

# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

Prepared for:

**Arizona Power Plant and  
Transmission Line Siting Committee**

Submitted by:

**Tucson Electric Power Company**

**Date: May 24, 2024**

**Case No. \_\_\_\_\_**



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BEFORE THE  
ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

In the matter of the Application of Tucson Electric Power Company, in conformance with the requirements of A.R.S. § 40-360, *et seq.*, for a Certificate of Environmental Compatibility authorizing the Midtown Reliability Project, which includes the construction of a new 138 kV transmission line originating at the existing DeMoss Petrie Substation (Section 35, Township 13 South, Range 13 East), with an interconnection at the planned Vine Substation (Section 06, Township 14 South, Range 14 East), and terminating at the existing Kino Substation (Section 30, Township 14 South, Range 14 East), each located within the City of Tucson, Pima County, Arizona.

Docket No. L-00000C-24-

Case No. \_\_\_\_\_

APPLICATION FOR  
CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

<b>AM</b>	Amplitude modulation
<b>AN</b>	Audible noise
<b>ANPL</b>	Arizona Native Plant Law
<b>ARS</b>	Arizona Revised Statutes
<b>ASM</b>	Arizona State Museum
<b>AZGFD</b>	Arizona Game and Fish Department
<b>BE</b>	Biological Evaluation
<b>CAAP</b>	City Climate Action and Adaptation Plan
<b>CBD</b>	Central Business District
<b>CDP</b>	Census Designated Place
<b>CEC</b>	Certificate of Environmental Compatibility
<b>CIP</b>	Capital Improvement Project
<b>City</b>	City of Tucson
<b>CLS</b>	Conservation Lands System
<b>Commission</b>	Arizona Corporation Commission
<b>Committee</b>	Arizona Power Plant and Transmission Line Siting Committee
<b>COT</b>	City of Tucson
<b>CWA</b>	Clean Water Act
<b>dBA</b>	A-weighted decibels
<b>DMAFB</b>	Davis-Monthan Air Force Base
<b>DMP</b>	DeMoss-Petrie Substation
<b>DOD</b>	Department of Defense
<b>DTM</b>	Tucson Department of Transportation and Mobility
<b>EMF</b>	Electric and Magnetic Fields
<b>EV</b>	Electric Vehicles
<b>EPA</b>	Environmental Protection Agency
<b>ESA</b>	Endangered Species Act

<b>FAA</b>	Federal Aviation Administration
<b>FEMA</b>	Federal Emergency Management Agency
<b>FIRM</b>	Flood Insurance Rate Maps
<b>FM</b>	Frequency Modulation
<b>GCZ</b>	Gateway Corridor Zone
<b>GIS</b>	Geographic Information System
<b>GSI</b>	Green Stormwater Infrastructure
<b>HDMS</b>	Heritage Data Management System
<b>HPO</b>	Historic Preservation Officer
<b>I-10</b>	Interstate 10
<b>IPaC</b>	Information for Planning and Consultation
<b>KOP</b>	Key Observation Point
<b>kV</b>	Kilovolt
<b>Ldn</b>	Weighted day night average noise level
<b>Leq</b>	Equivalent noise level
<b>MBTA</b>	Migratory Bird Treaty Act
<b>mG</b>	Milligauss
<b>MOA</b>	Military Operations Area
<b>MSCP</b>	Multi-Species Conservation Plan
<b>MSRP</b>	Major Streets and Routes Plan
<b>MTR</b>	Military Training Route
<b>MVA</b>	Megavolt Ampere
<b>MW</b>	Megawatts
<b>NEPA</b>	National Environmental Policy Act
<b>NERC</b>	North American Reliability Corporation
<b>NESC</b>	National Electrical Safety Code
<b>NIEHS</b>	National Institute of Environmental Health Sciences
<b>NHPA</b>	National Historic Preservation Act
<b>NPZ</b>	Neighborhood Preservation Zone
<b>NRHP</b>	National Register of Historic Places

<b>PAD</b>	Planned Area Development
<b>PDSD</b>	Planning and Development Services
<b>Plan</b>	Pima County Comprehensive Plan
<b>Plan Tucson</b>	City of Tucson General Plan
<b>Project</b>	Midtown Reliability Project
<b>PCRFC</b>	Pima County Regional Flood Control District
<b>ROW</b>	Right-of-way
<b>SDCP</b>	Sonoran Desert Conservation Plan
<b>TAC</b>	The Architecture Company
<b>TDAP</b>	Tucson Drainage Area Project
<b>TEP</b>	Tucson Electric Power Company
<b>Tierra</b>	Tierra Right of Way Services
<b>UMC</b>	University Medical Center
<b>USDOT</b>	U.S. Department of Transportation
<b>USACE</b>	U.S. Army Corps of Engineers
<b>USFWS</b>	U.S. Fish and Wildlife Service
<b>WHO</b>	World Health Organization



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## **A. INTRODUCTION**

Tucson Electric Power Company (“TEP”) requests a Certificate of Environmental Compatibility (“CEC”) for the DeMoss Petrie-to-Vine-to-Kino 138 kilovolt (“kV”) transmission line (the “Midtown Reliability Project” or “Project”). The Midtown Reliability Project will upgrade Midtown Tucson’s antiquated and overloaded 46 kV sub-transmission system to a much more flexible and robust 138 kV system.

This upgrade is urgently needed to replace older, lower-voltage equipment that cannot keep pace with the increasing energy use in central Tucson because the aged and outdated Midtown system is at or near capacity. Peak power demand in the area has nearly reached the capacity of the current system, which reduces reliability of the electric grid and requires significant patchwork expenditures to compensate for the system’s age. The existing Midtown 46 kV system has little to no contingency reserve, creating circumstances that challenge TEP’s ability to serve customers in the area reliably and adversely impact the future growth potential of Midtown.

Importantly, this upgrade will allow for the removal of up to eight 46 kV substations and 19 miles of 46 kV lines<sup>1</sup>, ultimately resulting in a net reduction in substations and miles of overhead powerlines in Midtown Tucson.

The proposed seven-to-twelve-mile 138 kV line will interconnect with 473 miles of existing 138 kV overhead lines that provide reliable service to TEP’s customers. The existing 138 kV system includes the recently completed Irvington-to-Kino line, which was approved with little or no opposition. The Midtown Reliability Project is simply a continuation of that line north from the Kino Substation to the DeMoss Petrie Substation – tying Midtown into a looped system with access to regional generation and transmission resources.

The City of Tucson contends that portions of certain routes must be constructed below ground to comply with local zoning ordinances, which TEP disputes is the case. That dispute is the subject matter of pending litigation in Pima County Superior Court. Even if the City’s legal position is accurate – and TEP does not concede that it is – the enormous cost of building the Project underground would have to be passed on to TEP ratepayers, which makes the purported undergrounding requirement unreasonable. Such costs would be borne by all of TEP’s customers and not just those customers within the City of Tucson, or just those customers who live near the Project<sup>2</sup>. To prevent this impact to its ratepayers, TEP urges the Committee to exercise its authority and preempt the City’s purported requirements to construct facilities below ground if the Committee ultimately authorizes a route that the City contends conflicts with local zoning regulations. TEP recognizes that this is an unusual request, but the siting statutes provide this remedy to protect customers when needed.

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<sup>1</sup> Facilities expected to be removed within approximately 10 years of the in-service date of the Midtown Reliability Project.

<sup>2</sup> State statutes permit the formation of a district to underground utilities. No such district has been formed in relation to the Midtown Reliability Project. See A.R.S. § 48-620 et. seq.

### **A.1 Midtown’s electrical system must be upgraded.**

Nestled in the heart of Tucson, the Midtown region is home to key economic drivers, such as the University of Arizona and Banner University Medical Center, as well as historic areas such as the Sam Hughes and Jefferson Park neighborhoods. This dynamic and central area is poised for further growth, especially as the City of Tucson emphasizes infill development over sprawl. The Midtown area has the potential to support continued prosperity for the entire metro Tucson area. However, these hopes can only be realized if Midtown has safe, reliable electric service. Ensuring reliability will require upgrades to our 46-kV system.

The current electric system is as historic as many of Midtown’s neighborhoods. Midtown has been served for over 50 years by a now-antiquated 46 kV sub-transmission system and an equally outdated 4 kV distribution system. These systems were adequate and appropriate when installed many years ago, but they no longer meet the needs of the area. Notably, 46 kV is no longer a common voltage in the United States—the most common transmission voltages are 115 kV and 138 kV. Over many years, TEP has systematically been retiring and replacing both the 46kV and 4kV infrastructure throughout its service territory to accommodate the increasing energy needs of a growing population, air conditioning, greater use of consumer electronics, and the increased adoption of rooftop solar systems and electric vehicles. To continue to serve load growth of the existing residents and businesses and integrate the adoption of these new technologies, it is critical that TEP proceed with its systematic approach to updating the electric infrastructure in the Midtown area.

The existing systems are at the end of their useful lives, with some equipment as old as 70 years. The oldest quartile of distribution poles in the Midtown area have a weighted average age of over 70 years. Similarly, the predominately wooden 46 kV sub-transmission lines are primarily between 50-75 years old. While TEP continually inspects and maintains this infrastructure to ensure reliability, upgrades are necessary to accommodate future load projections and maintain adequate contingency reserve margins.

The solution is to modernize Midtown’s electrical system. TEP’s modernization plan will replace the old equipment with new, up-to-date systems. The distribution system will be upgraded from 4 kV to 14 kV. The transmission system will be upgraded from 46 kV to 138 kV.

In addition to the need to bring the system into the 21<sup>st</sup> century, the proposed project is necessary to satisfy North American Electric Reliability Corporation (“NERC”) requirements. The necessary upgrades allow the transmission line to act as an alternative or “looped” transmission path to avoid overloads on the transmission system in the event of the loss of another line that serves the area. Simply, the proposed upgrades will improve system redundancy and grid resiliency for TEP’s entire service area because they allow flexibility in system restoration during system events, which can include weather and equipment failures. Conversely, if the proposed transmission system upgrades do not occur, another line must be built to satisfy mandatory NERC requirements.

### **A.2 The existing Midtown system is at capacity.**

The existing 46 kV system in the Midtown region is at or near capacity. Much of it was built in the middle of the 20th century—a time with much lower energy use, when many homes had swamp coolers, and

when the University of Arizona and Banner University Medical Center complexes were smaller. Since then, homes have almost all switched to air conditioning causing load growth. Indeed, the city load hit record peaks during the summer of 2023. Countless new consumer electronic devices have been adopted, further increasing load per customer from the levels seen in the middle of the last century. The existing 46 kV system was not designed for current conditions and is at capacity. To avoid imminent reliability impacts, upgrades are needed now. For example, the 46 kV transformers at TEP's DeMoss Petrie, Northeast, Tucson, and Irvington substations have little to no contingency reserves. Indeed, much of the existing 46 kV system in Midtown Tucson is at or near capacity (Figure 1).

Similarly, the existing 4 kV distribution system (lines and substations) requires replacement. The areas served by TEP's Winnie, U of A Medical, Olsen, Warehouse, 21<sup>st</sup> Street, 35<sup>th</sup> Street, and Pueblo Garden substations are served using a dated 4 kV system. As part of the upgrade project, new 14 kV ties to these substations will be installed. The 4 kV system is also at or near capacity (Figure 1).

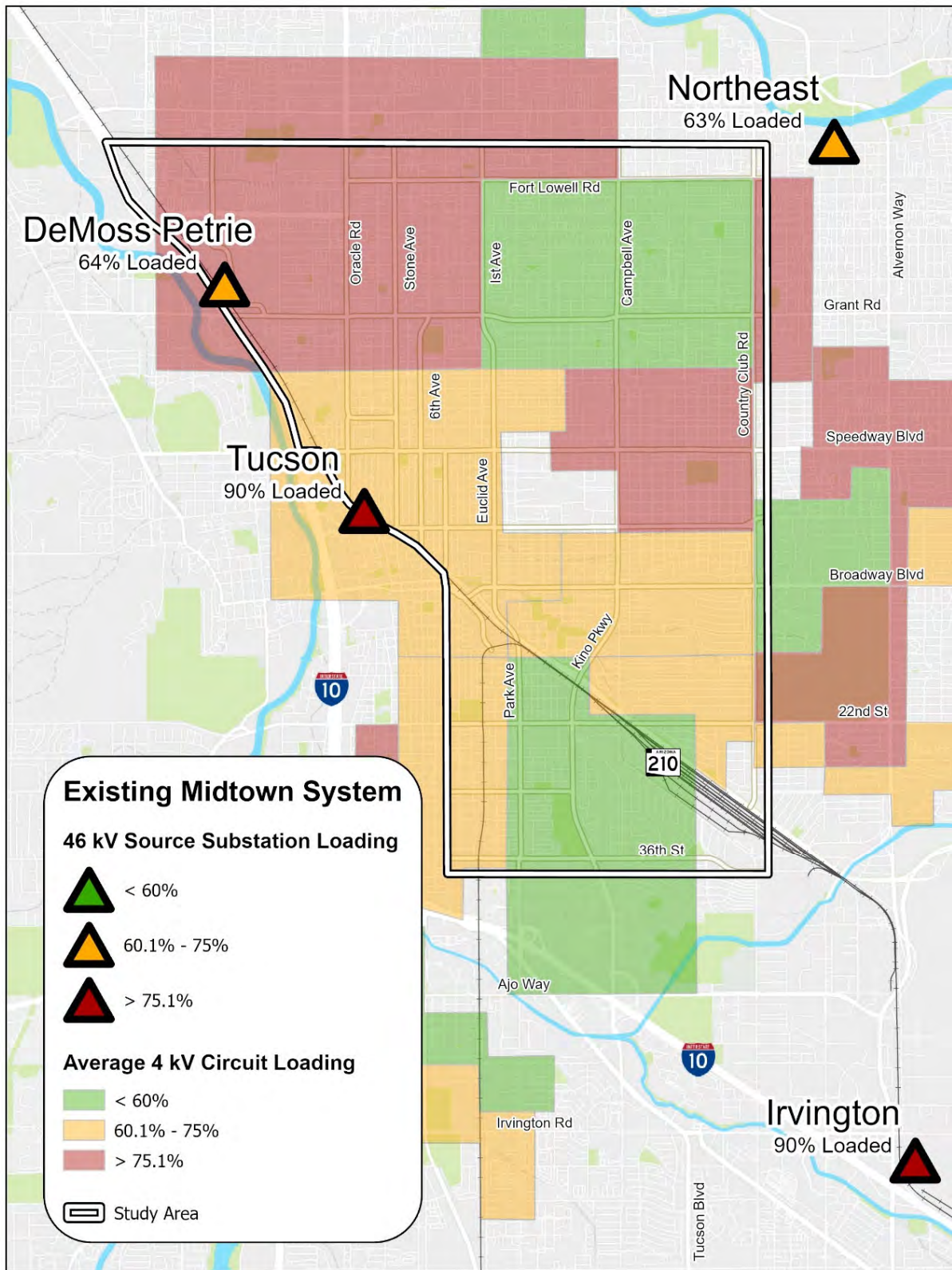


Figure 1. Existing Midtown System

The current system cannot continue to provide reliable service as equipment continues to age and the energy needs of our customers continue to increase. TEP anticipates the City's energy needs will continue to grow annually. The City of Tucson encourages infill development, and the Midtown area is a prime location for responsible infill development due to the proximity to local retail shops, restaurants, and employment opportunities. As the total number of customers in the Midtown area grows, we also anticipate average usage to increase as TEP customers continue to adopt electrification, including the electrification of transportation and heating.

**A.3 The transmission upgrade to 138 kV is an essential part of the Midtown upgrade plan and promotes reliability for TEP's entire service area.**

**A.3.1 The 138 kV upgrade is needed for reliability for TEP's service area.**

Upgrading the transmission system to 138 kV will provide the reliability necessary to serve the growing Midtown area. Reliability will be enhanced in the following ways:

- **Relieve overloading.** The Midtown Reliability Project will remove 60 megavolt amperes ("MVA") of energy demand from the strained 46 kV system (Figure 1). Additionally, the 138 kV line will enable the upgrade to 14 kV distribution lines, thus easing the burden on the distribution system.
- **Looped system.** The 138 kV line will be part of a looped transmission system, unlike the current 46 kV lines that are radial. Looped systems are greatly preferred because they are much more reliable—if a segment fails, electricity can be provided from the other direction thus reducing the frequency and duration of outages. By contrast, failures in a radial system will result in outages—sometimes for an extended period—until the line can be returned to service. Thus, radial lines are typically used in special circumstances where a looped system would be too costly, such as to provide service to remote rural areas or to specific industrial customers. A radial system is no longer appropriate to serve the Midtown area, which is in the heart of metro Tucson. Again, the existing 46 kV system dates from the middle of the last century, and it must be replaced with a more modern and capable system.
- **Steel poles.** The existing 46 kV system primarily relies on old wooden monopoles. In contrast, the new 138 kV line will use steel monopoles. Steel poles are much more robust; that is, they are much better equipped to resist damage from wind, vehicle impacts, or other causes. Thus, a system with steel poles will be more reliable. The possibility that our community could face an increasing number of extreme weather events only raises the importance of upgrading to steel poles. Further, the existing wooden distribution poles are aging, with approximately 4,000 poles within the study area aged at more than 60 years old. These poles need replacement. As part of the distribution system upgrade from 4 kV to 14 kV, most will be replaced with more robust steel poles.
- **Modernizing equipment.** Much of the existing 46 kV and 4 kV system is at the end of life, including some poles, transformers, switchgear, and breakers. Replacing this existing infrastructure with more modern 138 kV and 14 kV equipment will improve reliability, increase system capacity and reduce overall operational costs. Utilizing modern 138 kV design and construction standards will allow the Company to reduce the number of substation assets which reduces the overall maintenance requirements. Upgraded 138 kV and 14 kV substation equipment will also allow for

proper integration into TEP's Advanced Distribution Management System (ADMS) which will aid in more efficient operations of the grid in Midtown.

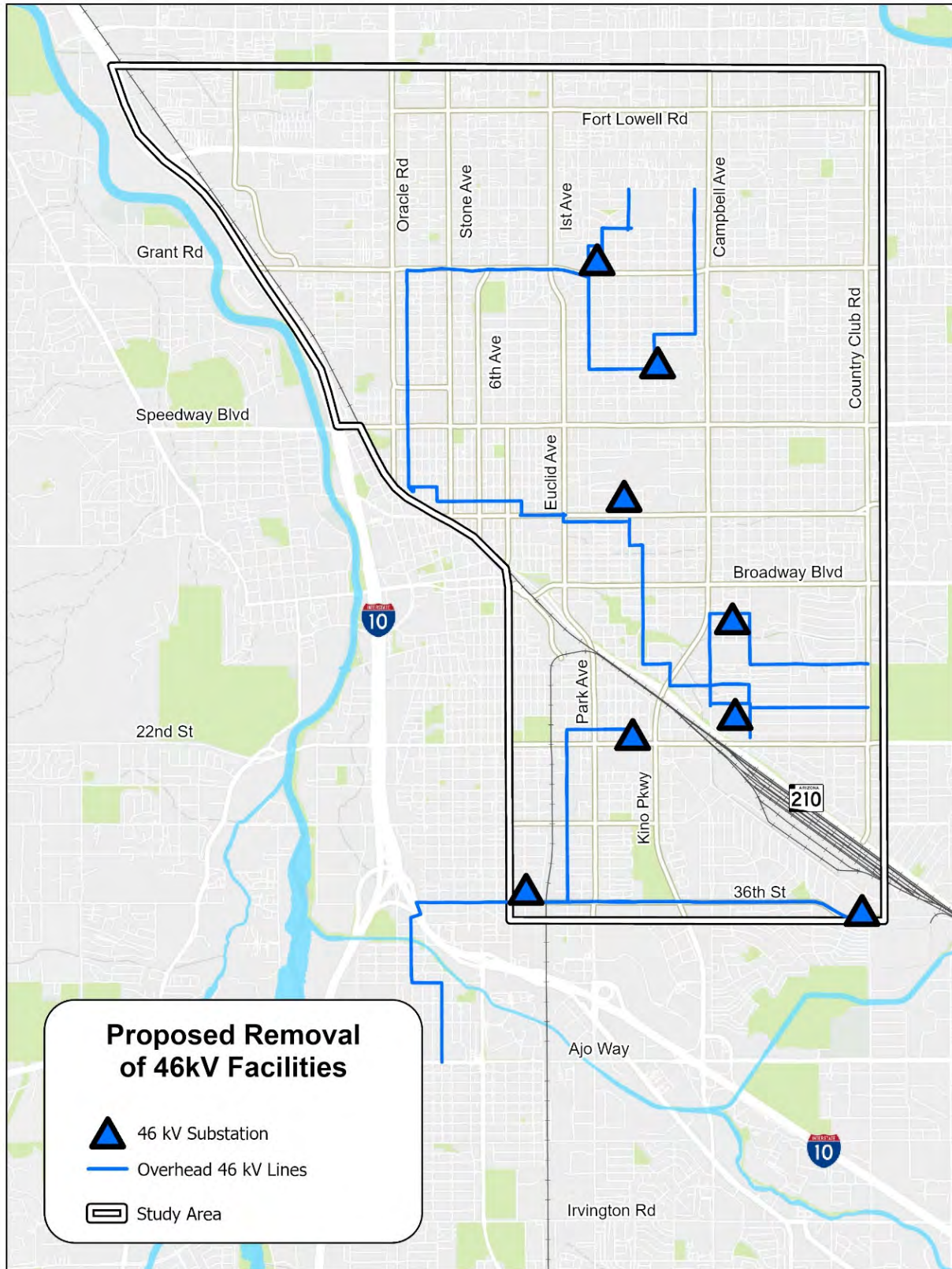
Midtown Tucson needs a more reliable electric system. The current 46 kV system—while it has served the homes and businesses of Midtown well for many years—is no longer up to the task. The Midtown Reliability Project, including the 138 kV DeMoss Petrie-to-Vine-to-Kino line and Vine Substation, will greatly enhance the reliability of service to TEP's customers. Reliability will be enhanced by removing a large amount of load from the 46 kV system, by moving to a looped transmission system, by switching to steel poles, and by eliminating aged equipment.

#### A.3.2 The 138 kV upgrade will provide additional benefits to TEP customers.

While the 138 kV upgrade will deliver significant reliability improvements, the upgrade has other benefits as well.

- **Fewer poles and substations.** The 138 kV upgrade project will ultimately remove certain existing 46 kV poles and substations. TEP estimates that up to eight 46 kV substations and up to 19 miles of 46 kV lines will be removed in the next 10 years as a result of the 138 kV upgrade. Thus, overall, the upgrades will result in a net decrease in the number of poles, miles of line, and substations in the Midtown area. A map below shows the 46 kV substations and lines that could be eliminated (see Figure 2).







***Figure 2. Proposed Removal of 46kV Facilities***

- **Access to renewable energy.** The new 138 kV system will be much more robust and will thus be better able to manage the addition of new energy resources. This includes being better equipped to import power from TEP's increasingly cleaner generating resources into TEP's service area, as well as supporting a more robust distribution system that is better equipped to accept intermittent load—and intermittent power deliveries—from rooftop residential and commercial solar within the City.
- **Accommodate electric vehicle adoption.** More and more TEP customers are buying electric vehicles ("EV"), which benefit the environment but add to electric demand. As already described, the current Midtown sub-transmission and distribution systems are strained. Upgrading these systems will thus enable wider EV adoption, including installation of home EV chargers, as well as the addition of Level 2 and Level 3 public chargers, in the Midtown area. Further, it is foreseeable that large customers in the area, such as the University of Arizona, will likely seek to electrify their vehicle fleets over time. Again, this will require the more robust system enabled by the 138 kV upgrades.
- **Platform for growth of Midtown.** The 138 kV upgrades will meet today's needs and allow for continued development in Midtown, including residential and commercial growth, and further expansion of the University of Arizona and related businesses. This will support jobs and prosperity throughout the metro Tucson area.

Beyond the critical reliability benefits, the 138 kV upgrades will (1) reduce the number of poles and substations in Midtown; (2) result in less miles of overhead lines in Midtown; (3) improve access to renewable electricity; (4) support the transition to EVs; and (5) meet today's needs as well as allow for growth in Midtown, including support for the University of Arizona and related businesses.

**A.4 The 138 kV upgrade is merely a continuation of the Irvington-to-Kino line approved in Case 178.**

The Midtown 138 kV upgrades are part of a larger effort to upgrade much of TEP's 46 kV system to 138 kV in the metro area. The Midtown Reliability Project is not the first phase of this effort. The Project mirrors the already completed Irvington-to-Kino line approved in Case 178. As with this line, the existing 46 kV system was upgraded and partly replaced with the 138 kV Irvington-to-Kino line. Similar to the proposed Midtown Reliability Project, the Irvington-to-Kino line enhanced reliability. Like the Midtown Reliability Project, Irvington-to-Kino reduced loading on the strained 46 kV system and further increased reliability by using steel poles, moving from radial to looped systems, and replacing aging equipment with new equipment at a more common voltage. During the public outreach for the Irvington-to-Kino line, TEP clearly stated that "[t]he proposed 138 kV Irvington to Kino Transmission Line is the first of several system improvements designed to provide additional transmission capacity in the central portion of the Tucson metro area"<sup>3</sup> and described that line as the first phase of such improvements.<sup>4</sup>

The proposed DeMoss Petrie-to-Vine-to-Kino 138 kV line, when added to the new Irvington-to-Kino line, will create a robust 138 kV path all the way from the Irvington substation to the DeMoss Petrie substation.

<sup>3</sup> [https://docs.tep.com/wp-content/uploads/2018/03/IRV\\_Kino-Newsletter-3.pdf](https://docs.tep.com/wp-content/uploads/2018/03/IRV_Kino-Newsletter-3.pdf)

<sup>4</sup> <https://docs.tep.com/wp-content/uploads/2018/05/Irvington-to-Kino-138kV-CEC-Exhibit-J-12-thru-J-14.pdf>

Both the Irvington and DeMoss Petrie locations have onsite generation as well as substations. It has always been the plan to connect these two generation locations and major substations with a 138 kV line, thus providing a strong backbone for the electrical system in the area.

Notably, the Irvington-to-Kino line attracted no intervenors and was approved without controversy. In that case, and for the Irvington-to-East Loop 138 kV line, the City of Tucson approved the construction of above ground 138 kV transmission facilities in a Gateway Corridor – a significant deviation from the City’s current position.

#### **A.5 TEP went to great lengths to work with the City**

A reliable electric system serving Midtown benefits TEP, its customers, and the City of Tucson (“City”). The City will benefit in many ways, including through the economic growth—and thus taxes—enabled by the 138 kV upgrades. In contrast, if Midtown is unable to grow, and is saddled with an increasingly unreliable electric system, such an outcome would be detrimental to the City.

Hoping for common ground on this basis, TEP has attempted to work with the City for many years regarding the Midtown Reliability Project. After all, the City did not oppose the first phase of the line, from Irvington-to-Kino.

Thus, when the City expressed concerns with the earlier CEC application for this project (Case 192) and asserted that a local zoning ordinance applicable to the Gateway Corridor required that portions of the line be constructed below ground, TEP agreed to place the case on hold and ultimately withdrew that application in attempt to reach a compromise with stakeholders. Even though, as discussed below, TEP does not believe that the undergrounding requirements in the Gateway Corridor Zone apply to this project, TEP executive management nevertheless began regular meetings with City Manager Michael Ortega and City Attorney Michael Rankin.<sup>5</sup> These meetings resulted in the development of “special exceptions” to the City’s interpretation of the Gateway Corridor zoning requirements in limited circumstances, although it was generally acknowledged that the exceptions would apply only to a subset of the proposed Kino/Campbell route and the rest of the line would need to be constructed below ground.

