

DOE/EIS-0474-SA-1
SUPPLEMENT ANALYSIS
SOUTHLINE TRANSMISSION LINE PROJECT ENVIRONMENTAL IMPACT STATEMENT

INTRODUCTION

The Department of Energy (DOE), Western Area Power Administration (WAPA), prepared this Supplement Analysis (SA) to evaluate an existing environmental impact statement (EIS) (identified below) in consideration of changes that could have bearing on the potential environmental impacts previously analyzed. The Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) regulations direct agencies to prepare a supplement to either a draft or final EIS when the “agency makes substantial changes to the proposed action that are relevant to environmental concerns” or there are “significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts” (40 CFR 1502.9(d)(1)). DOE’s NEPA regulations provide that when it “is unclear whether or not an EIS supplement is required, DOE shall prepare a Supplement Analysis” (10 CFR 1021.314(c)). The SA shall discuss the circumstances that are pertinent to deciding whether to prepare a supplemental EIS, pursuant to 40 CFR 1502.9(c), and contain sufficient information for DOE to determine whether (1) to supplement an existing EIS, (2) to prepare a new EIS, or (3) no further NEPA documentation is required (10 CFR 1021.314(c)(2)). CEQ regulations further specify that agencies “may find that changes to the proposed action or new circumstances or information relevant to environmental concerns are not significant and therefore do not require a supplement to an EIS” (40 CFR 1502.9(d)(4)).

Based on the analysis in this SA, WAPA has determined that changes to the proposed action and new circumstances or information relevant to environmental concerns are not significant, and therefore, no further NEPA documentation is required.

Existing EIS evaluated in this SA:

- ***Southline Transmission Line Project Environmental Impact Statement (DOE/EIS-0474)***
<https://www.energy.gov/nepa/eis-0474-southline-transmission-line-project-arizona-and-new-mexico>

BACKGROUND

This SA is based on the *Southline Transmission Line Project Environmental Impact Statement* (SL EIS) and associated Record of Decision (ROD). Following the issuance of the ROD, Southline Transmission, LLC (Southline) did not mobilize or implement actions to initiate construction and withdrew the funding request through WAPA’s Transmission Infrastructure Program (TIP).

In 2020, Tucson Electric Power Company (TEP) proposed to develop the westernmost 64 miles of the Upgrade Section of the Southline Transmission Line Project as analyzed in the SL EIS, and ultimately effectuated the transfer of Southline’s rights to TEP. TEP is utilizing its own funding to develop the 64 miles thus eliminating the need for WAPA’s borrowing authority and financing through TIP. The segment, which includes all the changes described in this SA, is referred to as the Vail to Tortolita Project, in reference to the substations at each end of the project. In July 2022, WAPA and TEP executed participation, development and construction, and land outgrant agreements to build and operate the Vail to Tortolita Project. While the segment covered by the Vail to Tortolita Project remains within the

scope of analysis of the larger SL EIS, certain changes were made as the parties progressed to final design. Early in its development, TEP and WAPA both provided project update newsletters to the relevant SL EIS interested parties and to the new mailing list developed by TEP. The newsletters are available on the SL EIS project page here: <https://www.wapa.gov/transmission/transmission-environmental-review-nepa/southline-nepa/>

Purpose and Need

WAPA's purpose and need as stated in the SL EIS has several components. The detailed purpose and need statement are found in sections ES.2.2 and 1.2.2 of the SL EIS. The summary of the detailed statement is found in the last paragraph of those sections: *"Western's Federal action is to respond to Southline's proposed Project. Western must make decisions about whether to participate in the Project beyond the development phase, the nature of that participation, and whether to allow the upgrade of its existing transmission lines and the use of its ROW easements. Western must also make decisions about the route of the Agency Preferred Alternative, and upgrades/expansions to the existing substations. Finally, Western must decide about using its borrowing authority to finance the Project, in whole or in part, contingent on the successful completion of development and commercial agreements with Southline."*

Reasons for the Changes to the Proposed Action

Changes in design and engineering activities initiated after the ROD resulted in the need for project refinements that differ from descriptions in the SL EIS. Specific design and engineering of the transmission line and related substation interconnections, switchyards, communications facilities, and other project infrastructure could not be initiated until after the project and route were approved as indicated in the ROD. While transitioning from an approved route to a specific centerline and right-of-way (ROW), design modifications were found to be necessary.

