

APS Wildcat and Cyclone 230kV Line Siting Projects

Open House

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Projects' Overview and Need









Projects' Overview

- Wildcat and Cyclone Projects
 - Two new 230kV substations to serve customer projects
 - TS-15 Substation – Wildcat
 - TS-18 Substation – Cyclone
 - New single-circuit 230kV transmission line(s) from each planned substation to the existing Palm Valley - Rudd 230kV transmission line
- APS is in the early stages of the planning process and is conducting agency and public outreach prior to identifying preferred powerline routes
- Following identification of preferred powerline routes, APS will apply for Certificates of Environmental Compatibility (CEC) with the Arizona Corporation Commission (ACC) for each transmission line route




Cyclone and Wildcat Transmission Line Siting Studies (TS-15 & TS-18)

Study Area







Project Features

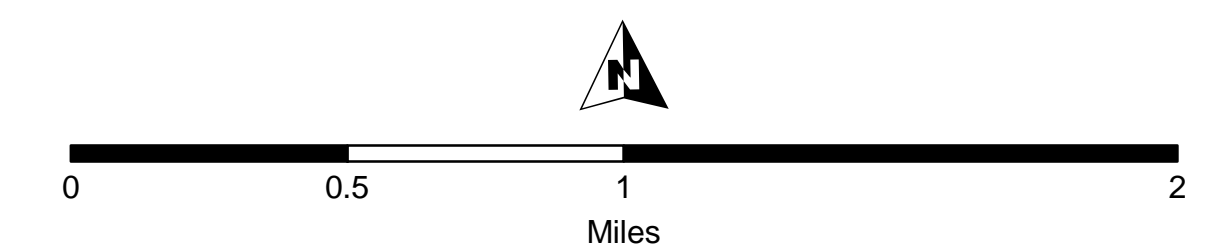
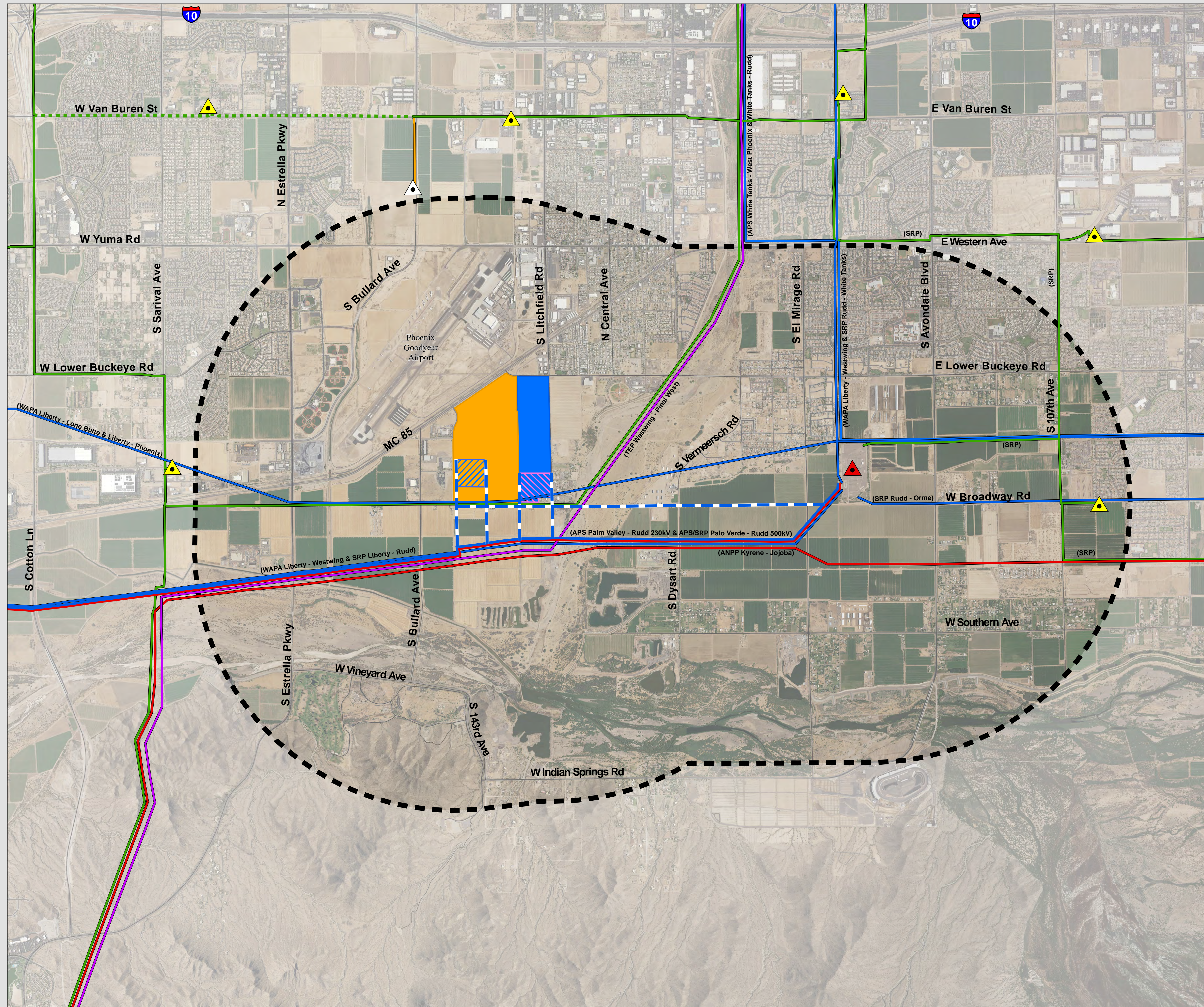
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-  Wildcat Site
-  TS-15 Substation Siting Area
-  Cyclone Site
-  TS-18 Substation Siting Area
-  230kV Transmission Line Alternatives