Ultimately, TEP and the City agreed to a proposed Franchise Agreement that would, among other things, provide a source of funds to use for undergrounding future TEP transmission projects. Notably, for the first ten years, 90% of the increased franchise fee would go towards undergrounding, while 10% would go towards a proposed City Climate Action and Adaptation Plan (“CAAP”). However, the proposed agreement attracted opposition, with some opponents arguing that the CAAP went too far, and others asserting that it did not go far enough. Ultimately, the voters rejected the proposed Franchise Agreement (Proposition 412) in a May 2023 special election. TEP’s current Franchise Agreement therefore remains in place.

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<sup>5</sup> TEP Status Report filed on November 29, 2021 in Docket L-00000C-21-0288-00192.

After the new Franchise Agreement was rejected, and given the urgent need to upgrade the Midtown system, TEP was left with no choice but to move forward with the Midtown Reliability Project. TEP continued meeting with the City on numerous occasions.<sup>6</sup>

**A.6 Undergrounding would be unduly costly and the Committee should reject the City's efforts to impose this costly approach without paying for it**

The proposed Franchise Agreement that was the result of TEP's work with the City included funding for undergrounding lines. The clear and longstanding practice in Arizona has been that the proponent of undergrounding—rather than the utility—pays for the extra cost of undergrounding. For example, in Case No. 195, the City of Chandler (\$31 million) and Intel (\$36 million) paid the additional costs of undergrounding portions of that line to the new Intel fabrication facilities.<sup>7</sup> Similarly, in Case No. 175, the City of Chandler agreed to use its dedicated aesthetic funding for undergrounding a portion of the Price Road Corridor line.<sup>8</sup> Likewise, in Case No. 198, Microsoft agreed to pay to underground a portion of the line to its datacenter.<sup>9</sup> In addition, the cost to underground the line near the Desert Ridge shopping center was paid by a third party.<sup>10</sup>

Consistent with this long-standing practice, the Arizona Corporation Commission ("Commission") recently adopted a Policy Statement regarding undergrounding in Decision No. 79140 (October 4, 2023). The Policy Statement provides that:

The Commission does not have jurisdiction over the undergrounding of electric transmission lines. A.R.S. § 40-360(10). Installing electric transmission lines underground is much more expensive than building them above ground. Underground transmission lines also can be more costly and challenging to maintain and repair. As a general matter, utilities under the Commission's jurisdiction should avoid incurring these higher costs unless underground installation of a transmission line is necessary for reliability or safety purposes, or to satisfy other prudent operational needs. Installing a transmission line underground for other reasons, such as stakeholders' preferences, would add unnecessarily to costs recovered through rates. Third parties, including cities, customers, and neighborhood groups, seeking to fund the underground construction of a transmission line may do so, among other ways, by forming an improvement district for underground utilities as provided in A.R.S. § 48-620 et. seq. (emphasis added).

The Commission's concerns about excessive cost are well-founded. Underground transmission lines cost many times more than overhead lines. Unlike single-phase residential distribution systems, transmission

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<sup>6</sup> For example, TEP met with Vice Mayor Steve Kozachik on September 11, 2023, with the Community Engagement Advisor for Mayor Romero on January 31, 2024, and various agency briefings on August 10, 2023, October 19, 2023, January 10, 2024, and February 28, 2024 with the City Manager's office, Planning and Development Services Department, Environmental and General Services, Historic Preservation Office, Tucson Water, Tucson Transportation and Mobility, and the Zoning Administrator.

<sup>7</sup> Case No. 195, November 8, 2021 Tr. at page 234, line 20 to page 235, line 10.

<sup>8</sup> Id., at page 124, lines 5 to 10.

<sup>9</sup> Case No. 198, February 28, 2022 Tr. at page 22, lines 5 to 6.

<sup>10</sup> Case No. 198, February 28, 2022 Tr. at page 22, lines 5 to 6.

systems operate at much higher voltages and have extensive requirements to enable them to be operated safely. Underground transmission lines are more expensive for several reasons:

- **Much more underground work.** While overhead lines require foundations and other ground or underground construction only at intervals for the poles, underground lines require expensive underground construction for the entire line. This includes the underground concrete “duct bank” that contains the underground lines, as well as underground splicing vaults.
- **Cooling.** Another fundamental difference is cooling. Overhead lines are cooled by the air, while underground lines require special cables and insulation, or liquid cooling machinery. These separate cables are more than 100 times the cost of an overhead conductor, and, with existing technology, multiple cables must be placed in service to accomplish the same line rating.
- **Repair.** Underground transmission lines may take longer to repair than overhead lines and are vulnerable to flooding.
- **Existing underground and surface infrastructure.** Undergrounding transmission lines can be particularly difficult (and thus even more expensive) in urban areas, due to the existence of extensive existing underground infrastructure, such as water lines, sewer lines, gas lines, communications cables, existing underground electric distribution lines, and other infrastructure. Further, existing surface structures, such as roads and sidewalks, are also much more impacted by underground construction than overhead construction. The proposed transmission line in this case would be built in an urban area, and would face these surface and underground infrastructure issues if it were constructed underground. Furthermore, underground projects often face significant issues due to unknown subsurface sites (*i.e.* archaeological or cultural) that could result in considerable project delays or unexpected and costly mitigation measures.

For these reasons, a large majority of the new transmission lines (including sub-transmission) constructed in the United States are overhead lines.

The very large increased cost of undergrounding is well documented in prior CEC cases.

- Case No. 198, APS Witness Wiley testified that the cost of underground transmission lines can be ten times the cost of overhead lines.<sup>11</sup>
- Case No. 195, SRP Director of Transmission Line Design, Construction, and Maintenance Zack Heim testified that “the cost to underground a transmission line is generally 10 to 15 times more than the equivalent overhead line, and that’s true in this case.”<sup>12</sup>

TEP obtained an independent study of the costs and possible difficulties of undergrounding the Project line, which are consistent with the estimates provided by SRP and APS in the prior proceedings. This independent study by Sargent & Lundy, LLC showed an estimated cost for engineering, material procurement, and construction of \$25 million per mile for an underground line. The shortest overhead line route is estimated to cost \$17 million, while the same line with portions undergrounded within the Gateway Corridor Zone is estimated to cost \$87 million. This extra \$67 million in cost is significant and would result in higher rates for all TEP customers if included in rate base. If undergrounding were required, customers outside the Midtown region would be paying the increased rates, while only

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<sup>11</sup> Case No. 198, February 28, 2022 Tr. at page 60, lines 17 to 23

<sup>12</sup> Case No. 195, November 8, 2021 Tr. at page 190, line 11 to page 194, line 15.

customers within the Midtown area would receive the visual benefits of undergrounding. This is contrary to the Commission's Policy Statement and long-standing practice.

Notably, TEP has approximately 473 miles of 138 kV transmission lines, all of them above ground, many of them within the City. Thus, TEP customers outside of Midtown see these existing lines, and it would not be fair or reasonable for them to pay so that residents of Midtown would not have to see similar lines. TEP would not oppose Midtown residents forming an undergrounding district under A.R.S. § 40-341 *et seq.* or § 48-620, nor would TEP oppose the City paying to fund the undergrounding differential costs.

**A.7 Section 5.5 of the City of Tucson's Unified Development Code does not apply to this Project, but TEP seeks this Committee's exercise of its authority pursuant to A.R.S. 40-360 (D) to preempt any such application.**

The City of Tucson ("City") claims that the City's Unified Development Code ("UDC") requires that a portion of the Project be built underground. Specifically, the route alternative identified as Route 1 in this Application runs down Kino Parkway and Campbell Avenue, large sections of which have been designated a Gateway Corridor Zone ("GCZ"). This assertion is contrary to the text of the UDC. TEP employed its administrative remedies prior to the filing of this Application. The City's Zoning Administrator issued a decision that the UDC requires significant portions of Route 1 be undergrounded. The Board of Adjustment upheld the Zoning Administrator's Decision. TEP filed a statutory special action to the Pima County Superior Court and is awaiting a decision. TEP anticipates, however, that if the Superior Court rules in the Company's favor, the City will appeal. Therefore, this Application asks this Committee to exercise its authority under A.R.S. 40-360 (D) so that, in the event the ultimate outcome of the litigation between the City and TEP is in the City's favor, TEP is still authorized to build the line using whichever alternative route that this Committee selects as the most appropriate. TEP simply cannot wait any longer.

The siting statute provides that a CEC may preempt such local requirements where the local requirement is unreasonably restrictive and not feasible in view of the available technology. Pursuant to A.R.S. § 40-360.06(D),

Any certificate granted by the committee shall be conditioned on compliance by the applicant with all applicable ordinances, master plans and regulations of the state, a county or an incorporated city or town, except that the committee may grant a certificate notwithstanding any such ordinance, master plan or regulation, exclusive of franchises, if the committee finds as a fact that compliance with such ordinance, master plan or regulation is unreasonably restrictive and compliance therewith is not feasible in view of technology available. (emphasis added).

Consistent with the Commission's Policy Statement, given the excessive cost of undergrounding, and the resulting impact on rates, requiring undergrounding would render the Project unreasonably restrictive and not feasible. Accordingly, assuming that the City's position is correct and the UDC applies to this Project, the Committee should issue the CEC notwithstanding the undergrounding requirement.

Moreover, in enacting the line siting statutes (A.R.S. § 40-360 *et seq.*), the Legislature declared that "the purpose of this article is to provide a single forum for the expeditious resolution of all matters concerning

the location of electric generating plants and transmission lines in a single proceeding to which access will be open to interested and affected individuals, groups, county and municipal governments and other public bodies to enable them to participate in these decisions.”<sup>13</sup> Accordingly, this is the “single forum” and “single proceeding” to address the policy question of whether to require undergrounding.

The statute requires special notice to be given when such a request for preemption is made. Under A.R.S. § 40-360.06(D),

[w]hen it becomes apparent to the chairman of the committee or to the hearing officer that an issue exists with respect to whether such an ordinance, master plan or regulation is unreasonably restrictive and compliance therewith is not feasible in view of technology available, the chairman or hearing officer shall promptly serve notice of such fact by certified mail on the chief executive officer of the area of jurisdiction affected and, notwithstanding any provision of this article to the contrary, shall make such area of jurisdiction a party to the proceedings on its request and shall give it an opportunity to respond on such issue.

Therefore, although TEP does not concede that the undergrounding requirements applicable in Gateway Corridor Zones apply to this Project, in an abundance of caution, TEP requests that the Chairman provide notice to the City of Tucson by certified mail under this section that it has an interest in the present application.

#### **A.8 Public Outreach**

Public participation is a vital part of TEP’s infrastructure planning process for siting of transmission lines; therefore, comprehensive public involvement and communication activities were conducted as a part of the Midtown Reliability Project development process discussed herein. As described throughout this Application, TEP has undertaken extensive public outreach directly attributable to the Midtown Reliability Project – all apart from and in addition to the outreach done dating back to 2019 associated with the predecessor to this Project in Case No. 192. Outreach activities for the present application started in May 2023 with efforts to notify and inform the public, the City, agencies, community leaders, and other affected stakeholders about the need for and benefits of the Project.

Throughout the evaluation process, the public and stakeholders were given opportunities to provide comments through a variety of bilingual methods. TEP sent newsletters to provide background on the Project and any updates, announce the public open houses and solicit feedback on the Midtown Reliability Project. Briefly, TEP issued four newsletters regarding the Midtown Reliability Project and also publicized the Project using emails, signs, flyers, newspaper advertisements and social media ads on Facebook and Instagram. TEP hosted four open houses to engage with the public. Newsletters, including open house information, were mailed to over 100,000 residents, property owners, businesses and other stakeholders. Social media ads informing the public of the open houses resulted in over 1 million impressions between the four meetings. Signs and flyers advertising the open house sessions were strategically placed at prominent locations throughout the Project study area. TEP also maintained an email distribution list, which allowed direct electronic notifications and project updates at all stages of outreach. Finally, TEP

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<sup>13</sup> See Laws 1971, Ch. 67, § 1 (emphasis added).

engaged with local news outlets, including local television stations and our daily newspaper, to share project details with the Tucson community.

As discussed above, TEP has remained committed to working with stakeholders on the Midtown Reliability Project. TEP held 13 targeted neighborhood listening sessions and four meetings of the TEP Neighborhood Advisory Group – a partnership between TEP and 21 Midtown neighborhoods. TEP also held several agency briefing sessions and individual outreach meetings with key stakeholders groups including, but not limited to, the City of Tucson (various offices and departments), Pima County (various offices and departments), University of Arizona, Tucson Airport Authority, Davis–Monthan Air Force Base, Banner University Medical Center, Southern Arizona Home Builders, Metropolitan Pima Alliance, Southwest Gas, and Tucson Metro Chamber. TEP also met with federal, state, and local officials to provide updates and elicit feedback.

Along with the direct public outreach, TEP created English and Spanish project webpages ([www.tep.com/midtown-reliability-project/](http://www.tep.com/midtown-reliability-project/) and [www.tep.com/proyecto-de-confiabilidad-del-centro-de-la-ciudad/](http://www.tep.com/proyecto-de-confiabilidad-del-centro-de-la-ciudad/)) to provide Project updates and allow for additional public engagement through online comment forms. The Project website includes interactive maps, copies of public outreach materials, a video overview of the project, and proposed project timelines. The website is regularly updated to provide interested stakeholders with the most up-to-date information regarding the Project. Since its launch, the website has been viewed over 10,000 times by approximately 5,818 unique users.

TEP made a concerted effort to engage with the public from the inception of the Midtown Reliability Project. As detailed here, and as further set forth in Exhibit J to the CEC Application, TEP took significant steps to inform the public and gather feedback – well in excess of the statutory and regulatory requirements for a CEC (Figure 3). These efforts culminated in a public outreach campaign that included over 50 meetings, a neighborhood advisory group, over 400,000 mailers, social media campaigns, and robust electronic resources.

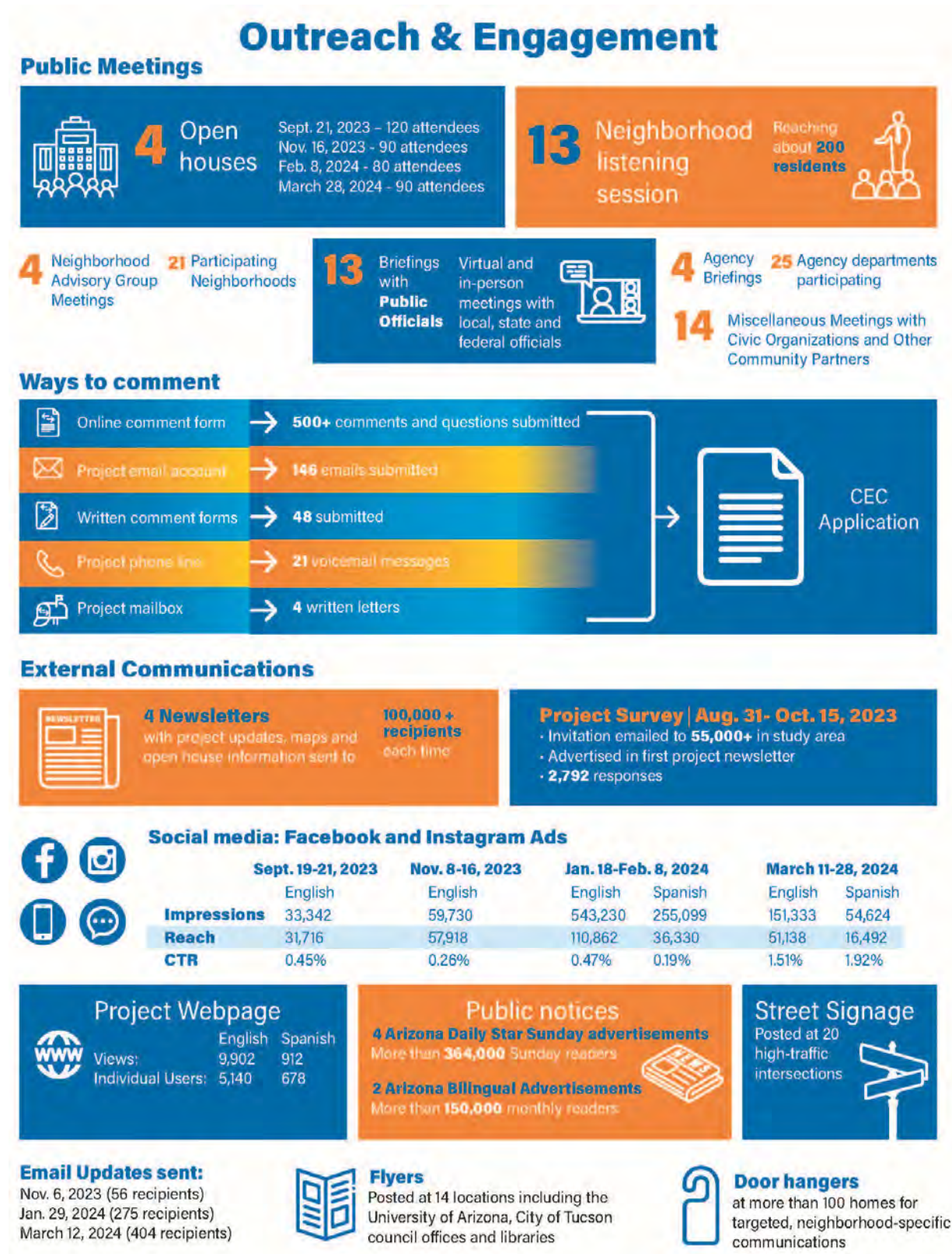


Figure 3. Outreach Infographic



## **A.9 Study Area Development and Proposed Routes**

TEP identified a study area for analysis as the Project was being planned. The Midtown Reliability Project study area defines the area of notification and the area in which potential routes would be considered. The Project study area boundaries were determined by identifying the beginning, middle, and end points of the Project and identifying high-level siting opportunities. The boundaries for the study area are defined as follows:

- The north boundary is approximately one mile north of the Project end point (DMP Substation).
- The east boundary is approximately one mile east of the middle point (Vine Substation).
- The west boundary is bound by Interstate 10 and approximately one mile west of the beginning point of the Project (Kino Substation).
- The southern boundary is bound by the beginning point of the Project (Kino Substation).

Maps depicting the Project location and Project study area are included in Exhibit A-3. The notification area extends approximately one mile beyond the study area.

In 2016, an area study was conducted to determine the load center for the forecasted energy demand within and around the University of Arizona campus by analyzing existing infrastructure and forecast load growth. The area study identified the load center to be within the existing University of Arizona campus near 7<sup>th</sup> Street and Cherry Avenue. In order to meet the future load requirements identified by the study, TEP would need to construct a new 138 kV substation and transmission line as close to the load center as possible. After review of potential locations (an iterative parcel search process) that could accommodate a new substation, TEP determined that a site near the existing TEP-owned University of Arizona Med 46 kV Substation (located near the intersection of North Vine Avenue and East Lee Street) was sufficiently close to the load center identified in the area study. The Vine Substation will be located on a 1.6-acre parcel just west of the Banner University Medical Center staff parking lot.

Based on public input, TEP identified several proposed routes. The proposed routes are in two segments, with DeMoss Petrie-to-Vine (Alternatives A, B, C, D) and Vine-to-Kino (Alternatives 1, 2, 3, 4, 5, and 6). The preferred route is Alternative B4 (a combination of alternatives B and 4), with a length of 8.5 miles and an estimated cost of approximately \$20 million. The alternatives range in length from 7.3 to 11.8 miles and cost between approximately \$16 million and \$24 million. As noted, undergrounding costs are multiples of this; with an estimated cost of \$25 million per mile, undergrounding the portions of these routes within Gateway Corridor Zones would increase the cost of the project by approximately \$67 million. While TEP has identified a preferred route, any of these routes are constructable and the Company will defer to the decision made by the Committee and the Commission to best balance the various stakeholder interests presented in this case.

## **A.10 Environmental Impacts**

Given the highly urban nature of Midtown Tucson, the Project has little detrimental environmental impact. The alternative routes use existing rights-of-way to the maximum extent possible. The routes go through existing built-up areas, minimizing environmental impacts. Further, visual impacts will be

reduced over time, because the addition of seven to twelve miles of 138 kV overhead lines would be counterbalanced by the removal of up to 19 miles of existing 46 kV overhead lines over time. In addition, the Midtown Reliability Project will enable increased access to renewable energy and support for electrification, including increased use of EVs. The analysis as presented in this Application makes clear that the Midtown Reliability Project balances, in the broad public interest, Arizona's need for a reliable, economic supply of power with the desire to minimize the effect thereof on the environment and ecology of this state.

#### **A.11 Conclusion**

The Midtown Reliability Project will greatly improve the reliability of the TEP electrical system by adding a looped system, by relieving overloaded 46 kV circuits, by constructing the line with steel poles, and by replacing old equipment at the end of its life, as well as by enabling upgrades to the distribution system from 4 kV to 14 kV.

To enable all of these significant improvements to service quality and reliability for our customers, TEP respectfully asks that the Committee issue a CEC for the Midtown Reliability Project, including a preemption of the City of Tucson's assertion that undergrounding is required under its local zoning ordinance if a route in alleged conflict with that ordinance is selected for construction.

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## B. APPLICATION FOR CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

(Pursuant to A.R.S. §§ 40-360.03 and 40-360.06)

### B.1 Project Information

1. Name and address of Applicant:

Tucson Electric Power Company  
88 East Broadway Blvd, Tucson, AZ 85701  
PO Box 711, Tucson, AZ 85702

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

Clark Bryner  
Manager, Siting, Outreach and Engagement  
Tucson Electric Power Company  
88 East Broadway Blvd, Tucson, AZ 85701  
PO Box 711, Tucson, AZ 85702  
Phone: (520) 401-1175

3. Dates on which Applicant filed a Ten-Year Plan in compliance with A.R.S. § 40-360.02, and designate each such filing in which the facilities for which this application is made were described. If they have not been previously described in a Ten-Year Plan, state the reasons therefore:

The Project was first identified in TEP's Ten-Year Plan Transmission Projects for Years 2017-2026, filed in January 2017 under Docket No. E-00000D-17-0001 and has been included in each subsequent filing (Table 1). (The project was first identified to terminate at the existing Tucson 138kV Substation.)

**Table 1. Ten Year Filings**

Filing Year	Docket Number	Project Name	Point of Origin	Interim Point	Point of Termination
2017	E-00000D-17-0001	Future Kino 138 kV Substation - Tucson 138 kV Substation	Kino 138 kV Substation	Under Study	Tucson 138 kV Substation
2018	E-00000D-17-0001	Future Kino 138 kV Substation - DeMoss Petrie (DMP) 138 kV Substation	Kino 138 kV Substation	Under Study	DMP 138 kV Substation
2019	E-00000D-19-0007	Future Kino 138 kV Substation - DeMoss Petrie (DMP) 138 kV Substation	Kino 138 kV Substation	Under Study	DMP 138 kV Substation
2020	E-00000D-19-0007	Planned Kino 138 kV Substation - DeMoss Petrie (DMP) 138 kV Substation with loop-in at planned U of A North 138-kV Substation	Kino 138 kV Substation	*Planned U of A North Substation	DMP 138-kV Substation

Filing Year	Docket Number	Project Name	Point of Origin	Interim Point	Point of Termination
2021	E-99999A-21-0009	Planned Kino 138 kV Substation - DeMoss Petrie (DMP) 138 kV Substation with loop-in at planned U of A North 138-kV Substation	Kino 138 kV Substation	*Planned U of A North Substation	DMP 138-kV Substation
2022	E-99999A-21-0009	Planned Kino 138 kV Substation - DeMoss Petrie (DMP) 138 kV Substation with loop-in at planned upgraded Vine 138-kV Substation	Kino 138 kV Substation	Planned Vine Substation	DMP 138-kV Substation
2023	E-99999A-23-0016	Kino 138 kV Substation - DeMoss Petrie (DMP) 138 kV Substation with loop-in at planned upgraded Vine 138-kV Substation	Kino 138 kV Substation	Planned Vine Substation	DMP 138-kV Substation
2024	E-99999A-23-0016	Kino 138 kV Substation - DeMoss Petrie (DMP) 138 kV Substation with loop-in at planned upgraded Vine 138-kV Substation	Kino 138 kV Substation	Planned Vine Substation	DMP 138-kV Substation

\*The name of the interim substation in the 2020 and 2021 Ten Year filings was changed from U of A North Substation to Vine Substation in 2021

**4. Description of transmission line:**

- i. *Nominal voltage for which the lines are designed; description of the proposed structures and switchyards or substations; purpose for constructing:*

Nominal Voltage

The nominal voltage of the single-circuit transmission line is 138 kV.

Description of Structures

The transmission line structures will be designed to accommodate one circuit of 138 kV transmission, however, depending on the route alternatives approved, a design to accommodate up to two 138 kV circuits or a 46 kV circuit may be used. The structures will be tubular, self-weathering steel monopoles, and the conductor will have a non-specular finish to reduce visibility. The structures will typically be 75 to 130 feet above ground, with the taller structures required for site specific clearance issues.

Description of Substation and Switchyards

The Project originates at the existing DeMoss Petrie 138 kV Substation, connects to the planned upgraded Vine 138 kV Substation, and terminates at the existing Kino 138 kV Substation.

The planned upgraded Vine Substation, a future gas-insulated substation, will be located on private land on the east side of North Vine Avenue, just west of the Banner-University Medical Center Tucson staff parking garage. The substation will be located on a 1.6-acre parcel.

See Exhibits G-1.1 through G-1.10 for typical structures; Exhibits G-2.1 and G-2.2 for substation plan and elevation; and Exhibit G-3 for visual simulations of the transmission line.

#### Project Purpose

The purpose of the Project is to extend TEP's 138 kV transmission system into the central portion of Tucson by connecting the planned upgraded Vine 138 kV Substation to the 138 kV system, providing new sources into TEP's distribution system along the northern edge of the University of Arizona, and connecting the existing Kino Substation to the existing DMP Substation, providing a looped electric system and increased transmission and distribution capacity. The Project will improve reliability by serving the planned upgraded Vine and existing Kino substations from two directions. The Project will transfer loading from existing 46 kV facilities in the study area to the new 138 kV facilities, providing contingency support to existing distribution and transmission facilities. The Project will eliminate overloads on the transmission system, improve reliability, serve future load increases, support distribution modernization initiatives, and allow for the retirement of portions of the existing, aging 46 kV system serving the area. The Project will also assist TEP in meeting its obligation to provide reliable and affordable electric service to customers within its service territory.

- ii. *Description of geographic points between which the transmission line will run; Straight-line distance between such geographic points; Length of the transmission line for each alternate route:*

#### Description of Geographic Points

The west point of the Project is DMP, located at Grant Road & Interstate 10 ("I-10"). The intermediate point is located on the northeast corner of North Vine Avenue and East Chauncy Lane. The southern point of the Project is the Kino Substation, located at the southeast corner of Kino Parkway and 36<sup>th</sup> Street.

#### Straight-line Distance

The straight-line distance from the existing DMP Substation to the planned upgraded Vine Substation is approximately 2.7 miles.

The straight-line distance from the planned upgraded Vine Substation to the existing Kino Substation is approximately 3.5 miles.