Some changes were anticipated and disclosed in the final SL EIS. In addition, the development planning for the Vail to Tortolita Project initiated discussions with stakeholders, and their needs and considerations also necessitated changes. Routing and substation or switchyard changes also occurred, primarily because of power system requirements and coordination with stakeholders.

RESOURCES ANALYZED

Environmental resources analyzed in this SA include those with impact assessments greater than minor in the SL EIS. They include noise, characterized as "major but temporary," paleontological as "minor to moderate," cultural resources as "no impact to major," visual resources as "minor to major," and military operations under land use as "no impact to moderate." These assessments of potential impacts incorporate committed resource protection measures and statutory protections identified in the SL EIS.

Land Use – Military Operations

Potential impacts to military operations within the analysis area (military operations, training routes, and installations intersecting with the project footprint) would not be affected by the changes described in this SA as they are well outside the vicinity of the nearest installations (Davis-Monthan Air Force Base and Fort Huachuca Military Reservation).

Noise

Noise would remain major but temporary within the analysis area (2-mile-wide corridor), without change from what is described in the SL EIS.

Paleontological Resources

Potential impacts to paleontological resources, if present within the analysis area (500-foot-wide corridor), would remain unchanged.

Cultural Resources

Cultural resources, which are found throughout the SL project area, but are of increased concern and sensitivity near the Santa Cruz River and Tumamoc Hill, would remain unchanged or potentially reduced within the analysis area (2-mile-wide corridor).

Visual Resources

Similarly, impacts to the more sensitive visual resources within the analysis area (10-mile-wide corridor) including the developed area within the City of Tucson and Tumamoc Hill would remain unchanged or reduced.

In general, the anticipated environmental and cultural resource impacts resulting from the changes identified in this SA would be lower than those identified for the same areas/segments analyzed in the SL EIS. Notably, the Tucson Airport Reroute described below reduces the overall distance of transmission line and area of disturbance. Also, the net reduction in area impacted at affected substations results in a reduced overall impact. No new substantive sources of potentially adverse environmental impacts were identified (see Table 2).

Table 2. Impacts Comparison and Justification Summary

Design Changes	Comparison of Impacts to SL EIS	Justification Summary
Vail Lateral	Same/Reduced Adverse Impacts	Minor shift in route with decrease in public land use
Tucson Airport Reroute	Reduced Adverse Impacts	Shorter route (by 1.73 miles), previously disturbed
Tumamoc Hill Reroute	Same/Reduced Adverse Impacts	Same as SL EIS with reduced adverse viewshed impacts
Structure Height and Color	Same/Reduced Adverse Impacts	Localized changes with average reduction in height (2 feet)
Substations	Reduced Adverse Impacts	62.21-acre (70%) reduction in area impacted
New Information	Comparison of Impacts to SL EIS	Justification Summary
Cactus ferruginous pygmy-owl	No Additional Impacts (Not previously analyzed in SL EIS)	Biological Opinion amended with <i>may affect, not likely to adversely affect</i> determination
Lesser Long-Nosed Bat	No Impacts	Species delisted since Final SL EIS
Arizona Eryngo	No Impacts	Newly listed species - Critical Habitat outside project area impacts
Bat Colony - Ina Rd Bridge	Reduced Adverse Impacts	Refined <i>Proponent-Committed Environmental Measures</i> specifications

All applicable environmental considerations have been reduced in comparison to the original descriptions for the same areas in the SL EIS. This SA builds on the previously distributed project update newsletter and analyzes and summarizes the changes and new information. The findings of this SA demonstrate a decrease in potential adverse environmental impacts, and thus any existing relevant environmental concerns would be alleviated. As a result, those parts of the SL EIS that analyze the areas impacted by the changes in this SA remain adequate considering the changes to the original proposed action.

