BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF PUBLIC SERVICE COMPANY OF NEW MEXICO'S APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT, OWN AND OPERATE THE RIO PUERCO TO PAJARITO TO PROSPERITY 345 KV TRANSMISSION PROJECT	)	**Docket No. 25-00___-UT**
PUBLIC SERVICE COMPANY OF NEW MEXICO,	)	
Applicant	)	

DIRECT TESTIMONY

OF

LESLIE M. WATSON

December 30, 2025

NMPRC DOCKET NO. 25-00___-UT
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LESLIE M. WATSON

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PUBLIC SERVICE COMPANY OF NEW MEXICO

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NMPRC DOCKET NO. 25-00___-UT
DIRECT TESTIMONY OF
LESLIE M. WATSON

I. INTRODUCTION AND PURPOSE

Q. Please state your name, position, and business address.

A. My name is Leslie M. Watson. I am an Environmental Planning and Permit Project Manager for PNMR Services Company. My business address is 2401 Aztec Road NE, Albuquerque, New Mexico 87107. I am testifying on behalf of Public Service Company of New Mexico ("PNM" or "Company").

Q. Please summarize your educational background and professional qualifications.

A. My educational background and professional experience are summarized in PNM Exhibit LMW-1.

Q. Please describe your responsibilities as an Environmental Planning and Permit Project Manager.

A. I am responsible for environmental reviews of PNM projects. For this project, my participation has included public and stakeholder outreach, oversight of and review of environmental and cultural surveys, and preparation of associated technical project documents such as the plan of development.

Q. Please state the purpose of your Direct Testimony.

A. The purpose of my testimony is to describe the environmental studies being conducted for the Rio Puerco to Pajarito to Prosperity 345 kV transmission project (the "Project") and the best management practices PNM will use during project construction and operation.

For a major construction project such as this, undertaking a variety of resource studies and applying best management practices helps to avoid, or minimize potential effects on cultural and biological resources, including ephemeral streams,[1] These best management practices are identified in PNM Exhibit LMW-2, Appendix B.

II. OVERVIEW OF PROJECT PLANNING AND DEVELOPMENT

Q. Please provide an overview of the planning development process for the Project.

A. Once the need for the Project, as discussed further in PNM witness Hakimian's testimony, was identified, PNM conducted a routing study. The routing study identified and compared various routes that met the purpose and need and would minimize the potential impacts on existing and planned land uses, as well as environmental and cultural resources. Resource data, including existing transmission and transportation corridors, gas infrastructure, surface water, critical habitat, jurisdiction, and land use were mapped to aid in the review of each route.

PNM identified an initial network of geographically distinct route options comprised of interconnecting segments that connect the Project endpoints, the Rio Puerco and Pajarito substations. PNM reviewed the routes during numerous meetings and added or modified routes to reduce potential impacts on existing and planned land uses, as well as environmental and cultural resources.

[1] An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year.

PNM updated the routing study and identified two routes that meet PNM's project requirements to increase transmission capacity and enhance the electrical system reliability and resiliency in the Albuquerque metro area. The two routes are described in the Plan of Development ("POD"), included as PNM Exhibit LMW-2. PNM's Proposed Route is referred to as the Preferred Route A. During project meetings and meetings with stakeholders, PNM modified the two routes to avoid or reduce potential environmental, cultural and land use impacts during construction and operation of the Project. PNM's Proposed Route reflects the results of those discussions as described in PNM Exhibit LMW-3.

Q. Has PNM developed an overall construction process for the Project?

A. Yes. PNM's POD includes an overall construction process and methods for the Project identified in PNM Exhibit LMW-2. The POD covers all phases of the Project and describes PNM's pre-construction and construction activities, construction details, operation, and decommissioning and restoration activities post-construction. The construction process and other activities described in the POD apply to the Preferred Route described in PNM Exhibit LMW-3.

Q. What types of studies are undertaken by PNM to ensure the Project avoids or minimizes impacts in the geographical areas the Project will be located?

A. PNM undertakes cultural and biological surveys along with air quality, socioeconomic, environmental justice, and visual studies as part of the overall environmental assessment process. These surveys and studies encompass the full extent of the proposed routes and

associated facilities for the Project, including the Pajarito, Prosperity, and Rio Puerco substations during construction and operation (see PNM Exhibit LMW-2 Figure 2.1, page 2-3 and PNM Exhibit LMW-2 Figure 2.2, page 2-6). PNM has completed or is the process of finalizing these studies and has used information and data from these surveys and studies during project planning and design to avoid or reduce potential impacts on communities and resources. Survey results and final environmental studies are incorporated into an overall Environmental Report. PNM uses the POD and Environmental Report to guide subsequent engineering design and construction phases of the Project so that the site-specific location of facilities accounts for environmental, cultural and other values that were identified, and avoids or minimizes potential impacts.

III. ENVIRONMENTAL SURVEYS AND STUDIES

Q. How are the environmental surveys and studies PNM conducts used as the Project moves forward?

A. The environmental studies and information from cultural and biological surveys are used during various phases of development, design and construction to evaluate if the Project, as planned, could unduly impair important environmental and cultural resources. By way of example, information from the cultural and biological resource surveys resulted in modifications to the Project design and PNM's selection of the Preferred Route (see PNM Exhibit LMW-3). The preliminary and final environmental studies and survey results that are compiled into the Environmental Report are also used to guide the more detailed subsequent design and construction phases of the process, and as input in developing additional best management practices and environmental protection measures so that there

is no undue impairment to key environmental values. PNM will also conduct additional cultural and biological studies as necessary, if during the subsequent design phases additional areas not included in the initial surveys and studies are needed to support project construction.

My testimony below summarizes the resource surveys and studies PNM undertakes to continuously refine the Project's design, and to incorporate best management practices and environmental protection measures into the Project's construction and operation.

A. Cultural Resources

Q. Please describe the cultural resources surveys for the Project.

A. PNM's consultant conducted pedestrian level surveys of the two routes described in the POD and recorded archaeological sites, historical structures and isolated objects ("IO").[2] Most archaeological sites encountered during the survey are low-density, flaked stone, artifact scatters as well as historic-period artifact scatters that relate to twentieth-century ranching of the West Mesa or Route 66. Historic structures are primarily acequias and other canals that were extensively modified in the 1930s but whose origins may date back to the seventeenth to eighteenth centuries.

PNM's best management practice is first to avoid all cultural resource sites that eligible or potentially eligible for inclusion in either the New Mexico State Register of Cultural

[2] Isolated objects are the material remains of a single isolated event, a feature with limited interpretable value, or a combination of cultural debris that is most likely fortuitous in nature (e.g., debris found in an arroyo bottom). IOs are not related to other nearby isolated manifestations and are spatially separated from sites.

Properties or the National Register of Historic Places ("NRHP"). PNM will avoid eligible or potentially eligible cultural resource sites modifying the Project during subsequent design phases. If an eligible or potentially eligible site cannot be avoided, PNM resolves potential adverse effects through standard methods such as archaeological monitoring, test or data recovery.

B. Biological Resources

Q. Describe the review of biological resources.

A. PNM's consultant conducted a pedestrian-level reconnaissance survey of the Project. The biological survey incorporated information from relevant federal and state databases. PNM's consultant assessed vegetation, water resources, noxious plant species presence, and habitat suitability for United States Fish and Wildlife Service ("USFWS") and State of New Mexico protected species.

Q. Are further ecological resource studies necessary?

A. No. Based on the consultant's evaluation of biological resources, there are no additional ecological resource studies necessary for either route.

Q. Could the Project unduly impact fish and wildlife habitats or vegetation?

A. The Project under either route will not unduly impair important environmental values regarding wildlife. During the biological reconnaissance survey of the two routes, biologists identified 11 bird species and two mammal species, one amphibian and one

reptile species. In addition, four inactive stick nests were observed during the biological resource surveys.

While no further ecological resource studies are necessary, PNM will develop a Reclamation Plan for the Project. The purpose of the Reclamation Plan is ecological restoration, including restoration of any natural vegetation, hydrology, and wildlife habitats affected by the Project during construction. PNM's objective is to restore areas disturbed during construction to a condition equal to or closely approximating existing conditions.

Q. What other types of resources are evaluated for potential impacts from the location of the Project?

A. PNM's consultant also evaluates potential impacts regarding physiographic, geology and soil resources of the areas where the Project will be located. This evaluation informs localized engineering construction decisions and site-specific activities.

Q. What are the findings regarding water resources impacted by the location of the Project?

A. PNM's consultant surveyed water resources as part of the biological resource survey. The survey of the Project and surrounding areas includes a network of arroyos and intermittent or ephemeral drainages oriented towards the Rio Grande River, which is the only perennial waterway crossed by the Project. The biological survey report indicates the Project will not result in ground disturbance within the Rio Grande River's riparian corridor.

C. Air Quality

Q. Is consideration given to whether the Project would adversely impact air quality?

A. Yes. PNM evaluated whether the Project would adversely impact air quality during construction and subsequent Project operation. PNM's consultant evaluated construction and operations-related emissions. Construction-related emissions include exhaust from construction vehicles and construction worker commuting, material movements, and fugitive dust from construction activity. Operations-related emissions include exhaust from vehicles used during inspection and maintenance activities. The preliminary air quality study indicates that the Project would be in conformity with all applicable rules and regulations related to emissions generated during construction and operation. As described in the POD, PNM's best management practices include fugitive dust suppression methods such as watering and maintaining gravel surfaces (see PNM Exhibit LMW-2, Appendix B, page B-2).

D. Visual

Q. What is the visual context of the Project?

A. The visual context for the West Mesa and the landscape around the two routes is the topography and vegetation, as well as existing renewable energy, transmission and transportation infrastructure. PNM's consultant completed viewshed analyses of the two routes to identify and assess the Project's potential visibility. As discussed by witness McClellan, PNM provided visual impact information in its community engagement meetings. Visual analysis of the Project is based on the transmission line and substation design characteristics and locations of Project components, topography, and potential

views within the surrounding area. PNM incorporated design features to reduce impacts to views taking into consideration topography, safety, and existing transmission and transportation infrastructure.

E. Socioeconomic

Q. Has PNM studied potential impacts of the Project on socioeconomic resources?

A. Yes. PNM is in the process of preparing its final evaluation of potential impacts on socioeconomic resources during construction and operation. The socioeconomic factors evaluated include population, employment, income, potential economic output and State and Local government revenues. The economic output associated with construction employment and economic multipliers from local spending and tax revenues during the construction are expected to increase revenues in the Albuquerque metro area that includes Rio Rancho, Albuquerque, and Los Lunas. No adverse impacts on socioeconomic resources have been identified. As discussed by PNM witness Erfan Hakimian, the Project's addition of transmission capacity and enhancement of system reliability and resiliency in the metro area are expected to positively benefit existing and potential customers.

F. Environmental Justice

Q. Has PNM studied potential impacts of the Project on environmental justice communities?

A. Yes. PNM's consultant is preparing a final Environmental Justice screening that identifies if there are environmental justice populations present based on race, ethnicity or income[3] present within three miles of the Project. All the U.S. census block groups[4] within three miles of either route have environmental justice populations based on percentages of minority populations or low-income households. This is not atypical for the state of New Mexico, Bernalillo County, or Sandoval County, where minority populations comprise 63.5%, 62.2%, and 58.1% of the total populations, respectively.

At the time of preparing this testimony, no disproportionate effects on environmental justice populations have been identified. During subsequent engineering design and construction phases of the Project, PNM will continue to conduct outreach to residents and community leaders to discuss the Project. PNM has and will continue to translate Project materials into Spanish and will continue to use both virtual and in-person options for engaging stakeholders, including environmental justice populations.

IV. ADDITIONAL STUDIES AND CONSIDERATIONS

A. Tribal Considerations

Q. Did PNM consider how the Project will impact local tribes?

[3] A low-income household is defined as a household associated with an income at or below the federal poverty level as reported in Table B17017 of the 2023 American Community Survey (ACS) 5-year estimates. A minority person is a person who self-identifies as any race or ethnicity other than "White alone, not Hispanic" in Table B03002 in the 2023 ACS 5-year estimates.

[4] A Census Block Group is the smallest geographical unit for which the Census Bureau consistently publishes the survey data needed to identify environmental justice populations. Block Groups typically have a population of 600 to 3,000 people (U.S. Census Bureau. 2022. Glossary: Block Group. Geography Program. Available at: https://www.census.gov/programs-surveys/geography/about/glossary.html#par_textimage_4. Last updated April 11, 2022.)

A. Yes. PNM considered potential impacts on cultural and historic resources during Project planning. As a result, PNM has moved a segment of the Proposed Route to avoid direct impact on tribal lands.

Q. Has PNM shared information, solicited input, and considered concerns with leaders from local tribes?

A. The Direct Testimony of PNM witness Adam McClellan describes meetings and input solicited from local tribes regarding the Project. During the meetings with local tribes, PNM provided information on the Project location, design, and an overview of the environmental studies PNM is conducting. In addition, PNM shared the results of cultural resource surveys with local tribes requesting information.

B. Community Outreach

Q. Did PNM consider how the Project will impact surrounding communities?

A. Yes. In addition to examining socioeconomic and environmental justice factors, PNM conducted community outreach as described in the Direct Testimony of PNM witness McClellan. Input from communities along with evaluations of traffic, air quality, socioeconomics, environmental justice and visual resources are all incorporated by PNM in considering how the Project may impact surrounding communities.

Q. Did PNM conduct meetings with leaders from surrounding communities to gain their input on the Project?

A. Yes. PNM conducted meetings with leaders from surrounding communities including 82 neighborhood associations and consulted with 29 Native American Tribes and Pueblos with historic and ancestral ties to the area. PNM conducted a virtual meeting with the leaders of neighborhoods associations in western and southern Bernalillo County. The Direct Testimony of PNM witness McClellan includes additional information on the input PNM received when conducting outreach to Pueblos and the surrounding communities.

Q. How has PNM considered the concerns raised in the public outreach process?

A. As discussed by PNM witness McClellan, PNM has conducted outreach specifically to residents and community leaders to discuss the Project. The POD includes best management practices and environmental protection measures PNM implements to avoid or reduce potential impacts on resources and communities considering the concerns raised by residents and leaders. PNM's best management practices and environmental protection measures for the Project include design elements to reduce impacts to views; construction practices to reduce sediment, control fugitive dust, and restrict vehicle use to specific roads; and vegetation treatment based on PNM's integrated vegetation management principles. PNM will also comply with dust control requirements that are part of the Bernalillo and Sandoval Counties, City of Rio Rancho and City of Albuquerque permit requirements. Traffic control plans and identifying avoidance areas to protect resources are other environmental protection measures PNM employs to reduce potential effects.

V. ENVIRONMENTAL AUTHORIZATIONS

Q. Please list all federal, state, and local environmental authorizations needed before PNM begins construction and operation of the proposed transmission line, along with an estimated timeline of such authorizations.

A. The POD includes a table of the permits or authorization potentially needed for the Project. PNM's Preferred Route will be partially located on public land administered by the New Mexico State Land Office ("NMSLO") and City of Albuquerque, and on privately held lands. PNM regularly interacts with the agencies with potential jurisdiction over the Project and work cooperatively with those agencies to obtain necessary permits and approvals to achieve the expected design, construction and operation milestones for the Project. These agencies and the anticipated permits or authorizations required by each are identified in PNM Exhibit LMW-2, Table 1-1 on pages 2-4 through 2-6. During subsequent design and construction phases of the Project, PNM will continue to monitor the need for additional environmental or other regulatory authorizations and obtain them as necessary.

Q. Will PNM provide copies of the permits obtained from other agencies?

A. Yes. PNM will provide copies of the permits as they are obtained. Unless otherwise recommended by NMPRC Utility Division Staff, PNM proposes to make a single compliance filing containing copies of the permits at the completion of the construction phase of the Project.

VI. CONCLUSION

Q. Please summarize your testimony.

A. PNM has used and will continue to use information from environmental studies and surveys to refine the Project and modify the design to avoid or reduce potential effects on communities and resources, including important environmental values. Based on the resource evaluations and supporting technical reports prepared for the Project, the Project is not anticipated to unduly impair any important environmental values. Additionally, PNM's application of best management practices, together with environmental protection measures included in permits and authorizations as conditions of approval, help avoid or reduce potential adverse impacts on communities and resources.

Q. Does this conclude your testimony?

A. Yes.

GCG#534496

Leslie M. Watson Resume

PNM Exhibit LMW-1

Is contained in the following 2 pages.

Leslie M. Watson

EDUCATIONAL AND PROFESSIONAL SUMMARY

Name: Leslie M. Watson

Address: Public Service Company of New Mexico
2401 Aztec Road NE
Albuquerque, NM 87107

Position: Environmental Planning and Permit Project Manager

Education: University of Montana
Bachelor of Science, Zoology

Penn State University
GIS Certificate

Harvard Business School
Sustainability Studies Certificate

Employment: Employed by Public Service Company of New Mexico (PNM) since 2024

Burns & McDonall
Environmental Consultant (2023-2024)

National Radio Astronomy Observatory
Site Development (2022-2023)

Watson Environmental
Environmental Consultant (2016-2022)

Merjent
Project Manager/Environmental Analyst (2014-2016)

URS Corporation
Senior Environmental Planner (2006-2014)

Booz Allen Hamilton
Associate (2003-2006)

Michael Baker Corporation
Environmental Planner (2001-2003)

USFS CAET
Content Analyst/Writer (1998-2001)

USDA Forest Service
Forest Technician (1983-1998)

Plan of Development

PNM Exhibit LMW-2

Is contained in the following 81 pages.

BURNS McDONNELL

PUBLIC SERVICE COMPANY OF NEW MEXICO

Plan of Development

Pajarito-Rio Puerco Transmission Line Project

PROJECT NO. 184946
REVISION 1
DECEMBER 1, 2025

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List of Abbreviations

Abbreviation	Term/Phrase/Name
APLIC	Avian Powerline Interaction Committee
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
CABQ	City of Albuquerque
CCN	Certificate of Public Convenience and Necessity
CWA	Clean Water Act
ESA	Endangered Species Act
kcmil	kilo circular mils
kV	kilovolt
MBTA	Migratory Bird Treaty Act
MW	megawatt
NESC	National Electric Safety Code
NMDOT	New Mexico Department of Transportation
NMSLO	New Mexico State Land Office
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OPGW	optical ground wire
OSHA	U.S. Department of Labor, Occupational Safety and Health Standards
PNM	Public Service Company of New Mexico
POD	Plan of Development
PRC	New Mexico Public Regulation Commission
Project	Pajarito-Rio Puerco-Prosperity Transmission Line Project
PWSW	Storm Water Pollution Prevention Plan
ROW	right-of-way
SUP	Special Use Permit
SWPPP	stormwater pollution prevention plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

1.0 Introduction

1.1 Overview

Public Service Company of New Mexico (PNM) plans to construct a new overhead 345-kilovolt (kV) single-circuit transmission line (hereafter referred to as the Pajarito-Rio Puerco Transmission Line Project, or Project) between PNM's Rio Puerco and Pajarito 345kV substations and loop an existing 345kV transmission line from the Prosperity substation into the Pajarito substation. A Certificate of Public Convenience and Necessity (CCN) Application is required to be filed with the New Mexico Public Regulation Commission (PRC) to construct, operate, and maintain the transmission line and facilities. This Plan of Development (POD) supports the CCN Application by describing the location and components of the proposed Project.

PNM is evaluating two alternative routes for the project. Alternative A route is approximately 34 miles, and Alternative B is approximately 31 miles. The Project would include construction of a new 1-mile extension to connect an existing approximately 6-mile 345kV line from the existing Pajarito substation to the existing Prosperity substation with 345/114kV transformation (Figure 1-1). The existing section of line extension and structures cross the Rio Grande River and may require replacement of one or both static wires with Optical Ground Wire (OPGW). Construction of a new approximately 0.6-mile, 345kV transmission line extension to loop the existing Pajarito Sandia 345kV transmission line into the Prosperity substation will be required.

In addition to the transmission line components, the Project also includes the expansion of three existing substations. The Pajarito and Rio Puerco substations would be expanded to accommodate the proposed Pajarito-Rio Puerco connection and new renewable energy interconnections. The Prosperity substation would be expanded within the existing PNM owned parcel to include a new 345/115kV transformer, two new 345kV bays, and one 115kV bay.

New permanent and temporary land rights would be required for the Project, such as the transmission line right-of-way (ROW), access roads, and temporary work sites. There would also be the continued use of existing land rights. The transmission line will be located within an approximately 150 feet wide utility corridor ROW on private, City of Albuquerque (CABQ), and New Mexico state trust lands (NMSLO) (Figure 1-1).

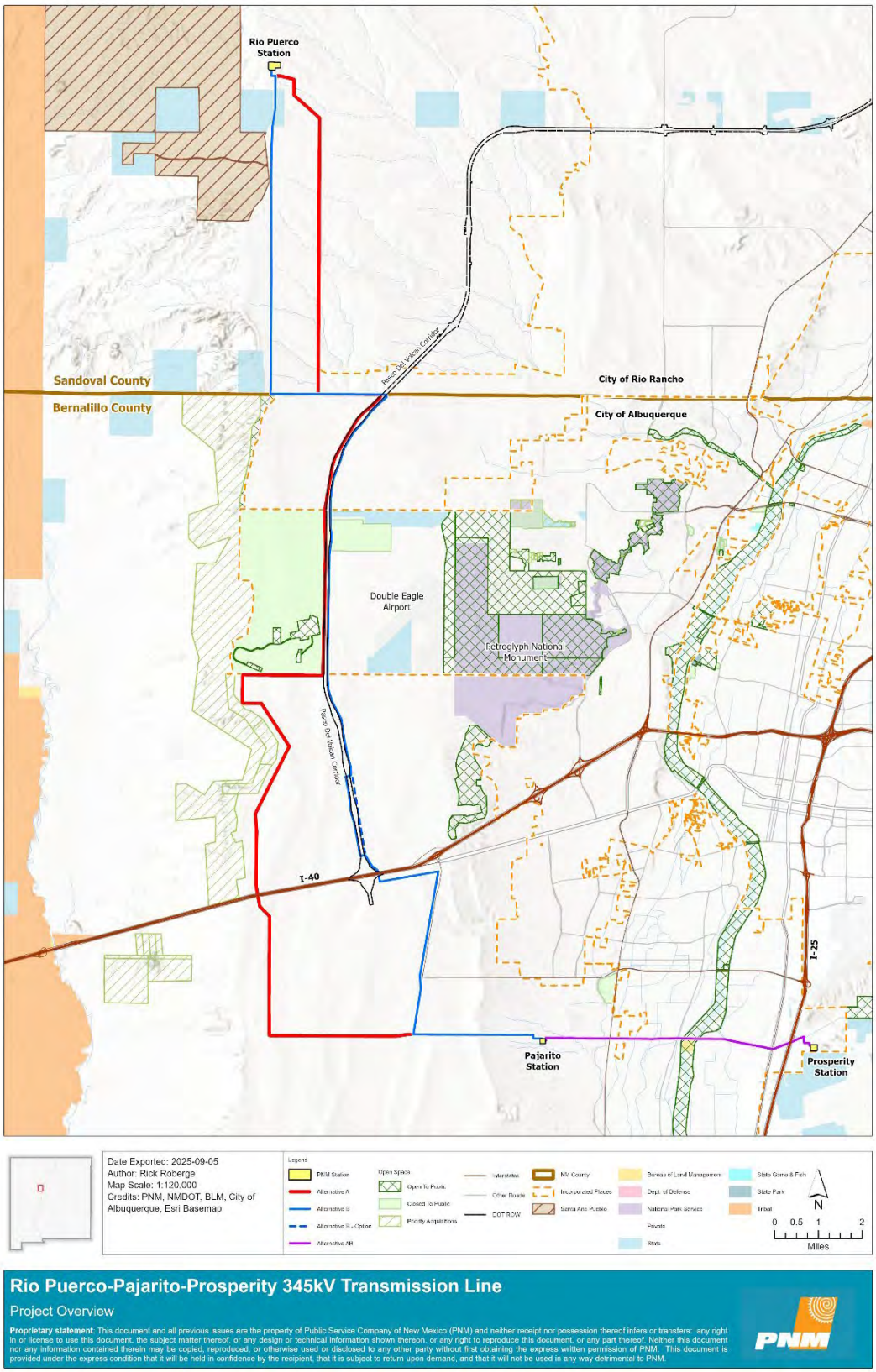

Figure 1-1: Project Location

1.2 Purpose and Need

PNM's current system is limited in both transmission availability and generation delivery capability. This Project supports PNM's renewable energy transition, improves system reliability, and increases system capacity in Rio Rancho, Los Lunas and Albuquerque. Currently, PNM's electric system does not have the means to meet these initiatives. In addition, the new transmission lines would provide:

- Transition to Emissions-Free Generation: Prepares PNM to retire gas generation facilities while maintaining transmission system reliability.
- Reliability and Resiliency: Enhances the transmission system's capacity to withstand outages and enables rebuilding aging infrastructure with advanced conductors.
- Additional Load Serving Capability: Provides additional capacity for growing communities in Rio Rancho, Los Lunas, and Albuquerque, accommodating load growth and electrification.

The Project would allow rebuilding the electric grid within the Rio Rancho, Albuquerque and Los Lunas metro areas while keeping existing lines operational, using the existing ROW, and providing flexibility for maintenance outages.

1.3 Routing and Legal Description

PNM conducted a routing study to evaluate routes for a new 345kV transmission line connecting between the existing Pajarito and Rio-Puerco substations. Data was to identify potential routes, and each potential route consisted of individual segments that could be combined in different arrangements to form a continuous path between the two substations. The routing study included 34 individual segments that could be combined to form 129 different route alternatives. To reduce potential impacts to land uses, route alternatives were located along existing lines of land division such as parcel lines, existing utility corridors, or along roads when possible. All 129 route alternatives were evaluated to identify which routes best met the following criteria:

- Minimize impacts to residences, buildings, oil pumps, parks, cemeteries, and city-owned open space areas.
- Minimize overall length of the route.
- Maximize paralleling of existing utility corridors or roadways when practical.
- Minimize impacts to wetlands, riparian areas, conservation lands, and protected species and their habitats for both the transmission line corridor and access for construction and maintenance.
- Evaluate the design and construction feasibility of the routes.

The original route segments, identified in the initial 2023 study, were determined based on available data, including land use, geographical considerations, and future community plans. Construction of Clenera Atrisco Solar Farm in 2024 and New Mexico Department of Transportation (NMDOT) acquisition of easements for the Paseo del Volcan, a regional principal arterial and a community principal arterial ROW development, presented operational and maintenance

constraints to the routes evaluated in 2023, and an opportunity to co-locate within or adjacent to the proposed NMDOT ROW.