#### Length of Transmission Line Alternative Routes

The distances of the transmission line alternative routes are shown in Table 2:

**Table 2. Alternative Route Distances**

ALTERNATIVE ROUTE	DISTANCE (MILES)
<b>DMP to Vine</b>	
A	3.2
B*	3.5
C	4.2
D	3.8
<b>Vine to Kino</b>	
1	4.1
2	5.1
3	5.0
4*	5.0
5	5.9
6	7.6

\*Preferred routes

- iii. *Nominal width of right-of-way required; nominal length of span; typical height of supporting structures above ground; minimum height of conductor above ground:*

Nominal Width of Right-of-Way ("ROW")

In areas not covered by existing franchise agreements, the applicant plans to acquire up to a 100-foot-wide ROW. TEP is requesting a 400-foot-wide siting corridor for the approved Route, to allow for routing flexibility. The 400-foot width will cover use on either side of the road and allow for sufficient flexibility to accommodate road options near the planned upgraded Vine Substation.

Nominal Length of Span

The nominal length of span is 650 feet.

Typical Height of Supporting Structures

Supporting structures typically will range from 75 feet to 130 feet above grade for the transmission lines. The taller structures will be required to maintain National Electrical Safety Code ("NESC") clearance criteria at bridge, highway, and railroad crossings.

Minimum Height of Conductor

The minimum height of the 138 kV transmission line conductor above existing grade will be 25 feet at maximum sag.

- iv. *Estimated costs of the proposed transmission line and route:*

Estimated costs for the routes are shown in Table 3. Variations in cost depend upon duration of construction and quantity of materials required, as well as mitigation of existing conflicts and acquisition of land rights. The total transmission line cost is

anticipated to range between \$16 and \$24 million, depending on which combination of alternative routes is selected. Note that the construction and materials costs shown below include relocation of existing distribution lines, construction of new transmission lines, and ROW acquisition costs.

**Table 3. Estimated Costs by Alternative Route**

ALTERNATIVE ROUTE	TRANSMISSION LINE CONSTRUCTION AND MATERIALS	LAND ACQUISITION (ROW COST)	OVERHEAD/ UNDERGROUND DISTRIBUTION COST	LENGTH (MILES)	COST/MILE	TOTAL COST
DMP TO VINE						
A	\$3,391,681	\$ 1,992,189	\$810,814	3.2	\$1,935,839	\$6,194,684
B*	\$4,150,192	\$ 2,171,231	\$1,809,404	3.5	\$2,323,093	\$8,130,827
C	\$5,985,270	\$ 2,489,887	\$810,814	4.2	\$2,210,945	\$9,285,971
D	\$4,167,304	\$ 2,185,855	\$926,526	3.8	\$1,915,706	\$7,279,685
VINE TO KINO						
1	\$4,715,997	\$ 2,405,672	\$2,620,996	4.1	\$2,376,260	\$9,742,665
2	\$7,005,516	\$ 3,832,660	\$2,450,054	5.1	\$2,605,535	\$13,288,230
3	\$7,410,325	\$ 4,329,791	\$2,702,315	5.0	\$2,888,486	\$14,442,431
4*	\$5,693,364	\$ 3,898,321	\$1,820,522	5.0	\$2,282,441	\$11,412,207
5	\$7,076,901	\$ 4,461,489	\$645,491	5.9	\$2,065,065	\$12,183,881
6	\$8,007,213	\$ 4,923,858	\$444,601	7.6	\$1,759,957	\$13,375,672

\*Preferred alternative route

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

The following Preferred Route and additional routes in the application were selected based on the results of a Siting Study, which was conducted in coordination with stakeholders, the Neighborhood Advisory Group, and the public. Please see Section B.2 for additional discussion and Exhibit B-1 for the Final Midtown Reliability Project Siting Study.

#### **Description of Preferred Route**

TEP's preferred route is a combination of Alternative Routes B and 4. Alternative routes are listed and described in order of preference below.

#### **Northern portion (De Moss Petrie to Vine, Alternative Routes A, B, C, and D)**

- **Alternative Route B** leaves the existing DMP Substation to the southeast, turning east on West Grant Road, which turns into East Grant Road at North Stone Avenue. Route B turns



south on North Park Avenue, east onto East Adams Street, then north on North Vine Avenue, terminating at the planned upgraded Vine Substation.

- **Alternative Route A** leaves the existing DMP Substation to the southeast, turning east on West Grant Road, which turns into East Grant Road at North Stone Avenue. Route A turns south on North Vine Avenue and terminates at the planned upgraded Vine Substation.
- **Alternative Route D** leaves the existing DMP Substation to the southeast, turning east on West Grant Road, which turns into East Grant Road at North Stone Avenue. Route D continues east along East Grant Road to North Campbell Avenue, where it turns south to an alignment centered between East Lester Street and North Ring Road, turning west, where it terminates at the planned upgraded Vine Substation.
- **Alternative Route C** leaves the existing DMP Substation to the southeast, turning east on West Grant Road. Route C turns south on North Stone Avenue, east on East Speedway Boulevard, north onto North Park Avenue, east on East Adams Street, then north on North Vine Avenue, terminating at the planned upgraded Vine Substation.

**Southern portion (Vine to Kino, Alternative Routes 1, 2, 3, 4, 5, and 6)**

- **Alternative Route 4** leaves the planned upgraded Vine Substation to the south on North Vine Avenue, turns west on East Adams Street, and south onto North Park Avenue. At East Speedway Boulevard the route turns west, then south on North Euclid Avenue, continuing to East 12<sup>th</sup> Street where it turns west and then south to span East Aviation Parkway and the Union Pacific Railroad. At South Toole Avenue Route 4 turns south, following South Toole Avenue until it turns into South Euclid Avenue at East 16<sup>th</sup> Street. At East 19<sup>th</sup> Street the route jogs east to then turn south to continue on South Euclid Avenue. Route 4 turns east onto East 36<sup>th</sup> Street, which it follows to terminate at the existing Kino Substation.
- **Alternative Route 1** leaves the planned upgraded Vine Substation to the east on an alignment centered between East Lester Street and North Ring Road to North Campbell Avenue. At North Campbell Avenue the route turns south, continuing onto South Campbell Avenue at East Broadway Boulevard. Route 1 crosses East Aviation Parkway and the Union Pacific Railroad, and continues on South Campbell Avenue where it intersects with East 22<sup>nd</sup> Street. At the intersection with East Fairland Stravenue, the route turns southwest onto East Willis Way, then southeast on South Cherrybell Stravenue, and southwest onto East Silverlake Road. Just east of South Warren Avenue, the route turns south onto an alley, and then east to the intersection of East Barleycorn Lane and South Martin Avenue, where it turns south onto South Martin Avenue, which it follows to the intersection with East 36<sup>th</sup> Street. Route 1 turns west onto East 36<sup>th</sup> Street, and then terminates at the existing Kino Substation.
- **Alternative Route 6** leaves the planned upgraded Vine Substation, to the east, following the alignment of Route D in reverse. Route 6 proceeds east on an alignment centered between East Lester Street and North Ring Road to North Campbell Avenue, then north on North Campbell Avenue to East Grant Road. At North Stone Avenue Route 6 diverges

from the Route D alignment and turns south onto North Stone Avenue. At East Speedway Boulevard Route 6 continues across East 6<sup>th</sup> Street, the route turns east just north of the Union Pacific Railroad, and follows Maclovio Barraza Parkway to the southeast. After crossing over East Broadway Boulevard, Route 6 turns south to span East Aviation Parkway and the Union Pacific Railroad. At South Toole Avenue Route 6 turns south, following South Toole Avenue until it turns into South Euclid Avenue at East 16<sup>th</sup> Street. At East 19<sup>th</sup> Street the route jogs east to then turn south to continue on South Euclid Avenue. Route 6 turns east onto East 36<sup>th</sup> Street, which it follows to terminate at the existing Kino Substation.

- **Alternative Route 5** leaves the planned upgraded Vine Substation to the south on North Vine Avenue, turns west on East Adams Street, and south onto North Park Avenue. At East Speedway Boulevard the route turns west, and continues to North Stone Avenue, where it turns south. After crossing East 6<sup>th</sup> Street, the route turns east just north of the Union Pacific Railroad, and follows Maclovio Barraza Parkway to the southeast. After crossing over East Broadway Boulevard, Route 5 follows the alignment of Route 4, turning south to span East Aviation Parkway and the Union Pacific Railroad. At South Toole Avenue Route 5 turns south, following South Toole Avenue until it turns into South Euclid Avenue at East 16<sup>th</sup> Street. At East 19<sup>th</sup> Street the route jogs east to then turn south to continue on South Euclid Avenue. Route 5 turns east onto East 36<sup>th</sup> Street, which it follows to terminate at the existing Kino Substation.
- **Alternative Route 2** leaves the planned upgraded Vine Substation to the south on North Vine Avenue, turns east onto East Mabel Street, then south onto North Cherry Avenue to East Speedway Boulevard. The route turns east onto East Speedway Boulevard, crosses North Campbell Avenue, and turns south onto North Tucson Boulevard. Route 2 turns east onto East Broadway Boulevard, south onto South Plumer Avenue, east on East 14<sup>th</sup> Street, and then south on South Campbell Avenue, where it follows the alignment of Route 1. At the intersection with East Fairland Stravenue, the route turns southwest onto East Willis Way, then southeast on South Cherrybell Stravenue, and southwest onto East Silverlake Road. Just east of South Warren Avenue, the route turns south onto an alley, and then east to the intersection of East Barleycorn Lane and South Martin Avenue, where it turns south onto South Martin Avenue, which it follows to the intersection with East 36<sup>th</sup> Street. Route 2 turns west onto East 36<sup>th</sup> Street, and then terminates at the existing Kino Substation.
- **Alternative Route 3** leaves the planned upgraded Vine Substation to the south on North Vine Avenue, turns west on East Adams Street, and south onto North Park Avenue. At East Speedway Boulevard the route turns west, then south on North Euclid Avenue, continuing to East 7<sup>th</sup> Street where it turns east. Route 3 turns south on North Highland Avenue, and continues due south over Arroyo Chico Greenway. After crossing East 16<sup>th</sup> Street, the route follows an alley to the south and then east to South Curtis Avenue, which it follows south to East 17<sup>th</sup> Street. Route 3 then turns southwest to span East Aviation Parkway and the Union Pacific Railroad to East Warehouse Avenue, where it turns

southeast. Following South Cherry Avenue as it turns to the south, the route crosses East 22<sup>nd</sup> Street, and continues on South Cherrybell Stravenue to the southeast. It then follows the alignment of Routes 1 and 2, to turn southwest onto East Silverlake Road. Just east of South Warren Avenue, the route turns south onto an alley, and then east to the intersection of East Barleycorn Lane and South Martin Avenue, where it turns south onto South Martin Avenue, which it follows to the intersection with East 36<sup>th</sup> Street. Route 2 turns west onto East 36<sup>th</sup> Street, and then terminates at the existing Kino Substation.

#### **Reasons Alternative Route B4 is Preferred**

The decision on preferred routes was based on identifying the routes that best balanced the comments and concerns of the community. This balance was evidenced through the composite scoring of each route alternative with respect to the evaluation criteria (Table 4). It was further informed by looking at a subset of that criteria, prioritized through the survey conducted in 2023, with each of the criteria weighted accordingly. Lastly, because public and stakeholder input is crucial, the preferences expressed by the public, the Neighborhood Advisory Group, neighborhood associations, and other stakeholders were also considered.

***Table 4. Evaluation Criteria***

<ul style="list-style-type: none"> <li>• <sup>1</sup>Impact on low-income and/or disadvantaged communities.</li> <li>• <sup>2</sup>Cost of transmission line construction, including relocation/undergrounding of distribution lines.</li> <li>• <sup>3</sup>Sensitive plant and wildlife species and/or habitat within the transmission line corridor.</li> <li>• <sup>4</sup>Residential properties adjacent to transmission lines.</li> <li>• <sup>5</sup>Historic properties and districts adjacent to transmission lines.</li> <li>• <sup>6</sup>Impact on views near transmission lines.</li> </ul>	<ul style="list-style-type: none"> <li>• Impact on the total environment</li> <li>• Noise</li> <li>• Communication signal interference</li> <li>• Existing development plans</li> <li>• Engineering feasibility and challenges</li> <li>• ROW acquisition</li> <li>• Compliance with applicable ordinances, master plans and regulations</li> <li>• Health and safety impacts</li> <li>• Transit impacts (pedestrian, public transit, traffic)</li> <li>• Use of existing utility corridors</li> <li>• Impact on native lands</li> </ul>
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<sup>1-6</sup> Denotes order of importance, based on the criteria included in the 2023 survey and results.

Alternative Route B was identified as the preferred route between the existing DMP Substation and the planned upgraded Vine Substation. Of the four DMP-Vine routes, Alternative Route B goes through the most residential and low-income residential areas, but it is located within or adjacent to the least amount of designated historic districts and has the least impact on views due to the routes extensive use of existing utility corridors. Alternative Route A was preferred by the public slightly over Alternative Route B, but Alternative Route B was evaluated less favorably in other areas, including impacts on views, total environment, health and safety, and use of existing utility corridors.

Alternative Route 4 was identified as the preferred route between the planned upgraded Vine Substation and the existing Kino Substation. Of the six Vine-Kino routes, Alternative 1 has the least impact on almost all of the evaluation criteria, except for compliance with local ordinances. Alternative Route 1 is located along Campbell Avenue for just under two miles. Campbell Avenue is within a designated Gateway Corridor Zone, which the COT contends includes a requirement for underground utilities. As a result, TEP did not identify Alternative 1 as the preferred route, but instead identified Alternative 4 as preferred. Alternative Route 4 was the third choice of the majority of the public that expressed a route preference. However, Route 4 ranked first or second best on most of the project evaluation criteria, in particular on the criteria deemed most important according to the public survey, including cost.

While preferred route alternatives have been identified, TEP is including all 10 route alternatives in the application for a CEC. The preferred routes strike a balance between different environmental factors and community values. Each of the other route alternatives have their own strengths that minimize impacts to a more focused set of criteria, but are also viable options.

For full details on the siting process and data in support of TEP identifying Alternative Routes B and 4 as preferred, see the Transmission Line Siting Study included in Exhibit B-1.

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

The portions of the alternative routes in COT road ROW would use TEP's existing franchise agreements, which allow for TEP facilities to be located within City ROWs. Land ownership percentages are shown in Table 5.

**Table 5. Land Ownership Percentages\***

ALTERNATIVE ROUTE	ACRES	ABOR**	COT	PIMA CO	PRIVATE	AZ	Total
A	131	0%	46%	0%	54%	0%	100%
B	145	2%	41%	0%	57%	0%	100%
C	172	4%	40%	0%	56%	0%	100%
D	157	1%	50%	0%	50%	0%	100%
1	167	11%	44%	1%	42%	2%	100%
2	241	9%	39%	1%	50%	2%	100%

ALTERNATIVE ROUTE	ACRES	ABOR**	COT	PIMA CO	PRIVATE	AZ	Total
3	169	8%	36%	4%	50%	1%	100%
4	202	8%	37%	1%	53%	2%	100%
5	242	5%	43%	1%	48%	3%	100%
6	310	2%	48%	0%	47%	3%	100%

\*Percent ownership based on total length of alternative route and the 400-foot-wide corridor. Property impacts outside of COT ROW are anticipated to be minimal.

\*\*Arizona Board of Regents

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

The areas of jurisdiction include COT, City of South Tucson, Pima County, ADOT, and ASLD. All portions of the Project are within the jurisdiction of the COT.

The site of the planned upgraded Vine Substation is zoned R-2. COT must issue a special exception land use permit and approve a development plan before construction can begin on the planned upgraded Vine Substation. In the spring of 2021, TEP filed an application for the land use permit, which the Zoning Examiner determined was “in compliance with the performance criteria of UDC 4.9.11.A.” However, the Zoning Examiner denied the request, stating in his decision that, “[a]t the present time, and on this record, the Zoning Examiner cannot determine whether the proposed special exception land use complies with Plan Tucson and the University Area Plan, or whether the proposed special exception would adversely affect the surrounding neighborhoods.” The Zoning Examiner’s decision was rendered without prejudice, and TEP will re-file an application for the special exception land use permit upon approval of the Midtown Reliability Project CEC by the ACC.

Portions of alternative routes 1, 2, and D are located within a Gateway Corridor Overlay Zone. This overlay zone implements design and landscaping standards of designated roadways and adjacent development, primarily to enhance aesthetics. Kino Parkway, Campbell Avenue, and Broadway Boulevard are each designated as Gateway Corridors. The ordinance requires that “New utilities for development on private and on public right-of-way along Gateway Routes shall be underground...” (UDC 5.5.4). TEP disputes the applicability of this ordinance to the Project, which is currently the subject of litigation between the COT and TEP. In any event, the COT provides relief from the underground requirement in limited circumstances through a Special Exception Process. TEP has not applied for a Special Exception for any of these three routes, but believes that alternative route 2 would qualify for a Special Exception, while routes 1 and D likely would not. As such, if COT is correct in its interpretation of the Gateway Corridor Ordinance, alternative routes 1 and D would be contrary to the zoning ordinance of the COT. To the extent a

conflict exists with any of these routes and the Committee and Commission determines that Routes 1, 2, or D are preferred to the others, TEP seeks a finding from the Committee that any undergrounding requirement contained in the Gateway Corridor ordinance is “unreasonably restrictive” and that “compliance therewith is not feasible in view of technology available” pursuant to ARS 40-360.06(D) given the extraordinary cost of building and maintaining the high voltage transmission lines below ground.

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

TEP has conducted environmental studies, including field studies and impact assessments, to support this application. Information and reports on these study efforts are contained in Exhibits A-J of this Application.

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## **EXHIBIT A**



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## EXHIBIT A: LOCATION AND LAND USE MAPS

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- 1. Where commercially available, a topographic map, 1:250,000 scale, showing the proposed plant site and the adjacent area within 20 miles thereof. If application is made for alternative plant sites, all sites may be shown on the same map, if practicable, designated by applicant's order of preference.*
- 2. Where commercially available, a topographic map, 1:62,500 scale, or each proposed plant site, showing the area within two miles thereof. The general land use plan within this area shall be shown on the map, which shall also show the areas of jurisdiction affected and any boundaries between such areas of jurisdiction. If the general land use plan is uniform throughout the area depicted, it may be described in the legend in lieu of an overlay*
- 3. Where commercially available, a topographic map, 1:250,000 scale, showing any proposed transmission line route of more than 50 miles in length and the adjacent area. For routes of less than 50 miles in length, use a scale of 1:62,500. If application is made for alternative transmission line routes, all routes may be shown on the same map, if practicable, designated by applicant's order of preference.*
- 4. Where commercially available, a topographic map, 1:62,500 scale, of each proposed transmission line route of more than 50 miles in length showing that portion of the route within two miles of any subdivided area. The general land use plan within the area shall be shown on a 1:62,500 map required for Exhibit A-3, and for the map required by this Exhibit A-4, which shall also show the areas of jurisdiction affected and any boundaries between such areas of jurisdiction. If the general land use plan is uniform throughout the area depicted, it may be described in the legend in lieu of on an overlay.*

EXHIBIT	CONTENTS
A-1	n/a
A-2	n/a
A-3	138 kV Transmission Line and Substation Project – Location
A-4	138 kV Transmission Line and Substation Project – Land Use

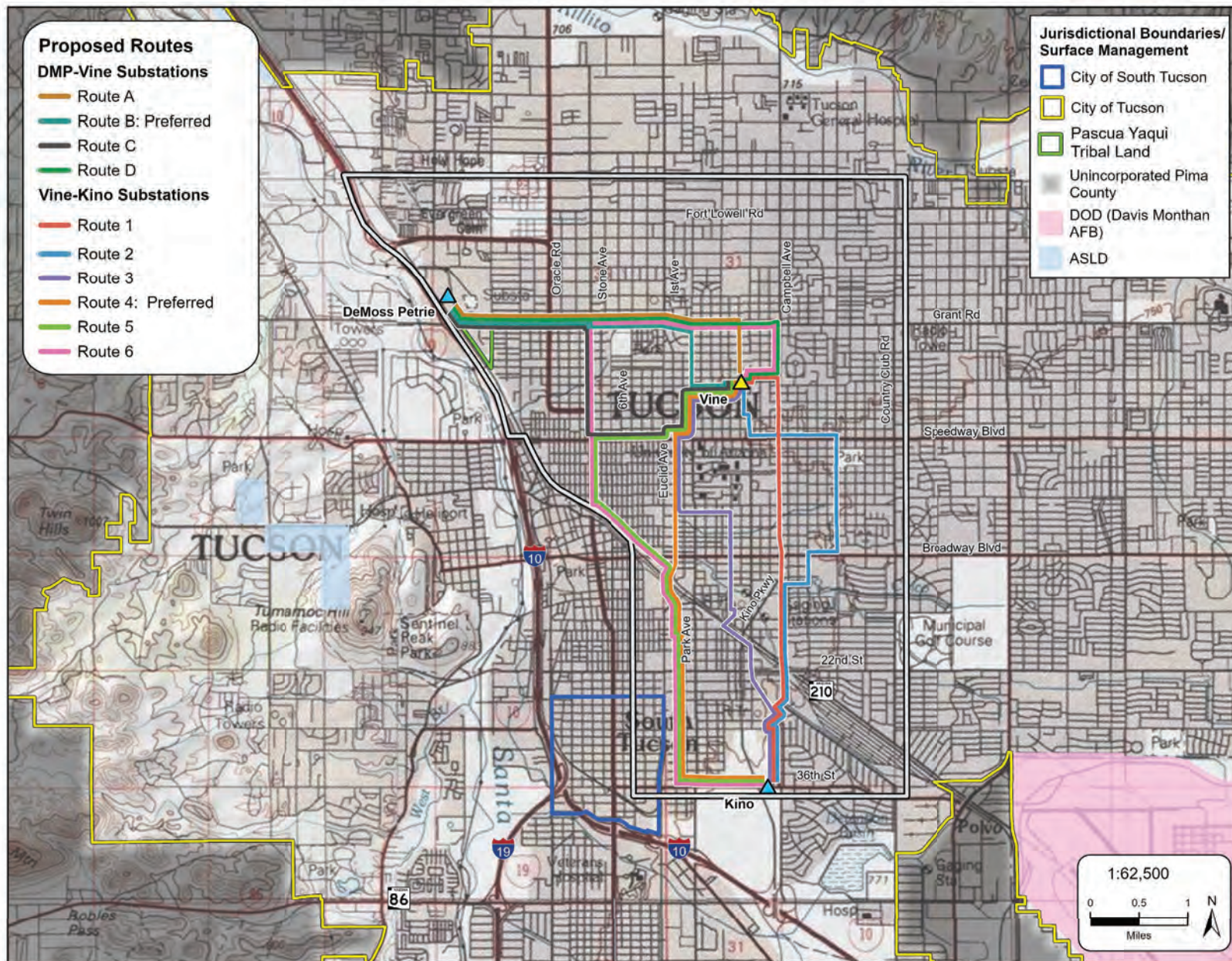
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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit A-3**

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## Exhibit A-3

### Midtown Reliability Project

#### Project Location

- In-Service 138kV Substation
- Proposed 138kV Substation
- Study Area

Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: ESRI Topo

This map is for planning purposes only.  
TEP makes no warranty of its accuracy.



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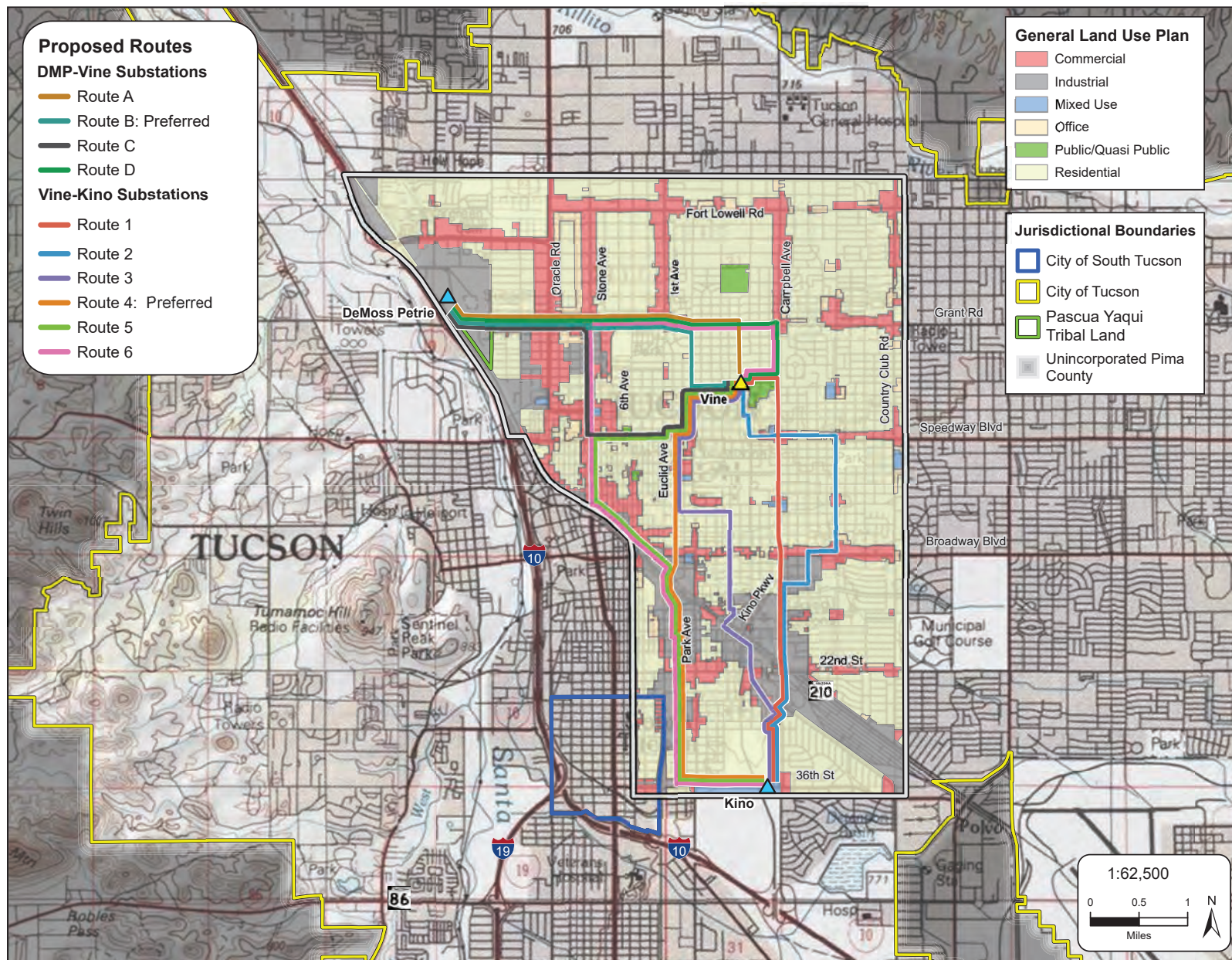
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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit A-4**

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## Exhibit A-4

### Midtown Reliability Project

#### Land Use

- In-Service 138kV Substation
- Proposed 138kV Substation
- Study Area

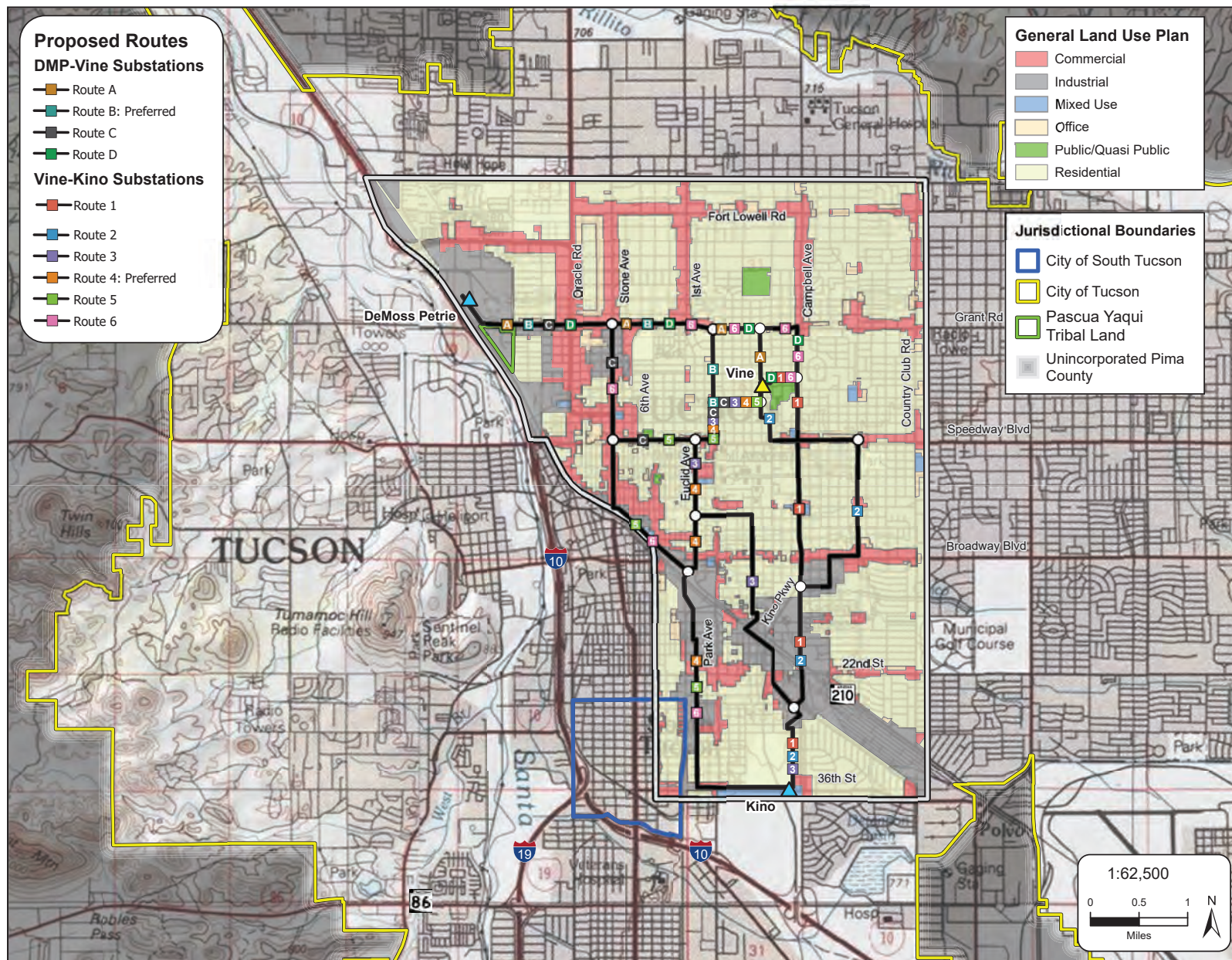
Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: ESRI Topo

This map is for planning purposes only.  
TEP makes no warranty of its accuracy.