AGENCY PREFERRED ROUTE ALTERNATIVE REFINEMENTS AND NEW INFORMATION

Transmission Line Routes, Structures, and Project Segments

The project refinements described below, and their respective locations, are limited to the westernmost 64 miles of the *Upgrade Section* of the Agency Preferred Alternative evaluated in the SL EIS. The names “Vail Lateral,” “Tucson Airport Reroute,” and “Tumamoc Hill Reroute” used below are included for brevity in this document. Distance and percentage figures included are approximate.

Route Group 4, Segment U4 Interconnection to Vail Substation (“Vail Lateral” - Appendix A, Map 1)

The Agency Preferred Alternative from the SL EIS included a connection route from the existing transmission line running due north for 2 miles and connecting to the Vail Substation on its west side. Because of a conflict with an existing Kinder-Morgan natural gas facility, the Vail Lateral was moved east 600 feet, and adjusted to extend 1.66 miles due north from the existing transmission line before angling northeast for 2,000 feet. The route then continues east 240 feet along the southern boundary of the existing substation, before angling northeast 310 feet to its proposed terminus and the final location of the Vail Substation 230-kV bay expansion.

This refined route is 317 feet longer than the original and remains on Arizona State lands, except for 190-feet of the 2,000-foot run, described above, which crosses the adjacent Kinder-Morgan property at the northwest corner of the parcel, away from the previous conflict. The refined route has less impact on public land use as the ROW would abut an existing Arizona Electric Power Cooperative transmission line to the southwest corner of Vail Substation. Impacts of this change on other resources evaluated would be negligible.

Route Group 4, Segment U3aPC - Transmission Line Reroute around Tucson International Airport (“Tucson Airport Reroute” - Appendix A, Map 2)

The Agency Preferred Alternative incorporated a transmission line reroute south of the Tucson International Airport. The route evaluated in the SL EIS crosses a large parcel of Pima County and Tucson Airport Authority property proposed for development. Subsequent to the ROD, the reroute was moved to parallel the southern boundary of these parcels, on the north side of East Old Vail Road. The total length of this reroute was 6.65 miles, which replaced 5.11 miles of existing ROW.

Since the SL EIS was completed, TEP constructed a new switchyard south of the airport reroute, north of the existing alignment, with several transmission and distribution lines approaching it from the north. These lines would need to be crossed by the new transmission line, requiring taller double-circuit structures to maintain required clearances.

Coordination with the Federal Aviation Administration (FAA) resulted in the determination that constructing the new line along the planned reroute was not a viable option as the structures would be too tall and would pose an aviation hazard. Accordingly, the reroute was adjusted to follow the westernmost portion of the airport reroute only to a point just east of the Summit development, then south along South Country Club Road to the existing ROW, replacing 4.86 miles of the 6.65-mile-long airport reroute.

Adverse effects to natural resources from this reroute refinement would be reduced by staying on the existing ROW as compared to the airport reroute described in the SL EIS. The area is previously disturbed and has existing maintenance access. The updated route utilizes 3.13 miles of the existing ROW, replaces 4.86 miles of new construction, and would be 1.73 miles shorter than the reroute described in the SL EIS. Impacts to resources from this reroute refinement would be negligible.

Route Group 4, Segment TH1a/TH1-Option - Transmission Line Reroute around Tumamoc Hill ("Tumamoc Hill Reroute")

The location of the transmission line reroute around Tumamoc Hill described as part of the Agency Preferred Alternative in the SL EIS remains unchanged. Since the issuance of the ROD, TEP agreed to the undergrounding of its existing distribution line where it overlaps the reroute to accommodate the new transmission line. This addition, not included in the SL EIS, would be financed, and conducted by TEP and would remain within the current area analyzed as part of the Agency Preferred Alternative.

The proposed work would remain within the existing disturbed road ROW, would not increase the potential adverse effects to biological and cultural resources as compared to the other action alternatives, and would help offset adverse impacts to visual resources by removing the distribution lines from the viewshed.

In support of the cultural resources impact analysis specific to the undergrounding of the existing distribution line, TEP conducted a Class III Cultural Resources Inventory which resulted in a *no adverse effects* determination.

