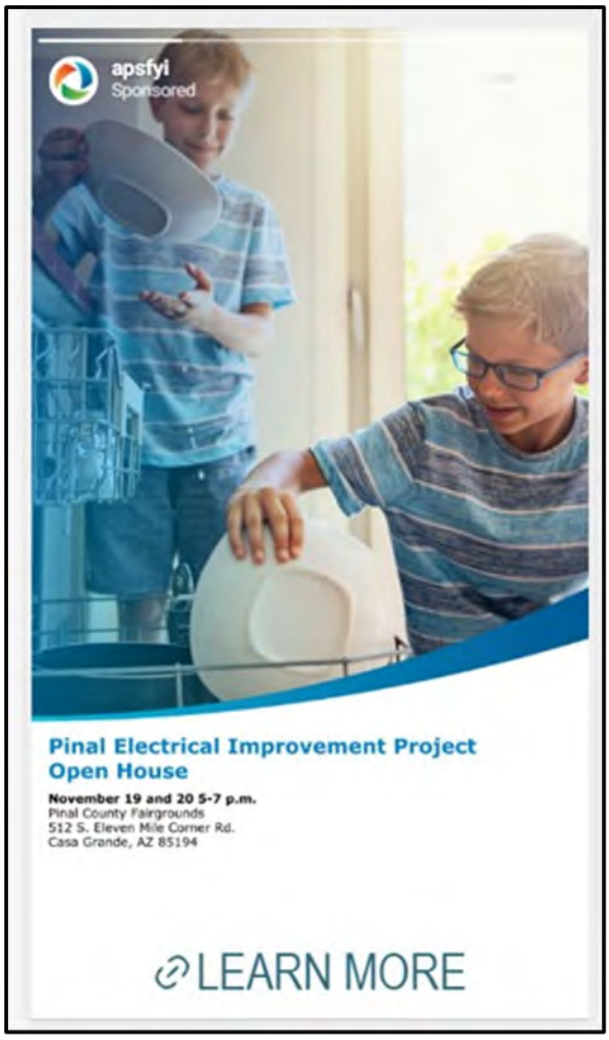


Exhibit J-108. Instagram social media advertisement, November 6 through November 18, 2024.

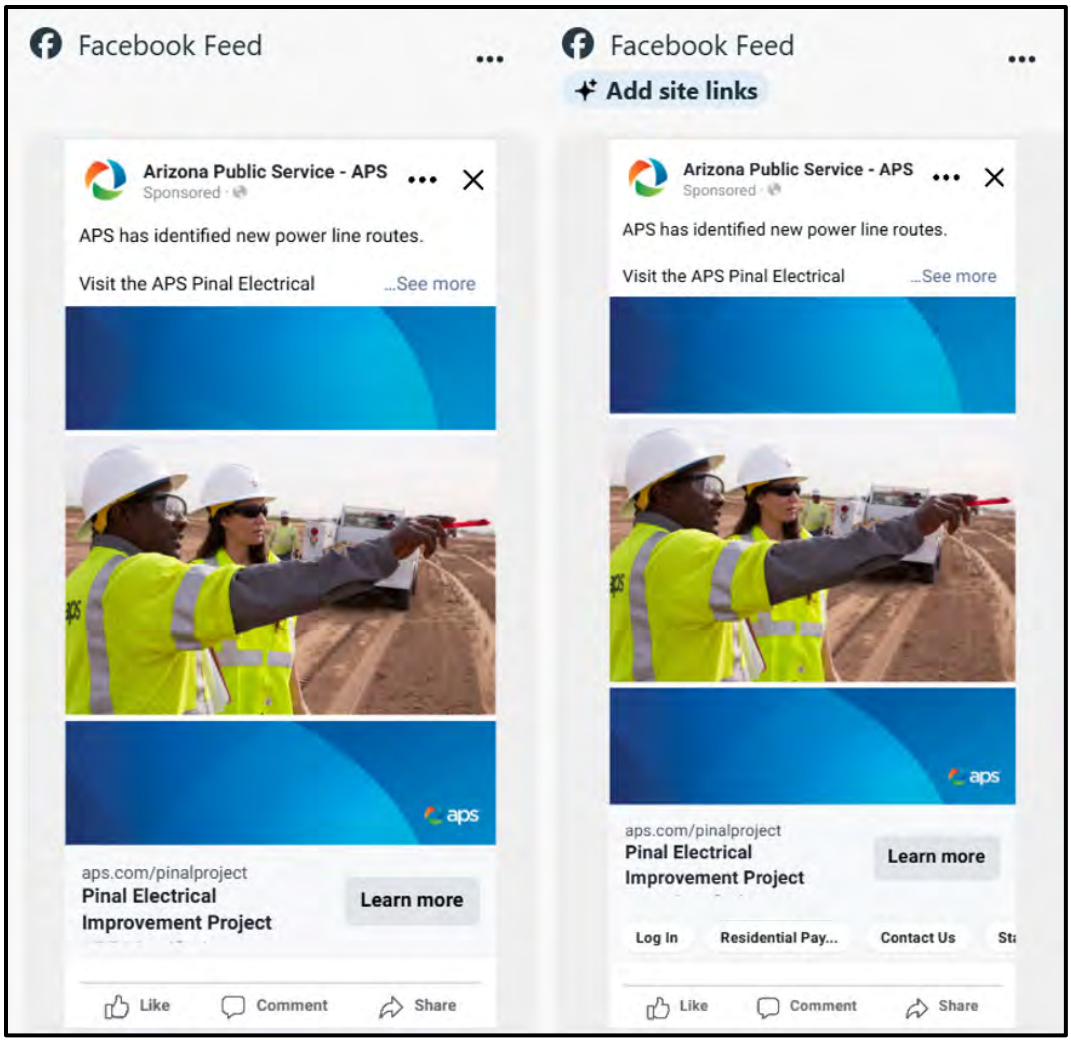


Exhibit J-109. Facebook social media advertisement, May 16 through May 30, 2025.