Revised routes were analyzed to improve the previously identified segments while maintaining the objectives of the Project and the following criteria:

- Avoiding the Clenera Atrisco Solar Farm
- Minimizing social impacts by selecting route alternatives that minimize impacts to state owned/managed lands and open space.
- Co-locating within or adjacent to the NMDOT ROW to the extent practicable to better enhance the land use compatibility of the Project with future infrastructure.

Both revised routes would be located on private, CABQ, and NMSLO lands within Bernalillo and Sandoval Counties (Figure 1-1). Appendix A contains figures of Alternative A and Alternative B. The legal description of the preferred route for the Project will be included in Appendix B in the final POD.

1.4 Permits and Authorizations

The Project will be on public land administered by the NMSLO, CABQ, and privately held lands. Pueblos, tribes, state, and local agencies will be consulted during preparation of the Project design and environmental reports. In addition, those agencies with potential jurisdiction over this Project will be contacted to obtain necessary permits and approvals. These agencies and the permit or authorization are identified in Table 1-1.

Table 1-1: Permits Required or Potentially Required for the Proposed Project

Regulatory Agency	Permit/Authorization	Description
Federal		
U.S. Fish & Wildlife Service; New Mexico Ecological Services Field Office	Migratory Bird Treaty Act (MBTA) & Bald and Golden Eagle Protection Act (BGEPA) Compliance	If an activity may affect migratory birds, bald eagles, or golden eagles, and/or their nests, coordination with the US Fish and Wildlife Service (USFWS) may be required. Bird nest surveys could be required by the USFWS to demonstrate compliance with the Endangered Species Act (ESA), MBTA, and BGEPA. Even if not required by the USFWS, project-owners will typically conduct bird nest surveys to assess the potential risks to nesting birds.
U.S. Environmental Protection Agency; Region 6	National Pollutant Discharge Elimination System (NPDES) Construction General Permit	Requires the submittal of a Notice of Intent (NOI) for construction activities and preparation and submittal of a Storm Water Pollution Prevention Plan (SWPPP) and Project Specific Erosion and Sediment Control Plans. The SWPPP must contain best management practices (BMPs) for erosion and sediment control for construction activities.
FAA obstruction notice		
State		
New Mexico Public Regulation Commission	Application for approval of location of transmission line	

Regulatory Agency	Permit/Authorization	Description
New Mexico Public Regulation Commission	Certificate of Public Convenience and Necessity	
New Mexico Environment Department; Surface Water Quality Bureau	401 Water Quality Certification	State certification for federal permits issued under Clean Water Act (CWA)
New Mexico Public Regulation Commission	Part 440 - Extensions, Improvements, Additions, and Cooperative Agreements Between or Among Utilities	Each public utility prior to making any extensions/improvements/additions, should file a written report with the commission setting forth the character of the undertaking, the purpose sought thereby to be accomplished, the means by which that purpose is intended to be realized, the estimated costs involved in the employment of those means, the data upon which the engineering and economic feasibility of the undertaking is based
New Mexico Historic Preservation Division	Section 106 - National Historic Preservation Act Compliance and New Mexico Cultural Properties Act	Protects historic, architectural, and archaeological sites by requiring state and federal agencies to consider the effects of their actions on historic properties listed or eligible for losing in the National Register of Historic Places. Section 106 Compliance will be required if a US Army Corps of Engineers (USACE) CWA Section 404 is pursued.
New Mexico Department of Transportation	New Mexico Public Highway Utility Accommodation Permit	The relocation of utilities within public ROW are required to obtain this permit. The Project crosses two federal interstates and multiple state roadways.
New Mexico Department of Transportation	Traffic Control/Roadway Work Permit	Conducting work or impeding traffic within the state roadway will require a traffic control/roadway work permit.
New Mexico Department of Transportation	Access Permit	Access Permit, including stipulations for any safety enhancements necessary to the highway
New Mexico Dept. of Energy, Minerals, and Natural Resources, Forestry Division	Collection permit	Taking or transplanting of state endangered plant species (during construction, ROW clearing, etc.)
New Mexico Environment Department	Hazardous Waste Permit	Management of hazardous waste onsite during construction/operation
New Mexico Department of Game and Fish	Survey permit and general consultation	Manage effects on threatened and endangered species
New Mexico State Historic Preservation Division	Cultural Survey Permit	Identification of, and potential disturbance to, cultural resources in Project area
County		
Bernalillo County Public Works Division; Permit Section	Grading Permit	Construction that disturbs greater than 1 acre in unincorporated Bernalillo County will need a grading permit
Bernalillo County Public Works Division; Permit Section	Storm Water Pollution Prevention Plan (PWSW)	For any grading permit issued by Bernalillo County, a PWSW is also required
Bernalillo County Public Works Division; Permit Section	Floodplain Development Permit	Construction within any area of special flood hazard as shown on a flood insurance rate map shall require a development permit
Bernalillo County Public Works Division; Permit Section	Excavation Permit	Any person that needs to make an excavation within Bernalillo County ROW will require this permit, not needed for excavations that occur on private property

Regulatory Agency	Permit/Authorization	Description
Bernalillo County Public Works Division; Permit Section	Barricading Permit	Any construction activity that affects the flow of traffic on Bernalillo County ROW or public roadways
Bernalillo County Public Works Division; Permit Section	Driveway Access Permit	Building new driveway access off of Bernalillo County ROW requires a driveway access permit
Sandoval County Floodplain Administration	Floodplain Development Permit	Required for work of any kind within floodplains along with FEMA elevation Certificate; if the proposed development is located in a Special Flood Hazard Area, the applicant must submit development plans and Floodplain building application.
Sandoval County Planning Department	Site Plan Approval	Required for development of specific sites, but unclear if there is any permit approval needed for a transmission line. Awaiting confirmation from Sandoval County Planning staff.
Sandoval County Planning Department	Preliminary Plat Approval	Sandoval County Preliminary Plat approval is a precondition of Special Use Permit (SUP) approval.
Sandoval County Planning Department	Grading and Drainage Permit	
Bernalillo County Public Works Division; Permit Section	Grading and Drainage Permit	
Sandoval County Planning Department	Commercial/Industrial Development Review	In unincorporated areas of Sandoval County staff from the Economic Development, Fire and Rescue, Planning and Zoning, and Public Works departments coordinate the commercial and industrial development review.

1.5 Project Organization and Contact

PNM's principal office for project development is located at 2401 Aztec Road NE, Albuquerque, New Mexico 87107, and PNM's principal corporate office is located at 414 Silver Avenue SW, Albuquerque, New Mexico, 87102-3289. PNM's project manager for the Project is

Laurie Williams; Senior Vice President; Integrated Planning
Public Service Company of New Mexico (PNM)
2401 Aztec Road NE
Albuquerque, New Mexico 87107
Phone: 505-241-0641

2.0 Project Description

Construction of a new electric transmission line generally includes surveying the centerline, access development, clearing ROW and structure sites, installation of foundations, assembly and erection of structures, installation of conductors and overhead shield wires, installation of grounding system, and cleanup and site reclamation. The Project is broken into 3 distinct segments described below:

1. A new 345kV transmission line between PNM's Rio Puerco substation and Pajarito substation will use new permanent easements and ROW agreements within a 150 feet wide corridor. This line will primarily be built using H-frame single-circuit structures and bundled conductor and OPGW shield wire.

2. An extension of approximately 1-mile new 345kV transmission line connection to an existing 345kV transmission line from Pajarito Station to Prosperity Station (refer to Figure 1-1) and restring approximately 6.5 miles of 345kV capacity transmission wire on existing monopoles. The existing section of the line is built as a double-circuit monopole with bundled conductor and 3/8" EHS shield wire. New structures will be single-circuit H-frames. The existing segment of line may be upgraded to include OPGW shield wire for communication purposes. This line will utilize new and existing permanent easements and ROW agreements that vary up to 100 feet wide.

3. A new approximately 0.6-mile 345kV transmission line extension from an existing 345kV line into the Prosperity substation. The existing line is built using H-frame single-circuit structures and bundled conductor and OPGW shield wire. New structures will also be single-circuit H-frames. This line extension will utilize new permanent easements and ROW agreements with 150 feet wide corridors per circuit.

2.1 Alternatives

PNM has identified two alternative routes for the proposed 345 kV transmission line between the Rio Puerco and Pajarito substations. Section 2.1.1 and 2.1.3 describe each alternative route. Both alternative routes include the 6.5-mile segment from the Pajarito substation to the Prosperity substation where PNM would restring existing poles. Modification or expansions of existing substations described in Section 2.2.2 are the same for all alternatives.

2.1.1 Land Uses

Most land uses near the Project are residential, open space[1], and transportation corridors. Current zoning for Bernalillo and Sandoval counties, City of Albuquerque, and Rio Rancho are listed in Table 2-1. In the northern portion of the Project, the Alternative routes cross the undeveloped western

[1] City of Albuquerque open space is operated under two Recreation and Public Purposes leases from the Bureau of Land Management.

side of unincorporated Rio Rancho Estates in Sandoval County. In Bernalillo County, the Alternative routes cross undeveloped lands of the City of Rio Rancho, adjacent to solar development, and the Double Eagle II Airport: a general aviation facility on Albuquerque's west side.

Table 2-1: Land Use Zoning

Project Component	Bernalillo County Land Use Zone[1]	City of Albuquerque Land Use Zone[2]	Sandoval County Land Use Zones[3]	Rio Rancho Land Use Zones[4]
Alternative A	Rural agricultural, 1-acre minimum	Non-Residential; Major Public Open Space	Commercial Use, Community District, Rio Rancho Estates	Single Family Residential Multi-Family Residential Mixed Use Activity Center Retail Commercial Quail Ranch Overlay Zone Transitional Zoning
Alternative B	Rural agricultural, 1-acre minimum West Central Commercial/Light Industrial Zone	Non-Residential Major Public Open Space		Single Family Residential Multi-Family Residential Mixed Use Activity Center Retail Commercial Industrial and Business Park
Pajarito to Prosperity	Light manufacturing, Rural agricultural, 1-acre minimum Single family residential Mobile Home and Single Family Residential			
Rio Puerco Station			Commercial Use	
Pajarito Station	Rural agricultural, 1-acre minimum			
Prosperity Station	Rural agricultural, 1-acre minimum			

Table Notes: 1 Bernalillo Comprehensive Plan (Adopted June 2024); 2 City of Albuquerque IDO (May 2024); 3 Sandoval County Comprehensive Plan (2024); 4 Rio Rancho Comprehensive Plan (2015)

2.1.2 Alternative A

PNM developed Alternative A to avoid NMSLO lands, solar generation sites, and CABQ priority acquisition open space (Figure 2-1). Alternative A is proposed to follow existing or planned roads in unincorporated Sandoval County and be located on the west side of NMDOT's planned Paseo del Volcan transportation corridor. The 150-foot-wide ROW for Alternative A could cross CABQ Open Space west of Double Eagle Airport. Table 2-2 contains the miles and acres for Alternative A from the Rio Puerco substation to Pajarito station and 345kV connections and the 6.5 miles where PNM would restring on existing monopoles to connect to the Prosperity Station.

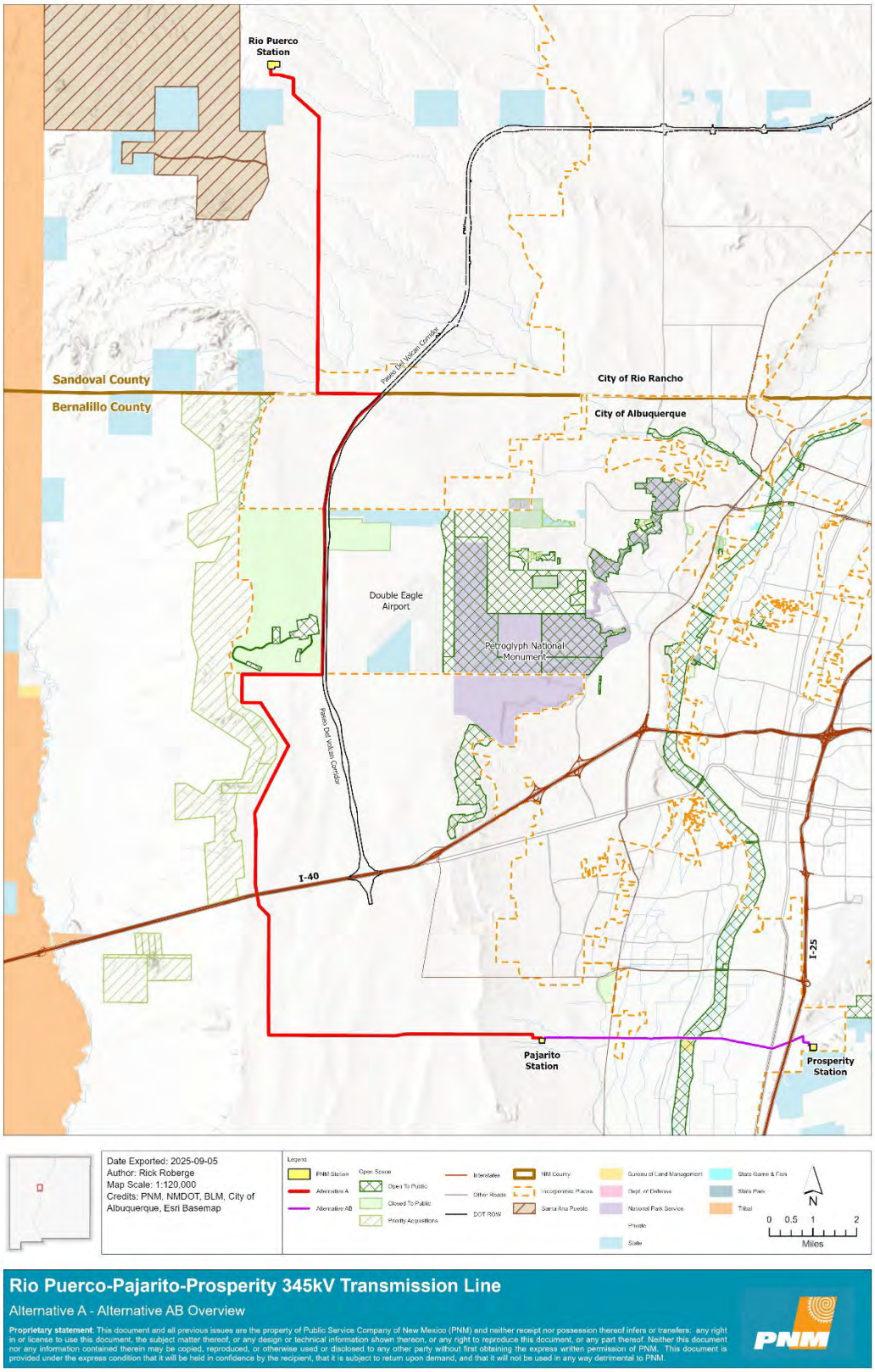

Figure 2-1: Alternative A

Table 2-2: Alternative A Jurisdiction Miles and Acres

Land Jurisdiction	Miles	Acres
Private	31.9	580.6
New Mexico Department of Transportation	3.9	72.4
City of Albuquerque	2.9	48.9
City of Rio Rancho	1.7	35.5
Total	**40.3**	**737.3**

2.1.3 Alternative B.1

PNM developed Alternative B to avoid CABQ Open Space, solar generation sites, and CABQ priority acquisition open space (Figure 2-2). Alternative B.1 is proposed to follow existing or planned roads in unincorporated Sandoval County and be located on the east side of NMDOT's planned Paseo del Volcan transportation corridor except for an approximately 2.25-mile segment on the west side. The 150-foot-wide ROW for Alternative B.1 would cross NMSLO lands. Table 2-3 contains the miles and acres for Alternative B.1 from the Rio Puerco substation to Pajarito station and the 6.5 miles where PNM would restring existing monopoles to connect to the Prosperity Station.

Table 2-3: Alternative B Jurisdiction Miles and Acres

Land Jurisdiction	Miles	Acres
Private	27.4	501.7
New Mexico State Land	1.0	18.2
New Mexico Department of Transportation	0.4	6.9
City of Albuquerque	3.7	68.0
City of Rio Rancho	4.5	82.0
Total	**37.0**	**676.8**

2.1.3.1 Alternative B.2 Segment Option

Based on comments received from the public and agencies, PNM identified an additional route segment for Alternative B (refer to Figure 2-2). This segment option would modify approximately 2.25 miles of Alternative B.2 on privately held lands in Bernalillo County and the proposed 345kV transmission line would be on the east side of NMDOT's planned Paseo del Volcan transportation corridor. Table 2-4 contains the miles and acres for Alternative B.2 segment option from the Rio Puerco substation to Pajarito station and the 6.5 miles where PNM would restring existing monopoles to connect to the Prosperity Station.

Table 2-4: Alternative B Jurisdiction Segment Option Miles and Acres

Land Jurisdiction	Miles	Acres
Private	27.3	496.4
New Mexico State Land	1.0	18.2
New Mexico Department of Transportation	0.2	4.2
City of Albuquerque	3.7	68.0
City of Rio Rancho	4.5	82.0
Total	**36.8**	**668.8**

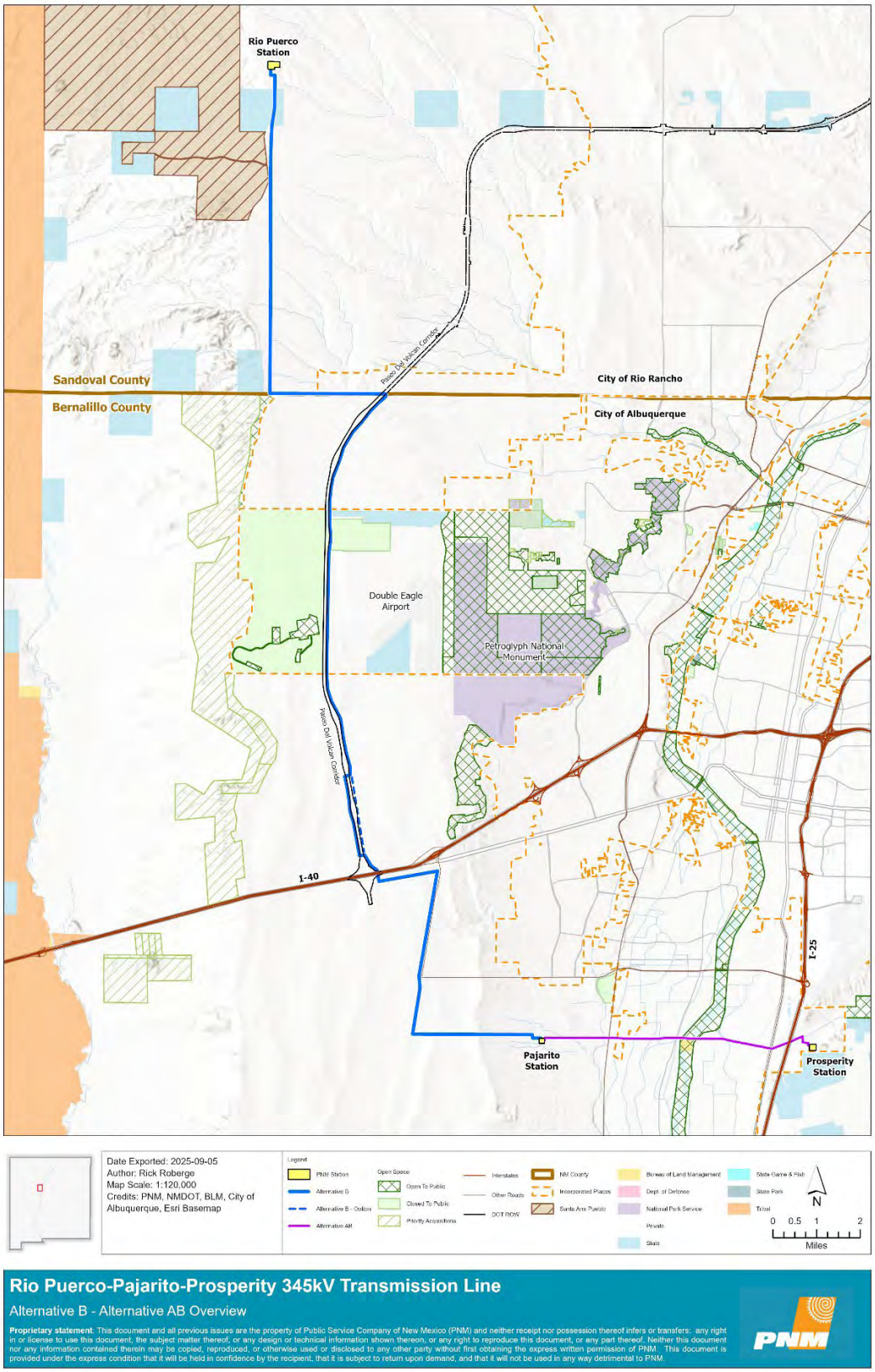

Figure 2-2: Alternative B

2.2 Design Characteristics

The design characteristics, substations and ancillary facilities are the same for both Alternatives.

2.2.1 Single-Circuit 345kV Transmission Line

A new single-circuit 345kV transmission line would be constructed from the Rio Puerco substation south to Pajarito substation. The single-circuit H-frames will be dulled, galvanized tubular steel structures (gray color) or weathering (rust colored) steel. Typical design characteristics of the Project are listed in Table 2-5. Final design characteristics, including wire marker balls or pole lighting, will be determined in the detailed design phase of the Project.

Table 2-5: Typical 345kV Transmission Line Design Characteristics

Project Component	H-Frame	Monopole
Types of structures	Single-circuit steel H-frame	Single-circuit steel monopole Double-circuit steel monopole
Structure height	H-frame (80 to 140 feet)	Single-circuit steel monopole (95 to 150 feet)
Span length	H-frame (600 to 1,000 feet)	Single-circuit monopoles (700 to 800 feet)
Number of structures	H-frame 6-8 per mile	Monopoles 7-9 structures per mile
Right-of-way width	150 feet	150 feet

The design, construction, operation, and maintenance of the Project will meet or exceed the requirements of the National Electric Safety Code (NESC), U.S. Department of Labor, Occupational Safety and Health Standards (OSHA), and PNM's requirements for safety and protection of employees, contractors, landowners and their property, and the public. Table 2-6 is a summary of the transmission line's electrical properties.

Table 2-6: Transmission Line Electrical Properties

Electrical Properties	
Normal Voltage	345,000 volts (345 kV)
Capacity	1,500 megawatt (MW) (initial) 2,000 MW (final)
Circuit configuration	Single circuit
Conductor Size	1,272–kcmil ACSR (1 sub-conductor per phase)
Minimum ground clearance of conductor	28 feet

2.2.1.1 Transmission Structures and Foundations

Illustrations of 345kV structures, including H-frames and monopoles, that will be used for this Project are provided on Figure 2-3, Figure 2-4, and Figure 2-5. Structure heights range from 80 to 140 feet varying with terrain and associated span lengths. Span lengths would typically be 800 feet with spans ranging from 600 to 1,000 feet depending upon topography and final design, resulting in approximately 6-8 structures per mile.