Planned Transmission Facilities

-  Bullard 69kV Substation
-  Bullard Double-Circuit 69kV Line
-  Existing Single-Circuit 69kV Line to be rebuilt as Double-Circuit 69kV Line

Existing Transmission Facilities

-  69kV Substation
-  230/500kV Substation
-  69kV Transmission Line
-  230kV Transmission Line
-  345kV Transmission Line
-  500kV Transmission Line










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Cyclone and Wildcat Transmission Line Siting Studies (TS-15 & TS-18)

Preliminary Alternatives


Project Features

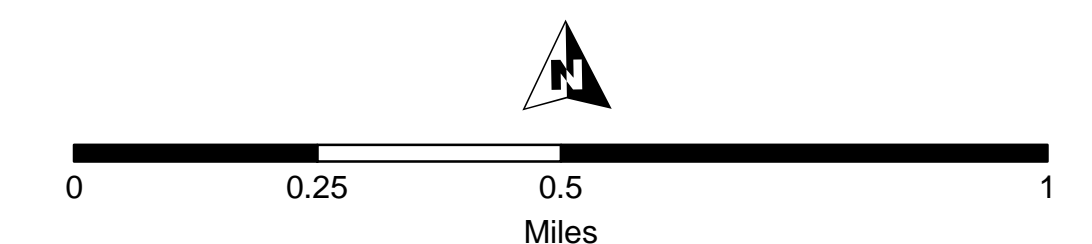
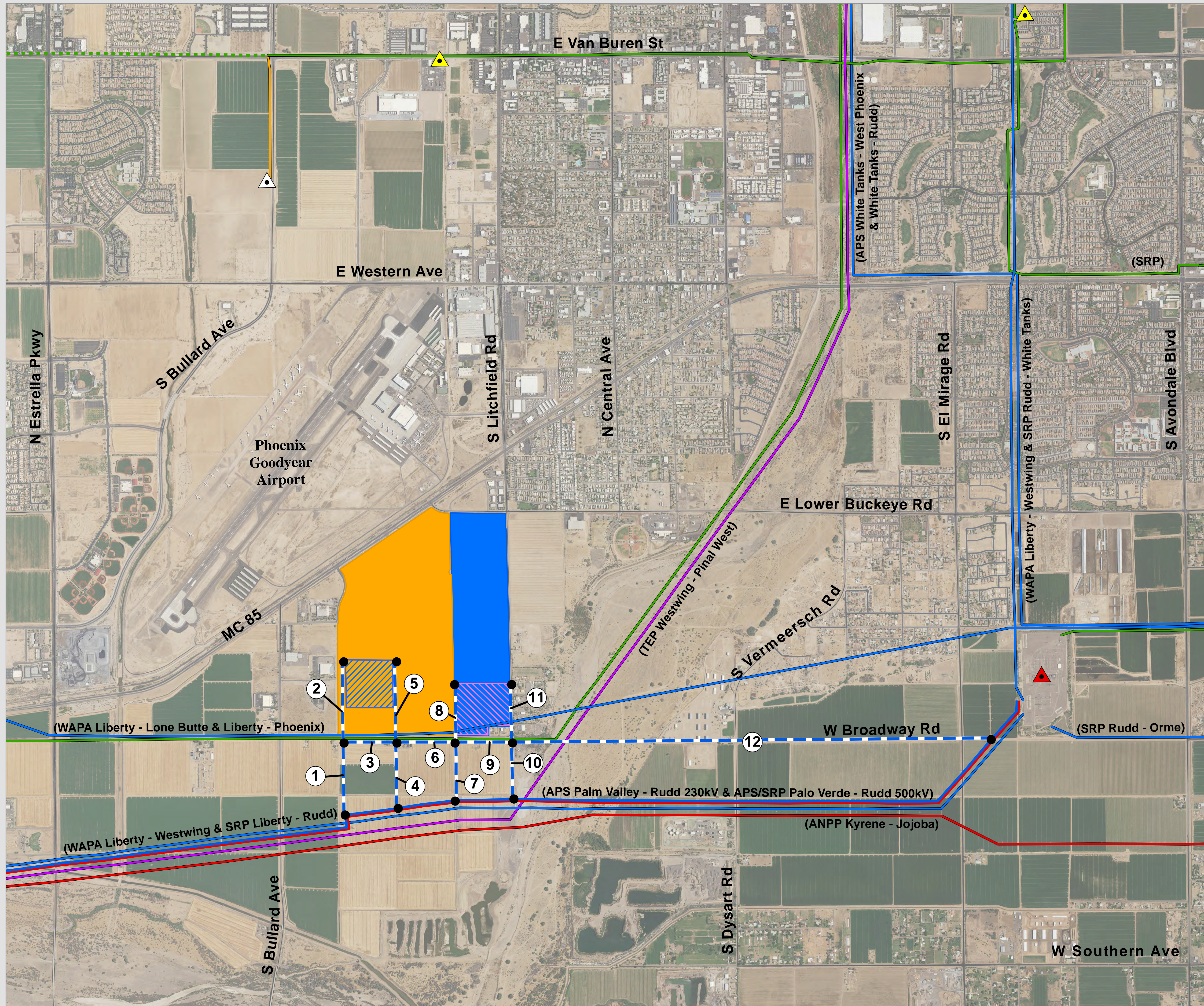
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Projects' Need