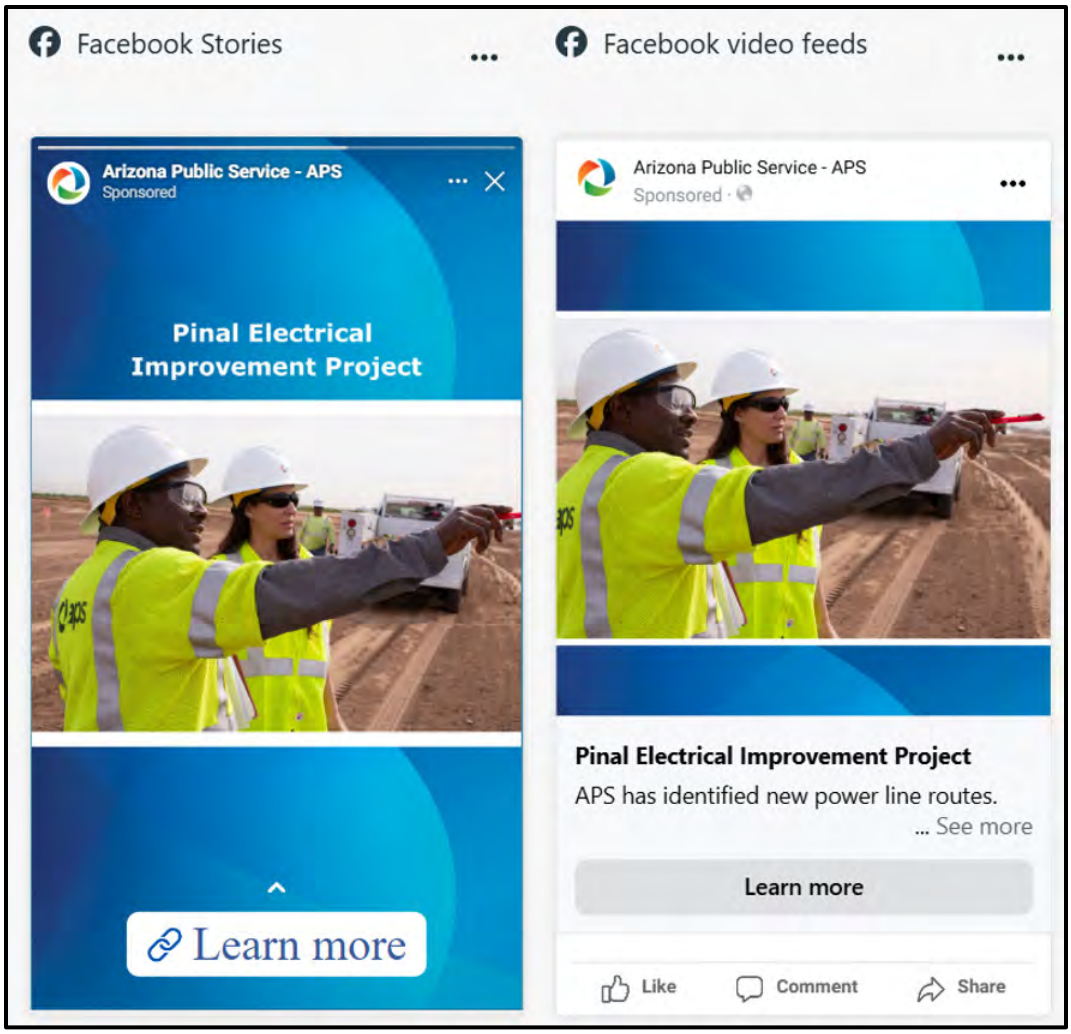


Exhibit J-110. Facebook social media advertisement, May 16 through May 30, 2025.