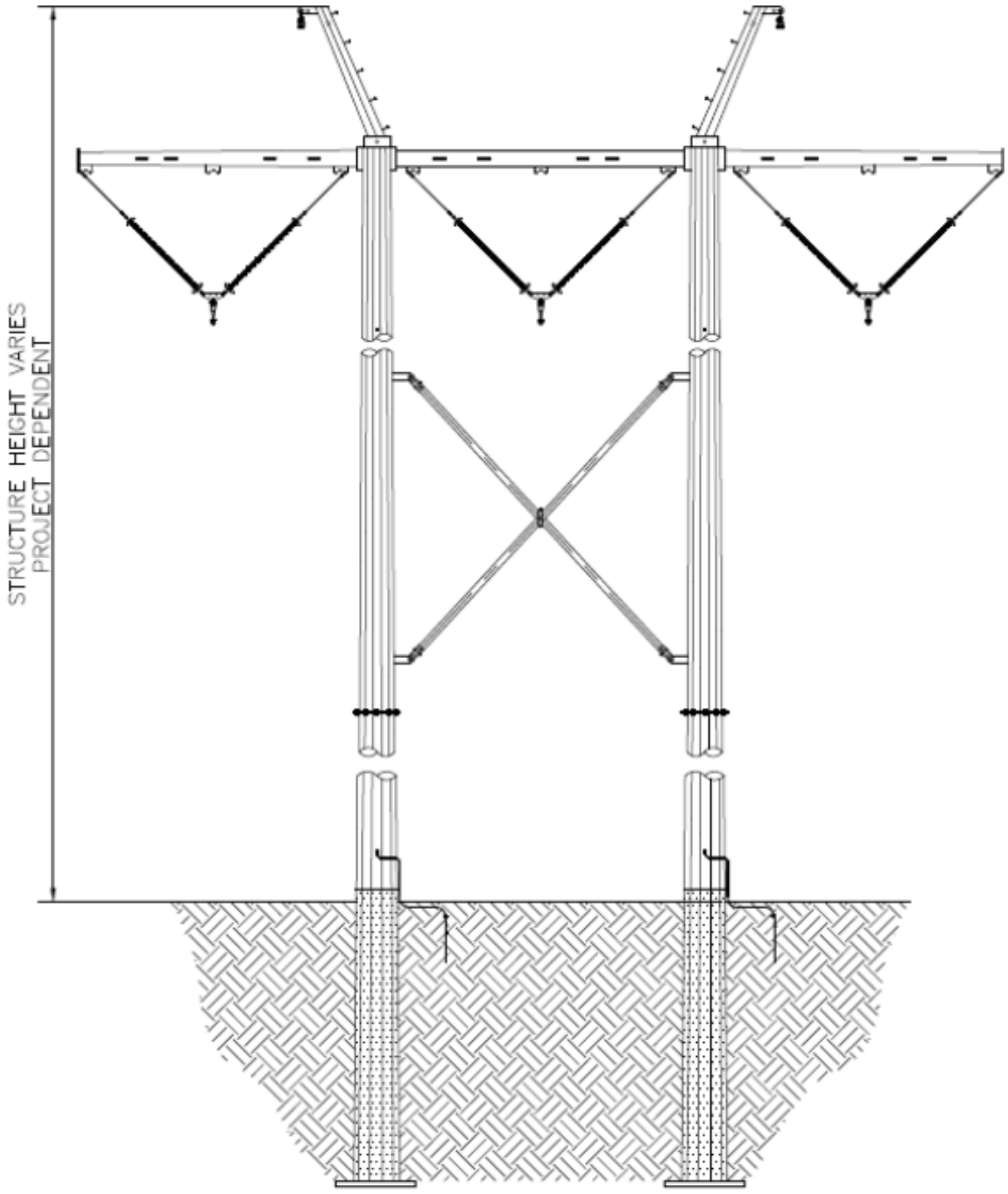

Figure 2-3: 345kV Typical Structures

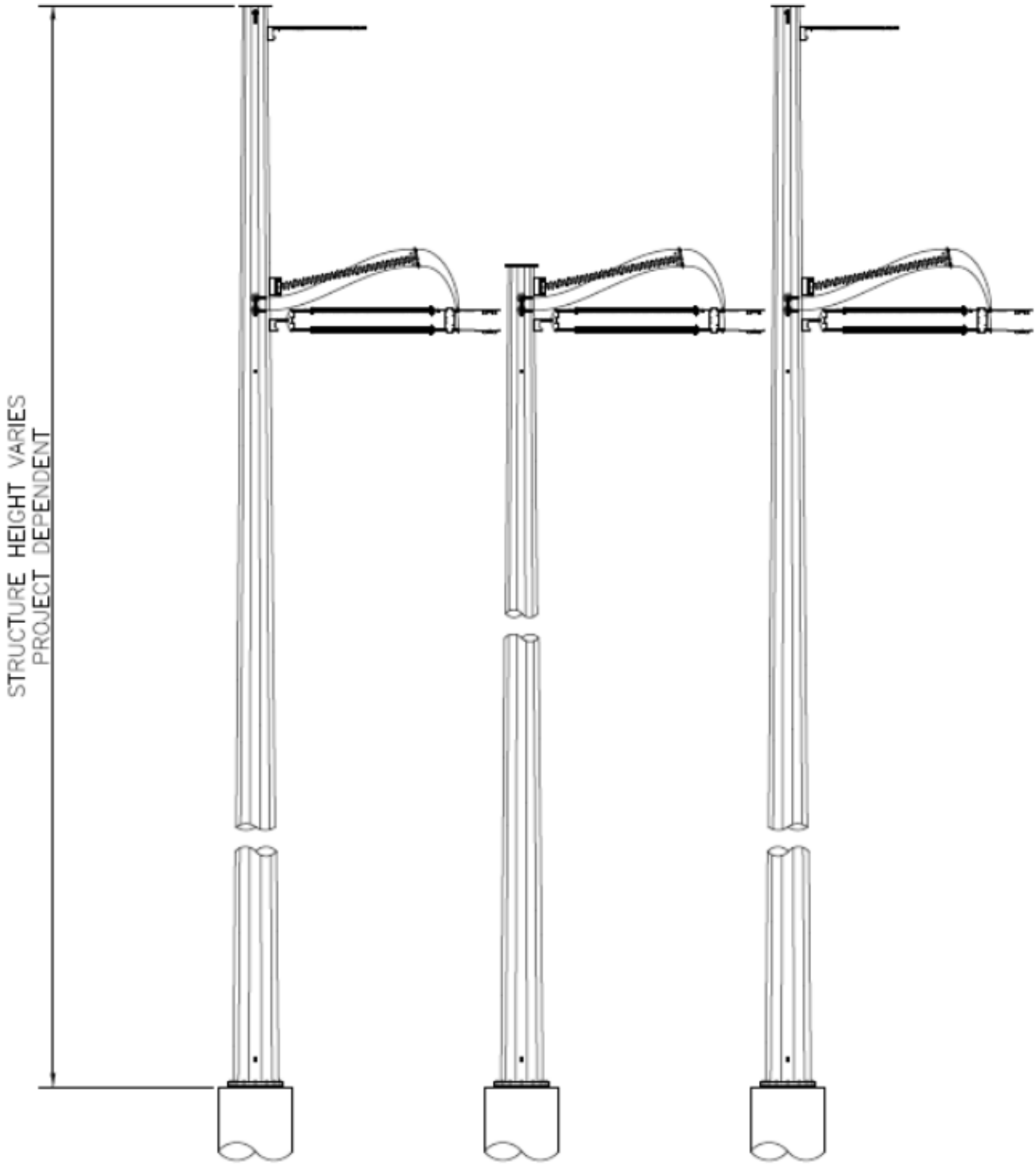

Figure 2-4: Single-circuit 345 kV 3Mono-pole Tangent Deadend Structure

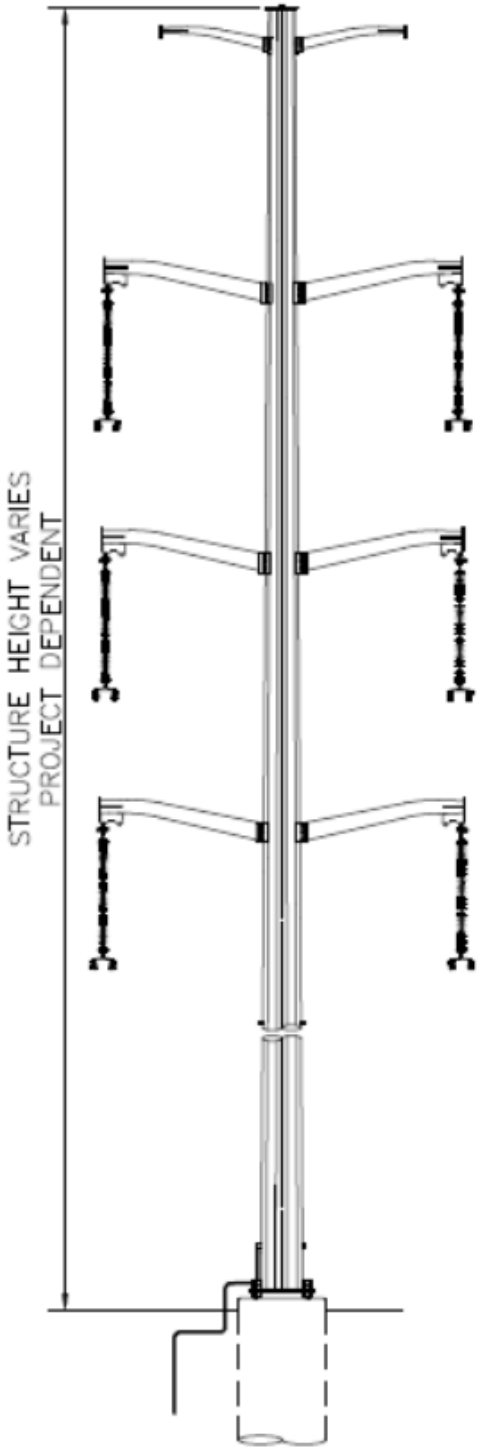

Figure 2-5: Double circuit 345kV monopole Tangent Structure

H-frames require two foundations, one foundation for each tubular steel leg. The foundation diameter and depth for both steel-lattice and H-frame structures would be determined during final design and are dependent on the type of soil or rock present at each site; typical diameters and depths of foundation are shown in Table 2-7.

Table 2-7: Typical 345kV Structure Type Foundations

Structure Type	Number of Foundations	Foundation depth (feet)	Area of Foundation (feet^2)
H-frame	2 per H-frame	15-30	4
Monopole	1 per pole	24	7
Small angle monopole	1 per pole	26	8
Dead-end 3-pole H-frame	3 per pole	30	12

2.2.2 Substations

Three substations are components of the project and will have modifications to support the additional 345kV transmission line. Table 2-8 provides information on the existing substation and planned expansion dimensions. Figure 2-6, Figure 2-7, and Figure 2-8 show the location of the three substations.

Table 2-8: Existing and Proposed Substations Dimensions

Substation	Existing Facility		Expansion		Total	
	Dimensions	Acres	Dimensions	Acres	Dimensions	Acres
Rio Puerco	950’ x 1,475’	32.2	961’ x 460’	10.1	961’ x 1,917’	42.3
Pajarito	600’ x 660'	9.1	400’ x 660’	6.1	1,000’ x 660’	15.2
Prosperity	710’ x 825’	13.4	500’ x 825’	9.5	1,210’ x 825’	22.9

Electrical equipment, such as transformers, reactors and circuit breakers, at substations are filled with an insulating mineral oil. Containment structures are included in a Spill Prevention, Control, and Countermeasure plan to prevent equipment oil from getting into the ground or water bodies in the event of a leak.

A grounding system is required in each substation for detection of faults and for personnel safety. The grounding system typically consists of buried copper conductor arranged in a grid system and driven ground rods, typically 8 to 10 feet long. The ground rods and any equipment and structures are connected to the grounding conductor grid. The amount of conductor and length and number of ground rods required are calculated based on fault current and soil characteristics.

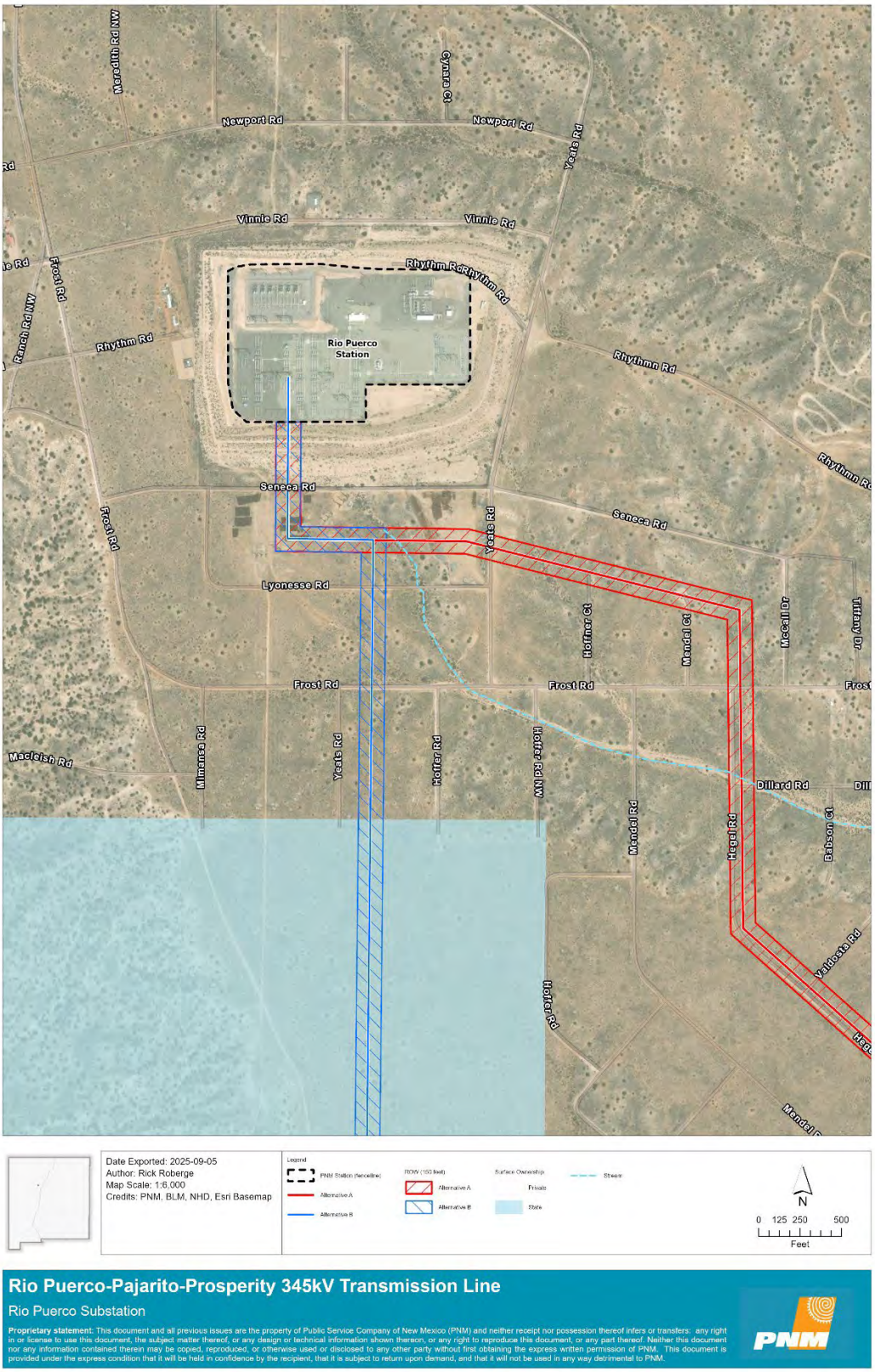

Figure 2-6: Rio Puerco Substation

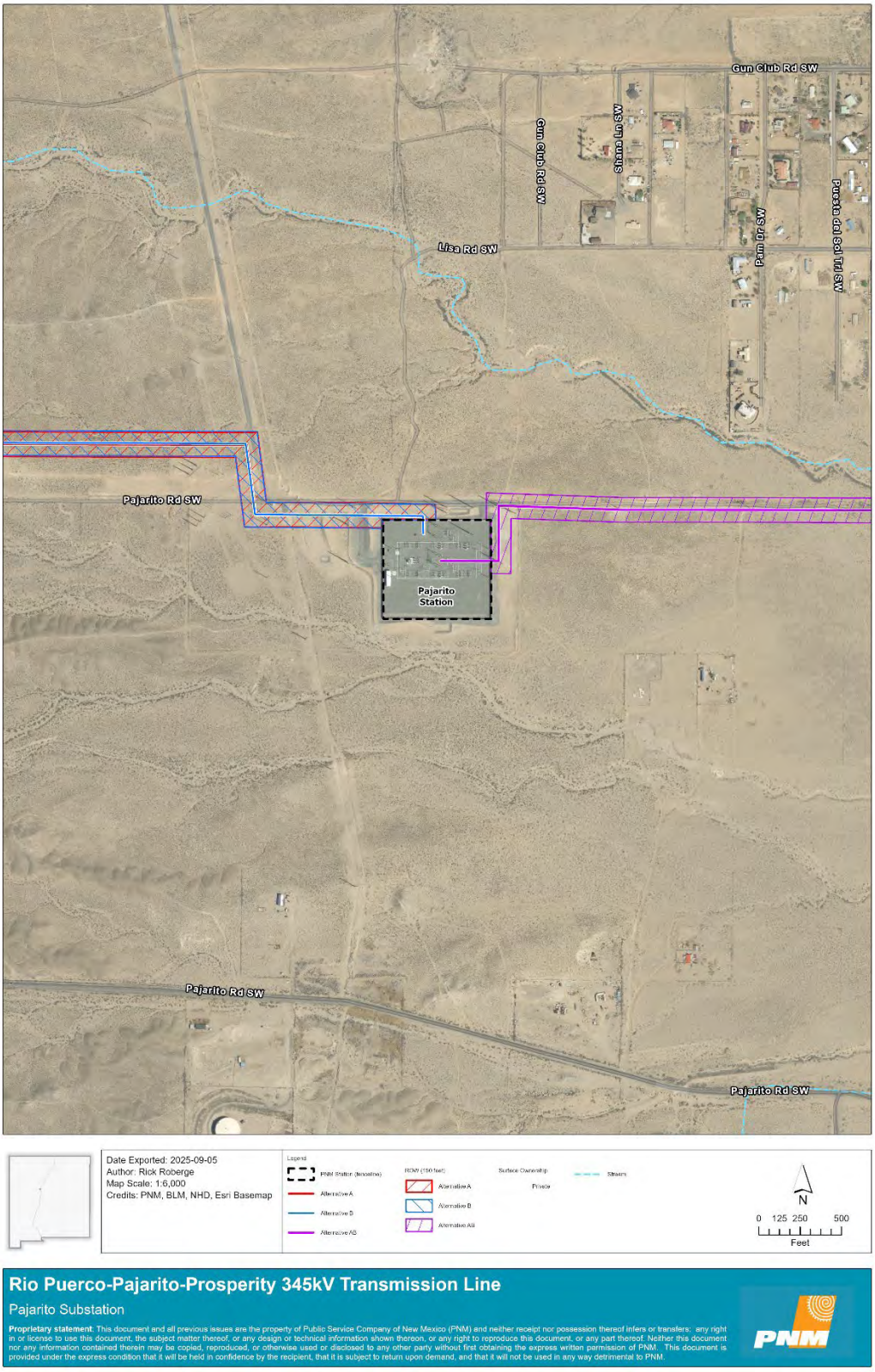

Figure 2-7: Pajarito Substation

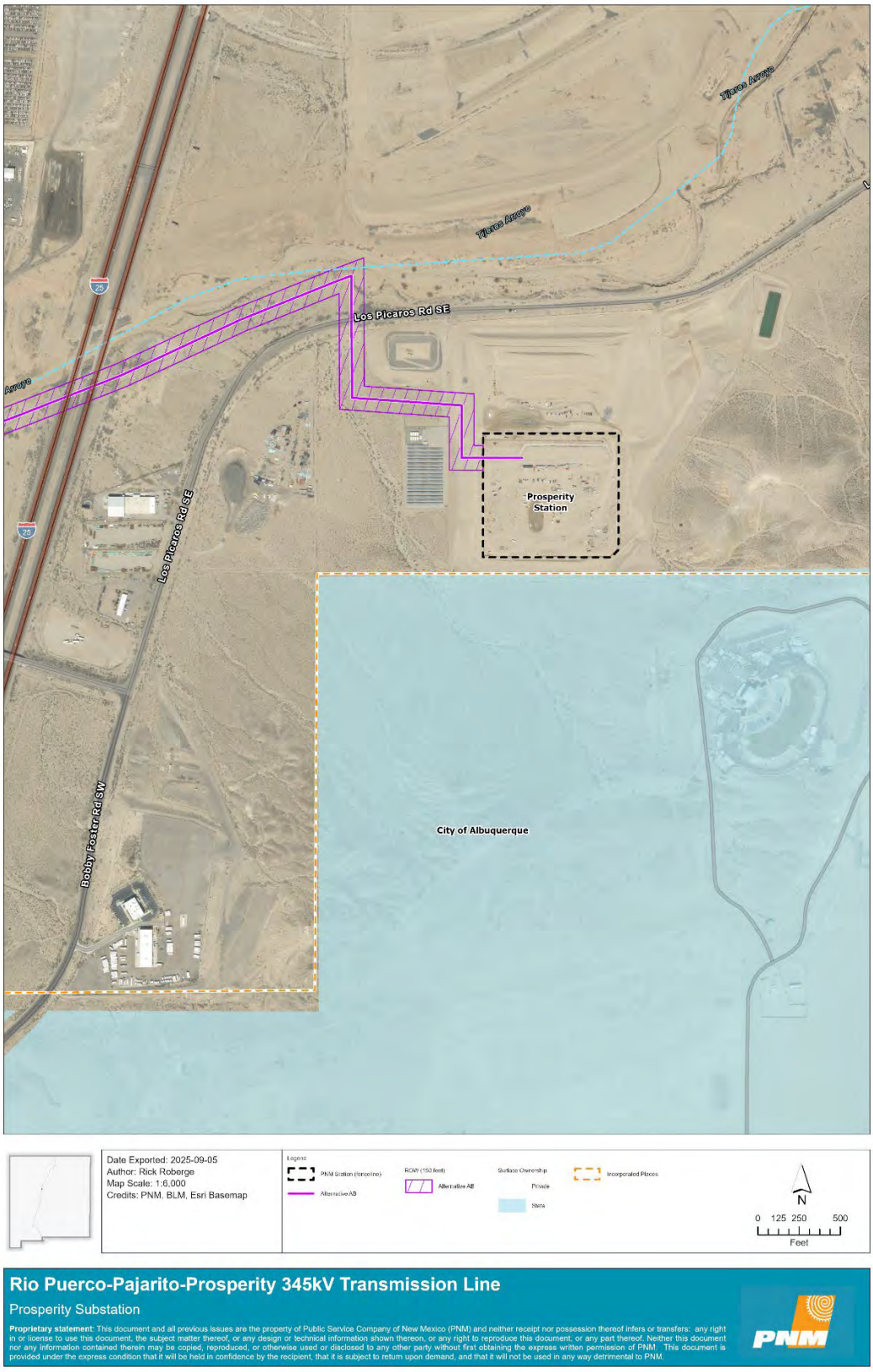

Figure 2-8: Prosperity Substation

2.2.2.1 Rio-Puerco Substation

The Rio Puerco substation is in Sandoval County (refer to Figure 2-6). The existing substation is surrounded by a 20-foot-tall earthen berm (Figure 2-9) and a 7-foot-tall chain link fence. To accommodate additional electrical equipment the substation site would be expanded west (refer to Table 2-8).

Figure 2-9: Earthen Berm along West Side of Rio Puerco Substation[2]

Approximately 1,500 feet of the west side earthen berm will be moved 250 to 300 feet west. Relocating the westside berm to accommodate expanding the substation requires relocating a radio tower and buildings on privately held lands. The substation would be surrounded by an earthen berm and an 8-foot-tall chain link fence.

Equipment to be installed:

- 2 – 345kV breakers
- 3 – Coupling Capacitor Voltage Transformers
- 3 – Surge Arrestors
- 1 – Station dead-ends
- 5 – Disconnect switches

[2] Photo credit; Jerry Villalobos, PNM

- 1 – OPGW fiber

2.2.2.2 Pajarito Substation

The Pajarito substation is located in Bernalillo County (refer to Figure 2-7). The substation has a ballistic rated concrete masonry unit wall that is 12 feet tall. The substation would be expanded north, crossing a PNM private road. The additional 6.1 acres would accommodate an additional bay added on the north side of the existing station. Adding a new bay requires extending the bus north and extending the existing ballistic rated concrete masonry unit wall around the perimeter of the substation.

Equipment to be installed:

- 3 – 345kV breakers
- 6 – 345kV coupling capacitor voltage transformers
- 6 – 345kV surge arrestors
- 1 – 345kV station dead-ends
- 8 – 345kV disconnect switches
- 2 – OPGW fiber from the 345kV lines

2.2.2.3 Prosperity Substation

The Prosperity substation is located in Bernalillo County, east of Interstate 25 (refer to Figure 2-8). The substation has a 14-foot-tall concrete masonry unit wall surrounding the substation. PNM would expand the substation north, 9.5 acres within PNM's existing property boundary. The perimeter expanded substation would also have a 14-foot-tall concrete masonry wall.

Equipment to be installed:

- 7 – 345kV breakers
- 18 – 345kV coupling capacitor voltage transformers
- 15 – 345kV surge arrestors
- 3 – 345kV station dead-ends
- 24 – 345kV disconnect switches
- 1 – 345/115kV autotransformer
- 1 – Backup generator
- 3 – OPGW fiber
- 4 – 115kV breakers
- 5 – 115kV disconnect switches
- 3 – 115kV coupling capacitor voltage transformers
- 3 – 115kV Station service voltage transformers
- 3 – 115kV surge arrestors

2.3 Ancillary Facilities

The Project ancillary facilities are access, staging and equipment storage areas, OPGW, and wire pull tensioning sites.

2.3.1 Access

During construction, vehicular access would be required to each new structure. Access not required for operation would be restored to the original condition after construction. Access to the ROW during construction and operation of the Project would use existing state, county or municipal roads, or access on unsurfaced roads where vehicles would drive and crush vegetation to access the ROW. Following are access types anticipated to be used and or developed for the Project.

- **Existing Roads – No Improvement**: existing paved, or all weather surfaced roads that meet PNM's construction road standards. Existing Roads - No Improvement access-road type includes existing maintained paved, or all weather surfaced roads that can be used in their current condition. No-Improvement is intended to signify that no additional new disturbance would be created outside of an established disturbed area.
- **Existing Roads – Improvements Required**: existing roads that require improvements to meet PNM's construction-road standards. Improvements to this access-road type could include blading to create a passable road surface road, cut-and-fill activities, re-establishing drainage features, vegetation removal, boulder and rock removal, installation of wash crossings, and other improvements to provide an adequate surface to support construction and maintenance vehicles.
- **Drive and Crush**: vegetation is crushed, but not cut or removed, soil is compacted but no surface soil is removed. A dozer, grader, or other type of equipment may be used to move boulders or other obstructions that prevent overland travel. Within the 150-foot-wide construction area for the transmission line, to ensure that equipment can install structures, construction crews may back drag arroyos to allow safe access by vehicles during construction.

Table 2-9 provides a summary of the access roads PNM anticipates would be needed to deliver equipment and materials to the staging areas and the roads used to construct Alternative A, B.1 or B.2 including the access roads used to restring wires and add OPGW between the Pajarito and Prosperity substations.

Table 2-9: Construction Access Roads

Surface Type	Miles	Total
Equipment and Material Delivery[1]		
Paved	49.8	61.1
Gravel	6.4	
Unsurfaced	2.9	
Alternative A Construction		
Paved	50.3	89.2
Gravel	10.0	
Unsurfaced	28.9	
Alternative B.1 Construction		
Paved	44.0	80.9
Gravel	10.0	
Unsurfaced	26.9	
Alternative B.2 Construction		
Paved	44.0	80.7
Gravel	10.0	
Unsurfaced	26.7	

During construction, temporary permission and/or ROW could be required from landowners. Access to the ROW would be in accordance with the land rights obtained as part of the grant or easement acquisition process. During operation, Project equipment to maintain the transmission line would be restricted to the ROW, access roads, and substations. PNM will determine if any county or municipal roads require improvements during final design.

2.3.2 Staging and Equipment Storage Areas

Staging areas would be established on private land at each of the Project substations and a nearby PNM owned substation for storing materials, construction equipment, and vehicles. Staging areas serve as reporting locations for workers, parking areas for vehicles and equipment, field offices, and locations for equipment maintenance. These areas will be long-term material storage yards for the Project, ranging in size from 20 to 30 acres, and will be used throughout the duration of construction of the Project for receiving, storing, and transferring required materials. Vegetation in staging areas would be removed and the staging area would be leveled. PNM may install geotextile fabric and gravel to reduce dust and provide an all-weather surface. Portions of staging areas may be fenced for security.

All required permits and approvals needed for any additional construction storage yards not previously identified will be obtained by the construction contractor(s). The contractor will also be responsible for identifying water sources and sources for aggregate material.

2.3.3 Optical Ground Wire

Reliable and secure communications for control and monitoring of the transmission system is very important to maintain the operational integrity of the Project and of the overall interconnected system. Primary communications for relaying and control will be provided via OPGW, which will be installed with the transmission lines. Each transmission structure will have two lightning protection shield wires installed on the peaks of each of the structures. The glass fibers inside the OPGW shield wires will facilitate data transfer between facilities along the fiber path. The data transferred are required to ensure safe and reliable system control and monitoring.

2.3.4 Wire Pull/Tensioning Sites

The pull/tensioning sites are temporary use areas where equipment is set up for pulling the conductors and shield wires. Construction equipment will be set up on both sides of a pull/tensioning site at approximately 3:1 ratio or greater from the structure(s). Typical wire pull/tensioning sites will be approximately 150 feet by 400 feet (200 feet to each side of the site). The final size will depend upon the manufacturer's recommendations and the height of the poles.