Structure Height and Color

The SL EIS states that for the 230-kV double-circuit single pole self-supporting monopole structures planned for the Upgrade Section, the range of structure heights would be 100-140 feet, with an average height of 134 feet.

With advances in project design and engineering, it was determined that the structures would range from 45.5 to 193 feet in height, with an average structure height of 132 feet. The taller structures raise the new double-circuit transmission line over existing lines and roadways to maintain adequate clearances. The shorter structures would be used in locations where the line would split into two single-circuit lines to go under 345-kV lines.

Both dull galvanized steel and self-rusting steel structures were considered in the SL EIS and will be used for the Vail to Tortolita Project. Per Proponent-Committed Environmental Measures (PCEM) VIS-4 of SL EIS Table 2-8, the color of the structures was to be U.S. Bureau of Land Management (BLM) Environmental Color Chart *Shadow Gray*, unless otherwise directed by the authorized officer based on a field evaluation of color choices that would demonstrate better measurable performance. Following visual simulations and the similarity of color with dulled galvanized steel structures, the structures will

no longer be painted *Shadow Gray*. However, the colors used will remain within the spectrum considered in the SL EIS and were approved by the BLM.

The resulting difference in impacts to resources would be negligible to none based on the change in structure heights. The taller and shorter heights would be in specific locations only, with the average structure being slightly lower (2 feet) than what is described in the SL EIS. Visual impacts would be locally greater in the few places where the taller structures are required, but overall, the potential change in visual impacts from the heights provided in the SL EIS would be inconsequential.

Substations

Table 1 provides a comparison of acres required and considered between the SL EIS and the new changes proposed.

Table 1. SL EIS vs New Design Acreage

Substation	SL EIS Acres	New Design Acres	Difference
Vail	10 acres (2 acres previously disturbed)	12 acres (3.5 acres previously disturbed)	2-acre increase (1.5 acres previously disturbed)
Nogales	10 acres (1.5 acres previously disturbed)	0 acres (substation not used)	10-acre decrease
Del Bac	10 acres (<1 acre previously disturbed)	0 acres (substation not used)	10-acre decrease
DeMoss Petrie	4.2-acre expansion	4.49-acre expansion	0.29-acre increase (all previously disturbed)
Tucson	3.7-acre expansion	0 acres (no expansion required)	3.7-acre decrease
Rattlesnake	10 acres (1 acre previously disturbed)	0 acres (no yard/laydown area required)	10-acre decrease
Marana	14.5 acres (2 acres previously disturbed)	0 acres (substation not used)	14.5-acre decrease
Sasco	9.7 acres	0 acres (substation not used)	9.7-acre decrease
Tortolita	16.1 acres (0.5 acres previously disturbed)	9.5 acres (4.5 acres previously disturbed)	6.6-acre decrease
Totals	88.2 acres (8 acres previously disturbed)	25.99 acres (8 acres previously disturbed)	62.21-acre decrease

The changes result in a 62.21-acre, or 70% reduction, in substation area impact. Additionally, the 2.29-acre increase in impacted area for the Vail and DeMoss Petrie substations includes 1.79 acres of previously disturbed land. As a result of the significant reduction in impacted area, adverse environmental impacts would be reduced at the locations of the subject substations.

Federally Listed/Special Status Species – New Information

Cactus Ferruginous Pygmy-Owl

Since consultation with the U.S. Fish and Wildlife Service (USFWS) was completed in support of the SL project, the USFWS relisted the cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) as *Threatened* under the Endangered Species Act of 1973 (ESA), as amended. The final rule was made effective August 21, 2023 (88 FR 46910).

To address the listing and amend the existing Biological Opinion (BO), USFWS Southwest Field Office-delineated surveys were completed with negative findings between October 2023 and February 2024. The survey report was submitted by BLM, as the lead agency for Section 7 consultation, to the USFWS with a request for concurrence to a *may affect, not likely to adversely affect* determination. The USFWS letter of concurrence was appended to the existing BO in May of 2024, updating ESA Section 7 Consultation, and is publicly available on the SL EIS project page.