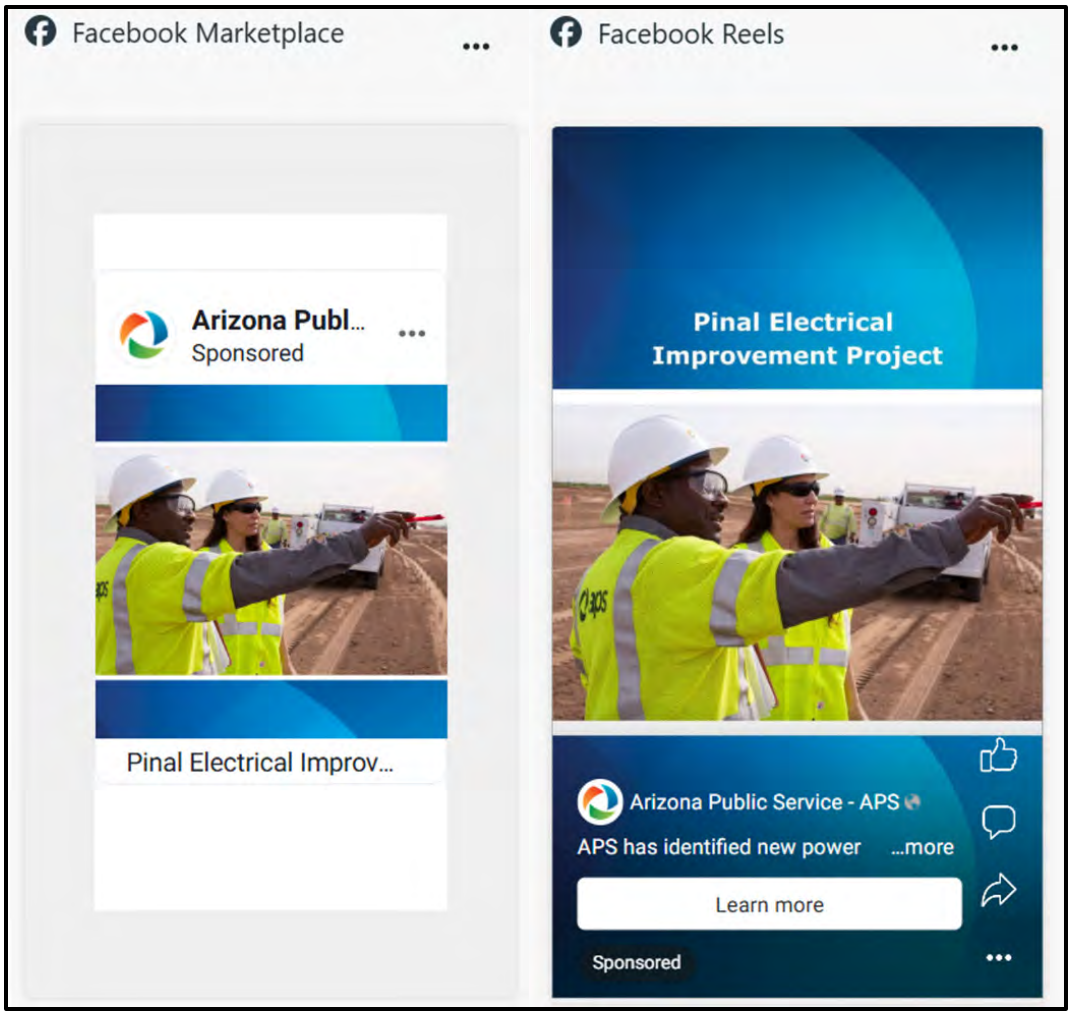


Exhibit J-111. Facebook social media advertisement, May 16 through May 30, 2025.