2.4 Land Acquisition

The proposed Project ROW would be approximately 150 feet wide. A wider ROW could be required at angle and corner structures, or where special design requirements are dictated by topography. PNM would obtain easement rights on lands crossed by the 150-foot ROW. The evaluation and acquisition process includes examining titles, contacting owners, surveying, preparing documents, and purchasing the property and easements.

A ROW representative would contact landowners who would analyze the property and point out to the landowner where the facilities would be located on their property. The representative would value the property and make an offer for the easement rights. As part of the ROW acquisition process, the ROW agent would discuss the construction schedule and construction requirements with the owner of each parcel. To ensure safe construction of the transmission line, fences, crops, or livestock may need special consideration. Fences, for instance, may need to be moved, temporary or permanent gates may need to be installed; crops may need to be harvested early; and livestock may need to be moved. In each case the ROW agent and construction personnel would coordinate these activities with the landowner.

2.5 Cost Estimate

Projected costs for Alternative A and Alternative B are estimates are based on an estimated cost per mile for the typical structure types and substation equipment. Since property acquisition, access costs, or segment-specific design criteria are uncertain, these are not full construction estimates and were developed for comparative purposes only. Based on preliminary engineering considerations, the major components of these preliminary estimates for Alternative A and B are shown in Table 2-10. PNM will continue to refine its cost estimates during the design.

Table 2-10: Preliminary Cost Estimate

Alternative	Materials	Labor	Total
Estimated Construction Cost			
Alternative A	$117.4M	$17.0M	$134.4M
Alternative B.1 and B.2	$117.4M	$18.7M	$136.1M
Pajarito to Prosperity	$98.3M	$4.1M	$102.4M

Operating and maintenance costs for transmission lines and substations is the cost of inspections, maintenance and planned equipment replacement. Substations require a certain amount of maintenance to keep them functioning in accordance with accepted operating parameters and NESC and NERC requirements. Substations must be kept free of vegetation and drainage must be maintained. Annual operating and maintenance cost for 345 kV transmission lines transmission lines in New Mexico vary and PNM estimates annual operation and maintenance costs are approximately $300 to $500 per mile. The cost to maintain a substation is approximately $9,300 per year.

3.0 Construction

The Project will consist of three phases of construction: pre-construction, construction, and reclamation. The Project would result in both temporary disturbance areas and permanent disturbance areas. Table 3-1 lists the approximate temporary and permanent disturbances for the Project. These disturbance estimates are based on the amount of disturbance expected for the option(s) that would result in the most disturbance. These estimates would be recalculated following further development and design of the Project.

All construction would be completed in accordance with the POD, which would be completed prior to the initiation construction. The final POD will include:

- Emergency Preparedness and Response Plan
- Traffic Control Plan
- Stormwater Pollution Prevention Plan Framework
- Spill Prevention, Containment, and Countermeasures Plan
- Erosion and Dust Control Plan
- Hazardous Materials Management Plan
- Reclamation, Revegetation, and Monitoring Plan

The final POD will also include more detailed descriptions of construction activities and permit requirements.

3.1 Temporary and Permanent Disturbance

The Project would require both temporary and permanent disturbances as shown in Table 3-1 for the three alternatives. These estimates would be recalculated as necessary in future iterations of the POD based on further development and design of the Project. Dimensions for land temporarily disturbed during construction are listed below.

Table 3-1: Temporary and Permanent Surface Disturbance

Feature	Description	Number	Alternative A (acres)	Alternative B.1 (acres)	Alternative B.2 (acres)
Temporary Disturbance					
H-frame structure work area	150 feet by 200 feet per structure	Alternative A: 238	165.5		
		Alternative B.1: 211		145.3	
		Alternative B.2: 211			145.3
Wire pulling/ tensioning	150 feet by 400 feet every 3 to 5 miles	Alternative A: 9-14	12.4-19.3		
		Alternative B.1: 8-13		11.0-17.9	
		Alternative B.2: 8-13			11.0-17.9
Splicing sites	100 feet by 100 feet every 9,000 feet (about 1.7 miles)	Alternative A: 24	5.5		
		Alternative B.1: 22		5.1	
		Alternative B.2: 22			5.1

Feature	Description	Number	Alternative A (acres)	Alternative B.1 (acres)	Alternative B.2 (acres)
Staging areas[1]	20-30 acres on private lands at the three substation sites and an additional PNM owned property	4	120	120	120
Permanent Disturbance[1,2]					
Permanent structure pad	6 feet by 40 feet per H-frame structure	Alternative A: 238	1.3		
		Alternative B.1: 211		1.2	
		Alternative B.2: 211			1.2
Rio Puerco substation	40.1 acres				
Pajarito substation	6.1 acres				
Prosperity substation	9.5 acres				

Table notes: 1 Portions of the area disturbed during substation construction may overlap with staging areas. 2 The area occupied by the existing substations are not included in the temporary disturbance area.

3.2 Construction Workforce and Equipment

The workforce and equipment vary between the construction phases. The project is about five miles west of the Albuquerque metro area that includes Albuquerque, Rio Rancho, and Los Lunas. PNM anticipates that the construction workforce will be within a 60-minute drive of the Project. Worker commutes to and from the site would take place during the typical morning and evening peak hours. In addition, specialty workers are expected to arrive on-site during non-peak hours.

The construction workforce would include skilled and unskilled labor types, such as:

- linemen
- groundmen
- heavy equipment operators
- fiber splicing technicians
- refueling staff
- cable crane operator crew supervisor

Transmission-line construction commences with contractor mobilization. The contractor would mobilize equipment and personnel to the construction site at various stages in the Project schedule depending on operational requirements. A portion of the pre-construction workforce would mobilize to the site approximately 1 week prior to the start of work. During this time, they would transport equipment and construction materials to designated construction staging areas. The workforce would be expected to arrive in personal or company vehicles at one of the three staging areas. Vehicles not needed for construction activities would be staged at designated locations within the transmission line construction corridor or at one of the four staging areas.

Construction would generally follow a 12-hour, 5-day workweek, occurring between 7 a.m. and 5 p.m., Monday through Friday. Deliveries to staging areas are expected to be Monday through Saturday during daylight hours. The workweeks and schedule may be adjusted in areas near residences to reduce disturbance.

Material deliveries normally would be on weekdays between 7:00 a.m. and 5:00 p.m. Additional hours and/or weekends may be necessary to make up schedule deficiencies or to complete critical construction activities. Table 3-2 provides information on trips by the workforce, vehicles, and deliveries to the three staging areas, distance, and percentage paved roads. The number of personnel on site during construction will range between 43 to 161 with the peak workforce during construction. The estimated workforce, construction equipment or schedule is the same for the two alternatives. If necessary, PNM will prepare a traffic control plan that will be included in the final POD.

Table 3-2: Construction Commute Distance and Trips

Project Phase	Number of Crews or Vehicles	Number of Workers	Number of Round Trips per Day	Daily Commute Distance in Miles 1 way[4]	Estimated % Paved Roads Alternative A	Estimated % Paved Roads Alternative B.1 and B.2
Pre-Construction						
Workforce	11	27	2	1,350	33%	43%
Pre-construction vehicles[1]	8		2	660		
Construction						
Workforce	50	220	2	9,950	33%	43%
Construction vehicles[2]	164		2	1,760		
Deliveries	20	8	20	825	86%	86%
Reclamation						
Workforce	4	16	2	1,282	33%	43%
Reclamation vehicles[3]	13		2	385		
Deliveries	2	4	4	165	86%	86%

Table Notes: 1. Pre-construction vehicles are anticipated to commute from PNM's equipment yard in Albuquerque.
2. Construction vehicles will be staged at or near each substation.
3. Reclamation vehicles may commute from PNM's equipment yard in Albuquerque or from the staging area at each substation.
4. Estimated local workforce during pre-construction, construction, and reclamation is 40% would commute from communities within a 60-minute drive time.

The equipment on-site would be dependent on the stage of development and may include pickup trucks, bucket trucks, heavy equipment, cranes, reel trucks, cable-pulling trailers, and splicing trailers. The specific timelines for the labor and equipment would be developed as the Project moves closer to construction. An estimate of the equipment needed for the transmission line is shown in Table 3-3.

Table 3-3: 345kV Transmission Line Equipment

Equipment	Quantity	Hours per Day	Days per Week	Estimated Duration (weeks)
Project Management/Inspection				
Truck – pickup	15	6	6	60
Project Supervision – Contractor				
Truck – pickup	10	8	6	60
Maintenance – Contractor				
Truck – pickup	1	6	6	60
Truck – flatbed (1-ton)	2	6	6	60
Truck – mechanics (2-ton)	5	8	6	60
Survey and Staking				
Truck – pickup	2	6	6	4
Truck – flatbed (1-ton)	2	6	6	4
Multi-purpose Yards				
Truck – pickup	1	4	6	56
Truck – flatbed (1-ton)	1	2	6	56
Truck – flatbed (2-ton)	1	2	6	56
Forklift (5-ton)	1	8	6	56
Forklift (10-ton)	1	8	6	56
Crane RT (20-ton)	1	2	6	56
Trailer – office	1	10	6	56
Generator – portable (office)	1	10	6	56
Access Road Maintenance				
Truck – pickup	1	2	6	56
Truck – flatbed (1-ton)	1	2	6	56
Truck – flatbed (2-ton)	1	4	6	56
Truck – water	1	6	6	56
Truck – fuel	1	4	6	56
Trailer – lowboy	2	6	6	56
Grader – road	1	8	6	56
Dozer – with blade	2	8	6	56
Foundations and Substations				
Truck – pickup	6	8	5	56
Truck – flatbed (1-ton)	6	4	5	56
Truck – flatbed (2-ton)	2	5	5	56
Truck – water	2	6	5	56
Truck – fuel	1	4	5	56
Truck – dump (10Y)	2	6	5	56
Truck – semi-trailer	2	8	5	56
Trailer – lowboy	1	6	5	56
Trailer – flatbed	2	6	5	56
Truck – flatbed with boom (5-ton)	1	6	5	56
Truck – concrete	4	6	5	56
Drill rig – digger	2	8	5	56

Equipment	Quantity	Hours per Day	Days per Week	Estimated Duration (weeks)
Drill rig – pneumatic wagon	1	6	5	56
Backhoe 7-9 tons – with bucket	1	4	5	56
Backhoe 10-20 tons – with bucket	2	6	5	20
Wheel loader (7-9 tons)	1	6	5	20
Vibratory roller (9-10 tons)	1	6	5	20
Dozer – with blade	2	4	5	56
Loader – with bucket	2	4	5	56
Crane RT (20-ton)	1	4	5	56
Forklift (5-ton)	1	4	5	56
Loader – bobcat	1	4	5	56
Generator – portable (5 horsepower)	2	4	5	56
Material Hauling				
Truck – flatbed (1-ton)	1	4	6	56
Truck – flatbed (2-ton)	1	4	6	56
Truck – semi-trailer	1	8	6	56
Truck – flatbed with boom (5-ton)	1	4	6	56
Trailer – flatbed	6	8	6	56
Forklift (10-ton)	1	4	6	56
Structure Installation – Conventional				
Truck – pickup	3	8	5	36
Truck – flatbed (1-ton)	6	4	5	36
Truck – flatbed (2-ton)	2	4	5	36
Crane RT (20-ton)	2	6	5	36
Crane RT (75-ton)	2	6	5	36
Crane (150- to 250-ton)	2	6	5	36
Generator – portable (5 horsepower)	2	2	5	36
Compressor - pneumatic	2	4	5	36
Wire Installation				
Truck – pickup	6	8	5	24
Truck – flatbed (1-ton)	10	6	5	24
Truck – flatbed (2-ton)	2	8	5	24
Truck – water	1	6	5	24
Truck – flatbed with boom (5-ton)	6	8	5	24
Truck – splicing	1	4	5	24
Truck – semi-trailer	3	8	5	24
Trailer – flatbed	4	4	5	24
Trailer – lowboy	3	4	5	24
Trailer – reel stand	12	4	5	24
Crane RT (35-ton)	3	2	5	24
Puller – triple drum	1	2	5	24
Puller – single drum	1	2	5	24
Puller – sock line	2	2	5	24

Equipment	Quantity	Hours per Day	Days per Week	Estimated Duration (weeks)
Tensioner – conductor	1	2	5	24
Tensioner – shield wire	1	2	5	24
Dozer – sagging	2	2	5	24
Dozer – with blade	2	2	5	24
Backhoe – with bucket	1	2	5	24
Drill rig – digger	1	2	5	24
Compressor – pneumatic	1	2	5	24
Generator – portable (5 horsepower)	2	2	5	24
Helicopter – pilot line (small)	1	8	5	24
Restoration				
Truck – pickup	3	6	6	8
Truck – flatbed (1-ton)	3	6	6	8
Truck – flatbed (2-ton)	1	4	6	8
Truck – water	1	6	8	8
Trailer – lowboy	1	6	6	8
Backhoe – with bucket	1	4	6	8
Loader – with bucket	1	4	6	8
Dozer – with blade	1	8	6	8
Tractor – 4-wheel drive with chisel and/or seeder	1	8	6	8

Trucks and construction vehicles would be serviced from off-site facilities. The use, storage, transport, and disposal of hazardous materials used in construction of the facility would be carried out in accordance with federal, state, and county regulations. No extremely hazardous substances (i.e., those governed pursuant to Title 40, Part 335 of the Code of Federal Regulations) are produced, used, stored, transported, or disposed of because of project construction. Material Safety Data Sheets for all applicable materials present on-site would be made readily available to on-site personnel.

Construction materials would be sorted on-site throughout construction and transported to appropriate waste management facilities. Recyclable materials would be separated from non-recyclable items and stored until they could be transported to a designated recycling facility. Wooden construction waste (such as wood from wood pallets) would be sold, recycled, or chipped and composted. Other compostable materials, such as vegetation, might also be composted off-site. Non-hazardous construction materials that cannot be reused or recycled would be disposed of at municipal county landfills. Hazardous waste and electronic waste would not be placed in a landfill but rather would be transported to a hazardous waste handling facility.

3.3 Construction Schedule

The expected construction duration is 15 months ending in 2029. PNM will continue to refine the design of the Project during the PRC review process. Final engineering surveys would determine the

exact locations of structures, access roads, and other features prior to the start of construction and would be included in the final POD. Multiple spans would be under construction at the same time and most construction activities (access, structures, substation expansion, and line stringing) would occur in the first 12 months.

Although the construction rate of progress would be reduced during winter, it is anticipated that construction would continue through the winter months in the lower-elevation areas of the Project, except during winter or summer storms. During storms construction would be suspended on some portions of the ROW during the peak winter months and construction resources would either be demobilized or shifted to other segments of the Project.

3.4 Pre-Construction Activities

Pedestrian surveys for cultural and biological resources were conducted as part of permitting efforts for these resources. The survey corridor for cultural and biological surveys is 300 feet (150 feet on either side of the centerline) and 450 foot (225-foot radius) at the inflection point on each route. Prior to construction, the ROW and temporary and permanent access for construction and maintenance will be surveyed and staked to locate the centerlines accurately.

3.4.1 Storm Water Pollution Prevention Plan

A stormwater pollution prevention plan (SWPPP) will be required for the Project. This permit is required for construction activities that disturb one or more acres. The SWPPP is more than a sediment and erosion control plan. It will describe all the construction sites operator's activities to prevent contamination, control sedimentation and erosion, take good housekeeping measures, and comply with the requirements of the Clean Water Act. The SWPPP will contain several methods for dust control, but the contractor will have other methods for dust suppression if needed.

3.4.2 Environmental and Safety Training

Prior to gaining access to the ROW, all construction and maintenance workers will be required to participate in an environmental education program. The training will include the SWPPP. This program will be presented by PNM prior to the start of construction. At a minimum, the program will include the following topics: biological, cultural, paleontological, and other environmental requirements and protection measures, including signage, fencing (access/avoidance), PNM notification for spills, and cultural resource management discovery. In addition, the construction contractor(s) will be responsible for providing safety training, as required. Specific health and safety information will be included in the final POD, including a description of the safety requirements specifically associated with construction activities (e.g. construction of access roads, blasting, fire protection).

All construction, operation, and maintenance activities will be required to comply with OSHA regulations. PNM will be notified by the construction contractor(s) of any accidents that occur during construction of the Project. Notification procedures for emergencies will be described in the

final POD in the Emergency Preparedness and Response Plan Guidelines, as well as the Pocket Guide carried by personnel.

3.4.3 Centerline Surveys

An on-ground survey will be completed to accurately locate the centerline and edges of the ROW and permanent access for construction and maintenance. The exact centerlines will be determined to implement design criteria and satisfy the mitigation measures identified through the biological and cultural resources studies. Before construction surveying begins, required permits to survey state lands or rights of entry for privately owned land will be obtained. Construction surveys will consist of transmission line and access trail centerline locations and ROW boundaries where necessary. Structure locations will be flagged and staked, and the proposed centerlines will be flagged and staked where needed.

3.4.4 Geotechnical Investigation

Geotechnical investigation will be completed to collect information regarding subsurface stability for transmission line structures and substations. Information from geotechnical investigations will be used in the final design of each transmission tower structure and foundation. The geotechnical investigation will consist of the drilling and sampling of soils to a typical depth of 30 feet (or refusal) below the existing ground surface. The boreholes will have a diameter of approximately 8 inches and will be backfilled with auger cuttings and on-site soils. Surface disturbance will be limited to the actual tracks left by the drill rig and support vehicles within the work areas.

3.4.5 Clearing and Grading

The overland drive-and-crush method would primarily be used to prepare the work site in areas that are relatively level and that have low-growing grasses and shrubs. This method involves crushing but not removing vegetation. In similarly level areas where the vegetation is dense, aboveground cutting methods would be used with the intent of leaving the root crown intact.

Prior to grading, the staging areas and substation expansion areas would be cleared and grubbed of vegetation. Materials suitable for compaction would be stored in stockpiles at designated locations using erosion prevention methods. If soil is to be excavated or graded in areas of temporary disturbance, topsoil will be salvaged and redistributed prior to reclamation.

Vegetation in temporary work areas will be trampled but not cleared or graded if not necessary to do so. The soil would be compacted but only excavated for the foundations as described in Table 3-1. Excess soil from foundation hole excavations would be placed around the base of each structure to provide positive drainage away from the structure. When grading must occur to create a safe, level working space for structure installation, the topsoil would be segregated and then spread back over the site to provide a suitable seed bed for reclamation efforts.

3.4.6 Water Use

Major water uses during transmission and substation construction is for concrete structure foundations, dust suppression and soil compaction. Construction contractors must obtain the necessary water from municipal or commercial sources, previously allocated supplies, or through temporary agreements with landowners who possess existing water rights. Written approval is required for all procured water, specifying usage amount. The amount of water required per mile for dust suppression within the transmission line corridor is estimated to be 23,104 gallons per mile. Typical water application rate for dust suppression is 4,000 gallons per acre per pass. PNM assumes one pass per day during grading and surface preparation at each substation would be necessary.

Table 3-4 describes the estimated water use during construction for soil compaction, dust suppression on unsurfaced access roads, vehicle washing, and other purposes during the 15-month construction timeframe. Total dust suppression water use for Alternative A is approximately 68.8-acre feet. Total dust suppression water use for Alternative B.1 is approximately 65.0-acre feet and for Alternative B.2 is approximately 64.6-acre feet. Total water use for the three substations is approximately 12.2 acre-feet including relocating the earthen berm on the west side of the Rio Puerco substation.

Table 3-4: Estimated Construction Water Use for Dust Suppression

Project Component	Million Gallons	Acre Feet
Alternative A transmission line, access roads and staging areas	22.41	68.8
Alternative B.1 transmission line, access roads and staging areas	21.18	65.0
Alternative B.2 transmission line, access roads and staging areas	21.06	64.6
Substations and berm relocation	3.98	12.2

3.4.7 Staging Areas

Construction personnel would report to this location at the beginning of each workday. Following the assignment of daily duties, the contractors would be dispatched to their respective work areas along this transmission line via approved vehicles. The staging areas would be used mostly between 7 a.m. and 4 p.m. however, personnel and deliveries may access the yard outside of these hours.

Staging areas would serve as an equipment maintenance area for a higher level of maintenance beyond what a mobile crew can provide (oil changes, fluid replacements, tire changes, etc.). The development of the staging area would follow the following process:

1. Staging area would be staked.

2. Contractor would install mitigation measures and any measures required by construction permits or regulatory agencies.
3. Contractor would grade the site using equipment such as a bulldozer and grader to create a level site, with designated areas for field offices.
4. Portable office trailers would be delivered and installed at the site.
5. Temporary overhead power would be run to the site for exterior lighting and for the portable office trailers.
6. Fencing would be installed at access points to control access to the site.

After construction is complete, all equipment would be removed, and the staging areas would be reclaimed as described in the Site Restoration and Revegetation Plan developed for the final POD.

3.5 Substations

Substation construction would include site grading, property and substation fencing, and installation of electrical facilities. The site would be excavated and graded to accommodate the required construction and permanent facility equipment, and electrical structures. Area lighting would be placed near major electrical equipment and oriented lights would be placed near entrances and the substation gate for night entry and would remain on throughout the night. The typical construction sequence for substations is described below.

- Earth-moving equipment (dump trucks, water trucks, graders, backhoes, and dozers) would be used to grade substation expansion areas. Dump trucks would be used to bring in fill materials and haul away unused excavation materials. The expansion area for the substation would be graded flat with a drainage slope. Site design may include additional drainage features and/or stormwater retention ponds. Water trucks would be used to control dust during site grading and construction.

- Once the site is level, a security and access-control fence or wall would be erected around the site.

- Foundations would be excavated and footings/piers poured. One of two types of foundation, drilled piers or slabs, would be used. Excavation of foundations would use either a large drill rig or backhoe, depending on the size of the site. Reinforcing steel and/or equipment anchor bolts would be placed in the excavation along with concrete forms prior to the pouring of concrete. Excavation material not suitable for reuse would be hauled away and properly disposed of.

- Control buildings would be constructed of either masonry block or pre-engineered steel, and construction would be either concurrent with the foundations (masonry block) or after foundations (pre-engineered steel).

- Poured foundations would be trenched to allow for installation of conduit, grounding conductors, and conductors via cable trench. Once conductors are installed and

connections made, the trenches would be backfilled and in some cases a sand bedding material would be in-filled prior to concrete backfilling.

- Equipment (circuit breakers, disconnect switches, transformers, reactors, capacitors, series capacitors, surge arrestors and instrument transformers, etc.) would be set on the completed foundations using cranes and man-lifts as needed. A rigid tubular bus would be used for the main conductors and flexible cable connections made to the equipment. All high-voltage conductors would be supported by insulators.

- Control and protection panels would be installed in the control building and connected to equipment in the yard using control and power cables installed in the cable trenches and conduits. The entire site would be finished with a crushed-rock surfacing material, spread, and compacted as necessary.

- Once construction is complete, all equipment and protective and control systems would be tested prior to start-up and energizing.

- A grounding system is required in each substation for detection of faults and for personnel safety. The grounding system typically consists of buried copper conductor arranged in a grid system and driven ground rods, typically 8 to 10 feet long. The ground rods and any equipment and structures are connected to the grounding conductor grid. The amount of conductor and length and number of ground rods required are calculated based on fault current and soil characteristics.

- Security fencing that is either chain link or block walls, are installed around the entire perimeter of each new or expanded substation to protect sensitive equipment and prevent accidental contact with energized conductors. Locked gates would be installed at appropriate locations for authorized vehicle and personnel access.

- Foundations for supporting structures are of two types: spread footings or drilled piers. Spread footings are placed by excavating the foundation area, placing forms and reinforced-steel and anchor bolts, and pouring concrete into the forms. After the foundation has been poured, the forms would be removed, and the surface of the foundation dressed. Pier foundations are placed in a hole generally made by a truck mounted auger. Reinforced-steel and anchor bolts are placed into the hole using a truck-mounted crane. After the foundation has been poured, the forms would be removed, the excavation would be backfilled, and the surface of the foundation dressed.

- Equipment foundations for circuit breakers and transformers would be slab-on-grade type. These foundations are placed by excavating the foundation area; placing forms, reinforced steel, and anchor bolts (if required); and placing concrete into the forms. After the foundations have been poured, the forms would be removed, and the surface of the foundation dressed. Concrete would be hauled to the site in concrete trucks. Excavated material would be spread at the site or disposed of in accordance with local ordinances.

- Structures and equipment would be attached to the foundations by means of threaded anchor bolts embedded in the concrete. Some equipment such as transformers and reactors may not require anchor bolts.

3.6 Transmission Line

The transmission line would be constructed with crews working continuously along the transmission line ROW. Construction includes the following activities:

- Access road construction
- Clearing and grading of structure pads
- Excavation and foundation installation
- Structure erection
- Conductor installation
- Clean-up and site reclamation

3.6.1 Structures Installation and Grounding

The structure sites will have a temporary 150-foot by 200-foot temporary work area and permanent structure area of 6 feet by 40 feet (within the proposed 150-foot ROW). The temporary work areas will be minimized to the maximum extent. Dead end and angle structure areas will have a 150 foot by 200-foot (mostly within the proposed 150-foot ROW) temporary work area for construction. Vegetation in these temporary work areas will be trampled but not cleared.

Vertical excavations for foundations will be made with power drilling equipment. Where soils permit, a vehicle-mounted power auger or backhoe will be used. H-frames structures will require that each leg of the H-frame be directly embedded or supported on drilled concrete piers. Holes will be drilled in the ground using a truck- or track-mounted auger. For poles that will be directly embedded, the pole is placed in the hole after excavation and native, select, flowable fill, or concrete will be used to fill the annulus around the perimeter of the hole. If backfill is imported, material will be obtained from approved weed-free commercial sources or from areas free of noxious weed species. Similarly, where solid rock is encountered, blasting may be required.

Foundation holes left open or unguarded will be covered to protect the public and wildlife. All safeguards associated with using explosives (e.g., blasting mats) will be employed. Blasting activities will be coordinated with the appropriate agencies, particularly for purposes of safety and protection of sensitive areas and biological resources. In extremely sandy areas, water or a gelling agent will be used to stabilize the soil before excavation. Direct embedded H-frame tangent structures would be predominantly used. Poles would be directly embedded into excavated holes at a depth based on results of geotechnical studies. If soils are determined to be unsuitable for direct embedment, a drilled pier may be required.

In areas where H-frame structures are being used spoils may require spreading beyond the temporary work area to maintain grades and runoff, and to facilitate restoration. In these areas, the

topsoil will be salvaged and set aside to be placed over the subsoil material during restoration. These locations will be mitigated on a case-by-case basis. The foundation excavation and installation require power augers or drills, cranes, material trucks, and ready-mix concrete trucks to be able to access work areas for the foundations.

Grounding rods will be installed next to the structure foundations and will be bonded to the structure. H-frame and steel-pole structure will typically have two grounds installed per structure. After the ground rods have been installed, the grounding will be tested to determine the resistance to ground.