- Provide dedicated and looped 230kV power sources to serve new high-tech data center customers

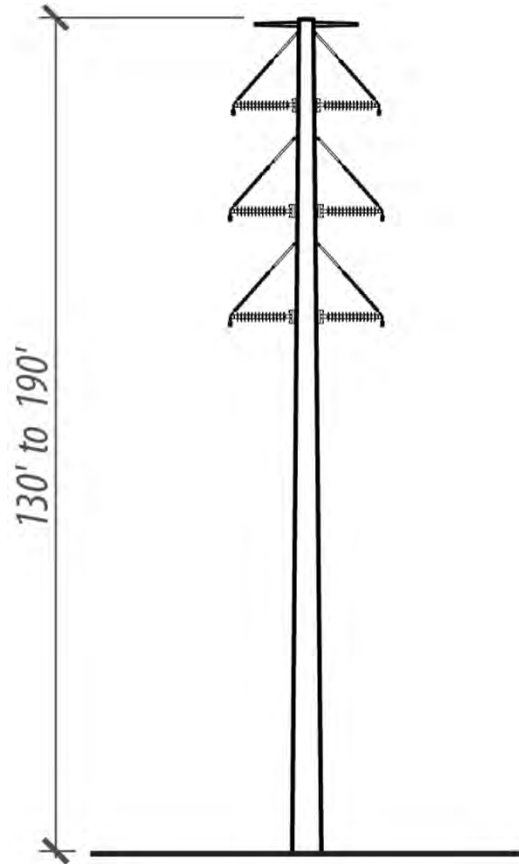
Projects' Description and Design Considerations



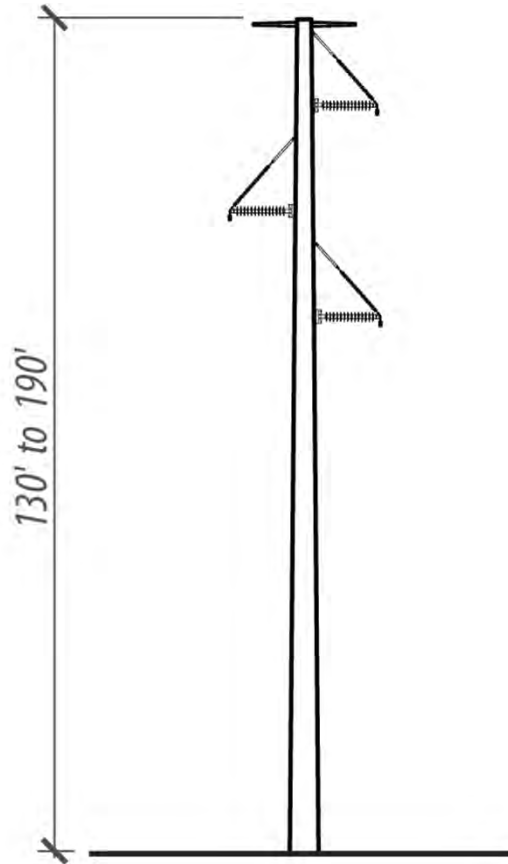
Projects' Description

- Wildcat and Cyclone Projects
 - Two new 230kV substations
 - TS-15 Substation – Wildcat
 - TS-18 Substation – Cyclone
 - New single-circuit 230kV transmission line(s) from each planned substation to the existing Palm Valley - Rudd 230kV transmission line
- New 230kV transmission line routes will require:
 - Right-of-way or easement approximately 120 feet wide
 - Construction of new steel transmission line structures, approximately 130 to 190 feet tall, depending on routing and required crossing of other existing structures
- New 230kV substations will require approximately 25-acre sites that will be located on customers' properties