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## Exhibit A-4

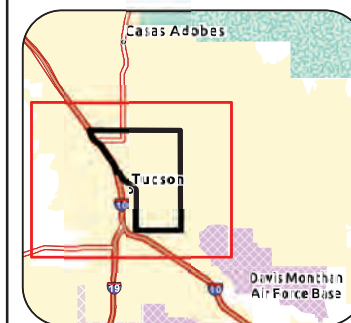
### Midtown Reliability Project

#### Land Use

- In-Service 138kV Substation
- Proposed 138kV Substation
- Route Alternative Nodes
- Study Area

Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: ESRI Topo

This map is for planning purposes only.  
TEP makes no warranty of its accuracy.



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**EXHIBIT B**



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## EXHIBIT B: LINE SITING STUDY

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As stated in Arizona Administrative Code R14-3-219 of the Rules of Practice and Procedure Before Power Plant and Transmission Line Siting Committee, Exhibits to Application, Exhibit B:

*“Attach any environmental studies which applicant has made or obtained in connection with the proposed site(s) or route(s). If an environmental report has been prepared for any federal agency or if a federal agency has prepared an environmental statement pursuant to Section 102 of the National Environmental Policy Act, a copy shall be included as a part of this exhibit.”*

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B.1 Introduction .....	B-1
B.2 Environmental Planning Process.....	B-2
B.3 Environmental Statements .....	B-2
B.3.1 US Fish and Wildlife Service (“USFWS”) .....	B-2
B.3.2 U.S. Army Corps of Engineers (“USACE”).....	B-2
B.3.3 Federal Aviation Administration (“FAA”).....	B-2
B.3.4 NEPA .....	B-2
B.4 References .....	B-2

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### B.1 Introduction

Starting in 2023, TEP conducted a study to identify preliminary segments and later alternative routes to connect the DMP Substation to the Kino Substation, including a required interconnection with the planned upgraded Vine Substation (see Siting Study in Exhibit B-1). The Siting Study is the foundation of detailed studies about the Project environment. All information about the analysis conducted is located in the Siting Study itself. Additional Project studies address a number of components such as biological resources, the built environment, cultural resources, and visual resources.

Study results are reported in exhibits as follows:

- Areas of biological wealth are addressed in Exhibit C
- Biological Resources are addressed in Exhibit D
- Scenic areas, historic sites and structures, and archaeological sites are addressed in Exhibit E
- Recreational purposes and aspects are addressed in Exhibit F
- Concepts of proposed facilities and Visual Simulations/Analysis are included in Exhibit G

- Existing Plans are presented in Exhibit H
- Anticipated noise and interference with communication signals is included in Exhibit I
- Special Factors are addressed in Exhibit J

## **B.2 Environmental Planning Process**

The result of the processes outlined in the Siting Study are the proposed routes presented in this application (Exhibit B-2).

## **B.3 Environmental Statements**

### **B.3.1 US Fish and Wildlife Service (“USFWS”)**

The results of the Biological Evaluation (“BE”) indicate that no special status species were observed in the Project area, and no critical habitat is mapped within the Study Area (Tierra, 2024).

As discussed in greater detail in Exhibit C, the candidate species monarch butterfly has the potential to occur in the Project area of “Likely.” However, the Project has an effects determination of “Unlikely.” The “Unlikely” designation means that construction of the transmission line may impact individual butterflies, but it is unlikely to result in a loss of viability or result in a trend toward federal listing (Tierra, 2024).

A presence/absence survey of nesting migratory birds to detect and avoid nesting birds is recommended prior to site clearing and construction. A “No Effect” determination was recommended for this Project regarding its potential impacts to special status species (Tierra, 2024) (See Exhibit C-2). No formal or informal consultation with USFWS is anticipated to be required.

### **B.3.2 U.S. Army Corps of Engineers (“USACE”)**

TEP assessed whether the Project is likely to impact USACE potentially jurisdictional waters, wetlands, or navigable waters in the study area (Tierra, 2024). There are no perennial or intermittent surface waters or wetlands mapped or observed within the Project Area. Several ephemeral drainages are crossed or are adjacent to alternative routes. All drainages would be spanned or paralleled by the Project; therefore, there would be no impact to wetlands or Waters of the U.S. No permits will be required from USACE.

### **B.3.3 Federal Aviation Administration (“FAA”)**

TEP will apply to the FAA for an obstruction evaluation of the new transmission line towers, if required, once the proposed route is approved and designed. Initial analysis has determined that there will be no impacts to FAA controlled airspace.

### **B.3.4 NEPA**

This project does not involve any federal agency actions, therefore, studies pursuant to Section 102 of the National Environmental Policy Act are not applicable.

## **B.4 References**

Tierra Right of Way. (2024). Biological Evaluation for the Midtown Reliability Project, Tucson, Pima County, Arizona, Pima County, Arizona. April 2, 2024.

# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit B-1**

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# Midtown Reliability Project

## Transmission Line Siting Study



Tucson Electric Power  
April 2024

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## APPENDICES

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## **1.0 Introduction**

Tucson Electric Power (TEP) is planning to upgrade the transmission and distribution system in Midtown Tucson. Part of this upgrade will involve the replacement of the aging, and inadequate, 46kV subtransmission system with a modern standard 138kV transmission system and substation with full redundancy. The new, single circuit, 138 kV transmission line is expected to be between 7 to 12 miles in length, depending on the alternative route approved, to connect the existing DeMoss Petrie (DMP) substation to the planned Vine Substation, and the planned Vine Substation to the existing Kino Substation, all within the City of Tucson (COT).

The Project will potentially cross land under private, COT, Pima County, Arizona Board of Regents, and Arizona State Land (ASLD) ownership, as well as Arizona Department of Transportation (ADOT) road right-of-way (ROW). TEP plans to use road ROW where feasible under TEP's COT franchise agreement and obtain an up to 100-foot ROW where franchise rights do not exist.

TEP uses a siting methodology heavily influenced by public and stakeholder input, as well as those factors outlined by statute (A.R.S. 40-360.06) to be considered by the Arizona Power Plant and Transmission Line Siting Committee (Committee) in issuing a Certificate of Environmental Compatibility (CEC) to identify potential transmission line routes. This siting study summarizes the processes, decisions, and results of each phase of that siting methodology.

## **2.0 Background**

The need for this upgrade was identified formally in 2017. As described in the Application, a previous line siting effort, known as the Kino to DeMoss Petrie 138kV Transmission Line Project (Kino-DMP Project), was undertaken beginning in 2019. That effort included a full public engagement process and environmental analysis, similar to the siting study described in this report.

The Kino-DMP Project siting study identified a number of alternative routes, including a preferred route that was included in an application for a CEC submitted to the Arizona Corporation Commission (ACC) under docket L-00000C-21-0288-00192. Ultimately, TEP withdrew that application before the hearing with the Siting Committee in an effort to work through the COT's changed position regarding the applicability of its Gateway Corridor Overlay Zone.

After exhausting efforts to find a solution to the Gateway Corridor Overlay Zone, TEP made the decision to start the siting study fresh, taking into consideration the COT's position (with which TEP disagrees).

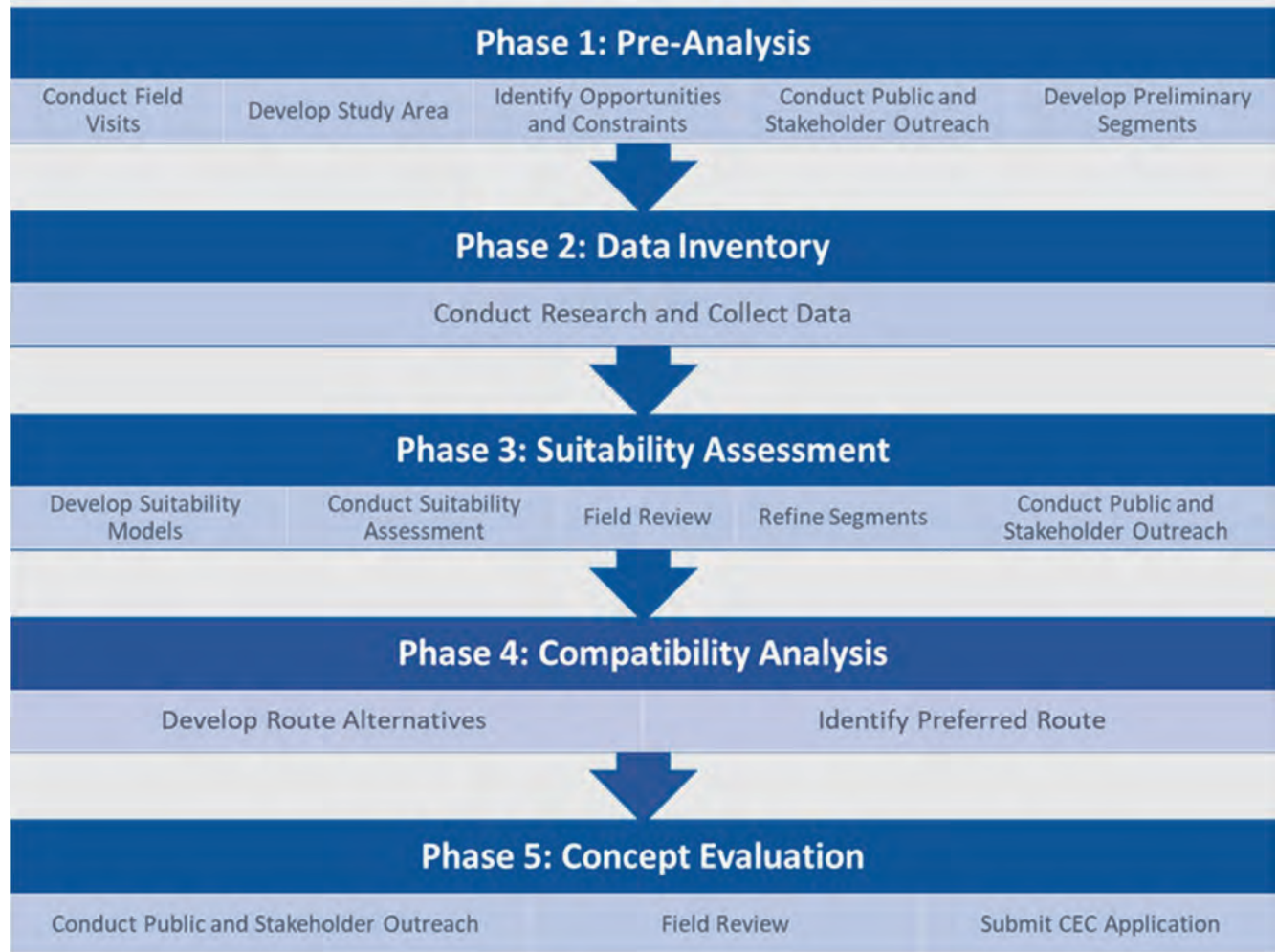
Public and stakeholder engagement and public comment from the past effort were considered as part of the new siting study.

## **3.0 Objective and Method**

The objective of this study is to identify alternative route corridors, including a preferred route, to connect the existing DeMoss Petrie (DMP) Substation to the planned Vine Substation and to the existing Kino Substation. This will create a loop of the 138kV transmission system through the midtown area and downtown Tucson. The substations represent the fixed endpoints for the Project, with one circuit required to be built between the DMP and Vine substations, and another required to be built between the Vine and Kino substations.

The method for siting the alternative routes includes five basic phases. These phases should be viewed as parts of an iterative process that may require stepping back to an earlier phase if necessary (see Figure 1).

The objective is to identify a set of possible transmission line corridor alternatives within which the project could be routed, with those alternative routes carried forward to the ACC in a CEC application for consideration and decision.



**Figure 1. Siting Process**

## **4.0 Phase 1: Pre-Analysis**

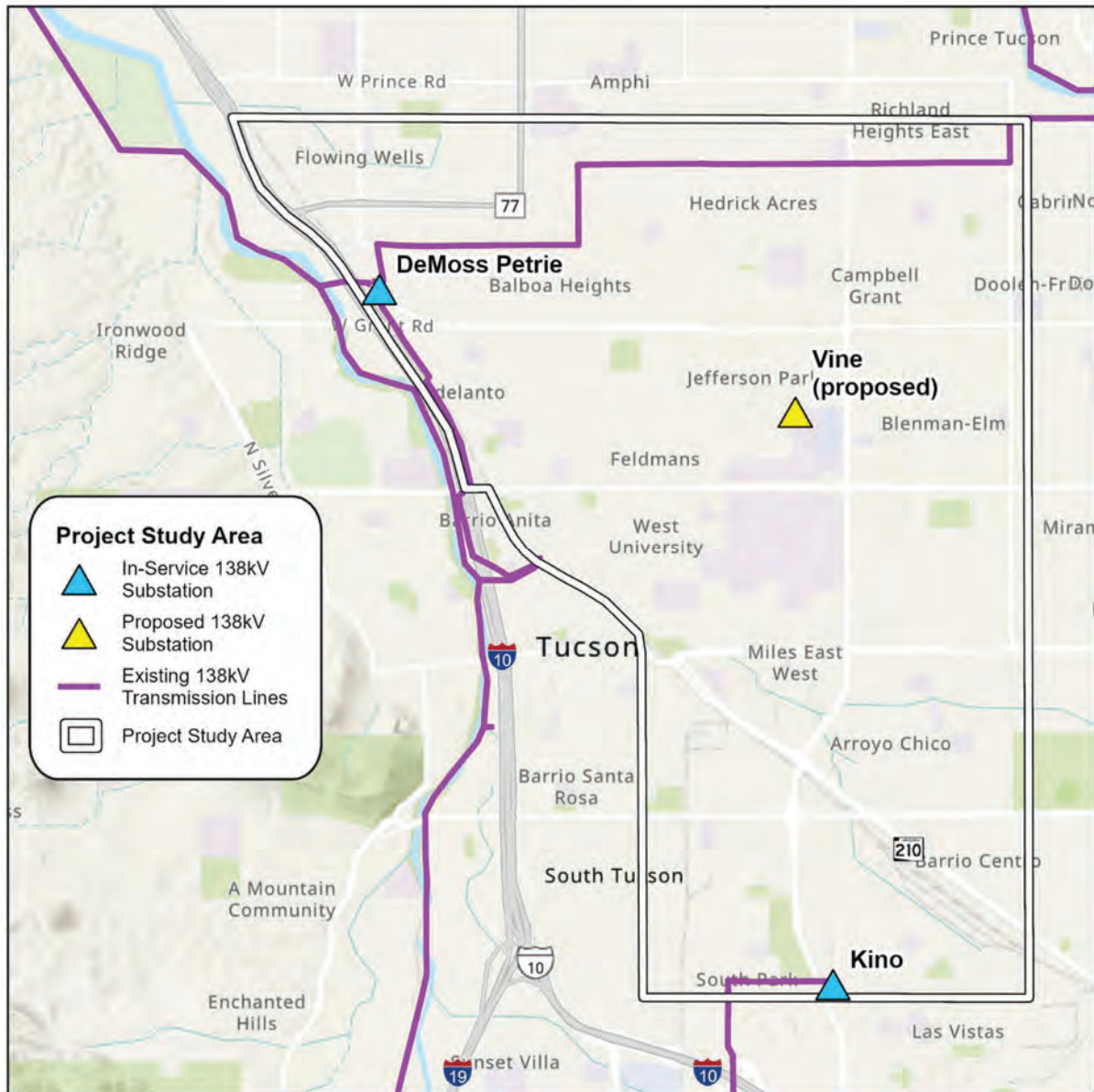
### **4.1 Study Area**

The first step in the pre-analysis phase was to define the Project Study Area. TEP considered the following factors in developing the Study Area:

- The fixed end points of the Project at both the existing and planned substations.
- High-level opportunities and constraints.
- Direct route opportunities that would minimize the cost of the Project.

TEP's design principles encourage the use of established linear features, such as roads, washes, and existing utility corridors. The Study Area (Figure 2), was presented to stakeholders and the public in

September 2023. The study area includes 62 neighborhoods, approximately 37,000 residences, and approximately 7,000 businesses.



**Figure 2. Study Area**

#### **4.2 Opportunities/Constraints**

The second step was to identify opportunities and constraints to site a transmission line within the study area.

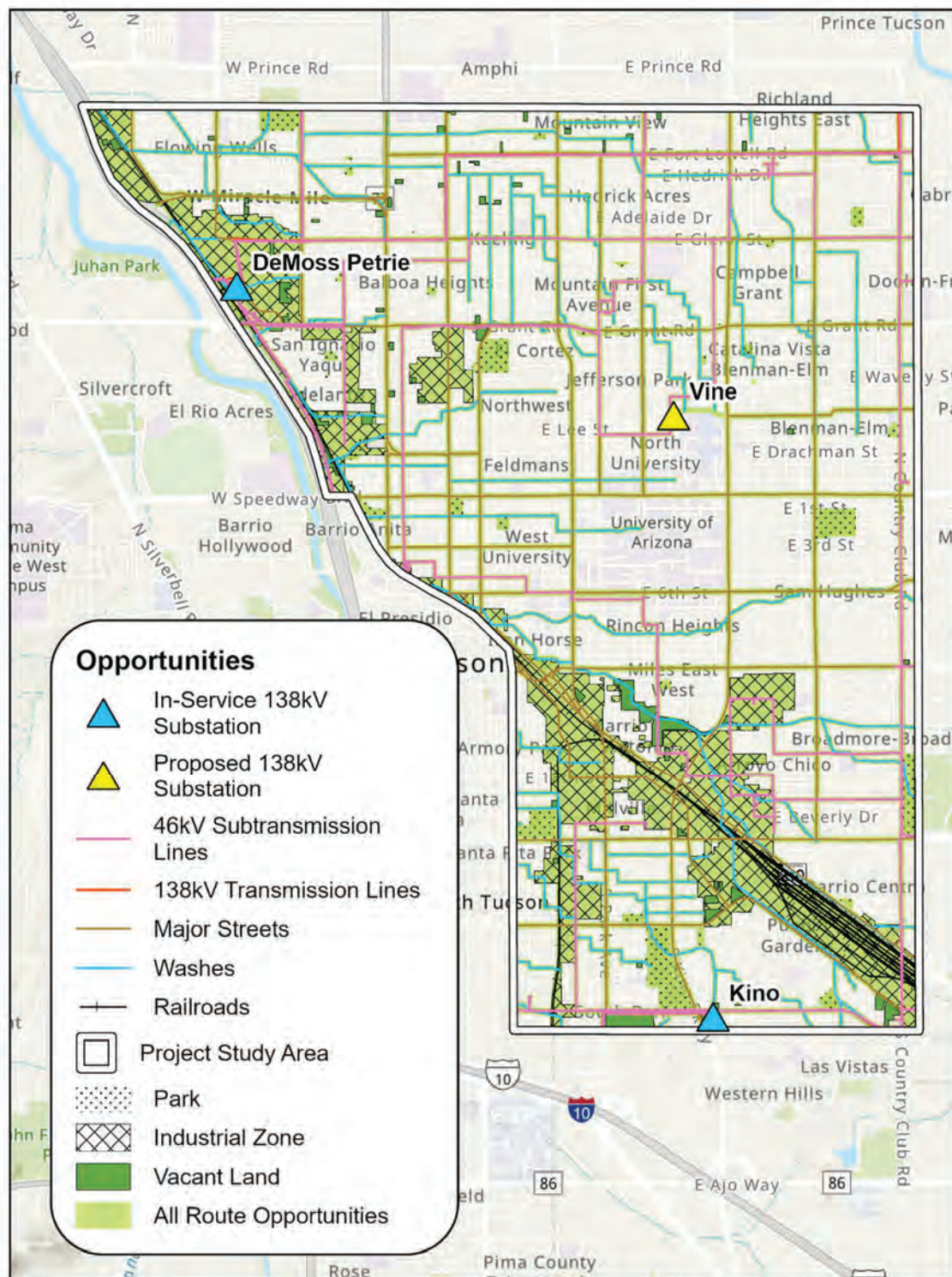
Opportunities include established linear features, such as roadways, washes, and existing utility corridors, as listed below and highlighted in Figure 3.

Opportunities included:

- Major roads, which are generally wider and can easily accommodate the space requirements needed for a transmission line.
- Railroad alignments
- Existing utility infrastructure, such as electric transmission and sub transmission lines or major transmission pipelines. These are areas with an established right-of-way and have already been disturbed for a similar use.
- Existing or planned industrial land use. There are generally less sensitivities to a transmission line in an industrial area.
- Vacant land, open space, or natural linear features such as washes.

Figure 3 While these are not the only areas that might be compatible with a transmission line and there is no guarantee a transmission line could be feasibly constructed in one of these corridors, identifying opportunities and constraints serves as a starting point for siting. In addition, TEP reviewed all potential line segments that had been considered as part of the former Kino-DMP Project siting effort to assess opportunities that should be considered as part of the current siting study.





**Figure 3. Opportunities**

Constraints can be a number of factors such as less compatible land uses, land use regulations, terrain, or environmental sensitivities that would make it more challenging to construct and maintain a transmission line (Figure 4). Constraints include, but are not limited to:

- Areas of high-density development, such as those around the University of Arizona Campus.
- City of Tucson's designated Gateway Corridor Zone, which purports to require, with some exceptions, that new utilities for development located within these corridors should be placed underground. The Company does not believe this section of the City UDC is applicable to this Project, and there is currently litigation pending in Pima County Superior Court about this question. The Company does, however, acknowledge the Gateway Corridor Zone as part of the overall environmental conditions the committee must consider for its statutory analysis. TEP's legal arguments regarding the Gateway Corridor Zone are discussed in the Introduction to the CEC application and are incorporated by reference into this Siting Study. Figure 4





Figure 4. Constraints Map

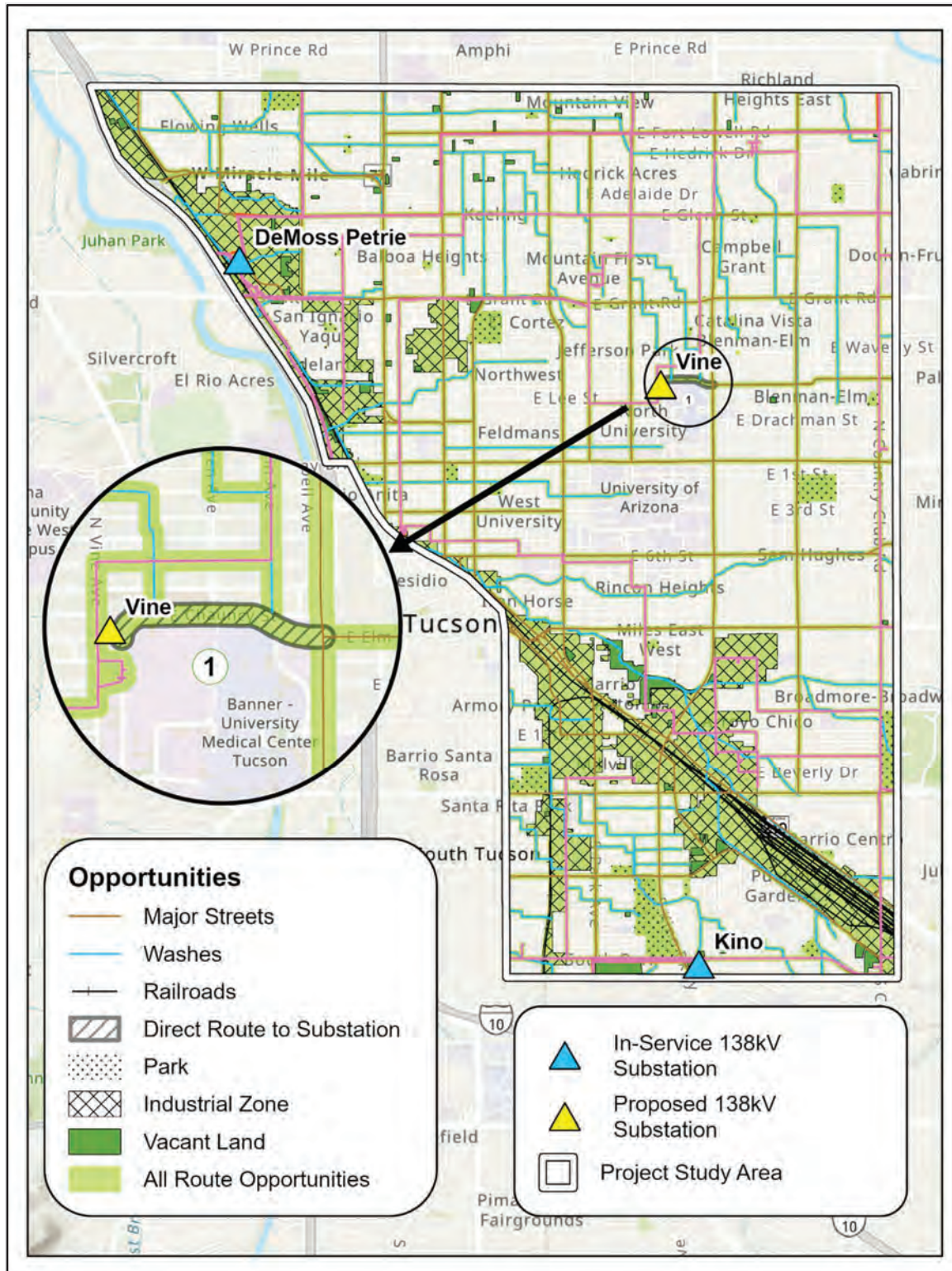
Some areas may present themselves as both opportunities and constraints at the same time.