3.6.2 Structure Erection

Structures would be brought to the site on tractor-trailer flatbeds and offloaded to the temporary staging areas within the substations or in the proposed 150-foot-wide ROW. Steel structure sections may be delivered to structure locations where they will be fastened together to form a complete structure and hoisted into place by a crane. Concrete for use in constructing foundations will be dispensed from concrete mixer trucks and best management practices will be employed to minimize impacts from spilled concrete. After line construction, leveled structure pads will be stabilized to reduce erosion, but will remain in place.

3.6.3 Conductors, Overhead Wire, and Optical Ground Wire Installation

Once poles are erected, the conductor will be strung generally using a wire truck, crane and/or helicopter, splicing rig and puller from conductor pull and tension sites at the end of the power line interconnection alignment moving from one pole to the next. Each conductor will be pulled into place at a pre-calculated sag and then tension-clamped to the end of each insulator using sag cat and static truck/tensioner equipment. The sheaves and vibration dampers and accessories will be removed once installation is complete.

Prior to pulling and tensioning, workers would install temporary guard structures where the line crosses public roadways, existing transmission lines or other obstacles to prevent sock line or conductors from dropping onto the road or object. Guard structures consist of H-frame wood pole structures temporarily placed on either side of the obstacle and would follow the same procedures for installation as described for the structures above. Equipment for erecting guard structures will include augers, line trucks, pole trailers, and small cranes. The specific locations and type of guard structures to be used would be determined in coordination with the construction contractor(s) during final design.

Sites for tensioning and pulling equipment typically measure approximately 150 feet-wide by 400 feet-long. The size will depend upon the manufacturer’s recommendations and the height of the poles. The sites will be about every 3 to 5 miles. However, sites for tensioning and pulling equipment on either side of a large angle structure may be larger. At turning points with angles greater than 20 degrees, additional temporary space would be required outside the permanent ROW for pulling and tensioning sites. Sites for tensioning equipment and pulling equipment will be identified in the final POD.

Reels of conductor and shield wire would be delivered to the ROW and loaded onto vehicle-mounted pulling machines. Heavy vehicles would be used to pull the shield wire and conductor bundles into place with powered pulling equipment at one end and powered braking or tensioning equipment at the other end. A pilot wire would be threaded through pulleys suspended from the structure insulators. The pilot wire would typically be flown into place using a helicopter. The pilot wire would then be attached to a stronger pulling wire, which would be used to thread the shield wire and conductor bundles into place without contacting the ground. Conductor splicing would occur during the conductor installation process and entails the joining of two conductor ends by using implosion sleeves or clamps. The splicing pads measure approximately 100 by 100 feet and would be used every 9,000 feet (approximately 1.7 miles) along the transmission line.

OPGW and conductors will be strung using powered pulling equipment at one end and powered braking or tensioning equipment at the other end of a conductor segment. Tensioners, pullers, line trucks, wire trailers, dozers, pickups, and tractors needed for stringing and anchoring the ground wire or conductor will be located at these sites.

3.6.4 Helicopter Construction

Constructing portions of the project using a helicopter may be the optimal construction method for specific activities (e.g., stringing the transmission conductor). Temporary landing zones would be located on private property or near the transmission line alignment. The helicopter(s) would be staged and refueled at local airports near the transmission line alignment. A small helicopter could be used to install pulling lines (called sock lines) to facilitate installing conductors and overhead ground wires. The specific types of helicopters used will be based upon the weight of the load being transported and the altitude of the flight path.

Prior to helicopter operations, the construction contractor will notify the appropriate land management agencies of proposed flight plans. Prior to helicopter operations, the contractor in charge will notify the appropriate land management agencies of proposed closure areas. Coordination would also be required with Double Eagle Airport, City of Albuquerque Aviation, and Kirtland Air Force Base.

3.7 Reclamation

Final cleanup and reclamation would occur immediately following construction. Cleaning up during and after construction includes removing construction debris. Waste materials would be removed and recycled or disposed of at appropriate facilities. After construction is complete, temporary work areas would be graded to the approximate original contour, and the area would be revegetated with approved seed mixtures. Specific details of reclamation activities would be described in the final POD.

Interim reclamation may be necessary to restore areas disturbed during construction. Interim reclamation includes maintaining active topsoil, establishing erosion control measures, noxious and invasive weed control, and minimizing vegetation and soil loss. All seed would meet all the

requirements of the Federal Seed Act and applicable New Mexico laws regarding seeds and noxious weeds. Only seed certified as “noxious weed free” would be used.

Reclamation would follow these guidelines to prepare ground surfaces in disturbed areas:

1. The surface would be cleared of foreign materials, such as garbage, paper, and other materials, but all rocks, limbs, or minor woody debris would be left in place. The Company or its contractor would prepare the seedbed immediately prior to seeding.

2. Under favorable soil-moisture conditions, equipment such as a drill or disk would be used to roughen the topsoil layer to create the desired surface texture before the seed is applied. Dirt clods and chiseled voids resulting from the roughening process increase the surface area for water collection and provide micro-sites for seed establishment.

3. Ripping, disking, or harrowing would be performed parallel to surface contours. In areas that already have the desired soil characteristics; the seedbed does not need to be prepared. Other seeding methods, such as drilling, hydroseeding, or aerial application, may be used depending on the area that requires reclamation and site conditions.

Mulch would be added if necessary. An area would not be seeded when wind velocities prohibit the seed mix from being applied evenly. If the seed does not germinate and establishes to an agreed-upon level of vegetation cover (e.g., consistent with adjacent site conditions) after two growing seasons, the area where adequate vegetation cover has not established would be reseeded.

4.0 Operation and Maintenance

4.1 Operations and Maintenance Activities

Regular ground and aerial inspections would be performed in accordance with the PNM's established policies and procedures for transmission line inspection and maintenance. PNM's transmission lines and substations would be inspected for corrosion, equipment misalignment, loose fittings, vandalism, and other mechanical problems. The need for vegetation management would also be determined during inspection patrols. Routine operation and maintenance activities are performed from existing access roads with no surface disturbance. Approximate miles of access roads that would be traversed for each alternative are listed in Table 4-1. Conductors could require restringing to repair damages.

Maintenance would occur as needed and could include activities such as repairing or replacing conductors, washing or replacing insulators, repairing or replacing other hardware components, repairing or replacing poles and towers, and vegetation management. Vegetation management will follow PNM's Integrated Vegetation Management to maintain the ROW. PNM will comply with state, county, and local requirements to manage noxious weeds within the ROW, along access roads, and at temporary use areas.

Table 4-1: Operation and Maintenance Access Roads

Surface Type	Miles	Total
Alternative A Operation		
Paved	50.3	63.6
Gravel	10.0	
Unsurfaced	3.3	
Alternative B.1 Operation		
Paved	44.0	57.2
Gravel	10.0	
Unsurfaced	3.3	
Alternative B.2 Operation		
Paved	44.0	57.0
Gravel	10.0	
Unsurfaced	3.1	

Vegetation management practices along the ROW would be in accordance with PNM's clearing specifications and vegetation management plans. Many of the transmission lines traverse arid areas characterized by low-growing vegetation. The wire-border zone method to controlling vegetation is an approach used by PNM on transmission and distribution lines. The wire zone is the linear area along the ROW under the wires and extending 10 feet outside of the outermost phase conductor.

Vegetation in the wire zone would be maintained to consist of native grasses, forbs, and low-growing shrubs that remain under 5 feet tall at maturity. The border zone is the linear area along each side of the ROW extending from the wire zone to the edge of the ROW.

4.2 Emergency Response

System operations are remotely managed and monitored from control rooms at PNM's control center in Albuquerque, New Mexico. Electrical outages or variations from normal operating protocols would be sensed and reported at these operation centers. Also, the substations are equipped with remote monitoring, proximity alarms, and in some cases video surveillance. When the control room detects an incident, dispatchers notify the operations staff responsible in the area(s) affected and crews and equipment would be organized and dispatched to respond to the incident.

The implementation of routine operation and maintenance activities on powerlines would minimize the need for most emergency repairs. The equipment necessary to accomplish emergency repairs is similar to the equipment used to conduct routine maintenance. Emergency maintenance may be required to repair damage from natural hazards, fires, or human actions affecting a line. Such work is required to eliminate a safety hazard, prevent imminent damage to the powerline, or restore service if there is an outage.

5.0 Decommissioning and Restoration

The operational lifespan of the Project is anticipated to be 60 years as determined by electrical demand, maintenance requirements, and the expected life of facilities and components. At that time, the continued feasibility of the Project and the integrity of structures associated with the Project will be evaluated. If the Project is decommissioned after this 60-year period, Project equipment will be dismantled and removed from the site, and disturbed land associated with the Project will be reclaimed. The Project's decommissioning has the following goals:

- Remove aboveground structures unless converted to other uses.
- Remove the underground equipment unless it is determined that it is preferable to abandon them in place to avoid further impacts.
- Restore grades in the disturbed areas to match the natural gradients.
- Reestablish native vegetation in the disturbed areas, depending on the local climatic conditions at the time of decommissioning; and
- Conform to applicable laws, ordinances, regulations, and standards and local/regional plans.

5.1 Pre-decommissioning Activities

Pre-decommissioning activities consist of preparing the site area for dismantling and removal of transmission line structures These activities include review of the ROW to reduce potential personnel and environmental exposure and to facilitate decommissioning. If found, hazardous material and containers would be collected for off-site disposal in compliance with federal, state, and local requirements and consistent with related project management plans.

Prior to decommissioning, environmental records would be reviewed to determine if additional surveys are needed. Sensitive cultural and biological resources potentially impacted by decommissioning activities would be avoided to the extent practicable through flagging or temporary fencing. If sensitive resources cannot be avoided, decommissioning could employ mitigation measures required during construction, including a cultural resource monitoring plan.

5.2 Decommissioning Activities

If the project is decommissioned, materials that can be reused or recycled will be hauled away from the site and sold. Materials that cannot be reused or recycled will be dismantled and hauled to the nearest approved landfill. Hazardous materials that cannot be reused or recycled will be disposed of at approved facilities.

PNM will remove foundations to below ground surface, restore contours over the foundations to approximate pre-construction conditions to the maximum extent possible. During these reclamation operations, it is anticipated that fugitive dust abatement measures comparable to

those applied during construction will be implemented. Conductors and tower steel will be sold for reuse or recycling.

Upon consultation with NMSLO, Bernalillo and Sandoval counties, City of Albuquerque and City of Rio Rancho, post-Project topography may be minimally graded to match the natural gradient to the extent practical, and disturbance areas reclaimed to the extent practical.

Although various types of decommissioning/demolition equipment would be used to dismantle each type of structure or piece of equipment, decommissioning and dismantling would proceed according to the following general staging process:

1. Assess existing site conditions, survey the site grounds, and prepare the site for demolition.
2. Dismantle and remove aboveground structures.
3. Remove foundations consistent with applicable laws, ordinances, regulations, and standards.
4. Contour and reclaim the site and roads used only for the Project in accordance with applicable laws, ordinances, regulations, and standards, to the extent feasible, while disturbing as little of the other site areas as feasible.

Because the conditions that would affect the decommissioning decision and overall goals for reclamation are uncertain, the Decommissioning Plan would be reviewed by the applicable regulatory agencies 12 months prior to the planned permanent closure, and a final decommissioning and reclamation plan would be prepared. The activities and processes described in this Section and Section3.7 would be updated and incorporated.

6.0 References

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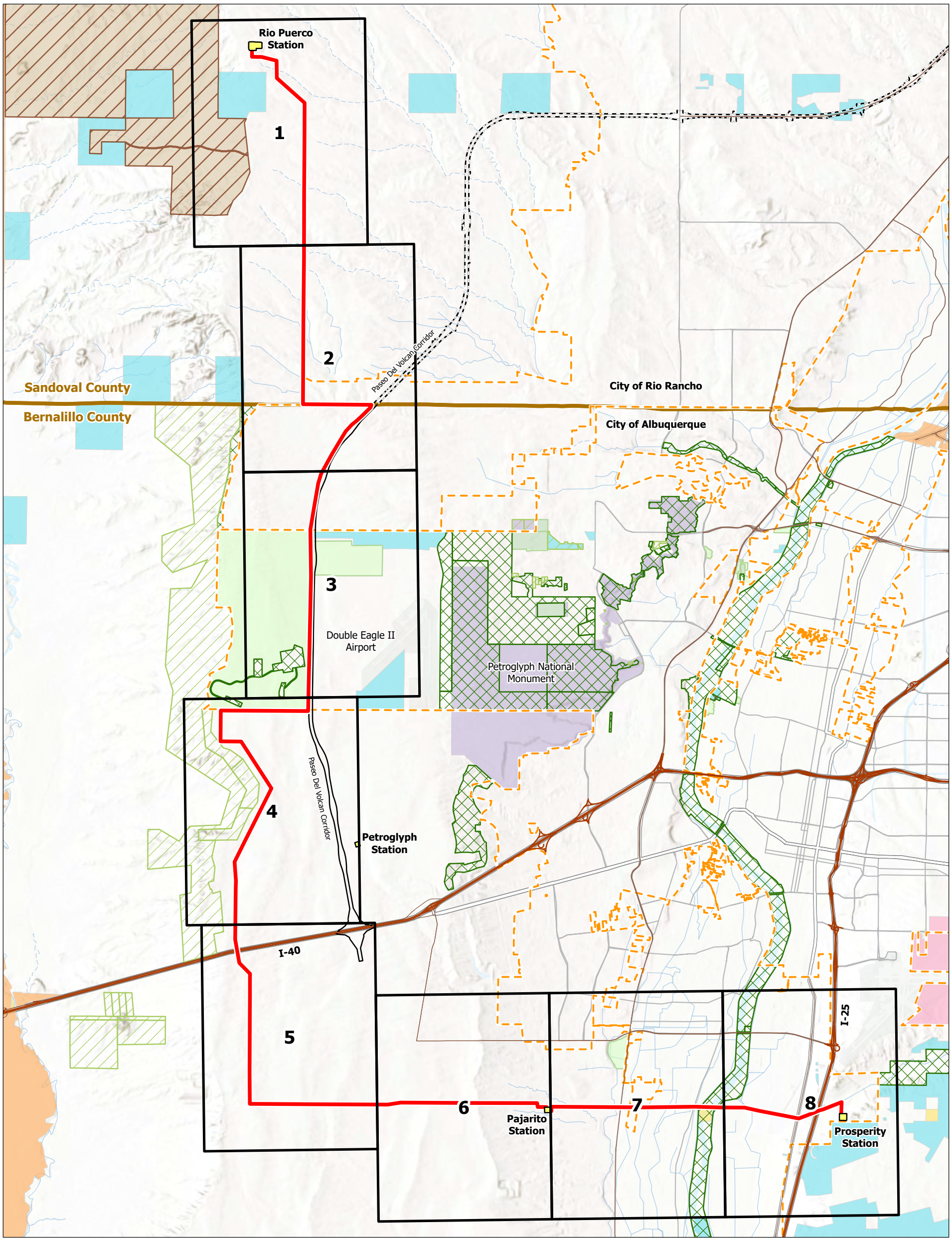
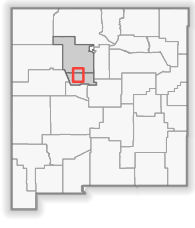
Appendix A – Map Supplement

Maps of Alternatives





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Credits: PNM, BMcD, NMDOT, BLM, City of Albuquerque, Esri Basemap

Legend

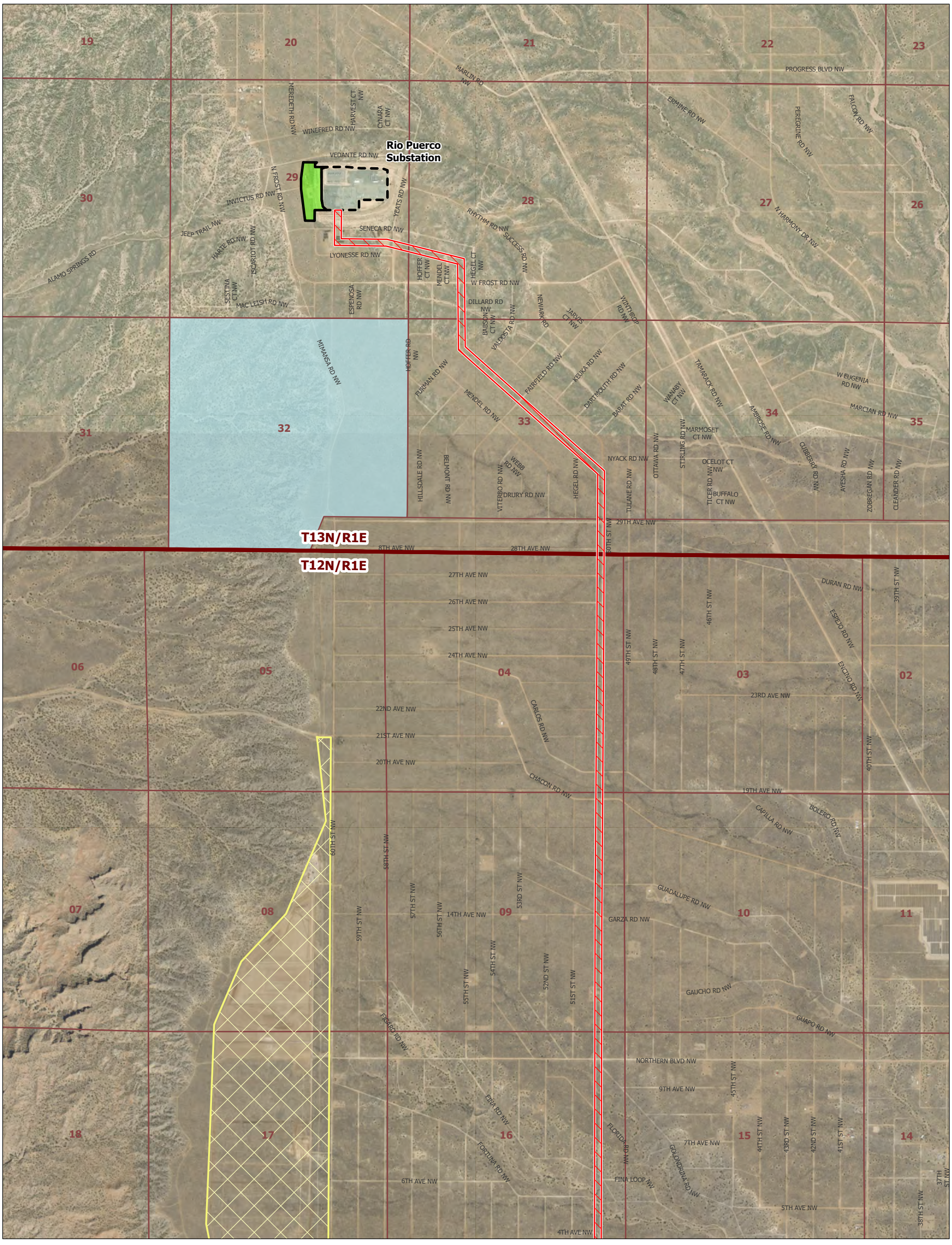
- PNM Station
- Alternative A
- Open Space
  - Open To Public
  - Closed To Public
  - Priority Acquisitions
- Interstates
- Other Roads
- DOT ROW
- Future DOT ROW
- NM County
- Incorporated Places
- Santa Ana Pueblo
- Bureau of Land Management
- Dept. of Defense
- National Park Service
- Private
- State
- Tribal

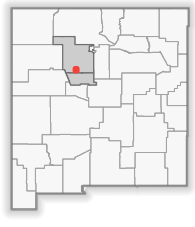
N

0 0.5 1 2
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative A - Index Map





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Legend

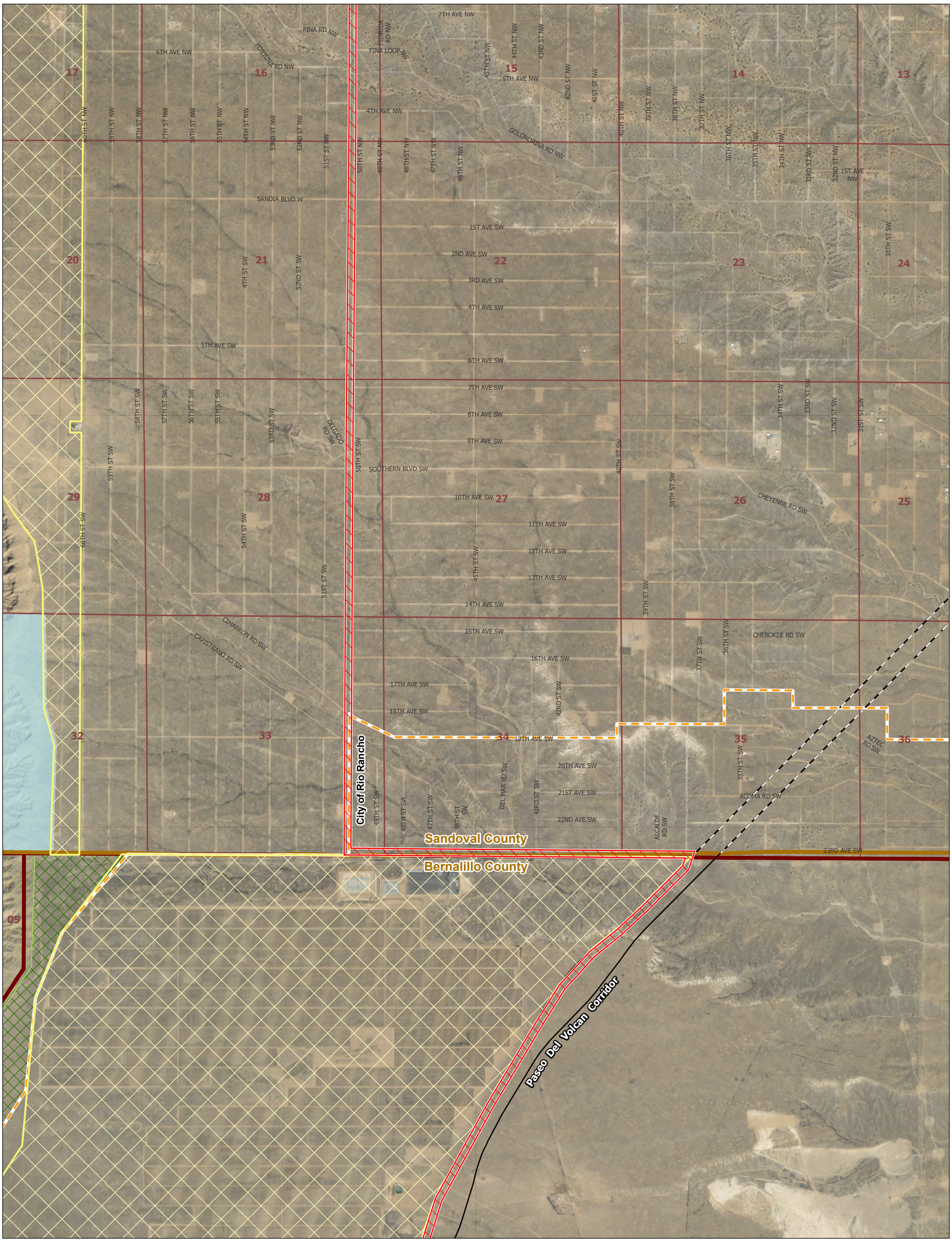
- PNM Station (fenceline)
- Substation Expansion
- Alternative A ROW
- Solar Facility
- NM County
- Santa Ana Pueblo
- Private
- State
- PLSS Township
- PLSS Section

N

0 0.25 0.5
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative A - Map Book



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Legend

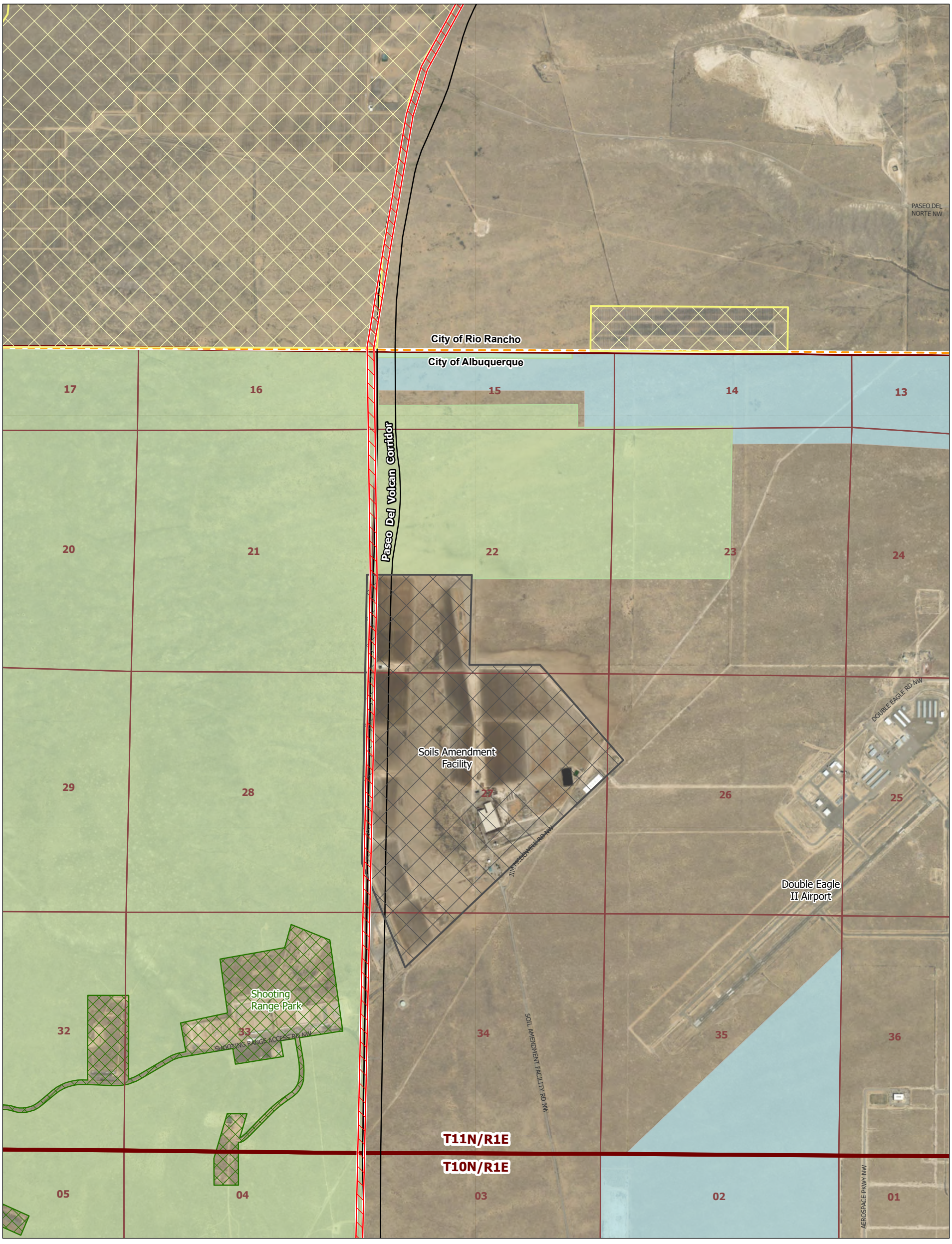
- Alternative A ROW
- Solar Facility
- Open Space
- Open To Public
- Priority Acquisitions
- DOT ROW
- Future DOT ROW
- NM County
- Incorporated Places
- Private
- State
- PLSS Township
- PLSS Section