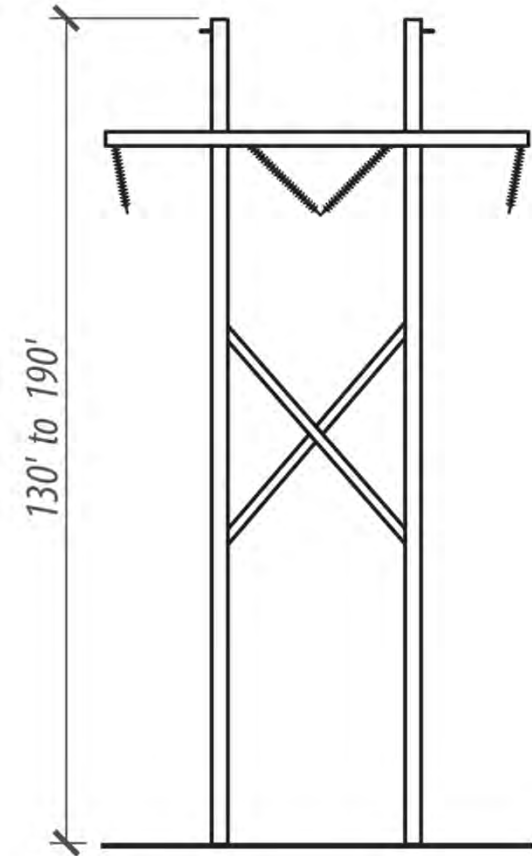
Typical Structures



Typical 230kV double-circuit monopole



Typical 230kV single-circuit monopole



Typical 230kV single-circuit H-frame

Heights may vary according to terrain

Typical Structures



Typical Substation



Technical Considerations



Electric and Magnetic Fields (EMF)

Electric Field

Fields created by voltage on the transmission line that can cause an electric charge to build up on insulated objects near the line. This can create nuisance shocks (much like walking across carpet and touching a door handle) to individuals touching grounded objects near the line.

The standard for maximum electrical field value outside of the powerline right-of-way is 5.0kV/m. The value calculated for this project is less than 0.5kV/m.

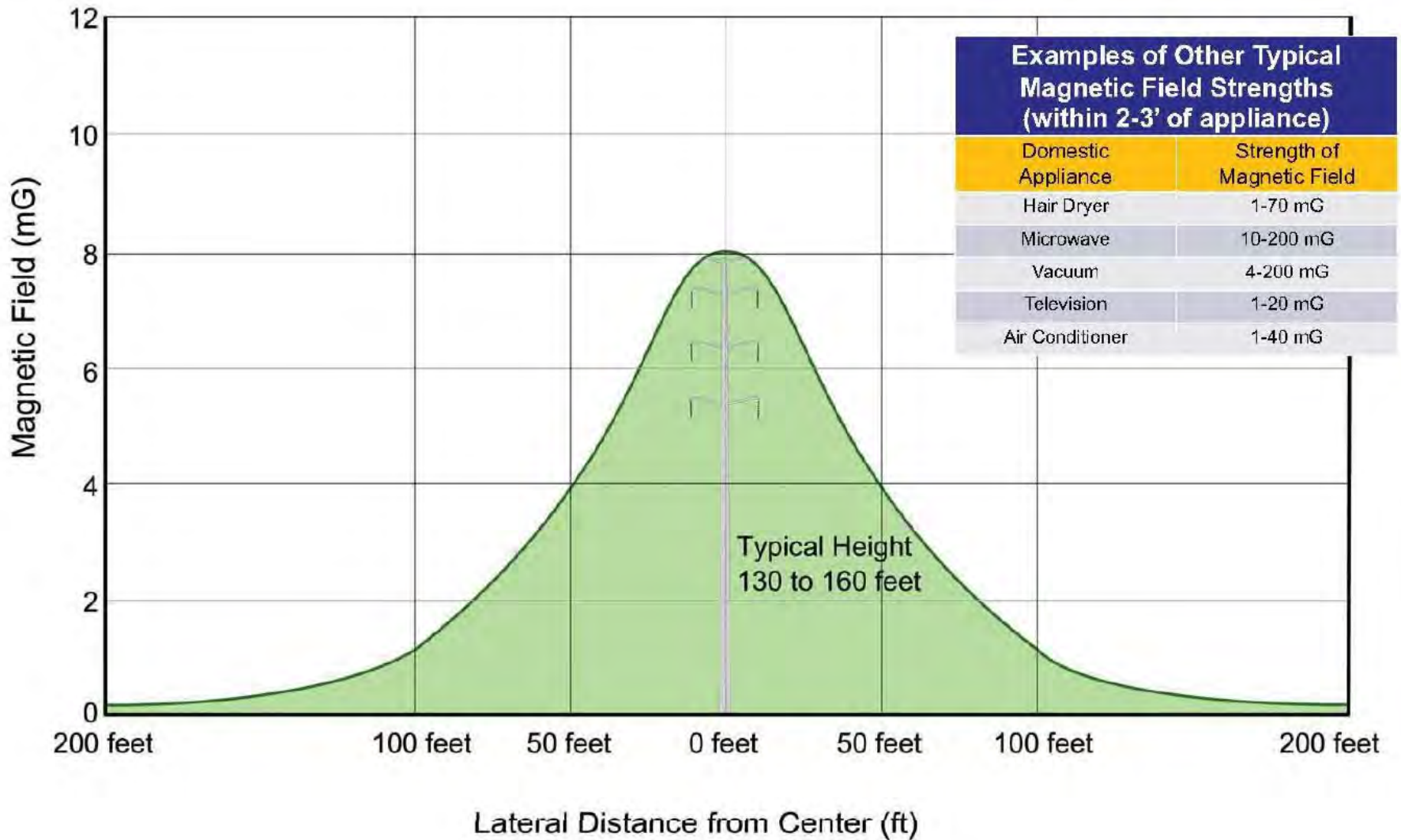
Magnetic Field

Fields that are created by ALL devices that use, carry, or generate electricity. Magnetic fields drop off dramatically as distance from the source increases. To date, no federal or Arizona state standards have been established for magnetic field levels.