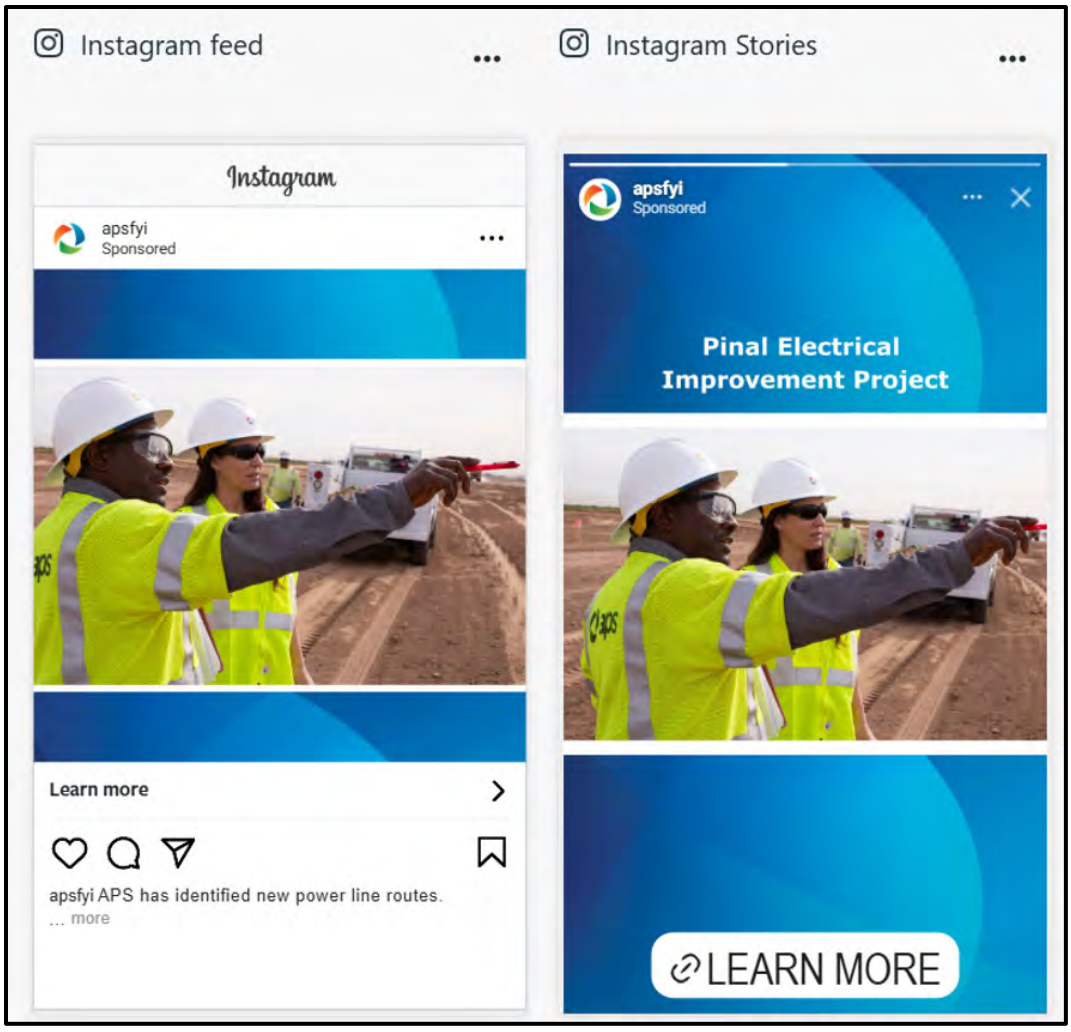


Exhibit J-112. Instagram social media advertisement, May 16 through May 30, 2025.

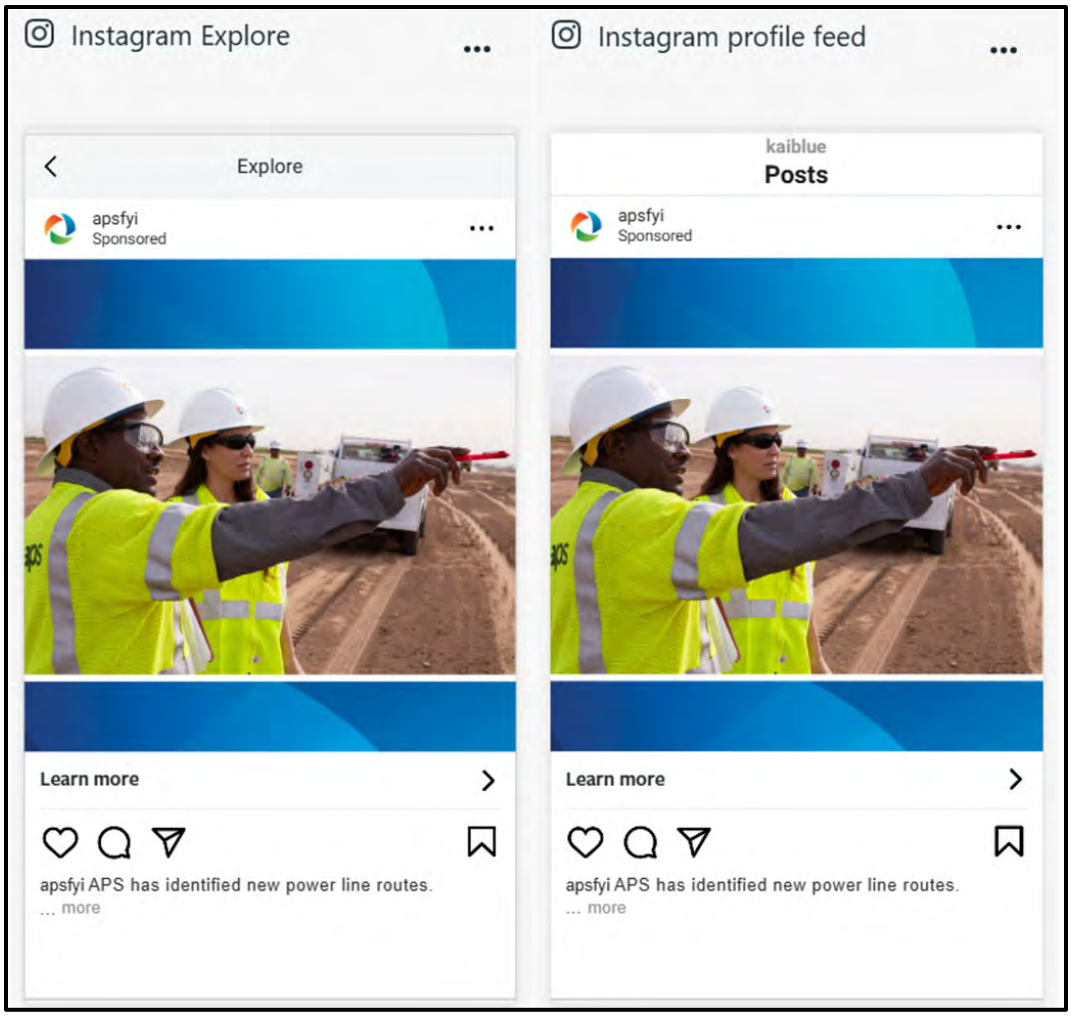


Exhibit J-113. Instagram social media advertisement, May 16 through May 30, 2025.