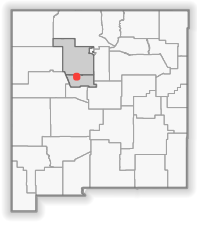
N

0 0.25 0.5
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative A - Map Book





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Legend

- Alternative A ROW
- Solar Facility
- Soils Amendment Facility
- Open Space
  - Open To Public
  - Closed To Public
- DOT ROW
- NM County
- Incorporated Places
- Private
- State
- PLSS Township
- PLSS Section

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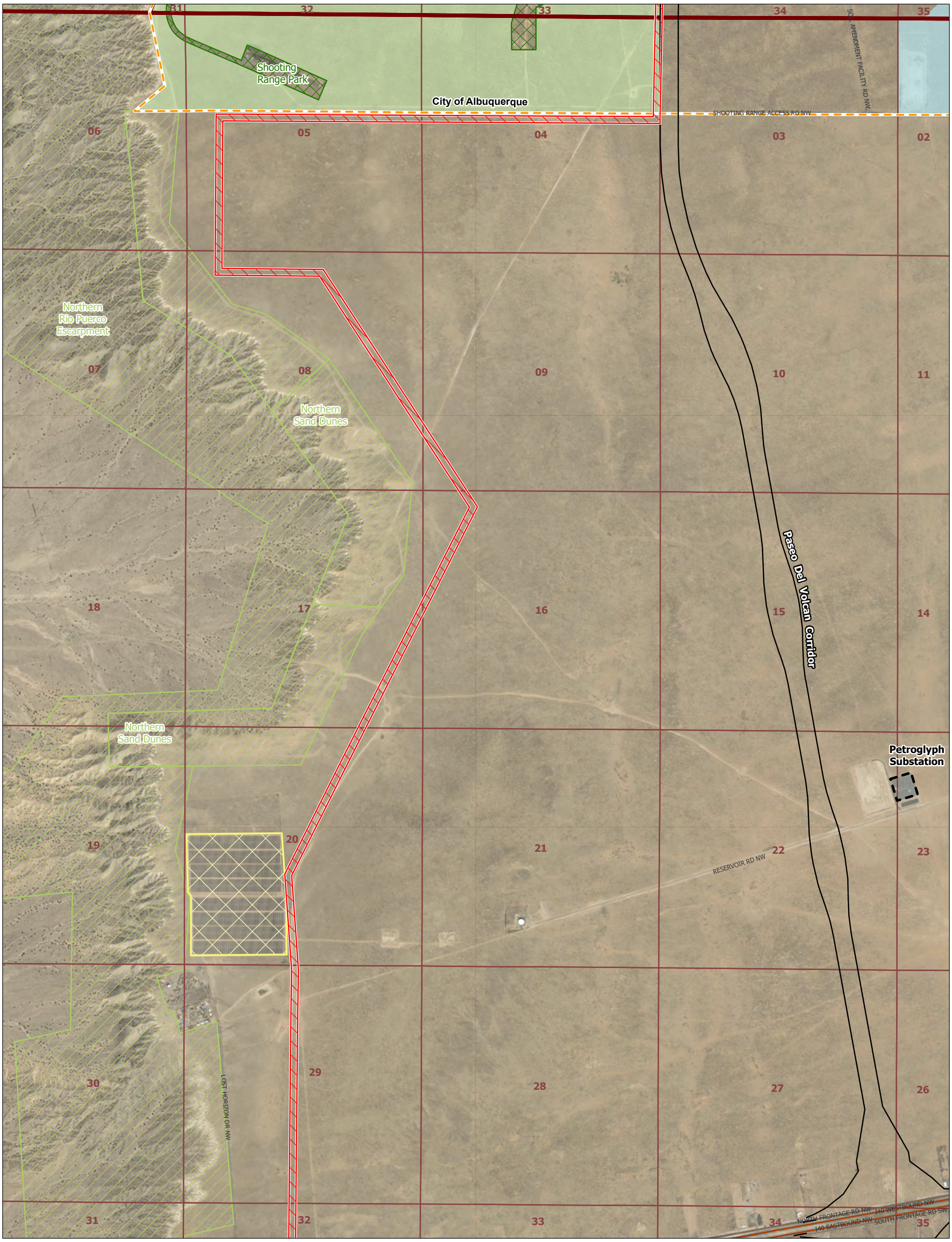
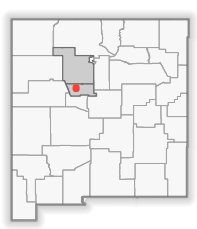
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative A - Map Book





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Legend

- PNM Station (fenceline)
- Alternative A ROW
- Solar Facility
- Open Space
  - Open To Public
  - Closed To Public
  - Priority Acquisitions
- Interstates
- Other Roads
- DOT ROW
- NM County
- Incorporated Places
- Private
- State
- PLSS Township
- PLSS Section

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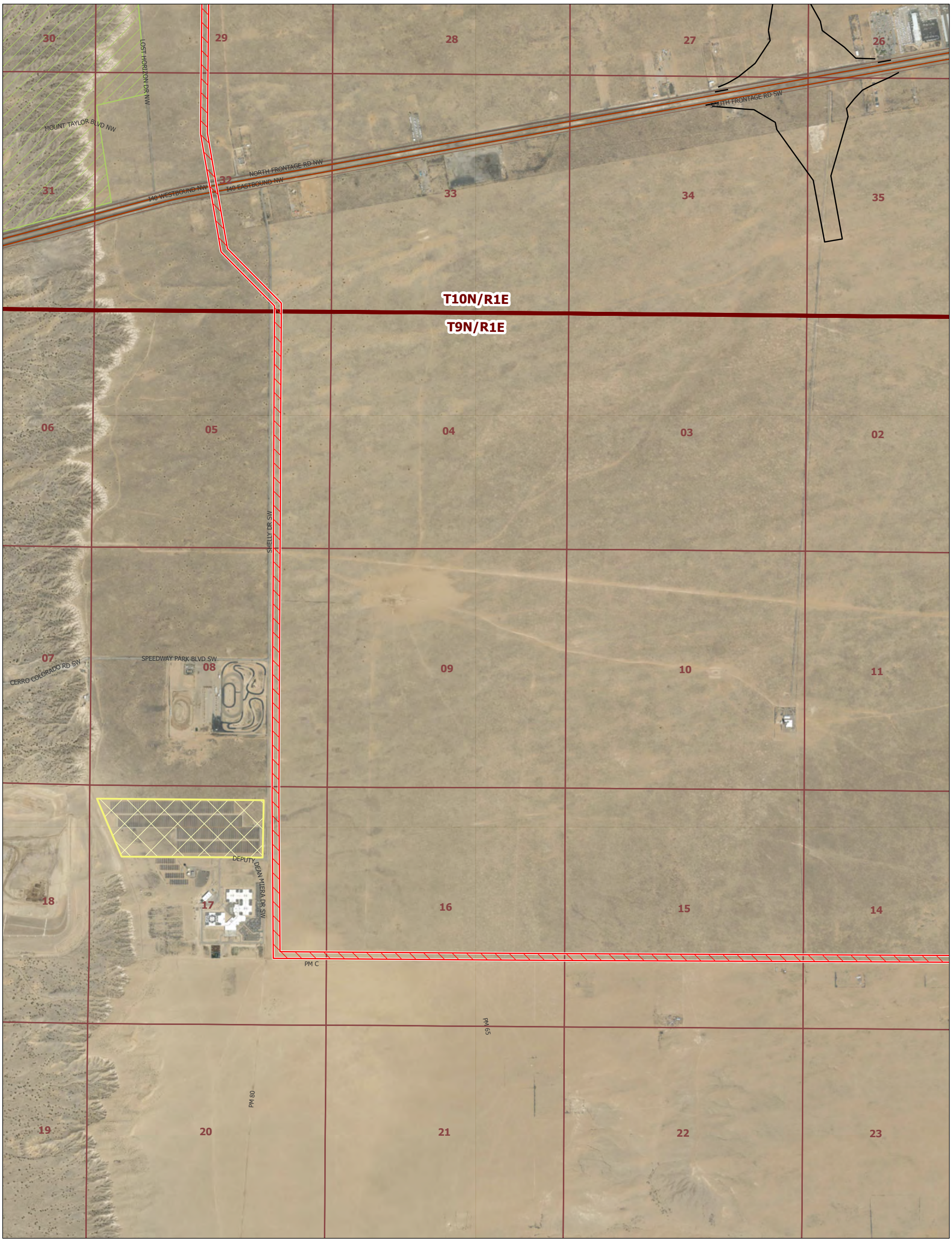
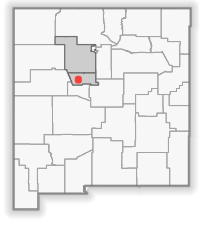
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative A - Map Book





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Legend

- Alternative A ROW
- Solar Facility
- Priority Acquisitions
- Interstates
- Other Roads
- DOT ROW
- NM County
- Private
- PLSS Township
- PLSS Section

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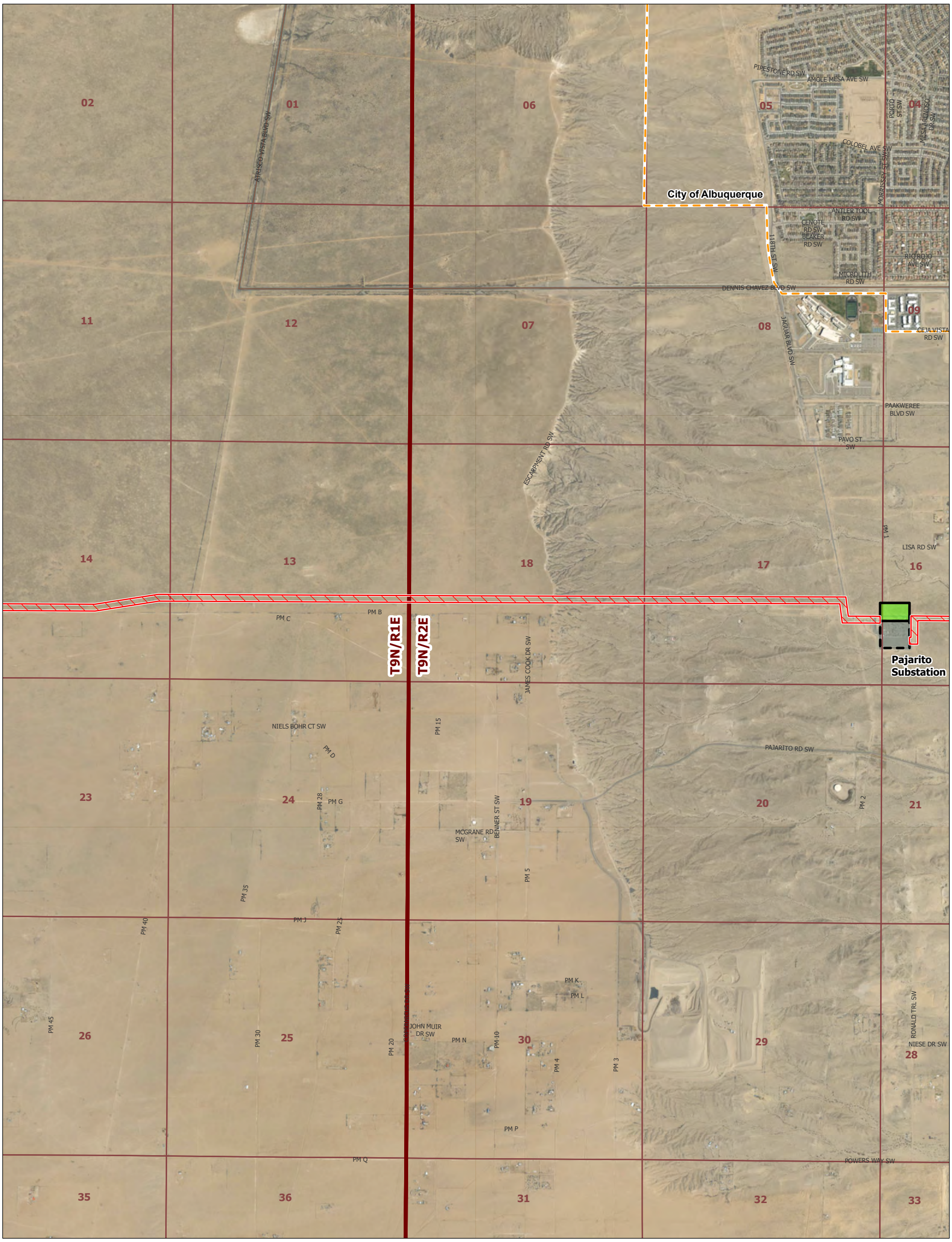
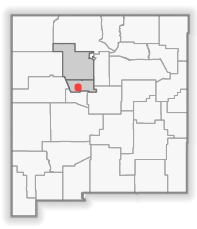
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative A - Map Book





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Legend

- PNM Station (fenceline)
- Substation Expansion
- Alternative A ROW
- Other Roads
- NM County
- Incorporated Places
- Private
- PLSS Township
- PLSS Section

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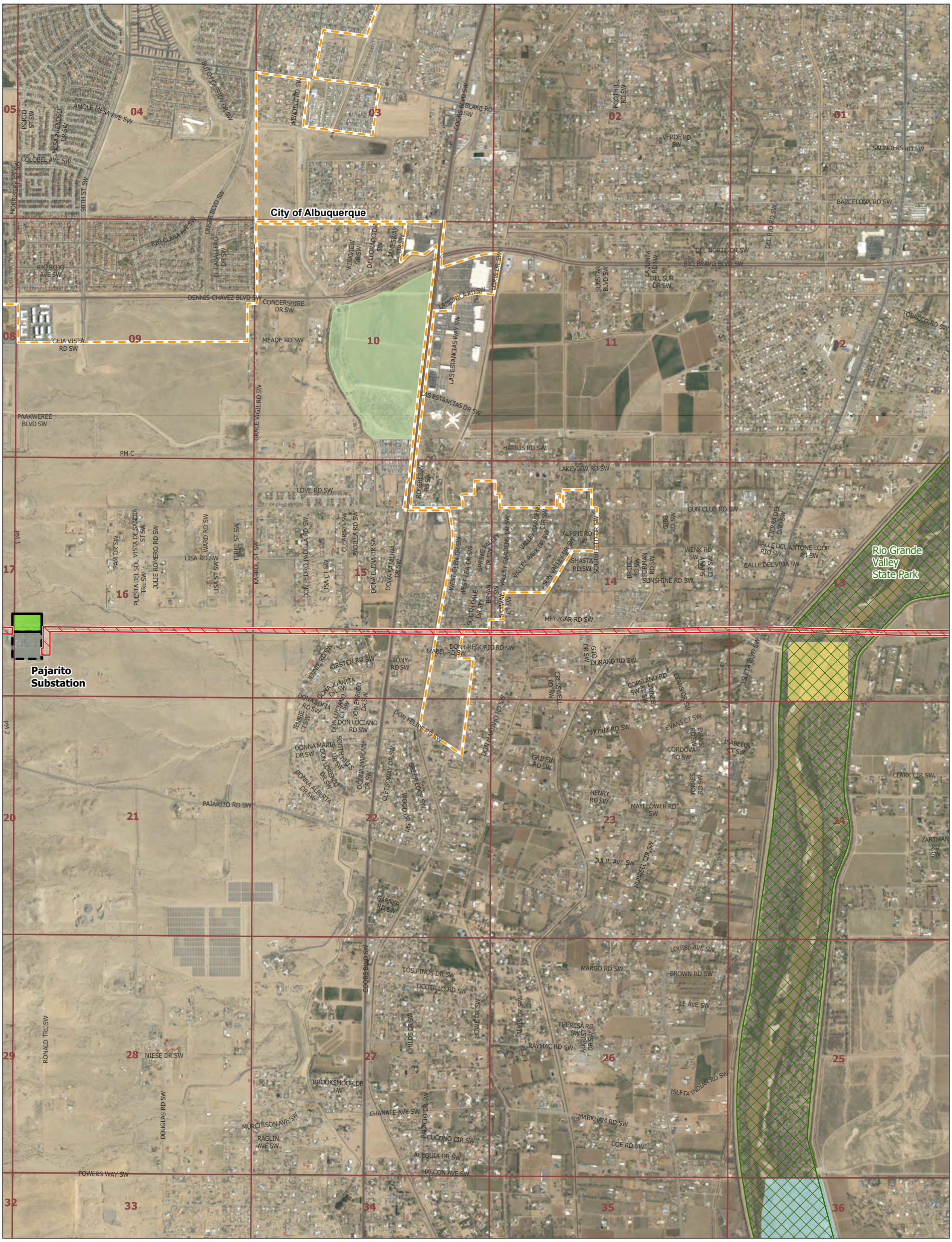
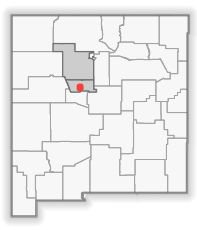
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative A - Map Book





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Legend

- PNM Station (fenceline)
- Substation Expansion
- Alternative A ROW
- Open Space
  - Open To Public
  - Closed To Public
- Other Roads
- NM County
- Incorporated Places
- Bureau of Land Management
- Private
- State
- PLSS Township
- PLSS Section

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Legend

- PNM Station (fenceline)
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- Open Space
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- Interstates
- Other Roads
- NM County
- Incorporated Places
- Dept. of Defense
- Private
- State
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- PLSS Section

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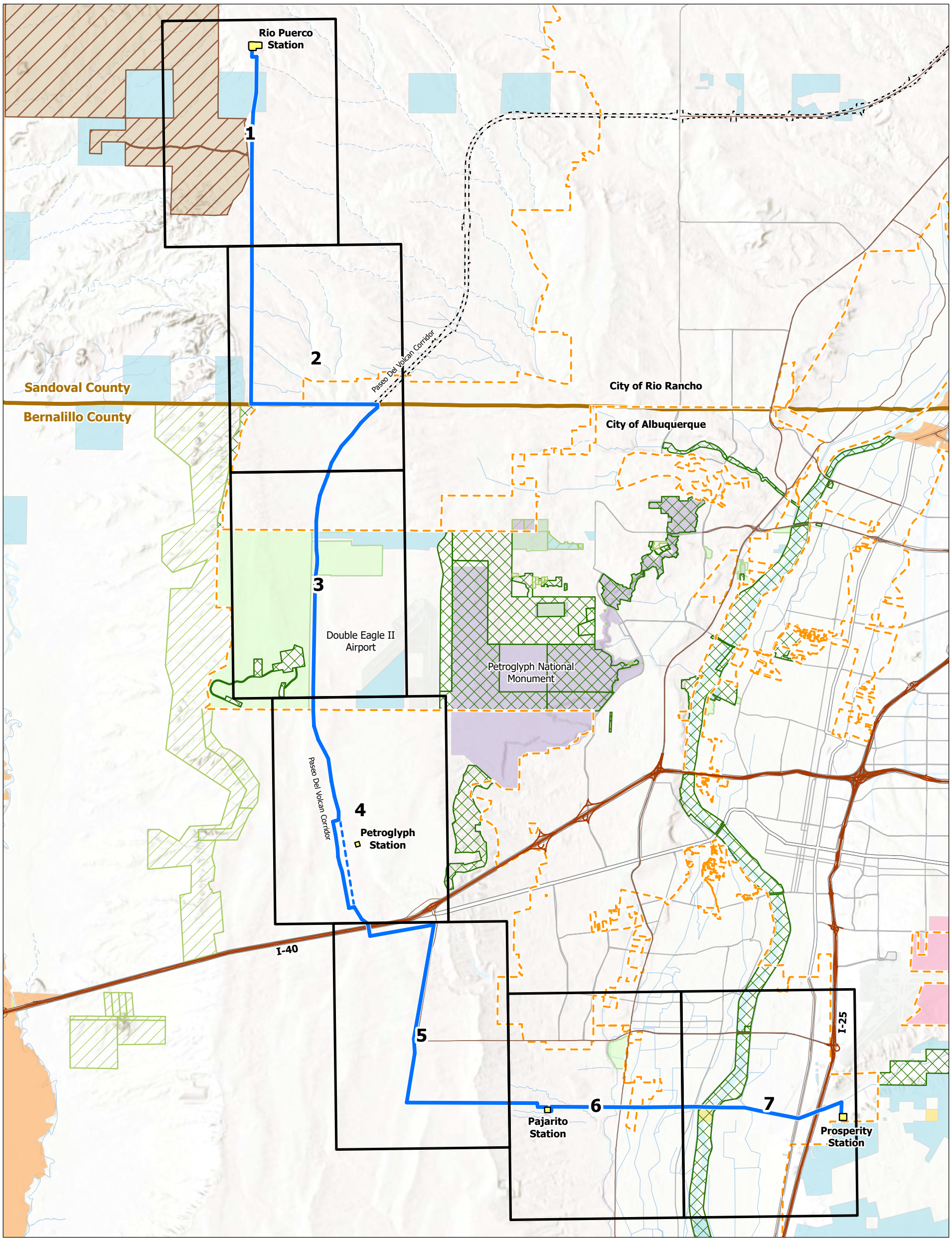
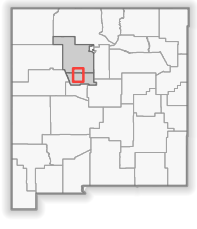
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative A - Map Book





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Legend

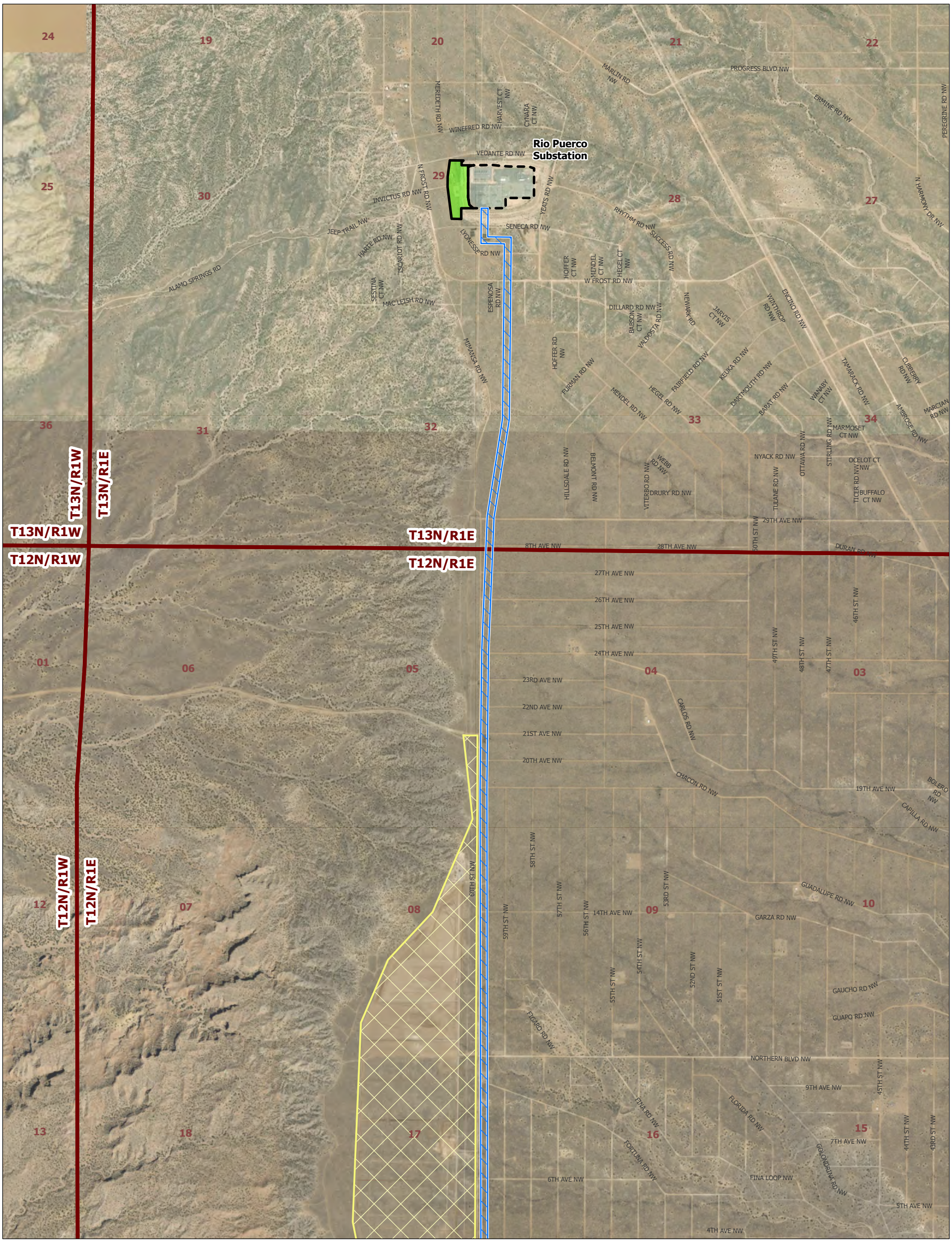
- PNM Station
- Alternative B.1
- Alternative B.2
- Open Space
  - Open To Public
  - Closed To Public
  - Priority Acquisitions
- Interstates
- Other Roads
- DOT ROW
- Future DOT ROW
- NM County
- Incorporated Places
- Santa Ana Pueblo
- Bureau of Land Management
- Dept. of Defense
- National Park Service
- Private
- State
- Tribal

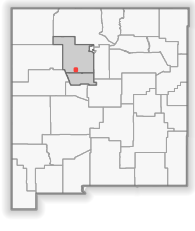
N

0 0.5 1 2
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative B.1 - Alternative B.2 - Index Map