APS recognizes the public concern for magnetic fields and has included those considerations in the design of this project. For this project, the calculated value for magnetic field at the edge of the right-of-way is approximately 4mG.

APS continues to monitor U.S. and international studies regarding EMF, and offers free in-home measurements of EMF levels to all APS customers.

Magnetic Fields



Planning Process



Next Steps in Planning Process

- Collect, respond to, and document public and agency comments – anticipated June/July 2019
- Identify and refine preferred route alternatives – anticipated July/August 2019
- Submit CEC Application and Publish Notice of CEC Hearing – anticipated August 2019
- Arizona Power Plant and Transmission Line Siting Committee holds Evidentiary Hearing on CEC Application – anticipated September 2019
- ACC makes decision on CEC Application at an ACC Open Meeting – anticipated October/November 2019

Environmental Studies Overview







- Land Use – compatibility with existing/future land use, transportation facilities (roadway and air), and jurisdictional planning guidelines
- Visual – minimize impacts to sensitive viewers (residences, parks, and travel routes)
- Cultural – minimal cultural or archaeological sensitivity, based on existing agricultural and industrial development
- Biological – minimal sensitive habitat, based on existing agricultural and industrial development

Wildcat and Cyclone Siting Studies (TS-15 & TS-18)

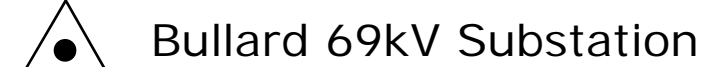

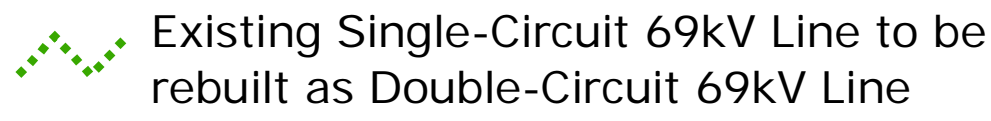
Jurisdiction

- Jurisdiction**
-  Avondale
 -  Goodyear
 -  Maricopa County
 -  Phoenix







Project Features

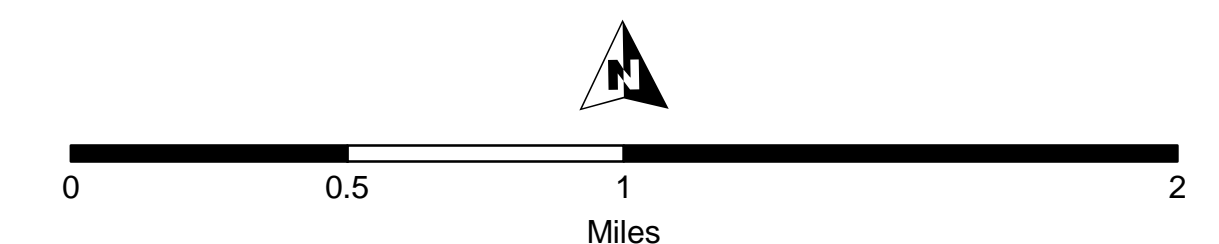
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Wildcat and Cyclone Siting Studies (TS-15 & TS-18)