In addition to the opportunities and constraints identified by TEP, the Company workshopped the opportunities and constraints with the Neighborhood Advisory Group and solicited feedback from the public. As a result, several additional opportunities and constraints were identified. These are illustrated in Figure 5 (Additional Opportunities) and Figure 6 (Additional Constraints), with corresponding numbers and details as listed below:

Additional Opportunities Identified through Public and Stakeholder Engagement (Figure 5)

1. Ring Road – main entrance to Banner University Medical Center. This is a private road and is not identified as a major road, but was identified in the prior Kino-DMP Project, and again by the Neighborhood Advisory Group, because it provides a direct link to the proposed Vine Substation from Campbell Road.





*Figure 5. Additional Opportunities Identified*

Additional Constraints Identified through Public and Stakeholder Engagement (Figure 6)

1. Banner University Medical Center – area of high-density development identified by the Neighborhood Advisory Group.
2. Tucson Boulevard – identified as an area with a constrained road right-of-way by the Neighborhood Advisory Group.
3. Country Club Road – identified as an area with a constrained road right-of-way by the Neighborhood Advisory Group as well as members of the public at an open house in November 2023.
4. Arroyo Chico Flood Control Basins – identified as an environmentally sensitive area by the Neighborhood Advisory Group as well as members of the public at open house meetings.
5. Arroyo Chico Wash – identified as an environmentally sensitive area by members of the public at open house on November 2023.
6. Union Pacific Rail Yard – identified as a potential obstacle to cross due to the number of rail lines by the Neighborhood Advisory Group.



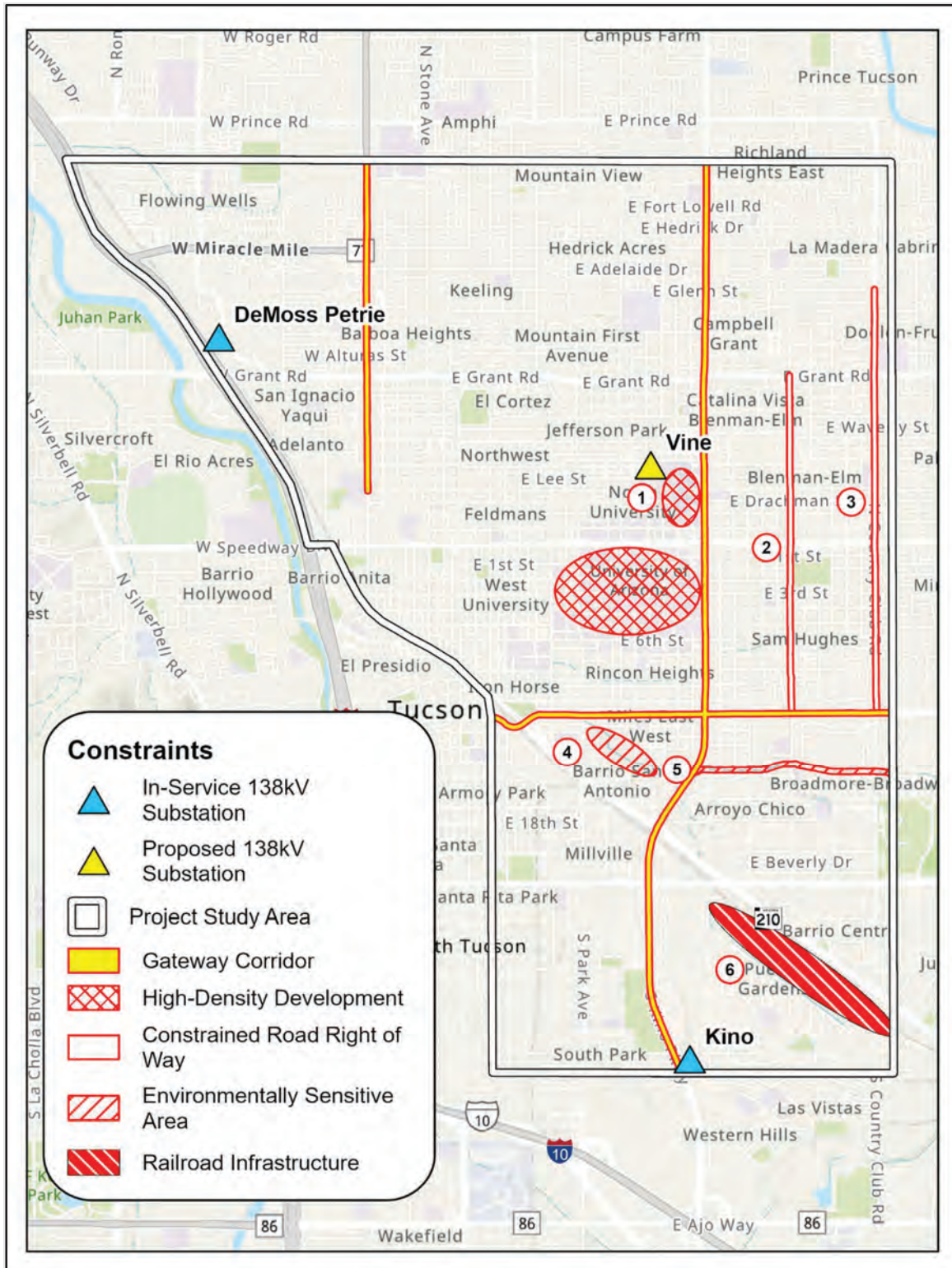


Figure 6. Additional Constraints Identified

### 4.3 Criteria

The third step was to define the criteria to consider during the analysis phases of the siting process. In addition to the factors outlined for consideration in granting a CEC (Arizona Revised Statute § 40-360.06), TEP wanted to ensure that the criteria reflected community values and preferences. On a typical transmission line project, a handful of engaged citizens will participate and provide written comment on the project. In order to try to get much greater participation, and therefore a better representation of community values and preferences, TEP designed a very simple survey using Qualtrics software with targeted questions to help develop project evaluation criteria.

The survey included three questions; one of the questions pertained to evaluation criteria and the other two were about design considerations to minimize project impacts. The question on criteria was based on comments that had been received on the previous siting effort.

*In your opinion, which criteria are most important in considering the route of the proposed transmission line for the Midtown Reliability Project? Select up to TWO (2).*

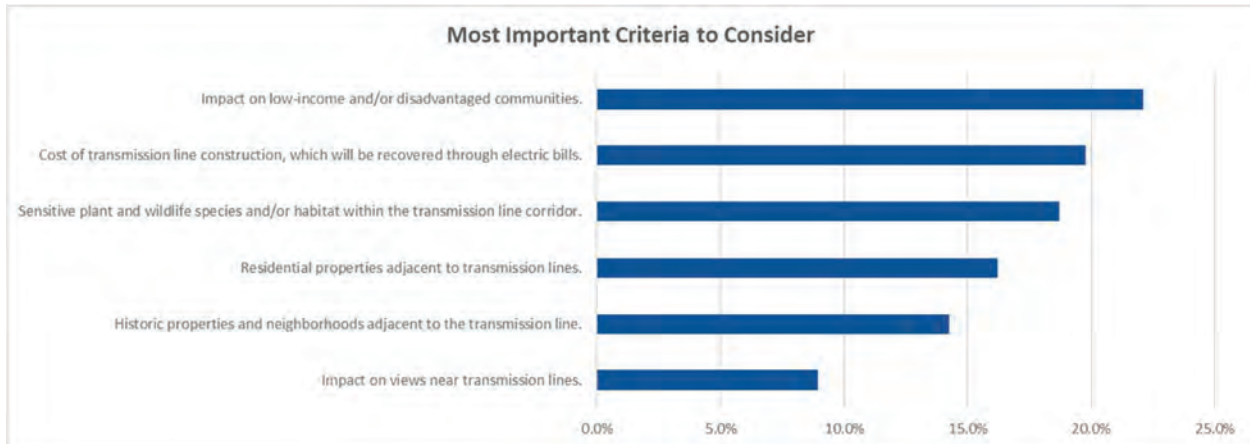
- *Impact on views near transmission lines.*
- *Historic properties and neighborhoods adjacent to the transmission line.*
- *Residential properties adjacent to transmission lines.*
- *Sensitive plant and wildlife species and/or habitat within the transmission line corridor.*
- *Cost of transmission line construction, which will be recovered through electric bills.*
- *Impact on low-income and/or disadvantaged communities.*

Results of the question are shown in Figure 7.

The survey link was emailed to about 55,000 customers within the project study area, with an email on record to TEP, and advertised in the August 2023 newsletter sent to 102,000 residents, businesses, property owners, and stakeholders within the project study area. It was also available on the project webpage.

The survey was never intended to be a statistically valid survey with defined margins of error, nor was it intended to encompass all questions that could have been asked. Rather, it was a tool to gain a broader understanding about the opinions and preferences of customers and other stakeholders beyond those few who might take the time to fill out a formal comment.

More than 2,700 people responded to the survey between August 31, 2023, when the survey was opened, and October 15, 2023, when it was closed.



**Figure 7. Survey Response on Most Important Evaluation Criteria to Consider**

There was also an opportunity for open-ended feedback through a follow-up question.

*If there are other criteria you would like TEP to consider, please share your suggestion(s) in the box below:*

Results of the open-ended question are included in Appendix A to this Siting Study, along with complete survey results. The majority of the comments focused on a desire to have TEP construct the transmission line underground and why TEP did not ask about underground construction. While these are understandable comments and questions, the goal was to develop evaluation criteria relating to an overhead transmission line, and questions about underground lines offer limited information to assist in that effort. Additionally, questions about underground lines may have skewed responses and created confusion about this being an overhead project. Nonetheless, the open-ended question did identify additional criteria to consider in siting the line, including:

- Health and Safety
- Reliability and Maintenance
- Transit Impacts – Pedestrian, Public Transit, and Traffic
- Use of Existing Utility Corridors
- Avoidance of Gateway Corridors
- Impact on Future Land Uses
- Impact on Native Lands
- Impact on Water
- Length of the Project
- Overall Environmental Impact
- RFI/Communications Interference

Based on the feedback from the survey, as well as those factors that are required by law, and a review of past feedback from the previous Kino-DMP Project siting effort, TEP developed the below list of evaluation criteria for use in Phase 3 and Phase 4 of the siting study.

The criteria expressed by the community to be of greatest importance is weighed more heavily in analysis and decision making and is reflected by number order below (Table 1).

**Table 1. Evaluation Criteria**

Order of Importance per Community	Criteria carried over from Kino- DMP Project	Criteria
1		Impact on low-income and/or disadvantaged communities
2		Cost of transmission line construction, which will be recovered through electric bills
3		Sensitive plant and wildlife species and/or habitat within the transmission line corridor
4	X	Residential properties adjacent to transmission lines
5	X	Historic properties and neighborhoods adjacent to the transmission line
6	X	Impact on views near transmission lines
		Impact on the total environment
		Noise emission levels and interference with communication signals
		Existing development plans
		Engineering feasibility and challenges
	X	Compliance with applicable ordinances, master plans and regulations
	X	Health and safety impacts
		Transit impacts (pedestrian, public transit, traffic)
	X	Use of existing utility corridors
		Impact on native lands

#### **4.4 Public and Stakeholder Engagement**

Phase 1 involved the development of 1) the study area, 2) evaluation criteria, and 3) opportunities and constraints through an iterative process that occurred both by using the expertise of the internal TEP project team and by soliciting public and stakeholder input. Two public open houses, two agency briefings, and two meetings with the Neighborhood Advisory Group were held during Phase 1 of the Project.

Public and stakeholder engagement for Phase 1 of the siting study took place between August and November 2023.

#### **4.5 Field Visits**

In addition to learning about the study area from the public and stakeholders, it was important for the project team to become familiar with the area, including its character, geography, existing land uses, and

the community. A number of field visits occurred during Phase 1 of the siting process in large and small groups, and by individual project team members.

In addition to landscape characterization and gaining regional familiarity with the study area, a key component of the field visits included ground truthing. TEP identified a number of opportunities and constraints through public and stakeholder engagement and desktop mapping exercises. Each of these required on-the-ground confirmation by a TEP project team member before making final determinations.

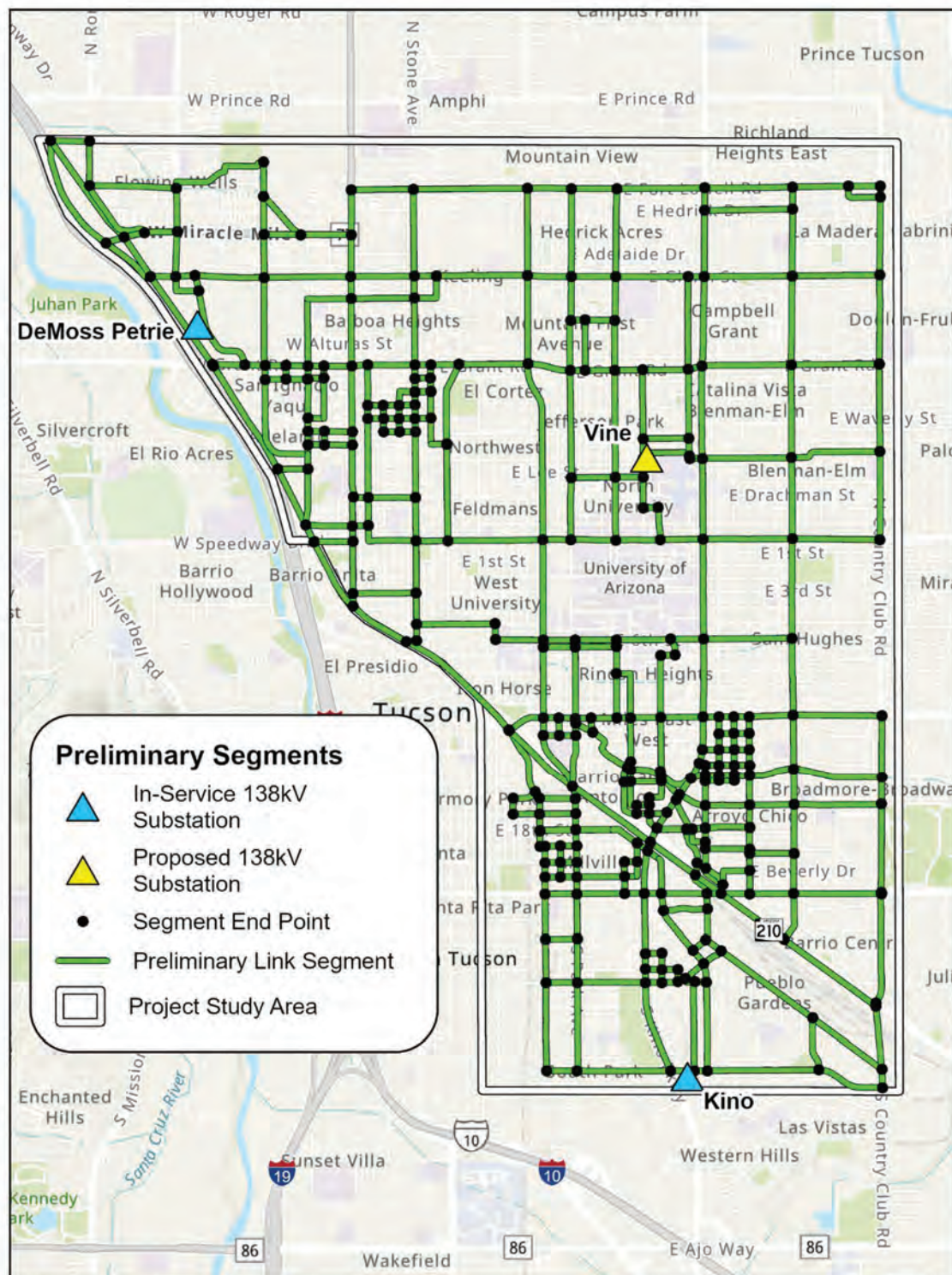
#### **4.6 Preliminary Segments**

The product of Phase 1 was the development of preliminary segments.

Once opportunities were identified, each was reviewed by TEP's engineering group. These reviews took place both in the field and through desktop review. If, from an engineering standpoint, a transmission line could reasonably be constructed and operated within the area of opportunity, it became a Preliminary Segment.

A total of 459 segments were identified as "Preliminary Segments" to connect the DMP Substation to the Vine Substation, and to the Kino Substation. These preliminary segments are illustrated in Figure 8.





**Figure 8. Preliminary Segments**



## **5.0 Phase 2: Data Inventory**

To apply the evaluation criteria developed through public and stakeholder feedback and per statute (ARS § 40-360.06), TEP needed to collect data to create spatial data models for use in Phase 3 and to inform subject matter experts' evaluation during Phase 4.

Phase 2 of the siting process was that data collection effort. This phase did not directly involve public or stakeholder outreach, but part of the data collection effort included compiling the various comments and concerns received through outreach efforts.

Data gathered included:

- Critical habitat for Threatened and Endangered species
- Landcover
- Riparian areas
- FCC licensed communications antennas
- Sensitive receptors: schools, hospitals, adult/childcare facilities, and churches
- Scenic roads, viewpoints, or areas managed for scenic integrity such as a National Park
- Class I cultural resource survey data – listed and eligible sites
- Designated historic districts
- Existing land uses
- Existing well sites
- Existing linear features – pipelines, railroads, roads, canals, etc.
- Geology and soils
- Air quality – nonattainment area for PM 2.5, PM 10, or Ozone
- Socioeconomic data – poverty levels, minority populations
- Digital Elevation Model (DEM)
- FAA airspace height limitations
- Future land uses, from specific development plans
- Zoning
- Land held in trust by Native American tribes
- Census tracts
- Public input
- Agency/Stakeholder input

## **6.0 Phase 3: Suitability Assessment**

### **6.1 Suitability Assessment**

Phase 3 of the siting process applied the raw data collected in Phase 2 to create spatial models through which preliminary transmission line segments could be evaluated for higher or lower levels of suitability.

Using ESRI ArcGIS Pro GIS software, eight specific criteria data models were created. These criteria data models were then combined and weighted based on different factors to create five composite suitability models used to evaluate segments best suited to minimize impacts based on different goals.

#### **6.1.1 Suitability Assessment Procedure**

Please see Appendix B for the procedure followed to create the suitability criteria models, as well as the composite suitability models.

## 6.2 Refined Segments

The product of Phase 3 of the siting process was a set of refined segments. Appendix B details the process used to apply the composite suitability models to the 459 preliminary segments and determine those of higher suitability to carry forward in the siting study, and those of lower suitability to eliminate.

As a result, 281 preliminary segments were eliminated. The remaining segments were simplified and combined, resulting in 126 refined segments. Each segment was reviewed in the field to ground truth the validity of the suitability assessment and at a more detailed level to confirm the feasibility of the segment from an engineering, land use, and right-of-way perspective. As a result of the ground truthing, two (2) additional preliminary segments were eliminated as detailed in Table 2.

**Table 2. Segments Eliminated Due to Field Review**

Preliminary Segment ID	Description
191B	Segment located along Park Avenue between Aviation Highway and 12 <sup>th</sup> Street. Identified as a highly suitable route segment as a result of the Suitability Assessment. However, eliminated from consideration following field review which identified engineering challenges due to narrow right-of-way and proximity of buildings.
227	Segment located along Mountain Avenue between Speedway Boulevard and Adams Street. Identified as a highly suitable route segment as a result of the Suitability Assessment. However, eliminated from consideration following field review which identified engineering challenges with respect to identifying suitable pole locations.

Refined segments are illustrated in Figure 9.

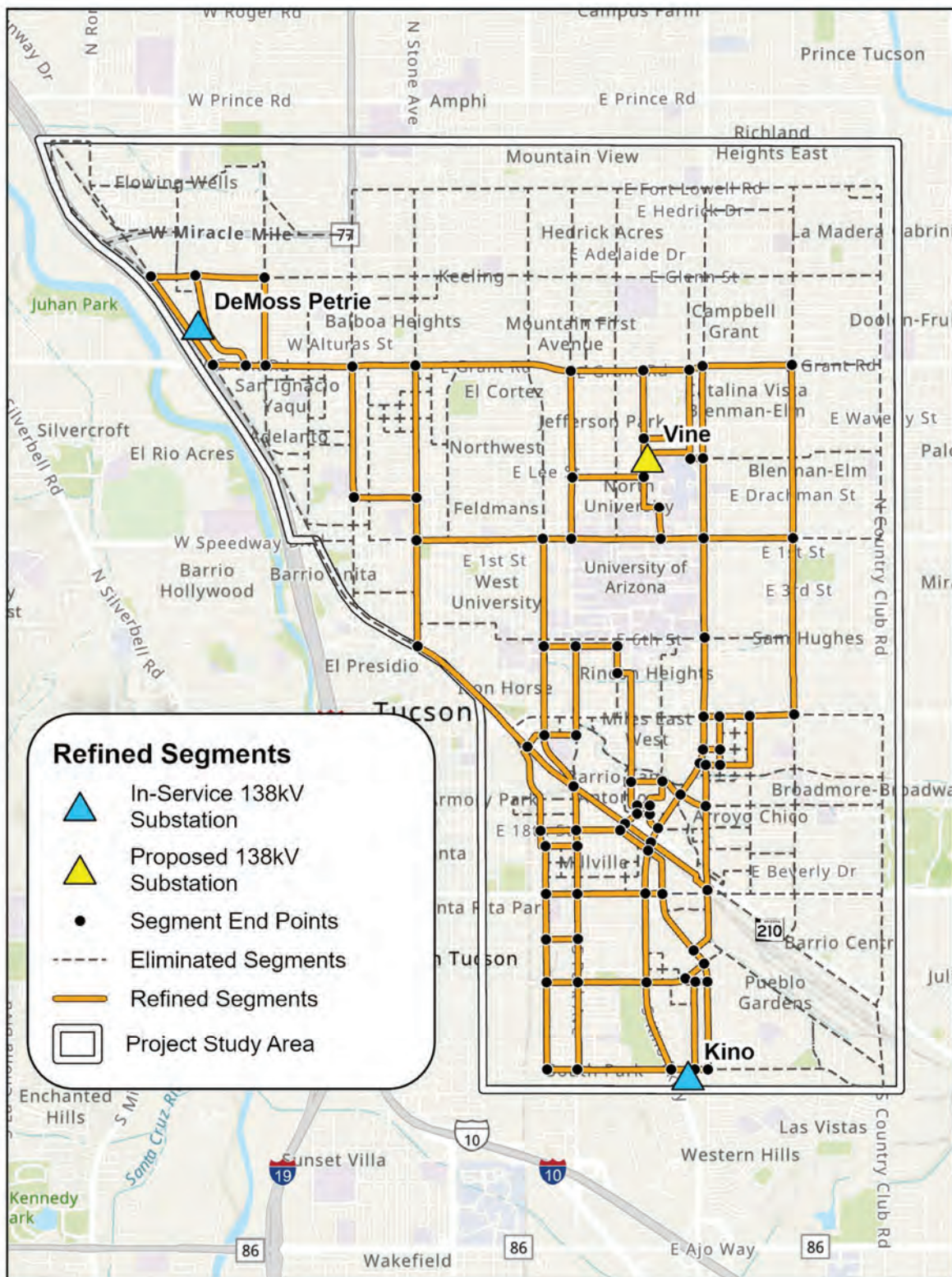


Figure 9. Refined Segments

### **6.3 Public and Stakeholder Engagement**

One public open house, one agency briefing, and one meeting with the Neighborhood Advisory Group were held at this stage of the project.

Public and stakeholder engagement for Phase 3 of the siting study took place between January and February 2024.

TEP workshopped composite suitability models with the Neighborhood Advisory Group. As a result, four additional composite suitability models were created. Of these, the highest suitability paths, both with and without constraints were identified. With only one exception, the highest suitability paths identified through the models created by the Neighborhood Advisory Group were the same as those identified by the TEP team.

The new path identified through the Neighborhood Advisory Group workshop went from the DMP substation along Grant Road, then north on Stone Avenue to Ft. Lowell Road, east on Ft. Lowell to Campbell Avenue, and then south along Campbell to Grant Road. This route reflected very heavy priorities towards minimizing impacts to residential areas and historic properties and districts. The Neighborhood Advisory Group overwhelmingly agreed not to carry forward those segments for further analysis in the siting study because it did not make sense for a route to extend one mile north, only to double back 1 mile south.

At the public open house, every attendee was given the opportunity to create their own composite suitability model that reflected their specific values. One attendee participated and the results of their composite suitability model included route segments that had already been identified as the most suitable to carry forward in the study. As a result, no additional segments were considered.

### **7.0 Phase 4: Compatibility Analysis**

Each of the 126 refined segments was assessed for compatibility with each of the evaluation criteria established through public and stakeholder feedback and the factors considered by statute (A.R.S. §40-360.06) to determine the environmental compatibility of the project and alignment with community values.

Subject matter experts on each of these factors reviewed each link one by one and, using (1) research and studies that had been conducted by Tierra Right-of-Way and Sonoran Land Resources, (2) familiarity gained through field visits of each segment, and (3) technical expertise, assessed the compatibility of constructing and maintaining a transmission line in that particular segment, including potential impacts of each link, and rated them with a 1, 2, 3, or 100. These numbers are generically interpreted as follows:

- 1 = compatible
- 2 = possible negative impact
- 3 = known negative impact
- 100 = unacceptable impacts that likely could not be mitigated

These compatibility scores were then summarized across each of the factors. They were then averaged to provide an overall compatibility score; these scores generally fell between 1 and 3. A score of "1" was the most compatible and "3" was the least compatible. Any average score greater than 3 meant that the link was not compatible and should be eliminated.