Lesser Long-nosed Bat

Since consultation with the USFWS was completed in support of the SL Project, the USFWS delisted the lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*) from the Federal List of Endangered and Threatened Wildlife as a result of the species' successful recovery, effective May 18, 2018. Announcement of this determination was published in the *Federal Register* on April 18, 2018 (83 FR 17093).

No anticipated impacts to the lesser long-nosed bat were identified in the SL EIS, and the delisting of the subspecies removes it from coverage under the ESA.

Arizona Eryngo

The USFWS published a notice in the Federal Register on June 10, 2022 (87 FR 35431), listing the Arizona eryngo (*Eryngium sparganophyllum*) as *Endangered* on the Federal List of Endangered and Threatened Wildlife, and designating 12.7 acres in Pima and Cochise counties in southern Arizona as Critical Habitat. The Arizona eryngo is a plant that requires a specific ciénega wetland habitat type in which to grow. This rare wetland type is fed by natural springs from deep aquifers.

The only documented location of Arizona eryngo near the SL project is at La Cebadilla east of Tucson adjacent to the Tanque Verde Wash on land owned partly by the private La Cebadilla Estates and partly by the Pima County Regional Flood Control District. The SL Project is more than 15 miles south of this location and would not impact this newly listed species, and as such was not considered further.

Bat Colony – Ina Road Bridge

After review of the final SL EIS, the Town of Marana, in consultation with the Arizona Game and Fish Department, requested that a clarification be made to SL EIS Table 2-8. The language in the PCEM was revised to read *“To avoid impacting roosting bats at the Ina Road bridge, blasting activities will be restricted to less than 130 decibels (dB) at the project site if possible, and if that is not possible, then blasting activities will occur at night after most bats have left their roost. No blasting will occur in April or May when the maternity colony is present.”* This clarification was included in the SL ROD and will be carried forth unchanged.

MITIGATION

Based on the analysis of this SA, no supplemental mitigation is required. All existing PCEMs identified in Table 2-8 (Project PCEMs by Resource) of the Final SL EIS remain in effect as project requirements for implementation.

DETERMINATION

In accordance with NEPA and the CEQ and DOE’s implementing NEPA regulations, DOE WAPA prepared this SA to evaluate whether the changes to the proposed action and/or new circumstances or information require supplementing the existing EIS or preparing a new EIS. WAPA hereby concludes that the changes to the proposed action and new circumstances and information relevant to environmental concerns are not significant and therefore do not require a supplement to the SL EIS (DOE/EIS-0474), consistent with 10 CFR 1021.314(c) and 40 CFR 1502.9(d)(4). No further NEPA documentation is required.