Land Ownership

Land Ownership

- BLM
- County Park
- Gila River Indian Community
- State
- Private/Other

Project Features

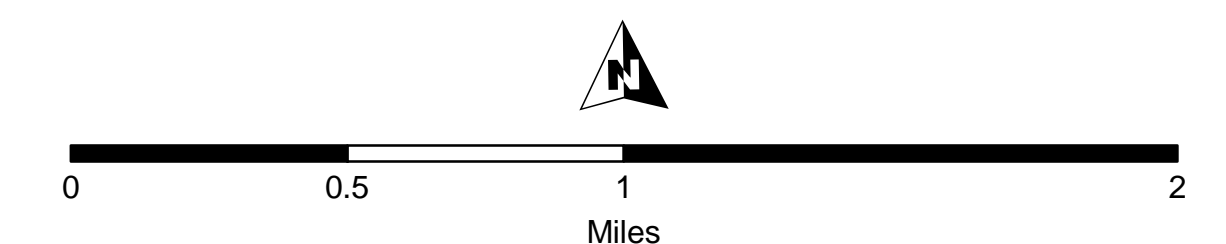
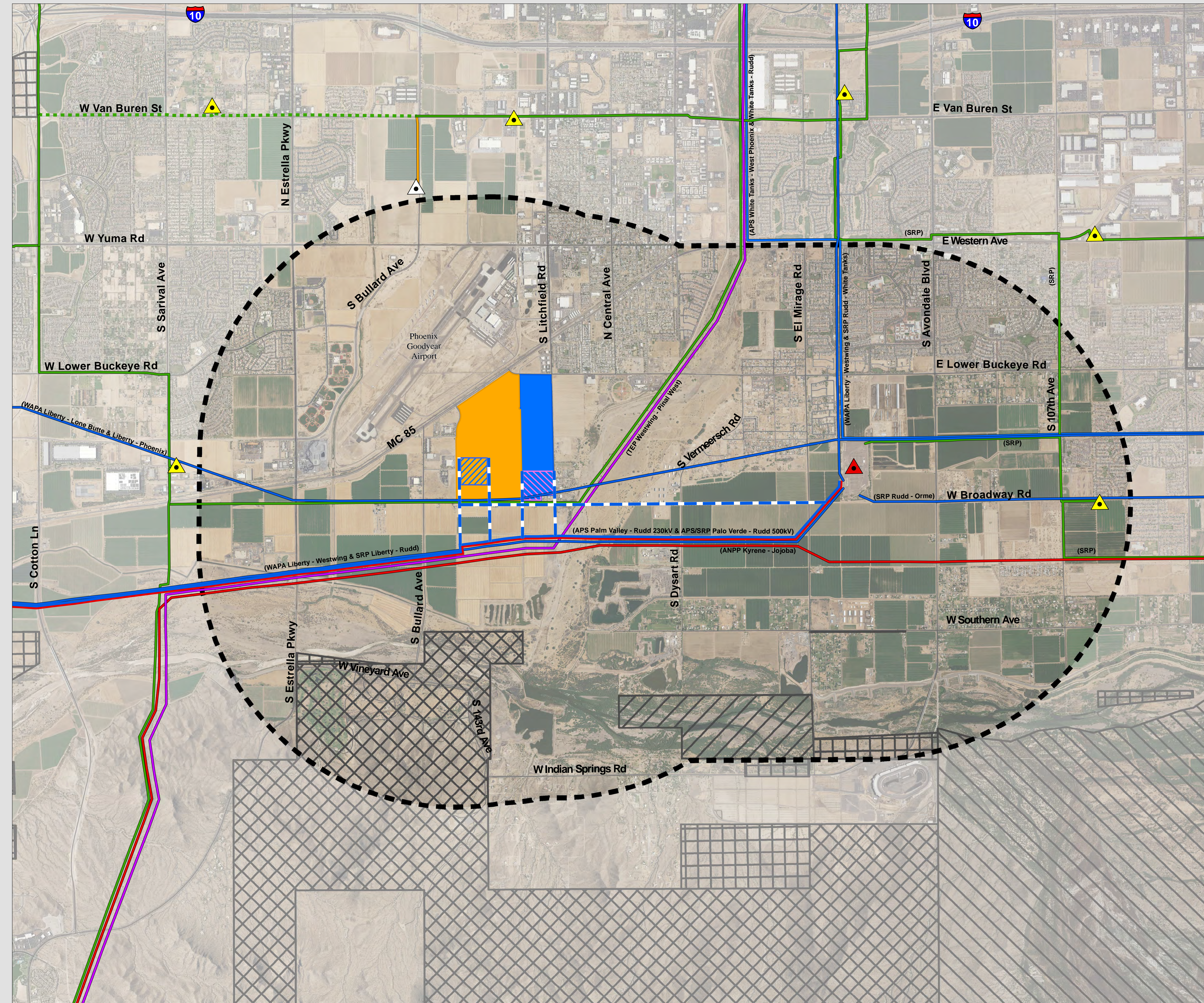
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Wildcat and Cyclone Siting Studies (TS-15 & TS-18)

Existing Land Use

Existing Land Use

- Residential, Single-Family Low Density
- Residential, Single-Family Medium Density
- Residential, Single-Family High Density
- Residential, Multi-family
- Residential, RV Park/Mobile Home Park
- Residential, Under Construction
- Air Facility
- Agriculture
- Commercial
- Communication Facilities
- Industrial
- Public/Quasi-public
- Recreation
- School/Education Facility
- Park/Preservation
- Utility
- Transportation
- Vacant

Project Features

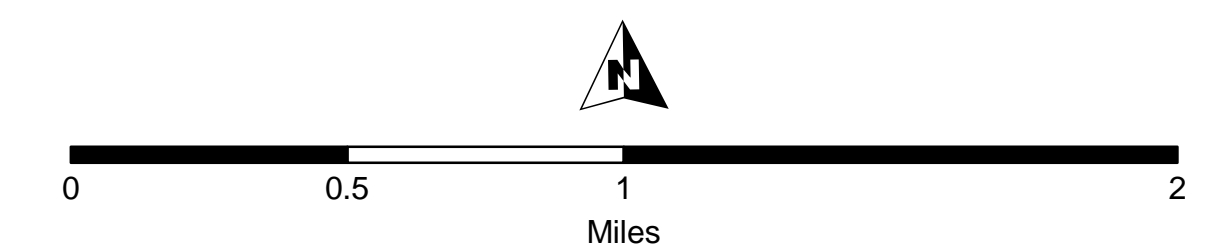
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- Mixed Use
- Utility
- Transportation