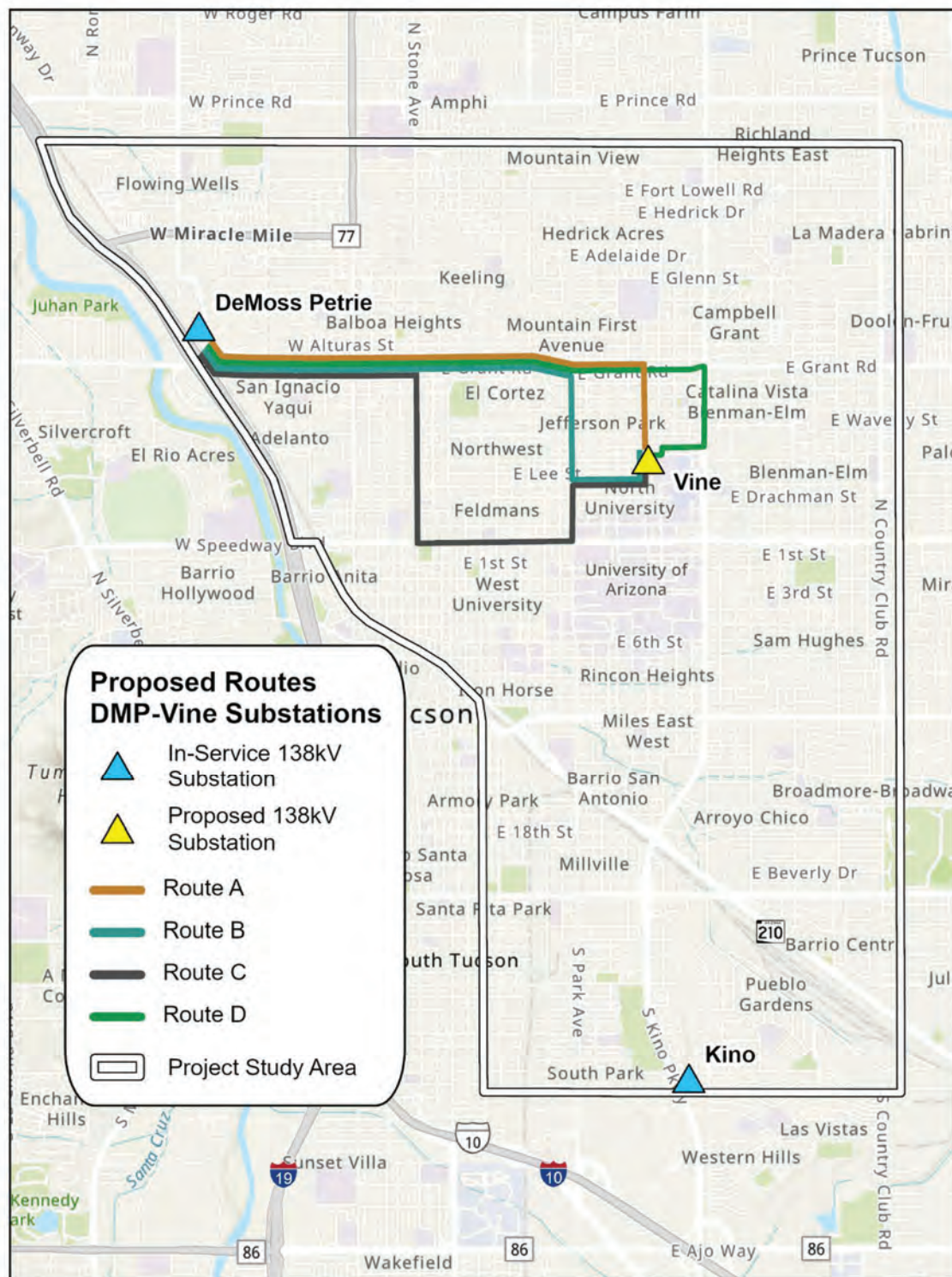
Since public and stakeholder input is so crucial to the line siting process, a weighted average compatibility score was also created. Similar to the overall compatibility score, the results were between 1 and 3, with 1 being most compatible and 3 being least compatible. Prior to summarizing each of the individual

compatibility factors, the scores were weighted according to public and stakeholder feedback on each segment.

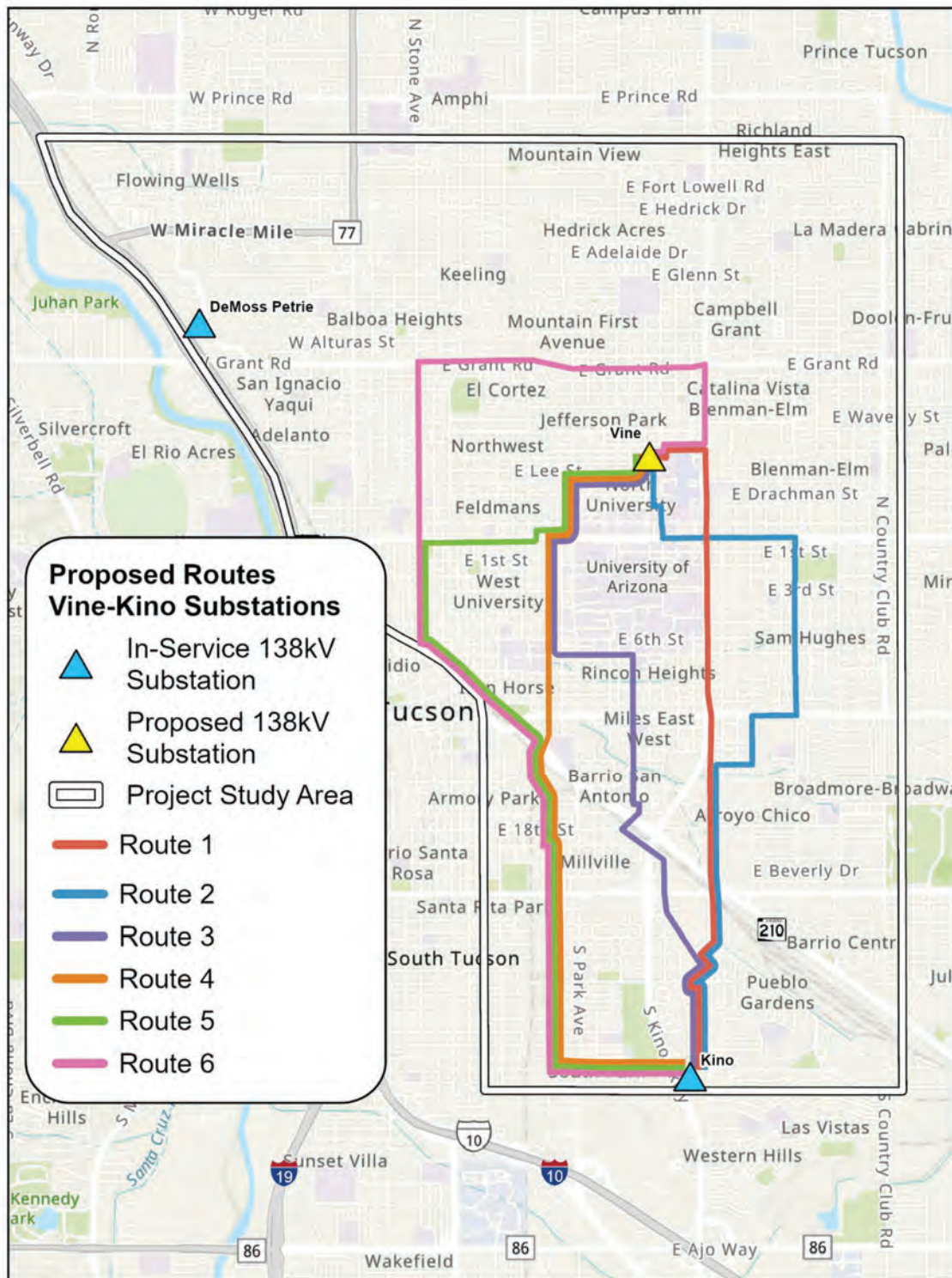
The overall scores were then reviewed, and segments were either eliminated from consideration or identified as segments of alternative routes. This process eliminated 59 refined segments. The remaining segments were simplified and combined into 10 different route alternatives: four between the existing DMP Substation and the proposed Vine Substation (Figure 10) and six between the proposed Vine Substation and the existing Kino Substation (Figure 11). Complete results of the Phase 4 compatibility analysis are included in Appendix C to this report.

The siting methodology, as designed, was intended to identify a preferred alternative at this stage. However, due to the overall number of alternative routes still under consideration, TEP decided to share the various alternative routes with the public and stakeholders and seek their feedback on each of these routes and weigh that feedback into the decision on a preferred route alternative.





**Figure 10. DMP to Vine Route Alternatives**



**Figure 11. Vine to Kino Route Alternatives**



## 8.0 Phase 5: Concept Evaluation

The final phase of the siting process is Concept Evaluation. The purpose of this phase was to share the results of the siting effort in the form of route alternatives to ask stakeholders and members of the public if the results reflected their feedback to produce acceptable alternatives. Since the siting process is designed to be iterative, this was an opportunity to step back and revisit an earlier phase of the process, if necessary, although public comment did not indicate it was.

Since a preferred alternative route had not yet been identified by TEP, all public and stakeholder engagement efforts in Phase 5 solicited feedback on route alternative preferences.

### 8.1 Public and Stakeholder Engagement

One public open house, one agency briefing, and one meeting with the Neighborhood Advisory Group were held at this stage of the project.

Public and stakeholder engagement for Phase 5 of the siting study took place between February and April 2024.

While many comments were received in support of or against certain segments prior to Phase 5, until this point specific route alternatives had not been identified, so stakeholders and the public could not express a preference for specific routes.

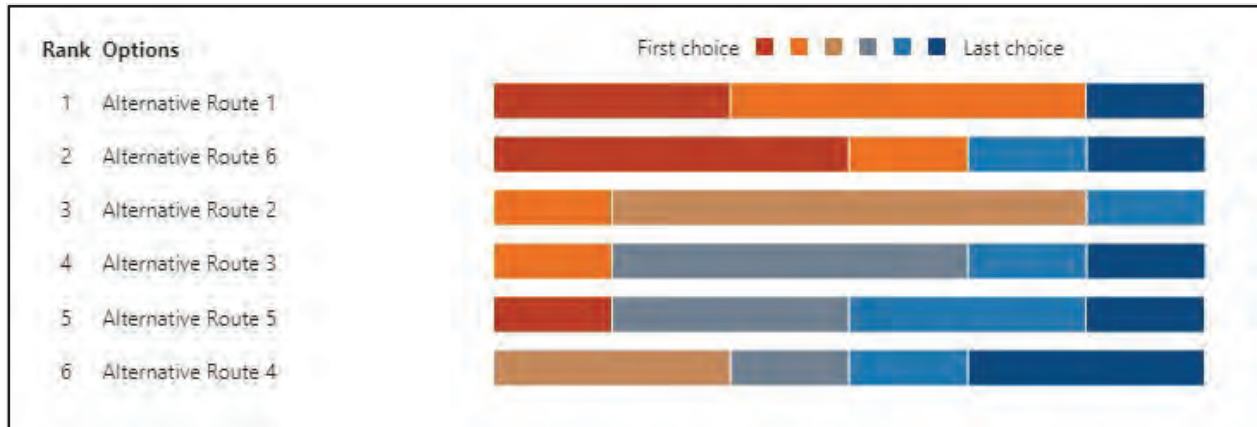
To facilitate individual neighborhood input, TEP specifically solicited feedback from the members of the Neighborhood Advisory Group as neighborhood representatives, about their neighborhood's route preferences. Of those invited, six Neighborhood Advisory Group members provided a response to TEP's route preference form. These results are summarized below.

These results do not represent the collective views of neighborhoods, only the representative views of the individual advisory group members who responded.



**Figure 12. Neighborhood Advisory Group Member Route Preference: DMP to Vine**





**Figure 13. Neighborhood Advisory Group Member Route Preference: Vine to Kino**

TEP received 35 responses from the public on preference for route alternatives.

## 8.2 Final Alternative Routes to Include in CEC Application

In late April 2024, TEP selected a preferred route alternative between the DMP and Vine substations independent of the selection of a preferred route alternative between the Vine and Kino substations.

The decision on preferred routes was based on the composite scoring of each route alternative with respect to the evaluation criteria. It was further informed by looking at a subset of that criteria, prioritized through the survey conducted in 2023, with each of the criteria weighted accordingly. And lastly, because public and stakeholder input is crucial, the preferences expressed by the public, the Neighborhood Advisory Group, neighborhood associations, and other stakeholders were also considered.

Data on these individual rankings is made available through Appendix D.

Alternative Route B was identified as the preferred route between the existing DMP Substation and the proposed Vine Substation. Of the four DMP-Vine routes, Alternative Route B goes through the most residential and low-income residential areas, but it is located within or adjacent to the least amount of designated historic districts and has the least impact on views due to the routes extensive use of existing utility corridors. Alternative Route A was preferred by the public slightly over Alternative Route B, but Alternative Route B was evaluated less favorably in other areas.

Alternative Route 4 was identified as the preferred route between the proposed Vine Substation and the existing Kino Substation. Of the six Vine-Kino routes, Alternative 1 has the least impact on almost all of the evaluation criteria, except for compliance with local ordinances. Alternative Route 1 is located along Campbell Avenue for just under two miles. Campbell Avenue is a designated Gateway Corridor Overlay Zone. The applicability of the Gateway Corridor Overlay Zone to this project is the subject of pending litigation, so the feasibility of this as an overhead route is questionable absent a finding by this Committee that the undergrounding requirement is unreasonably restrictive and infeasible in light of the available technology. As a result, TEP did not identify Alternative 1 as the preferred route, but instead identified Alternative 4 as preferred. Alternative Route 4 was the second choice of the majority of the public that expressed a route preference. Route 4 also scored second best on the project evaluation criteria, in particular on the criteria deemed most important according to the initial public survey conducted during Phase 1.

While preferred route alternatives have been identified, TEP is including all 10 route alternatives in the application for a CEC. The preferred routes strike a balance between different environmental factors and

community values. Each of the other route alternatives have their own strengths that minimize impacts to a more focused set of criteria, but are also viable options.

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## **Appendix A**

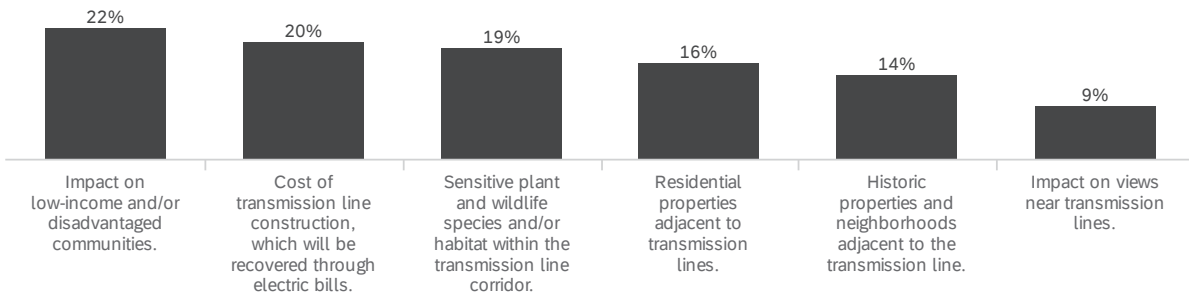
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# MidtownReliability

Midtown Reliability Project

October 16, 2023 7:07 AM MST

In your opinion, which criteria are most important in considering the route of the proposed tra...



#	Field	Choice Count	
2	Impact on low-income and/or disadvantaged communities.	22.11%	1208
3	Cost of transmission line construction, which will be recovered through electric bills.	19.78%	1081
6	Historic properties and neighborhoods adjacent to the transmission line.	14.24%	778
15	Impact on views near transmission lines.	8.95%	489
16	Residential properties adjacent to transmission lines.	16.20%	885
17	Sensitive plant and wildlife species and/or habitat within the transmission line corridor.	18.72%	1023
		5464	

Showing rows 1 - 7 of 7

If there are other criteria you would like TEP to consider, please share your sugge...



If there are other criteria you would like TEP to consider, please share yo...

All of the above listed should be considered. It's hard to pick 2. Impact on low-income and disadvantage, and any residential properties near transmission lines are also very important. If we had better neighborhood solar power grids we wouldn't need these transmission lines.

## Reliability

Reliability and ease of repair.

Put the lines underground! This is the 21st century! Nobody wants to see power lines.

If there are other criteria you would like TEP to consider, please share yo...

---

Minimum time to repair the line in case an outage (particularly as it ages and during the summer). Underground is ridiculous from both an instalation cost and repair time perspective.

Go underground. Many cities have done it. So can we.

TEP should not change its plans just because wealthy Sam Hughes owners have the money and time to complain loudly.

Put it underground.

Put the lines underground - and don't bs about the costs. TEP is quite profitable with its monopoly and guaranteed profits - more than \$400M over the last two years. Don't say it's too expensive. That's a lie. We realize it's all about shareholder return. TEP, you are no longer a good neighbor.

I'm not familiar with the proposal, so some context in the intro of the survey would've been helpful.

Build it underground you lazy turds

the corp that owns TEP made a few billion dollars last year...reinvest that in underground transmission and clean energy and stop gauging the people of Tucson

Make it out of sight underground.

I certainly would first want to see this go underground

All of the above should be considered. And don't put the poles on residential streets, that ruins the the look and feel of the street. If you have to put them by residential streets, use the alleys. Or use other metal poles that are already there, don't just add to the clutter. How would you like living with one of those poles replacing the view of the mountains or gardens etc at your own house? Not very much most likely.

The lines should be buried. Steel poles are ugly, emf is given off these lines.



If there are other criteria you would like TEP to consider, please share yo...

Many of the poles like these you have already put up are causing drivability issues. People can't see around them to get onto major roads. . If a car swerves to avoid an animal, pothole or is rear ended by another driver and run into one of these poles. Their car will be crushed and they will likely die. Then there is all the new sidewalks and pedestrian walkways the City is putting in around residential communities. If the pole is put close to a sidewalk where do people, their pets air people in wheel chairs walk. All around, it makes more sense to bury line in areas around well established residential communities. TEP's profits get higher every year. A small amount of your profits donated to this effort would allow more line to be buried and change the way people in Tucson view your company. I have never heard a nice thing mentioned about the way you conduct business. Your downtown building is an eyesore and too close to Broadway making in new changes to the foot print of that road impossible. I think Tucson should take over TEP because you clearly do not live in our community or even in the USA. TEP does not care about anything other than profit margins while providing services. Lines going down probably cost you overtime to get them up and running again.

All lines need to go underground. From what I am understanding most of this power is going to the UofA. They need to foot the bill for this project.

Underground lines are the only acceptable solution.

underground lines \ solar options

I have already done this survey twice, I just want to pay my bill

All power lines should be placed underground.

this survey sucks. I just want to pay my bill and not be hassled

Impact on pedestrians. In many of the gigantic power pole areas the poles take up more of the already limited space for pedestrians to safely walk on streets bordered by high traffic/high speed corridors. In particular, I am thinking of Country Club near the Blenman Elm elementary which also sees foot traffic from the junior high at Grant. A number of walls have been hit by speeding cars along this corridor and pedestrians have a thin strip of "sidewalk" to use, especially on the west side of the street.

Doing construction please do not hamper traffic while doing what you have to do

Put them underground.

the streets look terrible with these huge poles and lines. you should look at some other cities and see how they avoided so many lines.

If there are other criteria you would like TEP to consider, please share yo...

Please use some of your TEP profits to help bury the lines. The aesthetics and beauty of Tucson are important.

The city ordinances which demand undergrounding.

Impact on pedestrian and bicycle safety and access to transportation paths.

The City of Tucson has a code that requires undergrounding of transmission lines in an area that the City has designated as a Gateway. TEP should follow the City's codes rather than try to sneak around the codes that were already there before the current franchise agreement. Moreover, the costs of the required undergrounding of transmission lines is a cost of doing business and TEP SHOULD NOT attempt to recoup those costs by putting them on the backs of TEP's customers. TEP shareholders are doing fine -- trying to dump the cost of following city code onto customers is unjustifiable.

These power lines should be located in commercial areas, e.g., along Campbell as originally planned, and not along residential streets like Tucson Blvd and Country Club, which also happen to run through historic neighborhoods.

Solar on buildings and rooftops of the university

You are not building anything like this on Arroyo Chico. Stay out of our neighborhood. Find a different path for this! All of the above points.

TEP is owned by a multi million dollar company they have the funds to put the transmission lines underground. Our historic neighborhood doesn't need the improvements TEP wants to shove through their neighborhoods and would be the victims of the enormous power lines to service an area that does. Underground the lines and save neighborhoods who would lose property value with huge towers running through the neighborhoods. TEP can certainly afford that option which is being used more and more in other parts of the southwest.

Underground, underground, underground. You should not even be considering putting more poles along our streets and in our neighborhoods. It is blight and very dangerous for drivers, bicyclists, and pedestrians. You need to publish how many people are killed or injured each year by running into your poles.

Place lines UNDERground.

As a person who lives on Vine Ave I think you need to follow the existing standards and guidelines and NOT violate them by going through the center of a historic district and NOT following previous path of poles. It's simple TOO big of a station for that neighborhood and you need to consider doing micro-grids throughout the city.

Underground lines

If there are other criteria you would like TEP to consider, please share yo...

Tucson voters anger at next franchise proposal

They're all important.

My #1 criteria is for all transmission lines to be underground in any and all "Historic Neighborhoods".

Health impact to residents in the area

The lines should be underground. The substation should not be in a residential area. The effort to push this initiative through under a new name is short sighted. The cost is absorbable by TEP. In the long run, preservation of historical neighborhoods and community trust is better for everyone.

For all the reasons we see in the news for climate concerns wish all new lines to be underground

Under grounding

#3 = impact on low-income ...

Why don't we have campaigns to help folks reduce energy usage, instead of offering more power?

A little more transparency would help in this process. Are certain neighborhoods reaching rooftop solar capacity because they are producing too much power for the grid transmit? Please be clear. University of Arizona is listed as a central Tucson resident, but does that mean their power needs are increasing? UofA has committed to reaching net zero carbon emissions by 2040. How does this affect the need increase grid capacity in central Tucson? Please be clear with more information. Modern survey tools should include a response like "none of the above" giving participants greater feeling of being heard - when none of the options/choice feel appropriate.

Lower my fucking power bill please! yall have a monopoly of tucson power! im going to sue!

TEP should consider the many existing guidelines stating that utilities should be undergrounded in certain zones and areas.

Insuring those who benefit from the project - residential and commercial customers, University of Arizona, Banner Health - pay their fare share of the cost.

The top priority should be to make the transition to solar and wind energy as soon as possible.

If there are other criteria you would like TEP to consider, please share yo...

Fairness

I do not care in the slightest about scenic views or the property values of rich people's houses along the transmission line. Don't waste money on undergrounding!

Low income mainly

Put the lines underground.

Run the lines through the U of A. The majority of the customers in the area are residential, but the vast majority of the load is the U of A and new student housing (therefore they should provide access to the sub-station through their property or pay for going underground. Residential loads are way down due to LED lighting, new electronic equipment that take minimal load, and new energy efficient heat pumps. TEP's description makes it sound like the historic residential in the area is the cause of greater electrical demands. It would help if TEP was more straight forward about the cause of their current need. Assign the cost on the development that has increased demand and stop trying to BS us.

underground lines - the only acceptable option

Not sure about your questi

Decreased property values!

Perhaps keep the line near interstate 10, which is already kind of unsightly. Then dip back into the city down Speedway or Grant Road. Stay away from the center of the city. Cambell Ave, Broadway. Go up I-10 then work west to east!

Please please please don't let homeowners walk all over you. I know you don't necessarily have a choice, but I would much prefer an efficient construction project to a slog of bowing to one neighborhood after another. This is a public good and it needs to happen

It should be the most resilient, reliable and cost effective to keep rates as low as possible. Make sure those with the least likely chance to voice their opinions are not impacted because of their perceived silence or indifference.

All the above are important and should be considered.

If there are other criteria you would like TEP to consider, please share yo...

Safety is also a major concern, especially given the devastating wildfires that sparks from power lines have caused in Maui, in California, and elsewhere. If Phoenix, Tempe, Scottsdale and other cities across our state and nation are enjoying underground power lines, why should Tucson's residents have to accept anything less safe and also very ugly?

Probably all of the above choices should be considered. Why not consider underground utilities? I am moving back to midtown after 20 years, my home was built in 1938. I would appreciate consistent power and no huge changes in change of views. Thank you.

#### UNDERGROUND THE LINES

I want there to be underground instead of massive poles. I see that as a worthy investment, especially as we see fires coming recently from electrical lines in other places.

Safety and reliability of overhead lines given violent storms that are increasing in frequency. Impact to the overall culture of Tucson- overhead lines are an eyesore and a detriment to the city and its attraction for tourists, hence economic impact

How about you bury the lines.

#### Cost to consumers

I know you couldn't care about anything except for profit, but maybe if you were to propose good deals on solar panels, maybe we would not need expensive projects that will be outdated within the next 5 years because the demand has increased even more.

We need more underground lines to preserve views and prevent outages due to microbursts. Any area already undergoing road or other construction should be considered for underground utilities.

Sensitive humans, then cost and do not route through residential neighborhoods.

Low income people are suffering with high electric bills & while the Lifeline benefit helps, it does not come near covering the cost to low income budgets. Anything TEP does that adds blanket charges to our bills is devastating on low income households. The Federal Government funds the lifeline program. TEP needs to do more to themselves discount the bills for low income households. Whatever you do, make sure low income households are NOT IMPACTED financially. (As in, making US pay for underground lines for the rich college kids at the UofA so THEY don't lose their power in storms like the rest of us do!)

The lines must be underground.

If there are other criteria you would like TEP to consider, please share yo...

Please do not put lines above ground. Underground lines ARE indeed possible. This potentially uglifying project affects the entire community, not just the immediate area. We all pay in a variety of ways when our community become uglier.

Buried lines

Placing lines underground to allow for better use of the area

not at this time

Remember that no neighborhood really enjoys looking at electric poles and wires, but we do like having electricity. Favoring wealthy neighborhoods with underground lines at the expense of everyone is patently unfair and a kick in the stomach to the rest of us. How things "look" matters to poor people, too. Stop favoring the rich.

Our property backs up to an alleyway that has all the main powerlines, and of course all the residential gas lines. There are homeless encampments along the alleyway you all propose work in. This is a major fire and safety hazard per drug use and other public health concerns. TEP should be aware and prepared to deal with these hazards/conditions

Views, unsightly large poles

Overall costs associated with new transmission lines

All of the above are important, so tough to pick 2. But Residential is #1, and that of course includes low-income and historic communities. Being in the middle of town, wildlife has already been affected about as much as possible by the extensive development so far. Impact on views is a factor in all of the properties options. Cost is the least important, only because the cost is going to be so great, that pinching pennies with slightly different route alternatives isn't going to make much of a difference, by the time that relatively small difference is spread out among all ratepayers.

I don't know what you are talking about.... Is it an up ground or underground line? All new lines and repaired lines should be underground.

All of the above critieria should be checked by me!! and Ask the City of Tucson planning and Board of Supervisors to quit allowing permits to build high rise units in the area of interest where this power line issue applies in midtown. They are stressing the power grid with these units. They have already approved too many which is a big part of the problem!!!!

Place lines underground

If there are other criteria you would like TEP to consider, please share yo...

Stop misleading the public about "30% renewable capacity" when your actual power output is only 13% renewable.

Generally, low-income and disadvantaged communities are the most affected by these type of projects, to their detriment and they usually are lease able to afford the rising cost of electric billing increases.

Safety First!

property values of homeowners adjacent and near the line if not undergrounded

Getting Banner Hospital to pay its fair share for the upgrade

Just bury the damn thing. Stop worrying about your bottom line for a minute and consider the impacts to the community.