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Legend

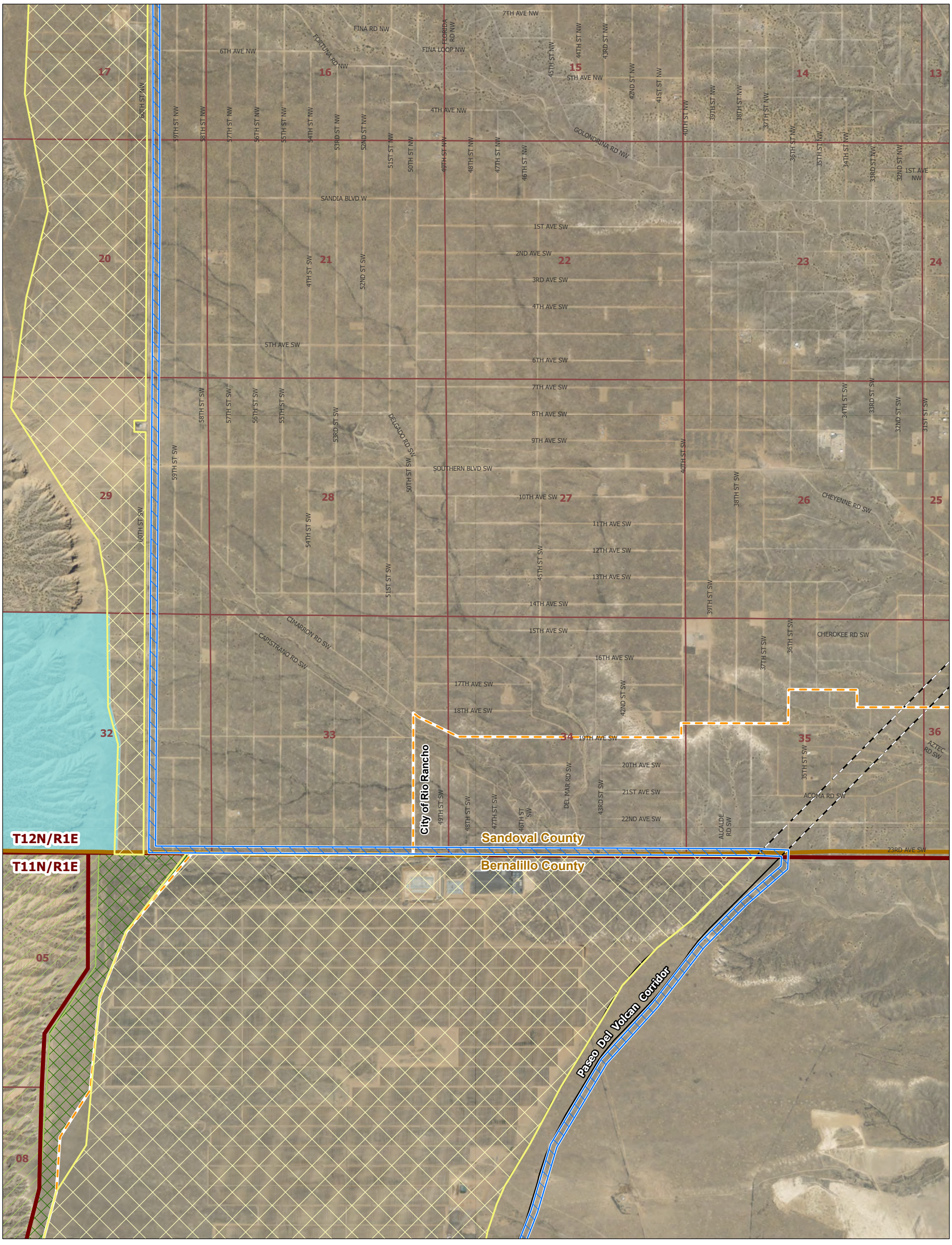
- PNM Station (fenceline)
- Substation Expansion
- Alternative B.1 ROW
- Solar Facility
- NM County
- Santa Ana Pueblo
- PLSS Township
- PLSS Section

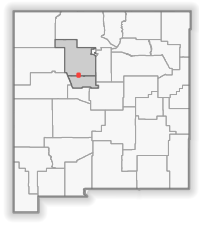
N

0 0.25 0.5
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative B.1 - Alternative B.2 - Map Book





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Legend

- Alternative B.1 ROW
- Solar Facility
- Open Space
- Open To Public
- Priority Acquisitions
- DOT ROW
- Future DOT ROW
- NM County
- Incorporated Places
- Private
- State
- PLSS Township
- PLSS Section

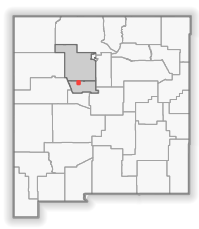
N

0 0.25 0.5
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Page 2 of 7

Alternative B.1 - Alternative B.2 - Map Book



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Legend
- Alternative B.1 ROW
- Solar Facility
- Soils Amendment Facility
- Open Space
  - Open To Public
  - Closed To Public
  - Priority Acquisitions
- DOT ROW
- NM County
- Incorporated Places
- Private
- State
- PLSS Township
- PLSS Section

N

0 0.25 0.5
Miles

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Credits: PNM, BMcD, NMDOT, BLM, City of Albuquerque, Esri Basemap

Legend

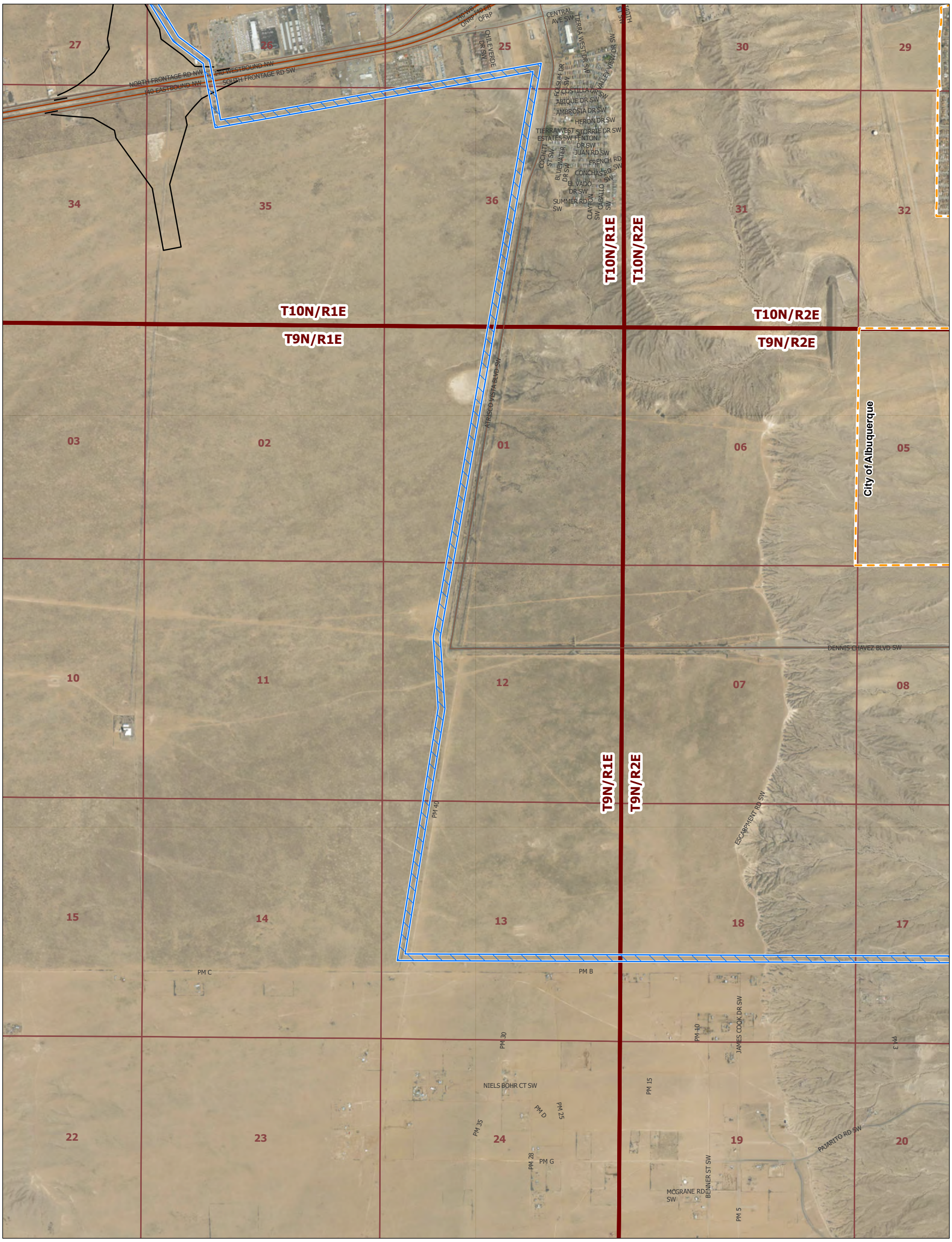
- PNM Station (fenceline)
- Alternative B.1 ROW
- Alternative B.2 ROW
- Open Space
  - Open To Public
  - Closed To Public
- Interstates
- Other Roads
- DOT ROW
- NM County
- Incorporated Places
- National Park Service
- Private
- State
- PLSS Township
- PLSS Section

N

0 0.25 0.5
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative B.1 - Alternative B.2 - Map Book



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Legend

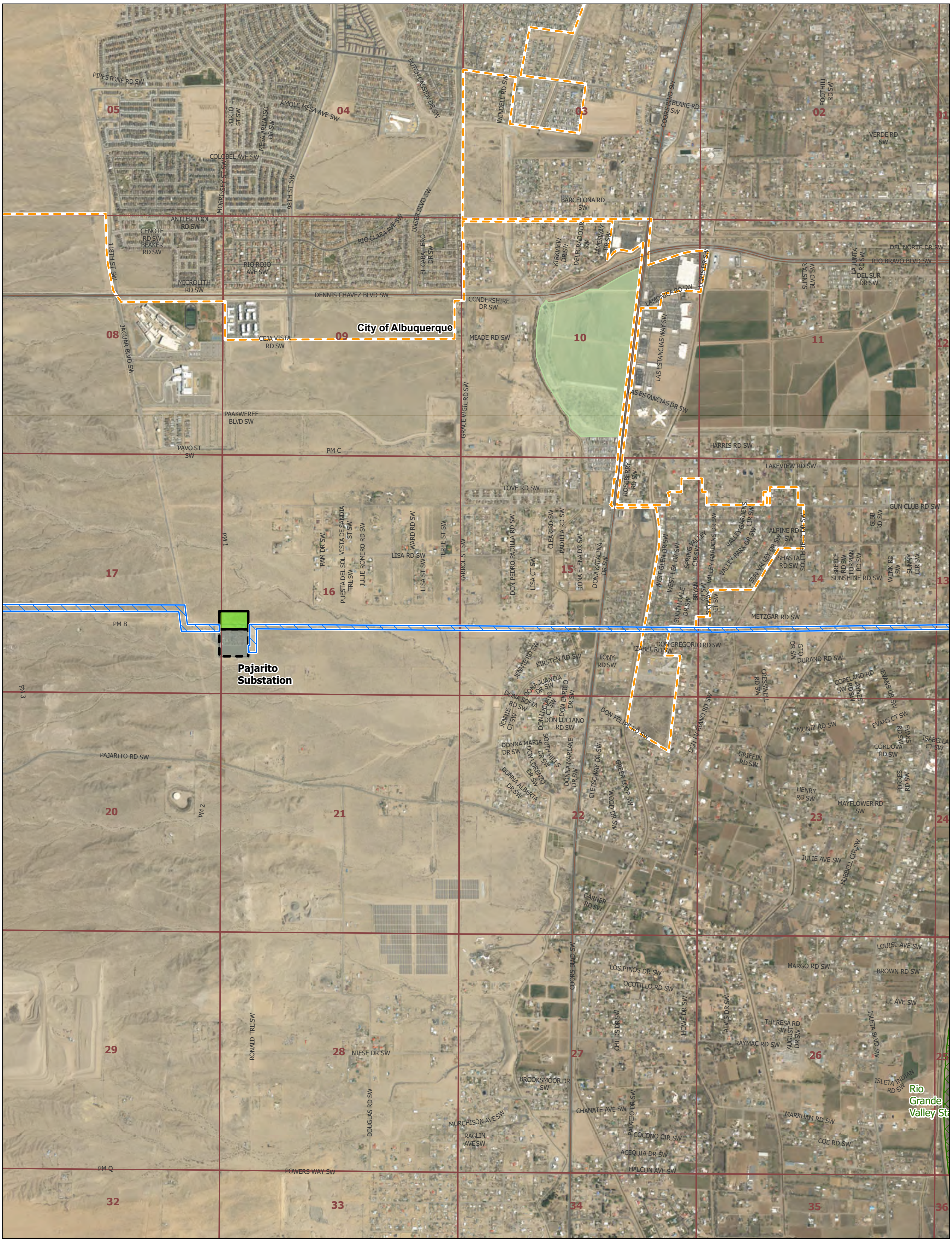
- Alternative B.1 ROW
- Interstates
- Other Roads
- DOT ROW
- NM County
- Incorporated Places
- Private
- PLSS Township
- PLSS Section

N

0 0.25 0.5
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative B.1 - Alternative B.2 - Map Book



Date Exported: 2025-10-31
Author: Rick Roberge
Map Scale: 1:24,000
Credits: PNM, BMcD, NMDOT, BLM, City of Albuquerque, Esri Basemap

Legend

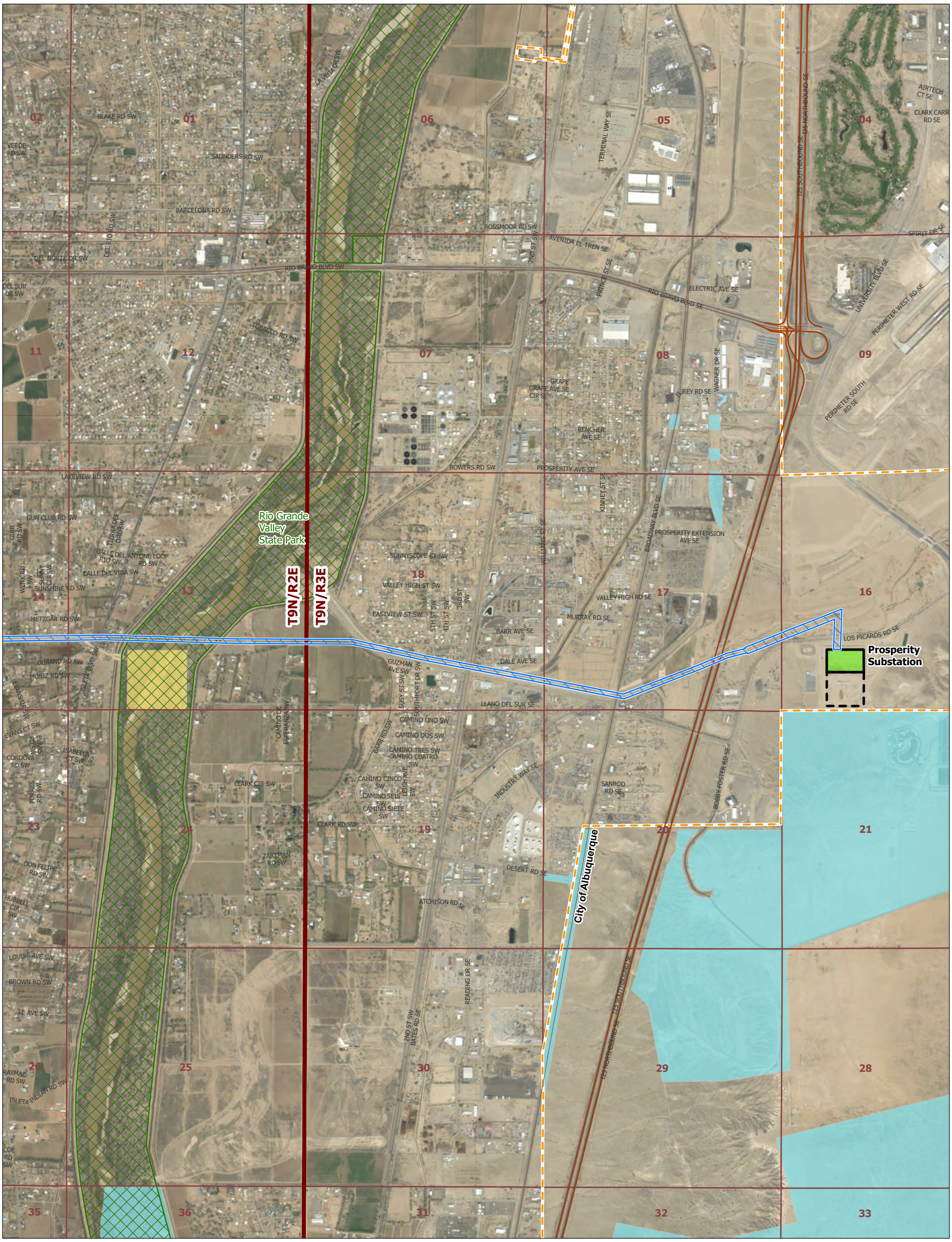
- PNM Station (fenceline)
- Substation Expansion
- Alternative B.1 ROW
- Open Space
  - Open To Public
  - Closed To Public
- Other Roads
- NM County
- Incorporated Places
- Private
- PLSS Township
- PLSS Section

N

0 0.25 0.5
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative B.1 - Alternative B.2 - Map Book



Date Exported: 2025-10-31
Author: Rick Roberge
Map Scale: 1:24,000
Credits: PNM, BMcD, NMDOT, BLM, City of Albuquerque, Esri Basemap

Legend

- PNM Station (fenceline)
- Substation Expansion
- Alternative B.1 ROW
- Open Space
- Open To Public
- Interstates
- Other Roads
- NM County
- Incorporated Places
- Bureau of Land Management
- Private
- State
- PLSS Township
- PLSS Section

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0 0.25 0.5
Miles

Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative B.1 - Alternative B.2 - Map Book

Appendix B – Best Management Practices

Environmental Protection Measures

PNM is committed to implementing the environmental protection measures listed in this section, which are divided into 11 categories:

1. General Measures
2. Air Quality
3. Soil Disturbance
4. Stormwater Management
5. Water Features
6. Vegetation
7. Noxious Weeds
8. Wildlife and Sensitive Species
9. Cultural and Paleontological Resources
10. Hazardous Materials and Waste
11. Fire Prevention and Response

General Measures

The limits of the temporary work areas will be marked with staking and/or flagging. All environmentally sensitive areas, if any, will be fenced for avoidance.

The Project work areas and staging areas will be regularly patrolled and maintained in compliance with applicable safety codes.

Prior to construction, all construction personnel will be instructed on the protection of sensitive biological, cultural, and paleontological resources that have the potential to occur on-site.

All construction vehicle movement outside the ROW will be restricted to predesignated access, contractor-acquired access, or public roads.

All existing roads will be left in a condition equal to or better than their pre-construction condition.

Fences and gates would be replaced, repaired, or restored to their original condition as required by the landowner or state if they are removed or damaged by construction activities. Fences would be braced before cutting. Temporary gates or enclosures would be installed only with the permission of the landowner or state agency and would be removed/restored following construction. Cattle guards would be installed where new permanent access roads cut through fences.

PNM will limit construction in residential areas to between daylight and dusk, six days a week, subject to county and municipal requirements.

Prior to construction, utility locating service will be used to identify buried utilities that must be avoided during construction, including pipelines and any associated distribution lines. If any disruptions to the electrical system are required during construction, PNM or the contractor will contact the appropriate utility or electric cooperative to schedule planned disruptions.

PNM or their contractors would work with state and local officials to coordinate and minimize traffic impacts during construction and operation of the Project. This includes developing a Traffic Control Plan and meeting the NMDOT occupancy permit requirements. PNM or their contractors would coordinate and provide the necessary requirements for traffic controls with the appropriate authority, including emergency services.

As construction progresses, information would be provided to local emergency services to inform personnel of upcoming activity and impacts of the work as well as to plan for emergency situations on the construction site, should they occur.

Air Quality

Driving speeds will be limited to 25 miles per hour on unpaved roads and 15 miles per hour within the ROW.

All areas subject to ground disturbance will be watered and/or treated with an authorized dust palliative as needed to control dust.

Public, paved streets and highways will be swept if visible soil material is tracked onto them by construction vehicles.

Excavation and grading activities will be suspended when winds (instantaneous gusts) exceed 50 miles per hour and visible dust persists that creates a health hazard to neighboring property owners and/or visibility impacts to vehicular traffic.

Soil Disturbance

In areas where significant grading will be required for temporary construction, topsoil (where present) will be stockpiled and segregated for later reapplication.

Construction will be prohibited when the soil is too wet to adequately support construction equipment unless a soil stabilizer or matting is used.

In disturbed work areas, the soil will be salvaged, if possible, and will be distributed and contoured evenly over the surface of the disturbed area after construction completion. The soil surface will be left rough to help reduce potential wind erosion.

In construction areas (e.g., staging areas, structure sites) where ground disturbance is significant or where recontouring is required, surface restoration will occur as required by the landowner or the state. The method of reclamation will normally consist of, but is not limited to, returning disturbed areas back to their natural contour, reseeding installing cross drains for erosion control, placing water bars in the road, and filling ditches.

Areas that are disturbed as a part of the construction and/or maintenance of the Project will be drill seeded where practical with a seed mixture appropriate for those areas unless an alternative method (e.g., broadcast seeding) is required due to slope or terrain.

Stormwater Management

PNM will apply for a Stormwater Permit. PNM's construction contractor will develop a Stormwater Pollution Prevention Plan that incorporates Best Management Practices.

Water Features

All construction vehicles and equipment staging, or storage and all construction activities will be located at least 100 feet away from any arroyos, streams, wetlands, and other water features unless such features are adequately protected.

Vegetation

Wherever possible, vegetation will be left in place. Where vegetation must be removed, it will be cut at ground level to preserve the root structure and allow for potential resprouting. In construction areas where recontouring is not required, vegetation will be left in place wherever possible, and original contour will be maintained to avoid excessive root damage and allow for resprouting. Vegetation that is not consistent with line safety and operation will be removed.

All temporary construction areas, including stringing sites and structure pads that have been disturbed, will be recontoured and restored as required by the landowner or land management agency. The method of restoration typically will consist of seeding or revegetating with native plants (if required), installing cross drains for erosion control, and placing water bars in the road.

Seed will be certified as weed-free and will consist of a seed mix approved by the state and local agencies, as applicable.

Noxious Weeds

Prior to pre-construction activities, PNM or their contractor will identify all noxious weeds present. PNM will treat the noxious weeds as required by New Mexico regulations.

The control of noxious weed species can be achieved through proper revegetation using appropriate management practices during transmission line construction as well as reclamation of the disturbed areas. Measures associated with limiting the impact of noxious weed species are provided as follows:

Construction supervisors and managers will be aware of the importance of controlling and preventing the spread of noxious weed species infestations.

- Disturbed construction areas will be reclaimed as soon as possible after construction in the area that is completed.
- All gravel and/or fill material will be certified as weed-free.
- Disturbances to areas infested with noxious weeds will be avoided to the extent possible.
- Any equipment or vehicles used in an area infested with noxious weeds will be thoroughly cleaned before they are moved to a new location.

- Before beginning reclamation activities, previously identified noxious weed infestations will be controlled through acceptable mechanical (e.g., topsoil excavation and removal) and/or herbicide applications.
- All off-road equipment will be cleaned (power or high-pressure cleaning) of all mud, dirt, and plant parts prior to initially moving equipment onto staging areas or work areas. Equipment will be cleaned again if it leaves the Project site prior to reentry. Equipment will have the tires, axles, frames, running boards, under carriages, and soil holding areas washed and cleaned to prevent the transport of noxious weeds to unaffected areas

As soon as work is completed, temporary disturbance areas will be seeded with an appropriate seed mix, as applicable, to establish ground cover by native species.

The Project area will be monitored annually for three years to identify new infestations of noxious weeds within the ROW. Any new infestations will be treated using methods approved by the NMSLO (or other land managing agencies, as applicable).

Wildlife and Sensitive Species

Prior to construction (inclusive of ROW clearing and access road construction), biological surveys of the ROW and the access roads will be conducted. Potential habitat for federal and state listed species identified during the pre-construction survey will be flagged for avoidance during construction and include an appropriate buffer for the species. The project will be designed to place structures to allow spanning and avoidance of sensitive habitats within the limits of standard structure design. If avoidance is infeasible, consultation with appropriate jurisdictional agencies will be conducted prior to work in the area(s).

Breeding bird surveys will also be completed prior to, and sensitive species will be monitored during construction. During operation and maintenance, active nests on structures would be avoided and monitored by a qualified biologist until determined inactive, prior to replacing H-frame structures or other maintenance activities to prevent disturbance that could result in migratory bird species mortality.

If a sensitive plant or animal species is encountered during construction, work near the sensitive species will be halted, and a qualified biologist familiar with the species will be consulted to determine an appropriate buffer and other protective measures. The appropriate resource agencies will be notified of the discovery within 24 hours. If avoidance is infeasible, consultation with the jurisdictional resource agency will be conducted prior to continuing work in the immediate area of the species. Any federally or state-listed species discovered on public land will also be reported to the NMDGF.

Excavations left open overnight will be covered or fenced to prevent livestock or wildlife from falling in. All covers will be secured in place and strong enough to prevent livestock or wildlife from falling in.

The 2006 manual developed by the Avian Power Line Interaction Committee (APLIC) identified best industry practices for reducing avian electrocutions; poles and equipment providing adequate spacing and insulation are described as "avian-friendly." Avian-friendly structures have been designed to provide adequate distances between energized and/or grounded components allowing birds to perch without risk of electrocution. Transmission structures generally have sufficient separation between phases, such that large birds cannot bridge the distance between energized and grounded components. The industry standard for avian protection on power lines, which is adhered to by PNM, is 60 inches of horizontal separation and 40 inches of vertical separation. PNM's Avian Protection Plan recommends the following equipment should be bird guarded:

- Transformers – cap bushings and arrestors. Cover stinger wire.
- Lightening arresters - cap arrester. Cover stinger wire.
- Cut-outs – cover with cut-out cover.
- Risers – cap arrestor and tape over exposed fittings on lead wires. Cover lead wires.
- Regulators – cap all exposed bushings and cover lead wires.
- Reclosers – cap bushing. Cover stinger wire.
- Capacitor banks - For 300 and 600kVAR capacitors banks, cover bushings and lead wires. For 1200/1800kVAR capacitors, cover bushings and lead wires and wrap bus bars with medium voltage fusion tape.
- Gang Operated Load Break (GOLB) – Place Bus Insulator Wildlife Guard on all the insulators, staggering as needed to fit the insulator skirt. Wrap Medium Voltage Fusion Tape (MVFT) around exposed energized metal or moving parts.
- Radial Disconnect Switch (RDS) Switch – Cover potheads, arresters, cut outs, stingers and conductors.
- Conductor covers should be used to ensure 60-inch horizontal and 40-inch vertical separation between energized phases and ground.