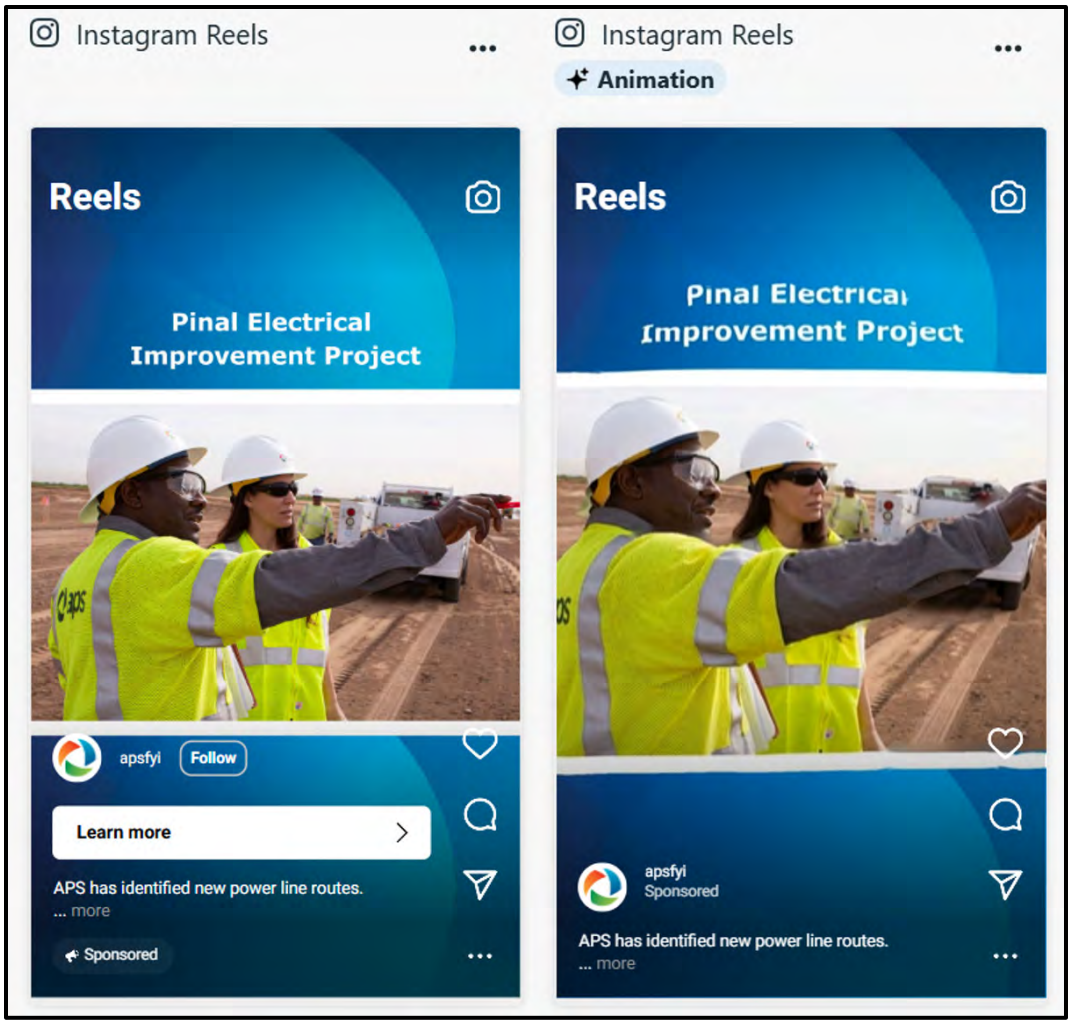
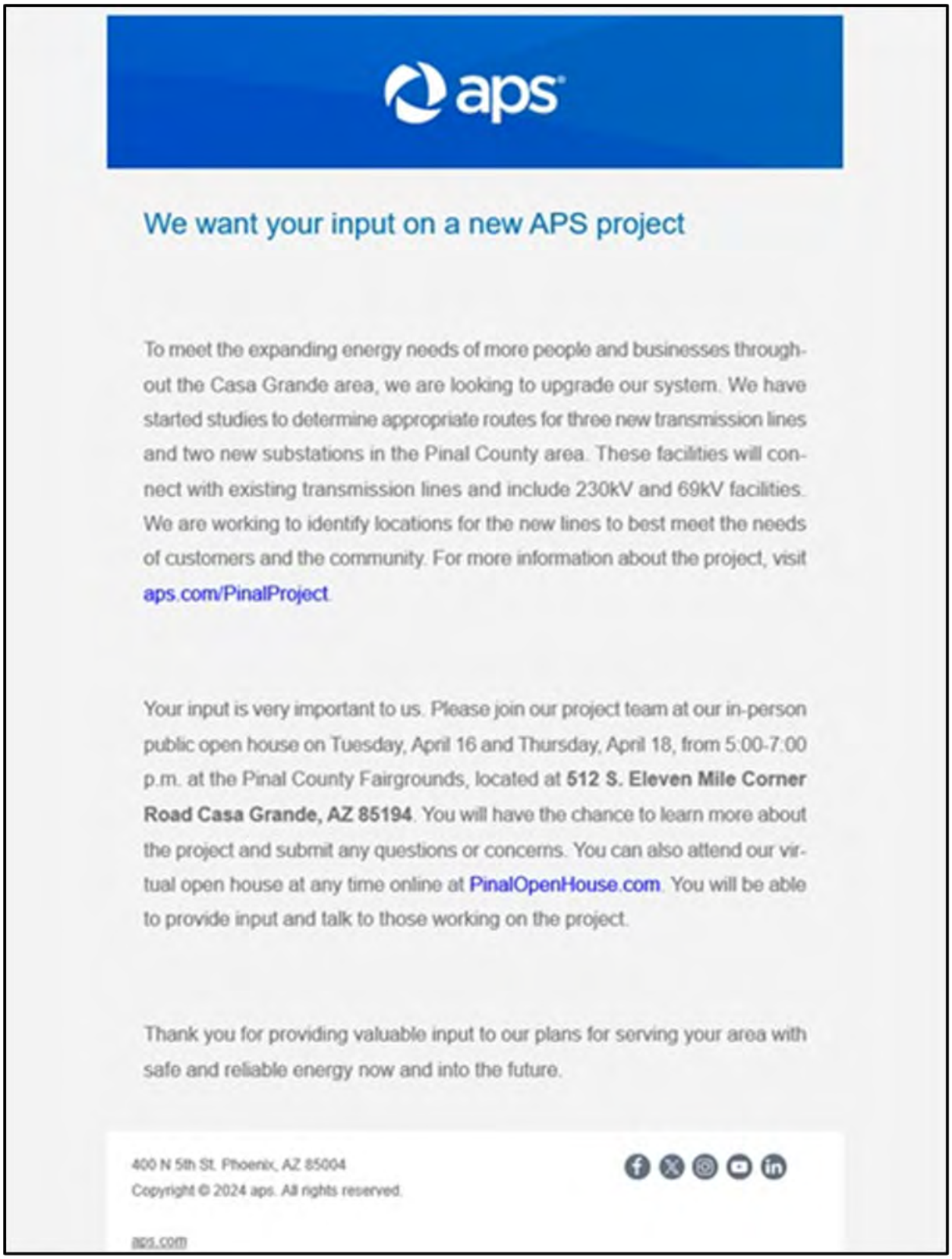