Approve

Do not Approve



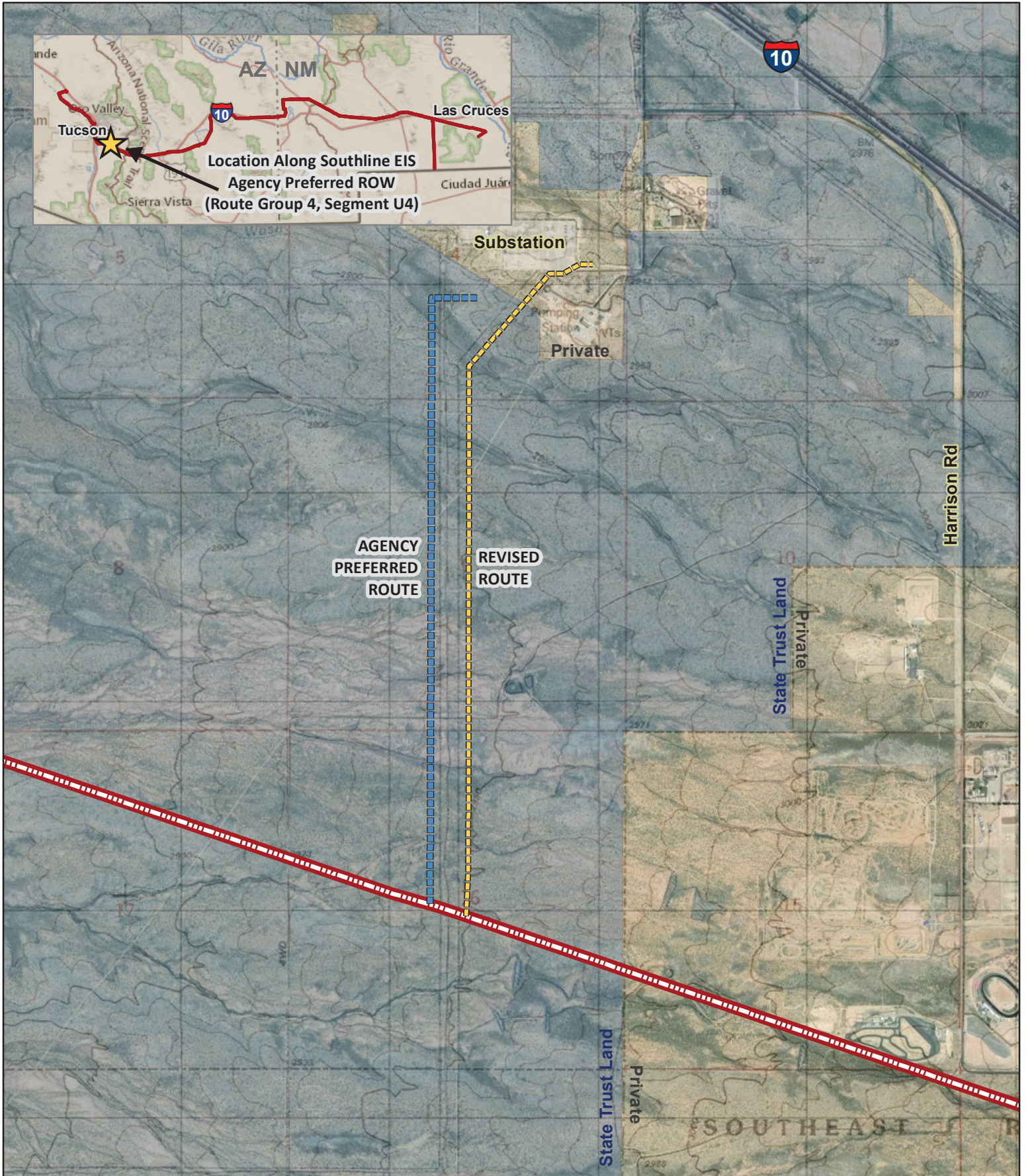
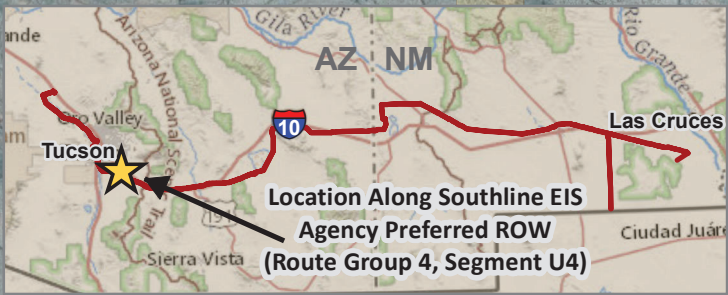
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Administrator & CEO
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Tracey A. LeBeau
Administrator and Chief Executive Officer
Western Area Power Administration



APPENDIX A - MAPS



- Map 1 – Vail Lateral (Route Group 4, segment U4)**
- Map 2 – Tucson Airport Reroute (Route Group 4, segment U3aPC)**

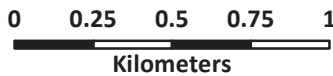
Map 1 – Vail Lateral (Route Group 4, segment U4)