None

Frankly all of the above are very important

The proposed transmission lines will greatly impact the appearance of the Gateway into Tucson. The route is not commercial but residential. Put them underground.

Low income and elderly neighborhoods can not afford increases. That should be a main concern

If I were able to choose a third criterion, I would pick the wildlife habitat as a consideration

Downed transmission lines in CA and HI have caused wildfires in conjunction with high winds that destroyed cities. Your high paid lobbyists should be working to make that the subsidized standard for safety.

For decades elected city officials, homeowners, and local businesses have spent billions of dollars trying to keep the inner city livable, to ensure sustainability and to preserve Tucson's unique history and culture. Huge, above ground poles will eviscerate the heart of the city. TEP once committed to undergrounding such infrastructure in Tucson's historic core, and I urge them to keep that commitment if they care about a thriving future for our city. Also what is TEP doing to ensure there will be no negative health impacts from the transmission lines?

don't ask about the health effects of living under HV distribution lines. pretend we're stupid and won't even think of this

If there are other criteria you would like TEP to consider, please share yo...

Since 2 criteria were allowed, the impact on low-income and disadvantaged communities should not be overlooked.

Please do NOT do another franchise election that includes anything that increases bills. This is irresponsible at best. You need to do more to engage in the Community. It was disgraceful that you did a franchise open house with 24 hours notice.

Easiest Route to Underground

None

A route was already chosen through an open public process. Shame on those who disregard the public process and force it all to start over again! Why are those who are in expensive or "historic" neighborhoods so precious that they aren't allowed to look at power poles?

If the people on Campbell don't want the poles then they pay the price not the whole community.

Go underground and/or incentivize people to go solar to supply the grid

underground lines please!

Use of existing utility corridors, spacing from schools, and overall cost.

why can't we have underground lines like other cities?

"These lines need to be UNDERGROUND. Both pole options are inappropriate for densely populated neighborhoods of any economic strata. It is interesting how the underground option is intentionally omitted from this survey. Shame on you."

please consider running as many of the lines as possible underground

Why not run it down Country Club...That's commercial.

It should not fall to the public to subsidize this; corporate salaries and shareholder profits should invest in their own infrastructure, and government grants can help subsidize the initial costs.

Those two above items are the only issues that matter.



If there are other criteria you would like TEP to consider, please share yo...

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All lines in town should be buried. We lost power for 2 hours last week for no reason at all. And it's not like TEP doesn't have the money to pay for it: 2020 - \$191 million, 2021 - \$201 million, 2022 - \$217 million. Step up to the plate and do the right thing.

Negative health effects of high power lines near homes.

There is never going to be a good spot for this and I know that those that speak the loudest get heard and also know that the original area was through sam hughes and what I see happening is that there are eople with money there and are crying and this will end up going through lower income areas and don't want to see that happen.If this project is going to happen go with the original plan.

I would like to add a third. Cost of construction that customers would have to pay through their electricity bill. How much of an increase would that be. Maybe offer better solar deals to lighten the demand on the transmission lines.

How could the use of energy efficient buildings and city design reduce the need for electricity per person, so that there is no longer a growing demand?

Build two transmission lines. It's time to make innovative decisions about how to protect our environment and community fabric not just do the cheapest most expedient thing. Everything listed above is actually important.

TEP should be unprivatised, i.e. turned into a publicly owned utility.

These lines ought to be underground.

Bury the lines!

All of the above except cost

TEP should include proposed route in survey email so the survey respondents can easily consider it. Also, what percentage of transmission project spend (utility bill increase) will be for renewables?

Underground is the only way this works

As a disabled veteran, I'm ALREADY on a fixed income, and I don't qualify for any other services that you have because as veteran, I make "TOO MUCH MONEY" for your business and Budget Billing is an ABSOLUTE JOKE!

Thank you and if I can some how get help lowering my bill?

If there are other criteria you would like TEP to consider, please share yo...

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Also top concern is the impact on sensitive species and wildlife

Underground the lines

Pay for it yourselves!!!! You make disgusting profit yearly and should have been saving for this for a long time now, so that's ok you!

TEP should consider equity and equality when planning routes. Higher consumers such as the UA, private education institutions, Banner Health and the planned casino should cover their share of costs, not homeowners and disadvantaged residents.

I resent your consideration of STAKEHOLDERS, rather than focusing solely on SHAREHOLDERS. ALSO, if you are involved with ESG scores, I think that is a very bad idea for our country and the world.

Bury the power lines to prevent down lines in storms and avoid bad views

The city get mare tangled and affected by all these lines and the beauty,the wild life, but the bills are killing is. The bill is one and a half checks. It's not fair

Safety of residential areas of all income levels, wildlife and native plant species within the transmission corridor.

Everything

Have a cost effective plan that will not result in higher electric costs

sustainability

I don't care. I just want ac and lights. I'm tired of all these rich people bitching about power lines and anything else when the Southside gets treated like shit.

PUT LINES UNDERGROUND WHEREVER POSSIBLE. There is this thing called monsoon that happens each year, in addition to microbursts, and Tucson's horrible drivers.

Stop stealing poor money

If there are other criteria you would like TEP to consider, please share yo...

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safety of the areas surrounding the transmission lines which is why I strongly believe that lines should be run underground. It is far less likely that underground lines can be damaged or brought down by winds. Power lines that are brought down by winds cause far more more damage to surrounding areas. Look at Hawaii

The cost TEP does NOT want to incur and chooses to burden the residents of Tucson. The COST of doing business should not be paid by the customers. Only two choices??? Pathetic.... It all matters in the end.

Using more RENEWABLE Energy - solar especially.

Do not overspend for buried lines.

Staying away from schools homes. Any structures where people live. Stay closer to business and places where people work periodically.

How energy can be conserved to benefit the planet.

Any project should minimize the cost if not lower consumer payments.

Constructing lines that are able to withstand extreme climate events.

I'm low income and the price hikes are not great for me. I live in a studio and am already paying upwards of \$200 in the summer. I can only imagine the hardship for residents in bigger homes.

Should put lines underground like other high tech progressive communities.

None

Impact on traffic during construction

TEP forgot to check local ordinances before planning this line, and wanted to push through a rushed vote in order to pass the costs of their mistakes onto customers. Stop trying to make your customers cover for you mistakes

If there are other criteria you would like TEP to consider, please share yo...

Although buried lines are more costly and disruptive in the short term, the long term benefits of living in a clean open environment out way those shortcomings. If a person needs more convincing, just look to developing countries that have rats nest wiring running through the neighborhoods. People in those regions have come to accept the imposed blight, but that is not needed. The power requirements for sustained growth can be meet, along with aesthetic development. Perhaps TEP should spend as much effort being creative with funding a buried line solution, as they are with trying to finds ways around it.

Optimize opportunities to reduce the number poles and lines needed. This is likely to already be a consideration but would impact ascetics.

what effects on the health of humans and wildlife within the transmission line corridor?

Keep Costs passed to be low.

Discontinue MRP. There is no need for the project only a want.

Put them under ground!!!

How long disruption in each area

I think some thought needs to be put into where it's going and things like car accidents/weather issues. I've lost power multiple times due to lines going down from car accidents since moving here

Tucson is not a very wealthy city like NYC or SF. It is unreasonable to spend a great fortune to bury the transmission line if the cost for underground line is drastically more expensive than an otherwise overhung line. By forcing the supermajority of Tucson residents to subsidize for the cost of the underground line that is only enjoyed by only a very small number of neighborhoods, it raises a question of fairness and equity.

You really should be considering ALL of these factors, TEP. Do your due diligence and don't just pass costs off to consumers just because you can.

TEP making large profits and passing costs off on customers. Fuck you TEP.

Safety, in terms of our health and also fire safety (Hawaii and California have both had power lines start major fires).

It should be built along Campbell as originally planned

If there are other criteria you would like TEP to consider, please share yo...

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How about lowering us seniors bill. I can't eat every day because of high power bills

More power lines above ground will add to urban blight

Why are you not moving completely to solar?

My main concern is population growth in Arizona. We don't have enough along with our electric problems there is the issue of water and as long as we continue to build communities we continue to get hotter and hotter so I think there should be a restriction on how many people are allowed to live here. That will lower electric costs and conserve our water issues

That all neighborhood should be treated equal. And respected.

Put the lines underground.

Price for those already using tep services

We need underground utilities, not more unsightly poles, lines, towers.

Fuck you. Do you hear me? Fuck you TEP. You son of a bitches raise everyone bill. Fuck you and fuck off and die. If you're so fucking worried about money why don't you take it out of your five and six figure salaries you fucking piece of shit. I wish death and destruction on TEP

All lines must be below ground.

Please first define the route line.

Impact on low income communities is also very important.

inconvenience and disruption of construction vs. future benefit.

TEP should stop sabotaging the public opinion and must go underground to hide its hideous pylons.

I voted no on this proposal

If there are other criteria you would like TEP to consider, please share yo...

Do not raise prices anymore

Electrical lines need to be buried! I am tired of these lines falling down. You are so lucky that more people have not been killed.

Put it underground.

Historic buildings or areas of town

If those citizens want below ground cables, let them pay for it. Nobody asked us on the Southside what we wanted

All of these are important considerations, with exception of cost, mitigated by underground.

The lines need to be underground! Under the ground! We know it is possible because power transmission lines are buried in cities across Arizona. Yes, it costs more now, but the impact of giant lines will have fr higher costs in the future. Put them underground.

Underground is the only way this will be acceptable

Whether they are above or below ground.

If they pass through or near residential areas, the lines should be run underground.

If the lines are put underground there would not be any of these problems

Health impact of where lines are placed

Whether we like it or not, Tucson will continue to grow. Energy will have to be distributed to the communities no matter what ROW are in place. The company will find a way to expand. People can't live without utilities.

The other considerations also certainly need study. I was among those that supported placing transmission lines underground; while upfront cost is high, the impacts to views, wildlife, and residents is lower, and long-term maintenance costs may actually be lower. I don't feel TEP made good effort in educating people about the benefits of this option. It is also difficult because we have no alternative for electrical service and people were angry to be subsidizing the effort for isolated areas of the city.

If there are other criteria you would like TEP to consider, please share yo...

Generally, it would seem to cause less harm to people and property values to route transmission lines along corridors that are commercially, rather than residentially, developed. In the north, that would mean lines would go along Grant Rd westward from the new Vine Substation even though there are many residences west from Campbell. My property is only two blocks north of Grant near Mountain Ave. and I wonder if that's enough distance from the magnetic field these lines would cause. However, it seems important for citizens to get out of the way of this project so it can commence.

Please consider underground lines as much as possible. These forests of new steel poles are really unsightly (especially along Grant road) and would be even more unwelcomed in Historic neighborhoods such as Sam Hughes area. Campbell street should NOT be considered as a main line for these new poles. Also, rather than expecting the solar energy to come mainly from small customers, the City should make it MANDATORY that new constructions permits are only granted to developments whose huge parking lots are designed covered with solar panels. Presently, Tucson & area are wasting a lot of its potential in solar energy !!! Thank you for your attention to these comments.

The criteria presented above are not mutually exclusive, the project can address all of them and should be weighted with highest adverse impacts to the UA since their needs are the impuntual of this project. The lines should be relocated underground as a part of this project. Thank you.

Put them underground.

Put the lines underground!

Given increasing storm damage to above ground lines, I wud Luke underground lines placed

Please don't even consider tall electrical poles. I know it is more expensive initially to install power lines underground, but underground lines are more resistant to weather issues that may arise with climate changes in our future.

Because much of the need is for UA & UMC/ Banner , I feel they should share in cost of reducing visual impact ( helping underground the lines especially in UA area

How will these changes affect my bill?

above vs below ground

These inner city transmission lines must be underground for health and safety reasons as well as not destroying historic neighborhoods and destroying property values for middle class and lower income home owners whose primary wealth is equity in their homes.

All lines should be underground



If there are other criteria you would like TEP to consider, please share yo...

This feels like a very biased way to ask the question and a blatant attempt to gather "data" to argue for what you already want to do. I'm quite disappointed in TEP.

Also concerned about plant and wildlife, but could only select two

ALL electrical lines must be put underground. The poles on Broadway are unsightly. Why would TEP want to put UGLY electrical lines and poles around the beautiful campus of the University of Arizona and its neighboring historic districts and ruin the area. It is a bad idea.

ALL electric lines should be in the ground. We should take the Hawaii Electric catastrophe in Maui to heart all over the country and stop putting electric lines above ground.

I love this area and walk through this exact location almost daily. I will miss that, but I'm not sure where else you could put a substation.

plant and wildlife impact

Yes, stop undeserving and deceiving your customers with fake updates. I've lost substantial power for over 12 hrs and you claim all is fine. My food has spoiled and I can't stay in a 90° degree apartment. 12 HOURS. Complete Failure.

ALL Tucson utilities need to be placed underground, regardless of cost. If the burden of undergrounding utilities is due to the needs of commercial, private enterprise or governmental demand (e.g. University of Arizona) then the rates for those entities need to be raised so the burden of these costs do not fall on individual rate payers.

Please end your release on Fossil Fuels.

All of the criteria listed above.

bury the lines

Put the lines underground ... which is obviously the only sensible place for power lines to be.

At best this is a band-aid. All lines should be run underground in channel boxes.

All the above. Allowing only two biases this bullshit survey

If there are other criteria you would like TEP to consider, please share yo...

tall towers will destroy the beauty of the city and the University of Arizona. the lines must be buried.

My bill is already outrageous considering I keep my AC at 82 during the day and 80 at night. Will this be paid by all the taxes we are charged.

Lines should be placed underground for safety and maintaining the beauty of the neighborhoods and Tucson mountains

All future transmission lines should be constructed underground. There are way too many lines above ground already.

All of the above are important. Choosing two can skew perspective.

UNDERGROUND!

Impact on L/I and/or disadvantaged communities, of course!

You need to bury the lines. Period. And you need to pay for it.

Also the impact it will have on wildlife all the things you mention above are things to consider. Remember valuing why are you doing these and who is it for. "Don't throw the baby out with the bathwater"

Overhead vs buried. Will some main lines be converted to underground?

Can lines be installed below ground?

Impact on public transit routes

Equity and efficiency

Efficiency, sustainability

not destroying sidewalks to install poles

Historic Properties and neighborhoods adjacent to the transmission line, and residential properties adjacent to the transmission lines. I would like information about the costs of different routes as well as the costs of burying the lines, amortized over 60 years, as it appears this is the lifetime of the existing infrastructure.

If there are other criteria you would like TEP to consider, please share yo...

You should underground the transmission lines. Other countries have done it for many years.

Please put the lines underground.

1. I am against having TEP customers pay for the extra cost of installing any lines underground. 2. I think Banner Medical and UA should install their own self-sufficient virtual power plants to minimize the need for new lines. 3. The City should repeal the Code provision for undergrounding in scenic and gateway corridors and thereby all undergrounding would defer to ARS 48-620 providing for a special improvement district to form to pay for any undergrounding.

Since your last project plan was defeated, now you've included Barrios Anita and Blue Moon within your plan. The barrios have enough challenges without this. Historically, insensitive and racist urban planning have affected both of these barrios. Find somewhere else to target. Do not offer only response choices that allow the plan to move forward. This is disrespectful and faux community input, because it is manipulative and controlled so as to allow you to move forward. Offer choices to reject all and parts of your plan.

Underground to avoid visual pollution to all potentially impacted groups listed above.

-historic properties and neighborhoods -sensitive plant and wildlife species

Yes basically the cost or effect it's going to have on the people in the community especially low income!!!

Location to best serve all

Historic properties and neighborhoods.

I am willing to pay the extra for underground lines that beautify our community including low-income areas.

Quality of installation, ease of service, and reliability.

my true answer is all of the above, and even though I have a historic property myself, I am concerned with every one in the area of these lines. understand the importance of this upgrade but not at the detriment of any Tucsonian!

one suggestion and one concern: suggestion - bury the transmission lines only where they are running through historic neighborhoods. Otherwise, have the lines above ground concern - danger of tall transmission towers in the vicinity of medi-vac helicopters going to Banner

If there are other criteria you would like TEP to consider, please share yo...

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Underground the transmission lines for safety.

Reliability and future service versus the quality of life and impediments of utility systems infringing on our daily lives. Long term value versus short term cost absorption to make a better city for all with impact mitigation to all inhabitants.

Impact on low income or disadvantaged communities

All of the above would be more appropriate or possibly a ranked order of: Environmental, Community, Social and Economic Impacts. Yet all of the above would still require specific clarity by the surveyed.

Of course transmission lines are vital for all of us, however I believe minimizing impacts on views/aesthetics is very important, even if costs are higher. I'm sure few of us like the "stroads" that are so prevalent in the USA. Can transmission lines be run at least partially underground?

More than two of these are priorities. You could focus on shared solar which would probably cost the same and be more effective and cost-efficient.

Choosing 2 criteria is pointless. They are all important. If doing it right costs more, so be it.

I am concerned about any potential health impact on persons living near these lines due to radiation.

How long and to what extent will traffic be affected?

Lines should be underground.

All the criteria above are important, I just chose the 2 most important.

The project should impact those who benefit from it. Because high-density housing areas have proportionately more TEP energy users than low-density housing areas, the project should proportionately impact high-density housing areas more than low-density housing areas.

Cost is also a concern.

Put the lines underground

If there are other criteria you would like TEP to consider, please share yo...

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The lines need to be placed underground for both safety and for the appearance of the city

He

Noise control during construction and where lines will run e

My third concern is the residential properties adjacent to the lines and the impact of these lines on the properties. Of course, everything impacts the low income and disadvantaged areas. Views are nice but, not as important as the Cost of the line construction, which is critical and the encroachment on historic neighborhoods and properties is critical.

Tax payer dollars

If the lines are to be buried the people that benefit from them being buried should bear the brunt of the cost.

Open to other criteria concerns that TEP customers may suggest at this time.

All the above!! I guess to make them less ugly, I would be willing to spend a little more... so unsure.

Aesthetics is important also. Please make it look good and be safe.

I would prefer underground lines if possible. That seems to be safer, more resilient, and pose lower environmental damage in the long run. I would recommend applying life-cycle cost analysis to the project. Lowest first cost may be attractive to politicians, but the full life cycle costs are a better investment.

T.E.P should assume all cost for any construction. It's not the public's responsibility to cover your costs. That's why I hate TEP. If there was competition for my business, I would happily join their ranks.

Please consider the distance of these high power lines to human dwellings. Cancer rates for humans living under powerlines is high. Please put human health over financial concerns.

Under-grounding as much as possible.

the EMF all impinge on health, without proper documentation and research, is there research on this combined with all the new 5G towers, and the hundreds of cell towers all over the place.

Historic properties

If there are other criteria you would like TEP to consider, please share yo...

-plant life and wildlife species and/or habitat within the transmission line, can't be ruining the ecological environment to put in a transmission line -what will the impact be on the residential properties adjacent to transmission lines, are you going to be taking people's property away in order to place those transmission lines

Overall, environmental impact and innovative design for what Tucson should be considering for energy transmission (which I didn't see as options here generally) would be my concerns.

Highly traveled streets in city

Lines should be under grounded.

Sustainability during monsoon

THE only option is to put new lines underground! Yes, this would cost more, but give Tucson the option of putting new transmission lines underground.

how is it feasible for you to raise the rates substantially for those who are NOT even in the zone you are "updating". You need to put a plan in place so that only those in the "zone" have to foot that increase and not the whole entire city. If I do work on my house, I do not expect my neighbors to pay for it.....see the ridiculousness??

Historic and residential properties adjacent to line.

This either/or approach oversimplifies the problems with routing the large capacity lines through Tucson. It will not produce meaningful results, except to TEP's efforts to ramrod through unpopular preferences. I checked two choices only because your survey wouldn't let me continue until I checked at least one.

This is a false choice offer without preliminary information on information already gathered. concerning specific areas. All areas should be ranked without limiting to an arbitrary choice of two.

Health - Trans lines charge passing airborne particles, causing them to stick worse when inhaled. Shouldn't be near school or hospital. A TEP engineer sent me a misleading tech article implying it's ok, but a careful reading shows the author agreed it IS a risk, he just argued it's not as bad if diesel vehicles aren't around (but they are). Leaving health off your list is disingenuous - looks like you're hoping the public doesn't realize this. Also, increased danger in event of emergency helicopter landing near heliport.

Abiding by existing requirements for underground transmission lines.

Delays or interruptions of service

If there are other criteria you would like TEP to consider, please share yo...

impact on the health of organisms.

I would like to but I don't know about the project. Which means there hasn't been sufficient outreach to explain what it is and where it will be. In general I would like to see that lines are buried.

Service vehicles need to be aware of residents and common scheduling, ie. work/school drop-off traffic, returning home traffic, etc. Often TEP vehicles park in my spot if they come during the day, so I may come home midday because my hours change and then I am inconvenienced by an unoccupied vehicle. Same for the vehicles working on lines- 2-3 trucks will park together with no consideration for access to driveways or already parked vehicles. I have mentioned this to workers on site and they still continue to do so.

Safety of students and people living in my neighborhood of North Campus walking under or near the lines. Lines would be too close to our homes.

All of the choices presented to pick from are important where it matters why aren't we putting cables underground?

Bury the line

No

future land use issues, population growth, locating with water shortages and heat issues in mind.

The main reason I voted against the franchise proposition was because of the cost of burying 2 miles of power lines to accommodate the aesthetic sensibilities of two historic neighborhoods.

3. Cost of transmission line construction, which will be recovered through electric bills 4. Sensitive plant and wildlife species within transmission line corridor. 5. Impact on views near transmission line.

All the above are important considerations

Even if the homes aren't registered as historic yet, send a note to the area in which you know the homes will be effected by the transition. Don't be in it just for the money and ruin history, or nature. That was the whole point of a lot of people coming here 30+ years ago. Us who've been here that long feel more disappointed than excited about all these changes made here. It's like Tucson isn't unique in its own little way as much anymore.

Bury transmission lines

If there are other criteria you would like TEP to consider, please share yo...

Actually, I would check all but the second box. TEP can find the money. They should have been increasing their retained earnings over the years to address such future maintenance and enhancements without having to pass all costs onto their customers. Their shareholders should shoulder the burden for some of those cost (retained earnings).

Implement Solar Energy. I know there's a plan to stop using coal for energy around 2032, but there has to be creative, intelligent minds who can implement this sooner. If you build all these new power lines, how will you transmit electricity without the use of coal? Just curious. Thanks.

Qué no yegara tan cara la luz y q Aya mejor servicio eléctrico

Put the dang lines underground.

Underground transmission lines is the right thing to do for historic neighborhoods. The preservation of historic neighborhoods should be an obvious part of TEP's business plan. TEP's lack of properly forecasting the needs of the community is not to be placed on the shoulders of the property owners in these neighborhoods. Reset your business plan to include underground transmission lines.

I think ALL transmission lines should be underground

Having to raise the costs to cover this can't happen. We are all already unable to pay our bills this will only put us into further debt and stress that's already there with the costs of electricity being so high as is. Í

Put the lines underground. After 100-plus years of people having to look at ugly overhead power lines, it's time to put them underground.

Under-grounding the proposed transmission lines is the only acceptable solution especially in scenic corridors and adjacent to residential neighborhoods. It's worth the investment. More poles is not the answer. Step up and do the right thing for Tucson.

Bury it

I wish that TEP would invest in underground power. I know the cost is very high, but with the increasing wind storms, it would prevent a lot of power outages and people without power in the future. Not to mention overhead power lines are so ugly. They really detract from our beautiful city.

Let's do what we need to do in order to stay current into the near future. However, let's do so in a manner that allows us to maintain ambience and history in our homes, neighborhoods, city, state, country and planet. It's hard to make improvements while at the same time reducing customer costs, preserving our environment and solidifying the electrical grid. Be that as it may, we cannot alleviate these goals.



If there are other criteria you would like TEP to consider, please share yo...

Please honor and obey the planning ordinances of the city. Specifically Tucson's general plan (Plan Tucson) and the Major Streets and Routes Plan (MS&R), specifically direct that "utility lines be placed underground where possible to mitigate impact on adjacent uses". (ZE Decision dated 5-13-21 & UAP policy #6).

To help out the poorer people.

Safety of the residents in the areas where lines are being run which is why they should run underground. Running underground also protects the life of the lines from being damaged by high winds and other natural events.

If the Nimbys along campbell want undergrounding, make them pay for it themselves. Don't let them foist the cost on the rest of us.

Possibility of undergraounf lines.

Go underground so future stronger storms are not affecting and are not unsightly.

No new taxes too pay for improvement

Bury the lines and do not make customers pay for it!

I only want power UNDERGROUND. Absolutely ZERO poles and above-ground powerlines from now on. Time to move into the future, TEP.

Underground only!

UNDERGROUND ONLY. More poles, of any height, are completely unacceptable.

Wind associated with storms frequently cause power disruptions in midtown. The cost of the disruptions to homeowners is not recognized by TEP. Underground lines are more reliable and should be the standard.

Will this affect the budget billing program in any way?

There need not be transmission lines. We simply do not have to put up with the blight of above ground lines when we can bury them. TEP must consider the laws and preferences of the community. As a monopoly with virtually guaranteed profit, I do not even think you should be entitled to recover the full cost of undergrounding. Use your profits to improve your infrastructure, as you would if you were a well-run business without the power of the state securing your future.

If there are other criteria you would like TEP to consider, please share yo...

Not at the moment thank you

the lines need to be underground. The proposed poles are unsightly.

The lines should be underground.

Dipping into corporate profits to underground the lines without passing on the cost to the consumers.

Each element is equally important

Put the lines underground

Undergrounding is the only sensible answer.

With the extreme weather the entire world is now experiencing, placing electric poles above ground could prove not only damaging to residential neighborhoods, etc., but also dangerous and cost-ineffective in the event that severe weather may down lines, causing fires and necessitating expensive replacements. Placing lines underground costs more up front but would be preferable to all the ill effects of placing lines above ground.

resilient infrastructure in the face of climate change - best achieved by undergrounding transmission lines

Please use integrity and careful consideration of all facts. Don't rush this, take time to listen, take time to craft a good solution.

IMPACT ON LOW-INCOME PEOPLE PERIOD.

Underground infrastructure please

undergrounding is necessary in historic and/or residential neighborhoods

Safety of residents living near transmission lines

The current route is a main gateway for locals and tourists. No sane person would put this line here.

What rights do I have as a stakeholder ? Is everyone a stakeholder

If there are other criteria you would like TEP to consider, please share yo...

TEP should take line burial much more seriously, despite the cost. Hazards and maintenance of overhead lines would be significantly mitigated with below-grade service and access points. Sure it's be hell retro-fitting the city with subsurface electric, but it'll have to come eventually, and will be cheaper now than in the future. Should electric really replace gas for residential service, we should likewise be a forward-acting and thinking city and bury our lines.

New infrastructure should prioritize transition away from fossil fuels

developing smaller and more effective solar panels like you have in that field. Current technology is from the 1960s on the dc panels.

make sure that power doesn't go out during storms

All listed are important, but not at the expense of environmental concerns or communities that are least resilient.

Danger of fires from downed power lines.

Almost all of these above are extremely important. Please just bury the lines.

I strongly recommend underground lines. Climate change affects the severity of monsoon storms and down power lines are more and more frequent. Burying lines is cost effective and supported by the majority of Tucson residents!

Sustainable, climate/weather resilient

How is this going to impact the already over stressed grid/power station? We need another or larger main power station to sustain all this "upgrading".

I notice that whenever construction of any kind is done anywhere near University property it seems like everything is done to miss going through U of A property, therefore making it cost twice as much or more. But regular properties get huge power lines through them, but corridor down Campbell is going to be put under ground costing tons more money. WHY?