Exhibit J-114. Instagram social media advertisement, May 16 through May 30, 2025.



aps

We want your input on a new APS project

To meet the expanding energy needs of more people and businesses throughout the Casa Grande area, we are looking to upgrade our system. We have started studies to determine appropriate routes for three new transmission lines and two new substations in the Pinal County area. These facilities will connect with existing transmission lines and include 230kV and 69kV facilities. We are working to identify locations for the new lines to best meet the needs of customers and the community. For more information about the project, visit aps.com/PinalProject.

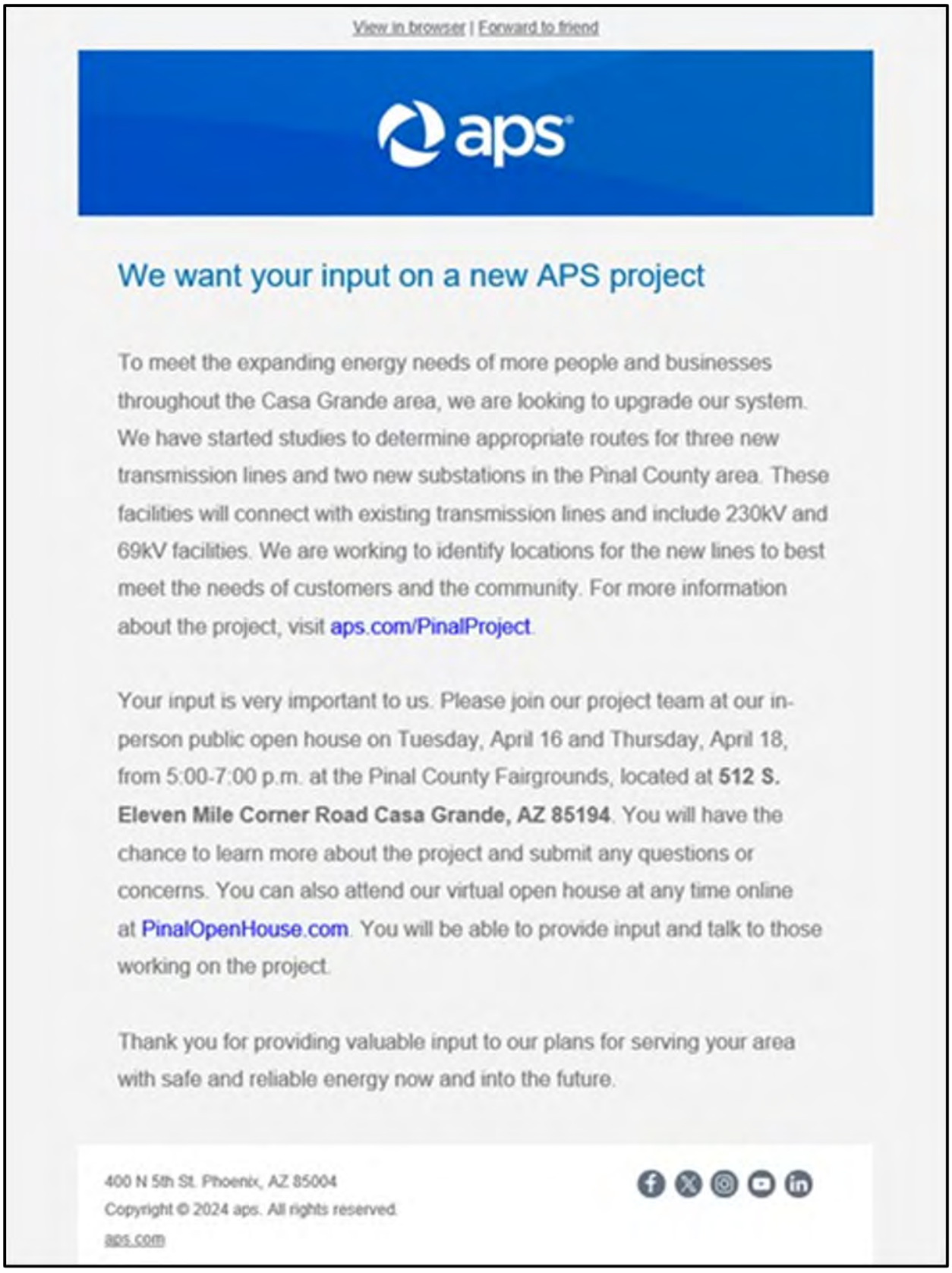
Your input is very important to us. Please join our project team at our in-person public open house on Tuesday, April 16 and Thursday, April 18, from 5:00-7:00 p.m. at the Pinal County Fairgrounds, located at **512 S. Eleven Mile Corner Road Casa Grande, AZ 85194**. You will have the chance to learn more about the project and submit any questions or concerns. You can also attend our virtual open house at any time online at PinalOpenHouse.com. You will be able to provide input and talk to those working on the project.