Structures will be constructed to conform to those practices described in the Suggested Practices for Raptor Protection on Power Lines Manual developed by the Edison Electric Institute (APLIC 2006) and the Reduced Avian Collisions with Power Lines (APLIC 2012).

Excavations left open overnight will be covered or fenced to prevent livestock or wildlife from falling in. All covers will be secured in place and strong enough to prevent livestock or wildlife from falling in.

Cultural and Paleontological Resources

An initial intensive cultural resource inventory survey will be conducted prior to construction. Unevaluated cultural sites will be tested to determine their eligibility status. Wherever possible, PNM will avoid cultural sites identified as eligible for inclusion on the National Register of Historic Places. Where avoidance is not possible, a treatment plan will be developed through consultation between the New Mexico State Historic Preservation Office ("SHPO"), and applicable Tribal Historic Preservation Offices (THPO).

Prior to construction, PNM and/or its contractors will train workers and individuals involved with the Project regarding the potential to encounter historic or prehistoric sites and objects, proper procedures if cultural items or human remains are encountered, prohibitions on artifact collection, and respect for Native American religious concerns. As part of this training, all construction personnel will be instructed to inspect for paleontological and cultural objects when excavating or conducting other ground-disturbing activities.

If potential resources are found, work will be halted immediately within a minimum distance of 300 feet from the discovery, and a professional archaeologist (holding a valid Cultural Resources Permit) will be mobilized to the site to evaluate the find. Any potential resources will not be handled or moved. The professional archaeologist will then determine whether the find needs to be evaluated by a paleontologist or Native American representative. The appropriate specialist(s) will then decide on the significance of the find and the steps to be followed before proceeding with the activity. Any cultural and/or paleontological resource discovered during construction on NMSLO will be reported immediately to the SHPO and THPOs

NRHP-eligible properties that ground-disturbing activities could not avoid would be monitored during construction activities and/or subject to mitigation prior to construction. During construction, all NRHP-eligible properties would be flagged with. Any activities occurring within the flagged boundary would be monitored by a professional archaeologist to ensure construction crews stay on approved roads; eligible components of the site, including surface artifacts and features, would not be disturbed by construction; and construction crews stop work in the event of an unanticipated discovery. In some instances, monitoring of construction activities could be all that is needed to avoid or minimize adverse effects on sites, particularly in places where ground-disturbing activities would not affect the eligible portions of sites

Hazardous Materials and Waste

All construction vehicles will be maintained in accordance with the manufacturers' recommendations. All vehicles will be inspected for leaks prior to entering the jobsite. All discovered leaks will be contained with a bucket or absorbent materials until repairs can be made.

Totally enclosed containment will be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials will be removed to a disposal facility authorized to accept such materials consistent with a Spill Response Plan.

All hazardous materials will be properly labeled in accordance with 40 C.F.R. 262. A list of hazardous materials expected to be used during construction of the Project will be developed.

Hazardous material storage, equipment refueling, and equipment repair will be conducted at least 100 feet away from streams or other water features.

Spilled material of any type will be cleaned up immediately. A shovel and spill kit will be always maintained on-site to respond to spills.

All sanitary wastes will be collected in portable, self-contained toilets at all construction staging areas and other construction operation areas and managed in accordance with local requirements.

Fire Prevention and Response

All applicable fire laws and regulations will be observed during the operation and maintenance period. All personnel will be advised of their responsibilities under the applicable fire laws and regulations, including taking practical measures to report and suppress fires. State fire safety standards will be followed. Requirements for fire tool availability, spark arresters/mufflers on equipment, and construction activities will be conducted consistent with fire conditions. Coordination with the fire marshals will occur during construction.

PNM and/or its construction contractor will designate a Fire Marshal who will be responsible for the following tasks:

- Conducting regular inspections of tools, equipment, and first aid kits for completeness.
- Conducting regular inspections of storage areas and practices for handling flammable fuels to confirm compliance with applicable laws and regulations.
- Posting smoking and fire rules at centrally visible locations on-site.
- Coordinating initial response to contractor-caused fires within the ROW.
- Conducting fire inspections along the ROW corridor, work areas, and staging areas.
- Ensuring that all construction workers and subcontractors are aware of all fire protection measures.
- Remaining on duty and on-site when construction activities are in progress and during any additional periods when fire safety is an issue or designating another individual to serve in this capacity when absent.
- Reporting all wildfires in accordance with the notification procedures described below.
- Initiating and implementing fire suppression activities until relieved by agency or local firefighting services in the event of a Project-related fire. Project fire suppression personnel and equipment, including water tenders, will be dispatched within 15 minutes from the time that a fire is reported.
- Coordinating with the PNM Project Manager regarding current fire conditions potential and fire safety warnings and communicating these to the contractor's crews.

PNM's Construction Foreman or the Fire Marshal will immediately notify firefighting services of any fires on-site.

Contractors will be notified to stop or reduce construction activities that pose a significant fire hazard until appropriate safeguards are taken.

If an accidental fire occurs during construction, immediate steps to extinguish the fire (if it is manageable and safe to do so) will be taken using available fire suppression equipment and techniques. Fire suppression activities will be initiated by PNM and/or its contractor until relieved

by agency or local firefighting services.
Fire suppression equipment will be present in areas where construction tools or equipment have the potential to spark a fire.

All field personnel will be instructed regarding emergency fire response. The contractors will receive training on the following:

- Initial fire suppression techniques.
- Fire event reporting requirements.
- Methods to determine if a fire is manageable.
- Fire control measures to be implemented by field crews on-site.
- When the worksite should be evacuated.
- How to respond to wildfires in the vicinity.
- How to maintain knowledge of and plans for evacuation routes.

All flammable material, including dead vegetation or dry grasses will be cleared from areas where equipment operation that may generate sparks or flames.

All welding or cutting of power line structures or their component parts will be approved by PNM's Construction Foreman or Administrator. Approved welding or cutting activities will only be performed in areas cleared of vegetation. Welding or cutting activities will cease one hour before all fire response personnel leave a construction area to reduce the possibility of welding activities smoldering and starting a fire. Welder vehicles will be equipped with fire suppression equipment.

All internal combustion engines, both stationary and mobile, will be equipped with approved spark arresters that have been maintained in good working condition. Light trucks and cars with factory-installed (type) mufflers in good condition may be used on roads cleared of all vegetation with no additional equipment required. Vehicles equipped with catalytic converters are potential fire hazards and will be parked on cleared areas only.

The use of torches, fuses, highway flares, or other warning devices with open flames will be prohibited. PNM and its contractors will only use electric or battery-operated warning devices on-site.

Equipment parking areas, small stationary engine sites, and gas and oil storage areas will be cleared of all extraneous flammable materials. "NO SMOKING" signs will be always posted in these areas.

Fuel tanks will be grounded.

PNM and its contractors will provide continuous access to roads for emergency vehicles during construction.

All motorized vehicles and equipment will be equipped with an ABC Dry Chemical Fire Extinguisher.

Project construction worksites will include the following equipment:

- Power saws, if required for construction, must be equipped with an approved spark arrester and accompanied by one 5-pound ABC Dry Chemical Fire
- Extinguisher and a long-handled, round-point shovel.
- Fuel service trucks with one 35-pound capacity fire extinguisher charged with the necessary chemicals to control electrical and fuel fires.
- At least two long-handled, round-point shovels and two 5-pound ABC Dry Chemical Fire Extinguishers at wood cutting, welding, or other construction work sites that have a high risk of starting fires.
- At least one radio and/or cellular telephone to contact fire suppression agencies or the Project management team.

During periods of increased fire danger, a fire suppression vehicle will be available in the construction area or stationed near high-risk construction work sites. The truck will be equipped with the following items:

- Water tank with a minimum capacity of 200 gallons.
- 250 feet of 0.75-inch heavy-duty rubber hosing.
- Pump with a discharge capacity of at least 20 gallons per minute. (The pump will have fuel capacity to operate for at least a 2-hour period.)
- Tool cache containing long-handled round-point shovels axes or Pulaski fire tools.

Periods of increased fire danger are defined as those periods where the National Weather Service has issued a Red Flag Warning, or the New Mexico identifies the fire threat level as high.

If a fire is unmanageable, field crews will evacuate and call 911 or the district dispatch for the area. All fires will be reported to the jurisdictional fire agency, regardless of size and action taken.


BURNS
McDONNELL

Preferred Route Memorandum

PNM Exhibit LMW-3

Is contained in the following 7 pages.

Preferred Route Memorandum

Transmission Line Project: Pajarito-Rio Puerco Transmission Line Project

Date: December 15, 2025

Prepared by: Leslie Watson/PNM and Jill Harris/Burns & McDonnell

Introduction

Public Service Company of New Mexico (PNM) plans to construct a new overhead 345-kilovolt (kV) single-circuit transmission line (Pajarito-Rio Puerco Transmission Line Project, or Project) between PNM's Rio Puerco and Pajarito 345kV substations and loop an existing 345kV transmission line from the Prosperity substation into the Pajarito substation. The Project includes

- Constructing a new 1-mile extension to connect an existing approximately 6-mile 345kV line from the Pajarito substation to the Prosperity substation with 345/114kV transformation.
- Constructing a new approximately 0.6-mile, 345kV transmission line extension to loop the existing Pajarito Sandia 345kV transmission line into the Prosperity substation.
- Restring an existing transmission line between the Pajarito and Prosperity substations

In addition to the transmission line components, the Project also includes the expansion of three substations. The Plan of Development (POD) describes construction methods and processes for the proposed new transmission line, restring existing transmission lines and substations.

Routes

PNM evaluated two routes for the project, which are described in Table 1. Alternative A route avoids New Mexico state trust lands and is located on the west side of New Mexico Department of Transportation's planned Paseo del Volcan transportation corridor and is approximately 40.3 miles (see Attachment 1, Figure 1).

Alternative B crosses New Mexico state trust lands in Sandoval County and is located on the east side of New Mexico Department of Transportation's planned Paseo del Volcan

transportation corridor, avoiding Bernalillo County lands managed as Open Space. An approximately 2.25-mile segment of this route would be on the west side of the Paseo del Volcan transportation corridor to avoid a planned development (see Attachment 1, Figure 2).

Table 1 Alternative Route Summary

Alternative Route	Description	Length (mi)	Land Ownership (miles)	Key Features
Alternative A	Refer to POD Sections 2.1.1 and 2.2	40.3	Private (31.9) NMDOT (3.9) CABQ (2.9) City Rio Rancho (1.7)	• Avoids NMSLO lands • 310 acres of temporary disturbance and 57 acres of permanent disturbance
Alternative B	Refer to POD Sections 2.1.3 and 2.2	37.0	Private (27.4) NMSLO (1.0) NMDOT (3.7) CABQ (3.7) City Rio Rancho (4.5)	• Crosses NMSLO • Avoids CABQ Open Space • 288.3 acres of temporary disturbance and 56.9 acres of permanent disturbance
Preferred	Combination of Alternative B from Rio Puerco substation to Sandoval County line and Alternative A from Sandoval County to Pajarito substation.	34.6.	Private (25.2) NMSLO (1.0) NMDOT (0.3) CABQ (3.6) City Rio Rancho (4.5)	• Crosses NMSLO • Avoids arroyos to the east • 310 acres of temporary disturbance and 57 acres of permanent disturbance for structures
Pajarito to Prosperity (same for all alternatives)	Restring existing poles of 6.5-mile segment from the Pajarito substation to the Prosperity substation	6.5	Private 6.5 miles	• Avoids the Rio Grande River floodplain • Restring existing poles

Evaluation Criteria

As a regulated utility, PNM has an obligation to thoroughly evaluate cost considerations in its decision-making process for new infrastructure to ensure that any new projects are cost-effective and in the best interest of the customers and their electric utility rates.

PNM evaluation criteria of the two routes considered technical feasibility, economic feasibility and environmental advantages that reduced impacts on environmental and cultural resources and land use. Both routes PNM evaluated are technically feasible, and Table 2 presents a summary of PNM's cost estimate for the two routes.

Alternative A and Alternative B routes have similar environmental resources and land uses. PNM did not identify an environmental advantage for either route based on the cultural and biological resource surveys.

Table 2 Route Cost Comparison

Alternative Route	Lands Cost ($ Millions)	Construction Cost ($ Millions)	Total
Alternative A Route	$37.2	$138.8	$176.0
Alternative B Route	$19.7	$136.1	$155.8
Pajarito to Prosperity restring (same for all alternatives)[1]	-	0.9	$0.9

Table Note: 1) There are no land costs associated with restringing the existing Pajarito to Prosperity transmission line.

PNM's Preferred Route

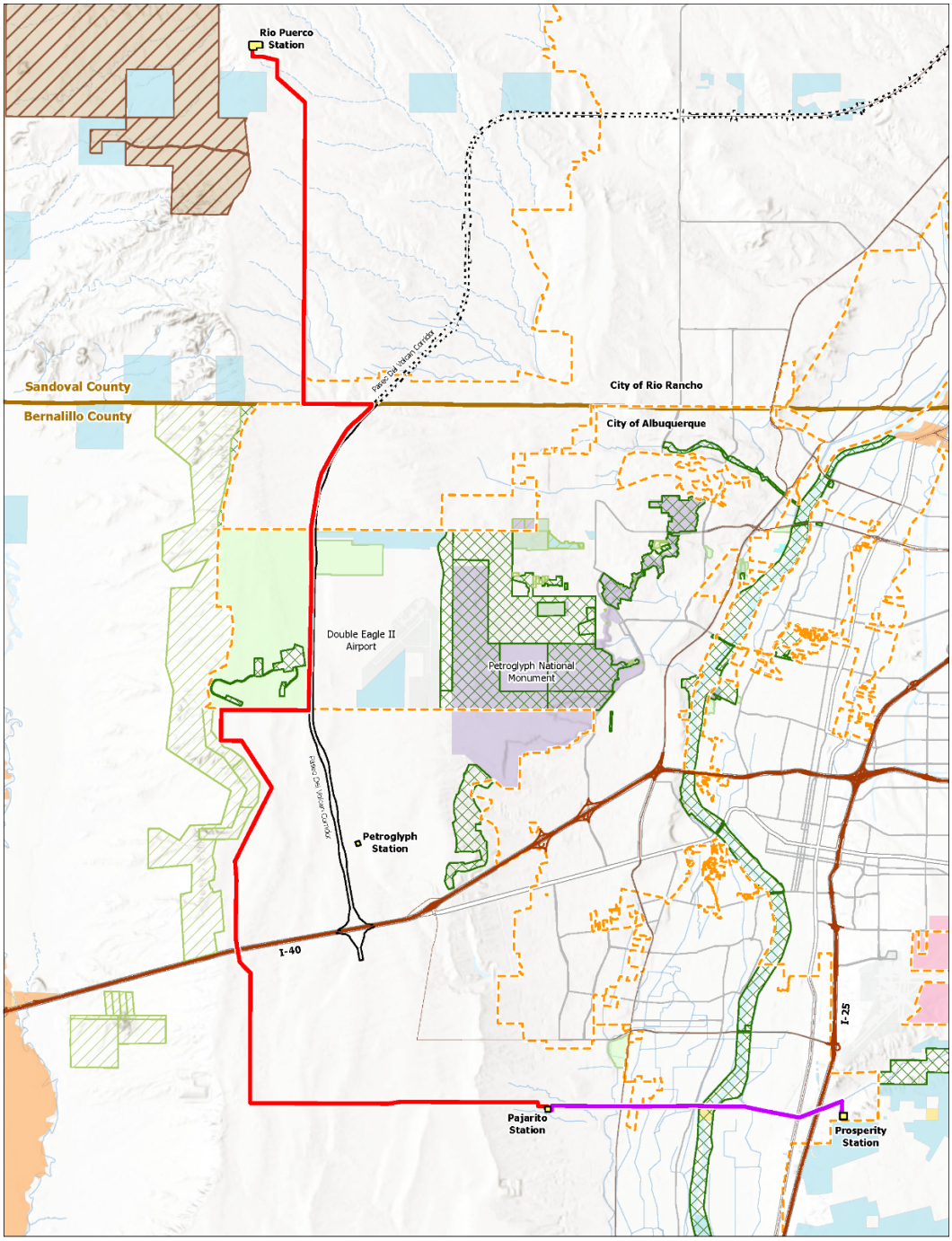
PNM's Preferred Route integrates portions of Alternative B route and Alternative A route to reduce impacts on existing and planned land uses and environmental and cultural resources. PNM's Preferred Route incorporates Alternative B's western alignment across adjacent to existing transmission lines and transportation infrastructure in unincorporated Sandoval County. The Preferred Route incorporates Alternative A route along the east side of the New Mexico Department of Transportation's planned Paseo Del Volcan Corridor south to the Pajarito substation. The Preferred Route also includes restringing of transmission line between Pajarito Substation and Prosperity Substation. Figure 3 in the attachments is an overview of PNM's Preferred Route alignment.

Attachments

Figure 1 – Alternative A Route

Figure 2 – Alternative B Route

Figure 3 – Preferred Route Overview



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Author: Rick Roberge
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Credits: PNM, BMcD, NMDOT, BLM, City of Albuquerque, Esri Basemap

Legend
PNM Station
Alternative A
Alternative AB
Open Space
Open To Public
Closed To Public
Priority Acquisitions
Interstates
Other Roads
DOT ROW
Future DOT ROW
NM County
Incorporated Places
Santa Ana Pueblo
Bureau of Land Management
Dept. of Defense
National Park Service
Private
State
State Game & Fish
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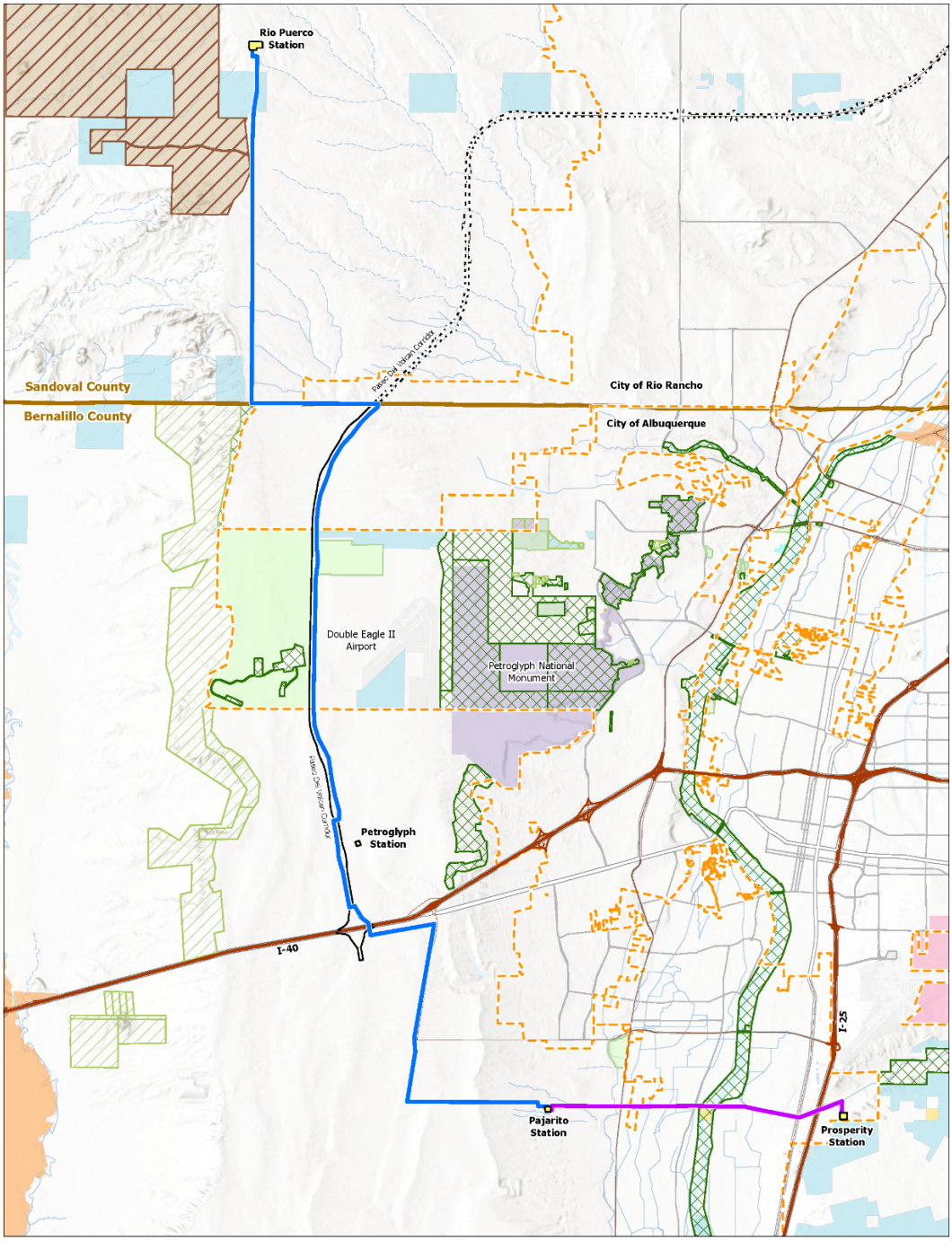
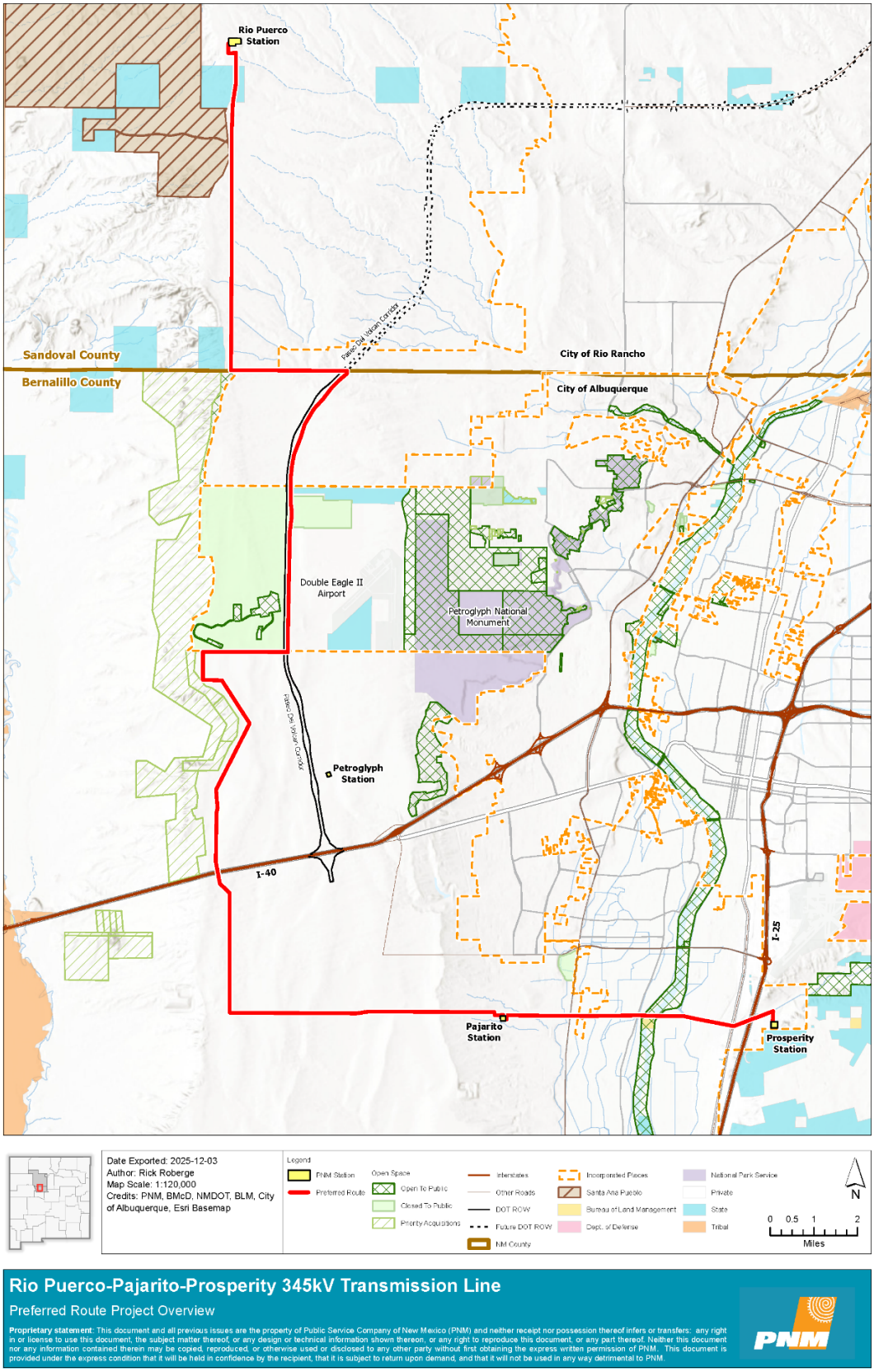
Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative A - Alternative AB Project Overview



Rio Puerco-Pajarito-Prosperity 345kV Transmission Line

Alternative B - Alternative AB Project Overview


Rio Puerco Station
Sandoval County
Bernalillo County
City of Rio Rancho
City of Albuquerque
Double Eagle II Airport
Petroglyph National Monument
Petroglyph Station
Pajarito Station
Prosperity Station
I-40
I-25
Date Exported: 2025-12-03
Author: Rick Roberge
Map Scale: 1:120,000
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Incorporated Places
Santa Ana Pueblo
Bureau of Land Management
Dept. of Defense
National Park Service
Private
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Miles
Rio Puerco-Pajarito-Prosperity 345kV Transmission Line
Preferred Route Project Overview
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PNM

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF PUBLIC SERVICE COMPANY OF NEW MEXICO'S APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT, OWN AND OPERATE THE RIO PUERCO TO PAJARITO TO PROSPERITY 345 KV TRANSMISSION PROJECT	)	**Docket No. 25-00___-UT**
PUBLIC SERVICE COMPANY OF NEW MEXICO,	)	
Applicant	)	

AFFIDAVIT

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

LESLIE M. WATSON, Environmental Planning and Permit Project Manager, for PNMR Services Company, upon being duly sworn according to law, under oath, deposes and states: I have read the foregoing **Direct Testimony of Leslie M. Watson,** and it is true and accurate based on my own personal knowledge and belief.

Dated this 30th day of December, 2025.

/s/ *Leslie M. Watson*
LESLIE M. WATSON

GCG # 534424