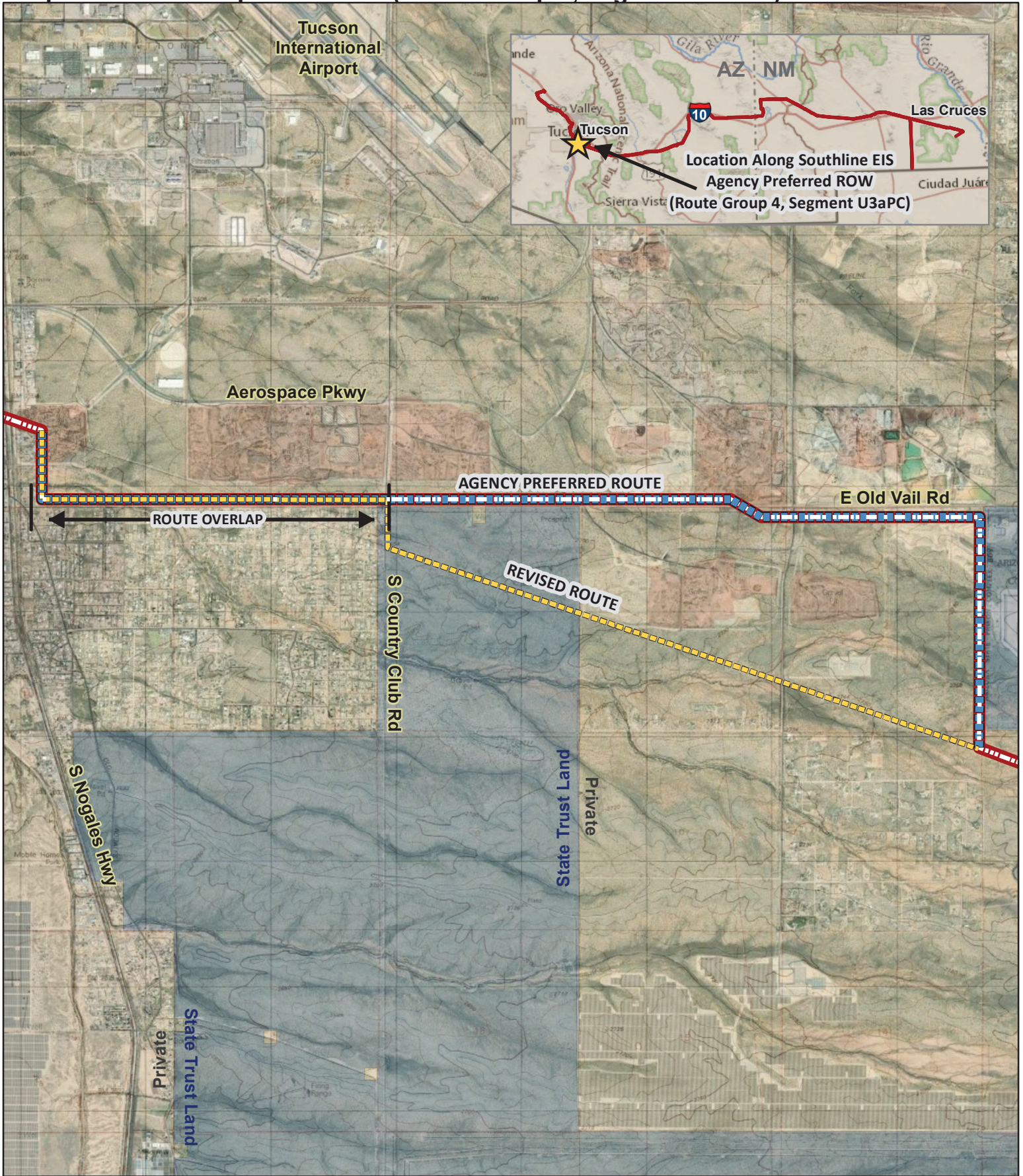
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 Projection: Transverse Mercator
 Scale: 1:24,000 (Inset: 1:5,000,000)

-  Vail Sub Route - EIS Agency Preferred
-  Vail Sub Route - Revised

-  Agency Preferred ROW
-  State Trust Land



Map 2 – Tucson Airport Reroute (Route Group 4, segment U3aPC)



Service Layer Credits: Source: Esri, Maxar, Earthstar
 Geographics, and the GIS User Community
 Coordinate System: WGS 1984 UTM Zone 12N
 Projection: Transverse Mercator
 Scale: 1:40,000 (Inset: 1:5,000,000)



Tucson Airport Reroute - Revised

Tucson Airport Reroute - EIS Agency Preferred



Agency Preferred ROW



State Trust Land