Thank you for providing valuable input to our plans for serving your area with safe and reliable energy now and into the future.

400 N 5th St, Phoenix, AZ 85004

aps.com

Exhibit J-115. Email to stakeholders, March 29, 2024.



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We want your input on a new APS project

To meet the expanding energy needs of more people and businesses throughout the Casa Grande area, we are looking to upgrade our system. We have started studies to determine appropriate routes for three new transmission lines and two new substations in the Pinal County area. These facilities will connect with existing transmission lines and include 230kV and 69kV facilities. We are working to identify locations for the new lines to best meet the needs of customers and the community. For more information about the project, visit aps.com/PinalProject.

Your input is very important to us. Please join our project team at our in-person public open house on Tuesday, April 16 and Thursday, April 18, from 5:00-7:00 p.m. at the Pinal County Fairgrounds, located at **512 S. Eleven Mile Corner Road Casa Grande, AZ 85194**. You will have the chance to learn more about the project and submit any questions or concerns. You can also attend our virtual open house at any time online at PinalOpenHouse.com. You will be able to provide input and talk to those working on the project.

Thank you for providing valuable input to our plans for serving your area with safe and reliable energy now and into the future.

400 N 5th St. Phoenix, AZ 85004

aps.com

Exhibit J-116. Email to stakeholders, November 8, 2024.