Development Status

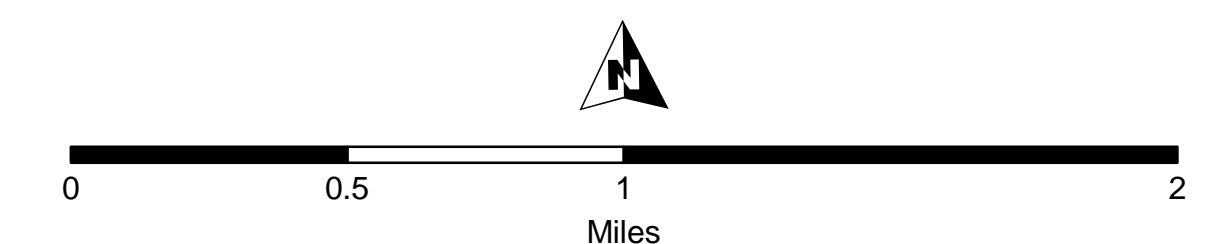
- Under Construction
- Final Platt
- Preliminary Platt
- Conceptual
- SR30 Conceptual ROW

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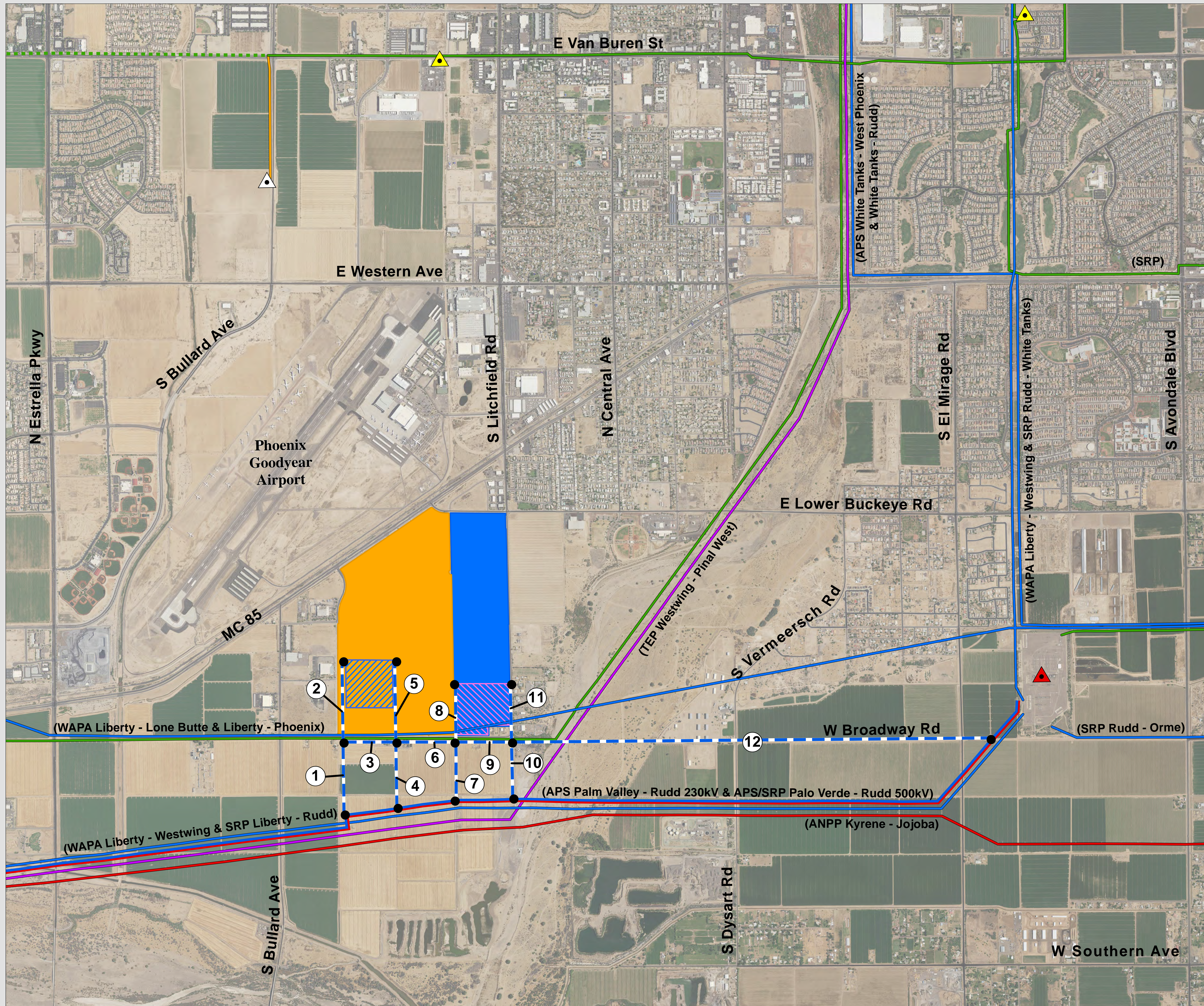
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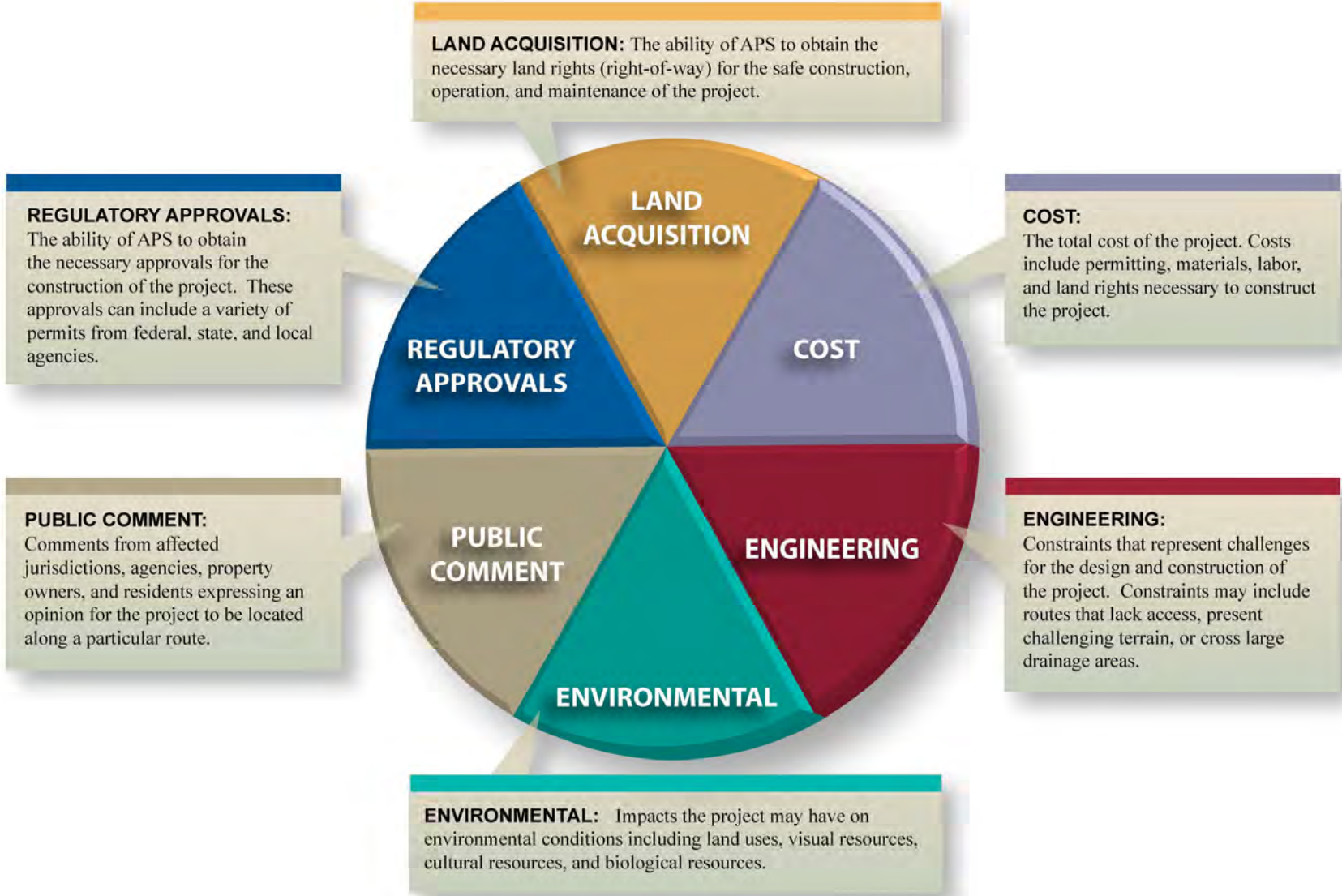
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Factors Considered in Route Identification

- Minimize impact to sensitive resource areas
 - Residential developments, airport facilities and operations, schools, agricultural facilities, etc.
- Maximize use of siting opportunities
 - Parallel existing linear features, including roads, transmission lines, powerlines, and canals

Transmission Line Siting Considerations



Public Comments and Next Steps



Public and Agency Outreach

- Arizona Department of Transportation – May 2019
- City of Avondale – May 2019
- City of Goodyear – May 2019
- Phoenix Goodyear Airport – April 2019

- Project newsletter – June 2019

Outreach is ongoing throughout the process.

Opportunities for Public Information and Comment

- Fill out and return a comment form tonight
- Future project newsletters and APS media briefings will have updated information
- Electronic comment forms and project updates available at: www.aps.com/siting
- Comments can also be provided to Brad Larsen, APS Siting Consultant, at: GoodyearSouthSiting@apsc.com, or by phone at **1-877-841-9851**
- Public comments will also be heard at the CEC Hearing anticipated in September 2019, and the ACC Open Meeting anticipated in October/November 2019