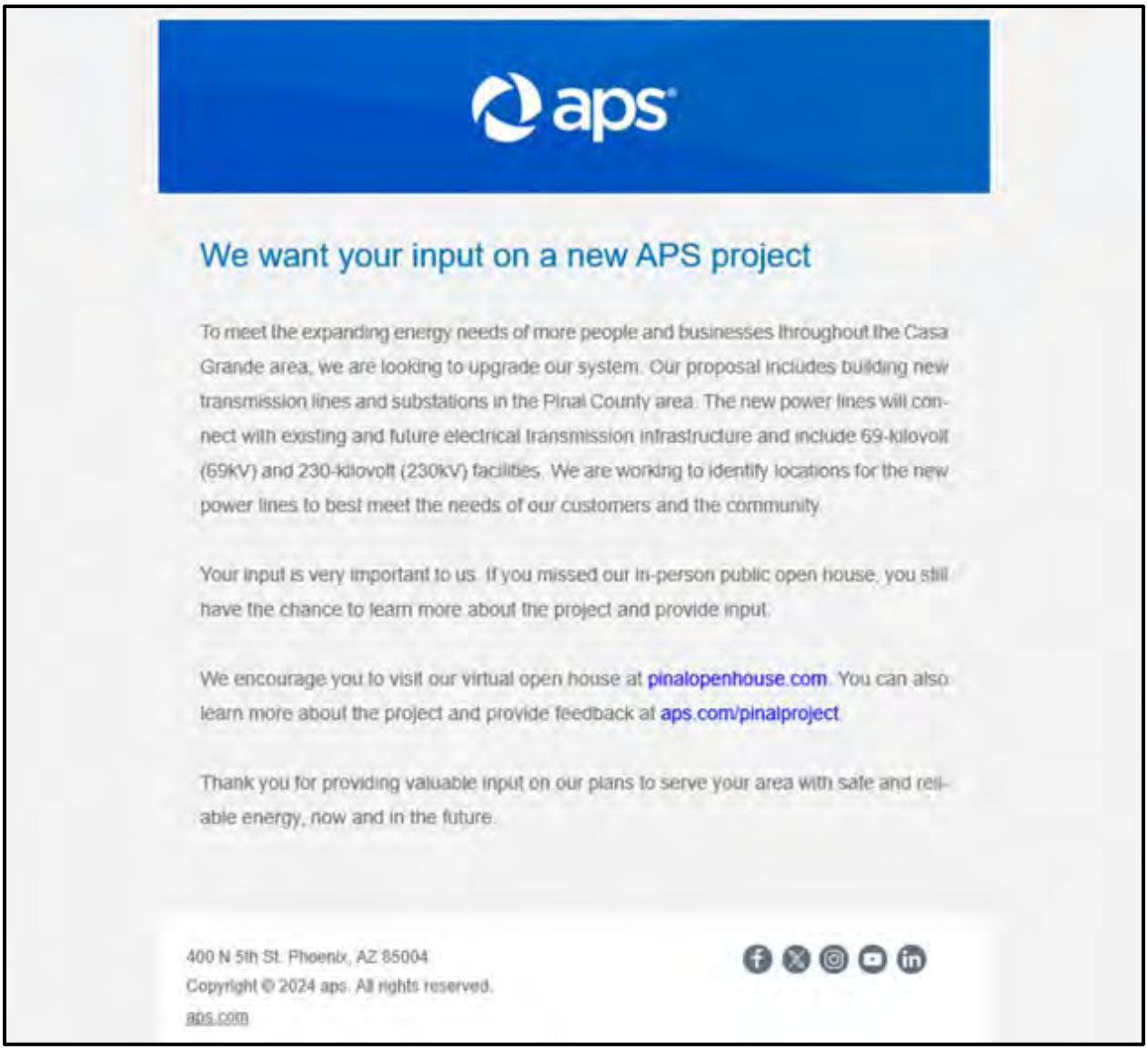
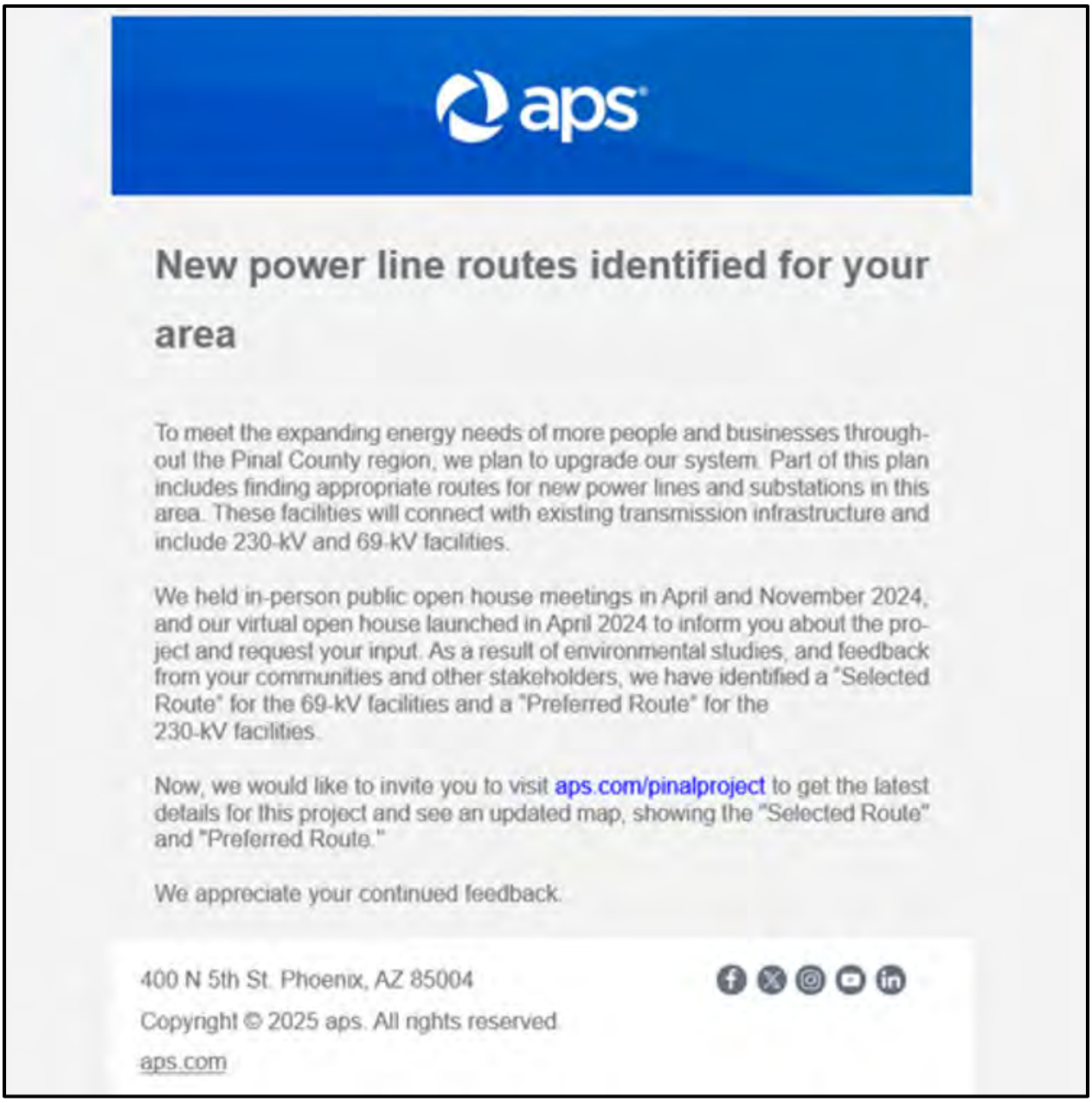


Exhibit J-117. Email to stakeholders, November 26, 2024.



aps

New power line routes identified for your area

To meet the expanding energy needs of more people and businesses throughout the Pinal County region, we plan to upgrade our system. Part of this plan includes finding appropriate routes for new power lines and substations in this area. These facilities will connect with existing transmission infrastructure and include 230-kV and 69-kV facilities.

We held in-person public open house meetings in April and November 2024, and our virtual open house launched in April 2024 to inform you about the project and request your input. As a result of environmental studies, and feedback from your communities and other stakeholders, we have identified a "Selected Route" for the 69-kV facilities and a "Preferred Route" for the 230-kV facilities.

Now, we would like to invite you to visit aps.com/pinalproject to get the latest details for this project and see an updated map, showing the "Selected Route" and "Preferred Route."

We appreciate your continued feedback.

400 N 5th St. Phoenix, AZ 85004

aps.com

Exhibit J-118. Email to stakeholders, May 15, 2025.

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