RFI interference to local properties.

Basically, these lines should be underground.

Severe weather suggests buried lines might be preferable.

If there are other criteria you would like TEP to consider, please share yo...

The only possible solution is underground transmission lines.

Consider providing a free monthly credit of electricity for renters. Consider charging homes outside of immediate city area higher rates. Consider more solar panels in parking lots throughout the city everyone loves those!!

Underground lines are imperative since storm damage in Tucson is present every year and being without A/C for any length of time in summer heat is life threatening. Underground lines also solve the issue of scenic views.

Will my Electric bill go down? I own a 2 bedroom 1 bath and my electric is close to 300 a month?

Lines should go underground!

Why can't you bury more lines?all of these concern me equally except cost

High transmission lines in midtown would receive strong opposition.

None

Will they T E P , be considering , if the lines for the MIDTOWN RELIABILITY PROJECT end up running near to vegetation that is FLAMMABLE, how they, TEP, will be responsible for FIRES caused by ( increasingly higher ) high wind EVENTS/ damages ?

Is the project going to lower the cost of energy that would be great if the project is going to raise bills then I'm against it

Habitat is also a concern

Consider distributed energy, distributed storage, and load management alternatives to expensive distribution upgrades.

Ease of access to place of residence

Overall, I support the Transmisson lines in Midtown.

Line should be designed as well as possible to not conflict with landscaping

If there are other criteria you would like TEP to consider, please share yo...

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I think the lines need to be buried.

Cost is also important and should be a sliding scale. Commercial properties owned and/or operated by companies making huge profits should carry a higher cost than families.

TEP should underground lines where required by building & city code.

Screening of the facility is important to me. Let's face it, they're not attractive, yet necessary.

Environmental impact

Residential properties

It's 2023, why do we not have underground power infrastructure at this point?

Given recent disasters in Hawaii and Florida, undergrounding power lines would be a win-win: reducing unsightly impacts on neighbors and saving huge amounts of money and damage in the long run, while making electricity supply more reliable.

Efficiency in meeting the demand and safety

Clear forecast of energy demand due to commercial/residential EV charging, cooling cost and overall electrification of our lifestyles.

Buried power lines if possible!!

My neighborhood (Dodge/Speedway) is experiencing poverty, drugs and is comprised of mostly renters, who have less power than property owners. Please don't make us suffer ugly power lines and construction, we already get snubbed enough for public money and visibility. Our neighborhood deserves to be nice too.

Please bury the line as the large transmission poles are an eyesore

I'm excited to see how more renewable energy sources can be incorporated in the future! Also consideration of any extra traffic obstructions that will happen during the busiest times of year in town (beginning of school terms/gem show) are important.

If there are other criteria you would like TEP to consider, please share yo...

your options overlap enormously. EG: the visual impact is not just "views" it is views as they impact 3, 4, and 6 This questions and it's options indicate a survey designed (so far) to skew towards an obvious end.

TEP doling out cash and grants to divide the Tucson is unethical and destructive to the community overall and must not be allowed.

Above ground utility lines are visual pollution. The lines bring down property values. Please keep lines on major roadways and keep the large poles out of neighborhoods.

Impact on views near transmission lines

Please put it underground, ALL TEP customers should share the cost as we all benefit from incremental improvements to the beautification of our community. Ignore the complainers that say it is only for the wealthy, or that they should not pay as they don't live there and therefore receive no value. We all benefit, and if the "shoe was on the other foot" - if it were in their neighborhood they would want it underground! Incremental improvements compound over time we will have a better environment.

Cost

All of these issues are important. But I don't feel like you really listen to people's concerns. Especially the impoverished and disenfranchised. I also feel you do not take advantage of our location in the Sun Belt and harness solar power. We should not have to pay higher bills because power is everywhere around us. We should be moving in this direction.

Longevity and serviceability

Erecting tall transmission lines through historic Tucson will cause irreparable changes to the appearance of historic Tucson. I believe these transmission lines should be buried!

Only property owners, adjacent businesses, University of Az, & TEP should share the additional cost of the underground transmission lines.

safety for birds

Cost

planning for long usefulness and safety for all

If there are other criteria you would like TEP to consider, please share yo...

Bury the lines! I will pay extra for it. A progressive city buries lines, and charges the citizens. Bury it and quit spending more money on all the deliberations!

Is there any way that this transmission line could be underground?

All of the above are important!

Considering the ever-growing income gap, I would appreciate seeing more initiative from TEP in offering options for people with low income. I would also appreciate payment arrangements that account for the summer season (when job opportunities are their lowest and AC is essential and requires constant use).

My biggest concern is safety. Above ground lines can snap in microbursts and cause fires and electrocution.

It is very difficult to pay the high electric bills now. Many of us cannot afford more increases!

Overall cost to customers

If lines need to be above ground for significant cost saving reasons, would it be possible to make the poles more artistic, perhaps add some value to the area that way? Like metal poles with some metal art on the pole, from local artists? That may also help deter vandalism graffiti on the poles. Cell phone towers have been successful doing this, why not power poles?

Bury the lines

All the above seem most important to me

Wish we could have put these options in order, so you could see what respondents cared LEAST about as well. Views choice is horribly selfish

Transmission lines are controversial and any potential impact on our communities HEALTH should be at the top YOUR above list. What good is power "reliability" if it has the potential of causing more harm than good? Therefore, my TWO choices of importance to me would include Health & Historic.

If it ain't broke, why you tryin to "fix" it.

I think all these criteria are important except historic properties and neighborhoods. It is difficult to pick 2.

If there are other criteria you would like TEP to consider, please share yo...

n/a

Impact on low and modest income households and communities.

This is a false choice -- why only two? I care about all these EXCEPT for the cost.

TEP has no compunction placing large concrete footments in the city walkways and parking areas ruining access for walkers, drivers and the disabled. i have less than poor opinion of TEP and there wanting to ruin and decrease property values with their fragrant disregard for any functionality except their power poles.

would like tep to consider to not increase any more towards to budget low income residents. im one of them i got increased and really fucking struggle with it. thank you very much

All six are very important!

Sustainability! We have the ability to make new lines solar and meet demand that way.

Plants and animals

Residential properties adjacent to transmission lines

Take the cost out of the profits, you fucking vultures.

Please consider all of the above!

underground transmission lines?

Please, no massive transmission lines towering over residential neighborhoods.

volume of operation. Do any of the proposed changes make a lot of noise?

Does this project constitute a windfall in increased property values for some TEP customers, at the expense of others?

Why not bury it.?



If there are other criteria you would like TEP to consider, please share yo...

Don't let Sam Hughes people talk about "historic properties" as a reason to radically increase cost.

I think every one of those choices are very important!

Pay attention to environmental issues.

Undergrounding the power lines will make them more resilient as climate change swings happen more often and will save everyone more money in the long run.

This does not mean that the other criteria are not important.

Please put these lines underground. They are ugly and underground is safer and better during storms

More help for us low income families

No

Not on my residential street. All above ground lines should be along main streets.

Consider burying more transmission lines

Try and recover the added cost of a buried system by lobbying the state for a revenue sharing plan. We can't be alone facing this problem, officials in Phoenix would be able to take advantage as well. Sports book betting and the Arizona lottery are doing very well.

Don't make ANY changes that would raise the rates even slightly to customers. I would rather have us function as we have been, then pay one cent more.

Underground power is more aesthetically pleasing than overhead power.

TEP should underground these lines for many reasons, including negative visual and property value impacts and weather/storm resilience.

all of these are important - but costs can be amortized overtime - destroying important habitats, ruining historic neighborhoods and disproportionately impacting traditionally disadvantaged communities cannot and most likely will not be easily rectified.

If there are other criteria you would like TEP to consider, please share yo...

I know the shortest distance between two points is always preferred and then electricity. This is ever more important. However, I have lived in the area for 50+ years and have had to adjust to the impact of roadway expansion already. TEP has already well-established, high power transmission line routes I would ask that you upgrade these existing lines to handle your power requirements. As travelers and neighborhoods are already accustomed to these.

putting in systems that are most adaptable with renewable energy

Reliability

The impact on views is very important to me.

I would like to amplify the concern that the demands of NIBYs will increase rates to the point of negatively impacting those living in poverty, especially since Tucson has a disproportionate number of people who struggle financially.

Do it underground.

Getting cheap, reliable electricity to as many people as possible.

ability of the proposed route to improve power delivery to the greatest number of customers

Bury the lines. Figure it out.

If you are going down a scenic order as dedicated by the City of Tucson, please abide by all codes and restrictions including placing them underground.

TEP should not forget about other areas as well when determining where to put another power source. Like west side Tucson, South Tucson, Southwest of Tucson. Don't get pushed into focusing on midtown by the people who have an 'interest' in midtown (developers, etc.)

Need to know more.

That whatever work is done is done without too much (if any) medium to long-term damage to the area around the construction. Plus, when the work is done, the area is put back as closely as possible to what it was prior to the work being done.

The big question is, "how much is this going to cost me in my monthly electric bills which are already skyrocketing?"

If there are other criteria you would like TEP to consider, please share yo...

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Suggest going underground.

Better to place in nonresidential areas whenever possible.

Be conscientious of environmental and aesthetics involved while working on project. Do a great job. Thank you. Rudy Aguilar.

Cost of maintenance. Cost of future expansion or upgrades.

Ideally I'd like to see (or not see) power lines underground

Integration of microgrid / clean energy systems while increasing reliability.

We need to replace a lot of wood poles in alleys that are old. I want a resilient system that can withstand storms and have capacity to support growth and charging.

What is transmission line for and its purpose

I know underground is expensive, however, having constantly downed, fire-starting power lines that can kill people and destroy the buildings, wouldn't it be more cost/ safety/liability effective. Climate change is real and coming on strong, please consider underground.

Reliability during poor weather

Please do not locate near sensitive people like myself.

Hard to pick just 2 here. Plant and wildlife are also a concern. As is climate change and any addition to surfaces that will cause more heat buildup.

underground or neighborhood solar grids

This is a skewed survey from the very first question. The only option for cost penalizes the subscribers. It is an unjust monopoly. There needs to be a new plan with the City of Tucson where TEP commits to investing in the environmental, aesthetic, and affordable and livable future of this community.

None other than if you are going to do this make it as cheap as possible

If there are other criteria you would like TEP to consider, please share yo...

Cost of maintenance of transmission line and all associated costs in perpetuity.

Don't know if lines will be underground or not, but that would my PRIORITY. Those families in the lower income homes nearby me, need and deserve UNDERGROUND LINES, for safety, health and equality ...As do all of us, who will be affected by your work process and the end result. Good luck to all in this work.

Why the focus on reliability in this particular section of the city when reliability is an issue in so many other underserved sections of said city?

If there are energy saving aspects to the project, they should be high priority.

Shouldn't you tell me what this Midtown Reliability Project entails before the survey? I don't even know what it is

Screw the Whiny, Environmental, Beta Male People. Run the lines big or small, just make the system reliable and robust. Let Tucson grow and become a modern city. We need electricity that is a great and as cheap as possible. Fuck Green Energy Bullshit!

Long term durability and appearance of the new transmission lines. They need to look more natural like the new generation of cell towers.

Underground utilities should be direction moving forward.

No special breaks for the Sam Hughes District or UA.

If you are considerate to historic places/neighborhoods and sensitive plant and animal species it is reasonable to expect the views and lower income people would be equally important to consider.

The sight/views are equally important to the harmful impact to the neighborhoods and the historical homes - to all of us, even if we don't live in or near there! I hate all the power poles and lines garbaging-up the scenery everywhere in Tucson! Please, is there no place where unsightly, huge power poles are not allowed to go!?

run the transmission lines underground first for safety, reliability and then for aesthetics

More incentives for solar power.

no I do not have suggestions.

If there are other criteria you would like TEP to consider, please share yo...

provide info on how cost of burying might be shared, like how long to recover cost and price per average household

In thinking just to continue to help out low income people and the elderly. Thanks

Charge more, bury the lines.

Yeah, 90 % of your "outages" are avoidable. T.E.P. chooses to NOT engage in preventative maintenance. Greed, is the problem, not the weather. I'm in contact we Representative Grijalva to get legislation written to start charging a fine for "outages" that don't fit "weather" conditions but fit a ongoing choice to neglect upkeep of the grid. A fine of \$500 to be enacted per household due to loss of food due to T.E.P.'s ongoing choice of GREED over public damages.

Would prefer underground lines like Phoenix/Scottsdale.

I think it is ridiculous to have participants pick just two out of such terrible outcomes.

I am most concerned about the cost to all tep customers

Resistance to weather.

Length of project and disruption during that time.

Are the lines going to be underground?

Would prefer to burry lines out of elements and sight

I am lucky, where I live I do not have power outages for more than a minute once in a while. I know you need to do upgrading. wish people would be more frugal. Before I had air my elec bill wass 14 dollars. the weather is really changing things. Swamp coolers use to be enough.

Try to bury them without forcing cost onto rate payers or tax payers

That all this new construction will interfere with our electricity or hopefully Not.We really need our service on because I'm an elderly & need my oxygen machine on at all times & also I'm an ashuma too.

TEP needs to bury the transmission lines. Period. Full stop.

If there are other criteria you would like TEP to consider, please share yo...

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Impact on low income communities

Please please put an end to the "forest" of electrical poles around the city !!!!

Can new power lines be buried so we can move to all below ground transmission? Would reduce the likelihood of outages due to downed lines and eliminate eyesore of existing power lines.

Where possible, desert horticulture should be practiced in TEP right-of-ways.

Undergrounding will solve all the problems above except cost. The customers will pay whatever it costs in the long run.

How are only TWO options allowed to be selected. In addition to the views which impacts a neighborhood's livability, obviously properties adjacent to the lines need to be considered. The cost is absolutely something that needs to be considered as it will be passed on to people who are already stretched thin. Sensitive plant/wildlife should always be considered.

Absolutely no extra money should go to the rich!!! The rich must pay their fair share!

underground

Wildlife and sensitive plant consideration and historic properties and neighborhoods also.

Underground preferred

Need to underground distribution lines, especially Limberlost from Oracle to First Ave. The trees are in the lines.

Any further electrical infrastructure needs to be below ground. It is unreasonable to spend so much money to build transmission lines that are still vulnerable to violent weather events.

Replace the very old poles as quickly as possible.

Please consider underground lines for increased system resiliency and to not place burdens on neighborhoods and property values to have tall power lines

All of the above should be considered.

If there are other criteria you would like TEP to consider, please share yo...

ALL of the above

Use of solar power everywhere possible.

Sensitive plant & wildlife species and/or habitat within the transmission lines corridor

All the above topics are important criteria to make a decision.

Actually, everything on the list above is extremely important to me, except the views and historic properties/neighborhoods.

while all residential properties are essential, social equity in not privileging more affluent neighborhoods based on their voices being louder isn't appropriate for Tucson.

Long-term impact. I am more interested in the long-term costs, health impacts, reliability, and environmental impacts. All of the considerations have been initial impacts.

Please do the sensible thing and put it under the ground.

Let's please not lessen any visual quality of our community.

Build underground! It's safer from wind and heat; doesn't look awful (because it's underground); and won't effect views or property values.

Spending more time and money now to ensure the lines are well constructed and installed for longevity and ease of maintenance in the near and distant future. I would rather pay more now for a quality project/product that will last many years (long term gains) versus paying pennies for instant results (short term gains.)

Company should make investments and pay from its OWN resources if it wants to make improvements in its business. Fund these by cutting executive salaries, sell its building, and move its headquarters to a less ostentatious facility. I'm surprised the Proposition lost by only 10-percent.

Residential & historic properties and low income residential are all the same issue. This question is biased

It would be unreasonable to run underground lines for only one neighborhood. Underground infrastructure would be nice, but only if it can be fairly accommodated for the majority of mature residential areas. This may also help our city become up to date with fiber and future infrastructure projects as needs become more demanding.

If there are other criteria you would like TEP to consider, please share yo...

As a company that is intertwined with the city of Tucson so deeply that it is irremovable from it. I find it offensive how much you charge for electricity and how little you give back to the city. The cost of you hanging new wires should not be coming directly out of our monthly, but the repeated record setting profits you post.

All of the above.

Cost of construction.

Electric bills should not be raised. TEP should pay for this.

Negative impact on property values

How about taking into consideration how many times we have voted to bury your power lines and you ignore the will of the people and just keep pushing your giant poles up our asses

None

Construction costs passed on to the consumer

Power lines that close to humans 24 hours a day. Will make Tucson look like lots of other communities where they don't care and just want to make a buck. Hmmm, You already know all of this. You are trying to find a way around the election results to get what you want. Stop it!

I want to select more than two of the above; impact on low income communities is also important

Alternative energy sources and overall environmental impact.

Please don't raise our bills, I have solar panels and are still paying over one hundred dollars a month, these are hard times for many TUCSONIANS

Don't build anymore lines through trees! That seems to be the only way you build and I'm telling you it's stupid. Everytime there's a storm, the power goes out. Everytime the wind blows even a little bit, the power goes out.

You already asked for rate increases and STILL put up MILLIONS in profit. Stop nickeling and diming citizens. Now you want to FURTHER decrease the value of solar you "pay" someone who is allowing you to use their roof while they carry the cost of removal if they need roof repairs, etc. .75:1 is bad enough, now .6:1 while raising rates and putting up profits. No.



If there are other criteria you would like TEP to consider, please share yo...

The TEP vote was rushed through and failed, it read to a lot of people that we would be paying so historic properties and high income properties wouldn't have an ugly transmission line in their neighborhood. And why did it go to a vote, we will all be paying for an underground transmission line anyway. Is this part of the currently proposed rate increase? Or will there be another increase to pay for this? More information needs to be disseminated to all TEP customers, especially those of us in midtown who will be impacted by the line.

You care about your shareholders more than you care about the environment you damage. The money you take in from customers who can least afford it is immoral.

Native Lands

Also the income on low income and disadvantaged communities, since I could only choose 2

avoid Gateway routes

Underground lines

Reliability

Please bury the powerlines to reduce fire risks given the extreme wind storms and dry fireprone conditions that Tucson faces

Climate change resilience eg impacts from more severe storms and heat waves

ALL of the above are important.

Willingness of affected neighborhoods to share the costs.

Resiliency and reliability.

Recover cost only from the people affected.

DO NOT RAISE OUR RATESSSS

new power sources underpricing the usual flow of electric power

If there are other criteria you would like TEP to consider, please share yo...

---

Can some parts of new line underground for aesthetics and reliability

Under ground lines where possible

Upgrade entire grid to smart grid and integrate distributed generation (household solar etc) and increase capacity as we move to elimination of fossil fuels and total electrification of all energy use in response to climate change.

Put power lines underground.

Basically all answers above

Bury it

Sensitive plants and animals

Figure out another way to recover the cost of this besides milking, I mean charging the consumer. The impact of Historic properties and neighborhoods adjacent to the transmission line. ALL OF THE ABOVE SHOULD BE CONSIDERED!

More renewable sources!

Alternative means of ensuring reliable energy such as demand reduction, battery storage, software changes, alternative supply or suppliers.

Bury the lines underground or keep them in commercial corridors

Sensitive plant and animal species

Consider the low income families who do not qualify for public assistance.

I think that in considering this project, TEP should abide by the neighborhood and city laws already in place about undergrounding and not try to skirt around them, esp. in historic neighborhoods or high density areas where views and property will be so impacted by high power poles.

Build it underground

If there are other criteria you would like TEP to consider, please share yo...

Tucson has so much charm and so much potential. Invest wisely to help maintain the current charm and ensure its potential. No one wants to live near large power lines. Ask, burying the lines would ensure greater reliability as weather can't interfere and people would be less likely to damage them (e.g., crashing into them).

All of these are important.

The cost for the clients. Electricity is a necessity whether or not we choose to admit that. Electric has gone up substantially. Also, the wildlife and trees, if there is any left.

Electricity is already getting too expensive another thing raising the cost is not what this community or city needs

Sensitive plant and wildlife in that area

It's time to stop impacting neighborhoods with environmental hazards. Bury the lines just like most over countries. It may cost more but it is safer for all.

the proposed lines route should not impact the scenic quality of a road that is used by the greater community

I feel that the lines should be buried underground wherever possible to protect from storm damage and protect property values.

Obstructing sidewalks with utility poles is unacceptable

Hard to know what to suggest without sib plans with dimensions...or did I miss this? Anyway, cost and impact on those of us on very limited income and the ecosystem (plants and other life) are important

You should dip into your corporate profits to pay for this rather than charging us, scumbags

Prices are too high compared to other markets like Phoenix. Excess solar produced by consumers should be purchased again.

Decreased property values of surrounding historic neighborhoods not just those immediately surrounding the lines. Impact of the view in ALL of Tucson. There is Nothing like this in Tucson. PUT THE LINES UNDER GROUND!!

Cost. It's ridiculous that these costs will be recouped via electric bills.

If there are other criteria you would like TEP to consider, please share yo...

These lines should be buried. It's crazy to think you can't make the investment into underground given all the benefits.

As little quality of life disruption for all beings

Build it along I-10 since there are already line there

I don't want them running alongside my property.

Why solar is not more of an option for people with yard space

Views

Have public meetings for those who live near or under the proposed route before telling them its all been decided after its too late to change.

Why shareholders once again come first over quality of life, property values, environmental concerns, and impact on communities by not investing in underground cabling.

Loss of power during construction

Safety and reliability of the system.

Put everything underground so we don't have to stare at it please

Why can't you just bury them? It's so ugly!

Any impact on water use, flow, retention, etc.

don't want to see a forest of steel poles

I would be more encouraged about TEP if there was evidence of future planning that included technology and strategies already in use in areas where climate change has been acknowledged.

Take the lines underground, please.

If there are other criteria you would like TEP to consider, please share yo...

Stop raising costs

Underground the lines. I know this will raise electric bills. It's worth it.

Disruption of traffic, everyday life.

Tucson in general is not an affluent area and increasing the cost of an electric bill to create new infrastructure may not be feasible in many family's budgets.

All utility lines should be underground

Reliability, longevity, and redundancy. For electric transmission lines, I want extra consideration for doing something that might cost more up front but will pay out dividends in the future through fewer outages, less maintenance, and abilities to correct outages faster when they occur.

Renewable Energy is very important to all of us.

Cost of transmission line construction which will be recovered through electric bills

Quality, bury lines underground.

Third choice would be cost of transmission line construction. Number one is absolute the impact on low-income or disadvantaged communities we really don't want to see those communities negatively impacted.

The customer should not have to cover the cost for the line construction. TEP customers are already paying too much for electric. It's time that the bigwigs of the corporate pay their fair share. my electric bill is outrageous every month. I keep my thermostat set at 82 during the day in the summer I might turn it down to 80 at night I keep getting messages saying to lower my bill set my thermostat higher how much higher does it have to go? I can't afford another cent higher on my TEP bill.

MUCH more emphasis needs to be placed on locally produced (rooftop and community scale) solar power generation which would lessen the need for high energy transmisson lines, their environmental impacts, and vulnerability.

Yes, this town has too many poles everywhere already, and adding more makes it look unsightly. Please underground them.

Please consider spending the money it would take to build these an all future transmission lines underground.

If there are other criteria you would like TEP to consider, please share yo...

C-Suite salaries should be clawed back to pay for public needs

If low income communities are disrupted where are those residents going to go to find housing they can afford

Stop raising our prices, you're robbing us.

AOTA are important

Why don't I just check off all of the above? TEP et al do what they want. The corporation commission is in your back pocket. Any public input will be largely ignored.

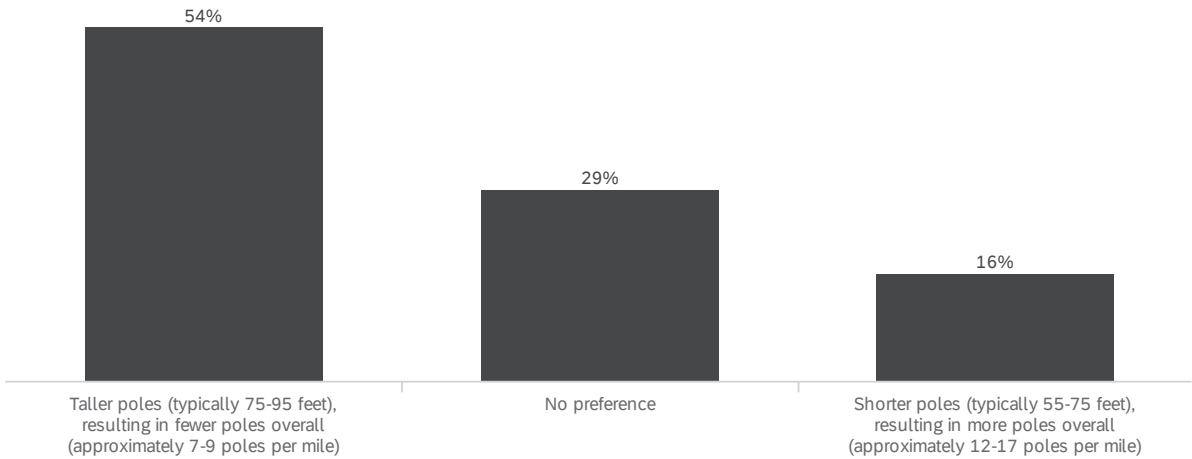
Why not consider them all

Historic sights and low income is another consideration

Burry the line

Continue to find ways to deliver reliable and cost efficient electricity without the use of fossil fuels.

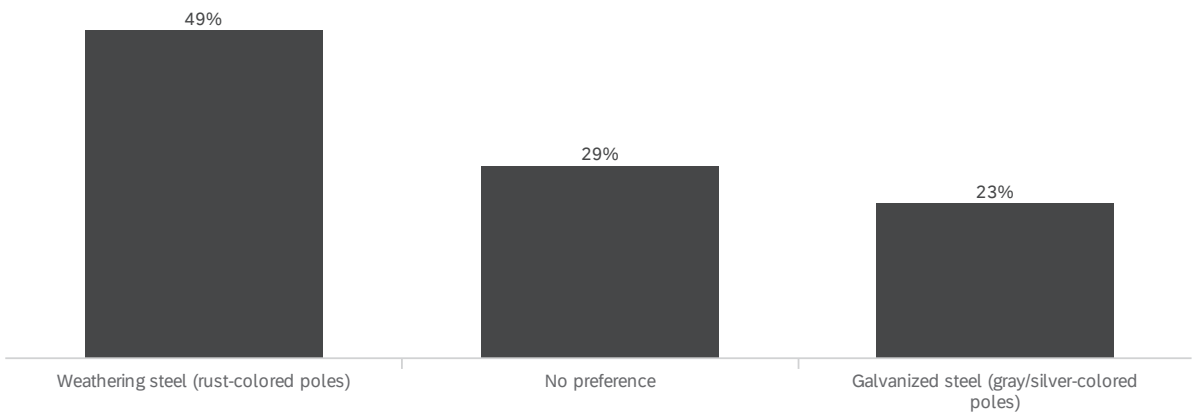
Q1.4 - Please indicate your preference for pole height and number of poles per mile:



#	Field	Choice Count	
1	Taller poles (typically 75-95 feet), resulting in fewer poles overall (approximately 7-9 poles per mile)	54.19%	1513
2	Shorter poles (typically 55-75 feet), resulting in more poles overall (approximately 12-17 poles per mile)	16.48%	460
3	No preference	29.33%	819
			2792

Showing rows 1 - 4 of 4

Please indicate your preference for the type of steel pole used:

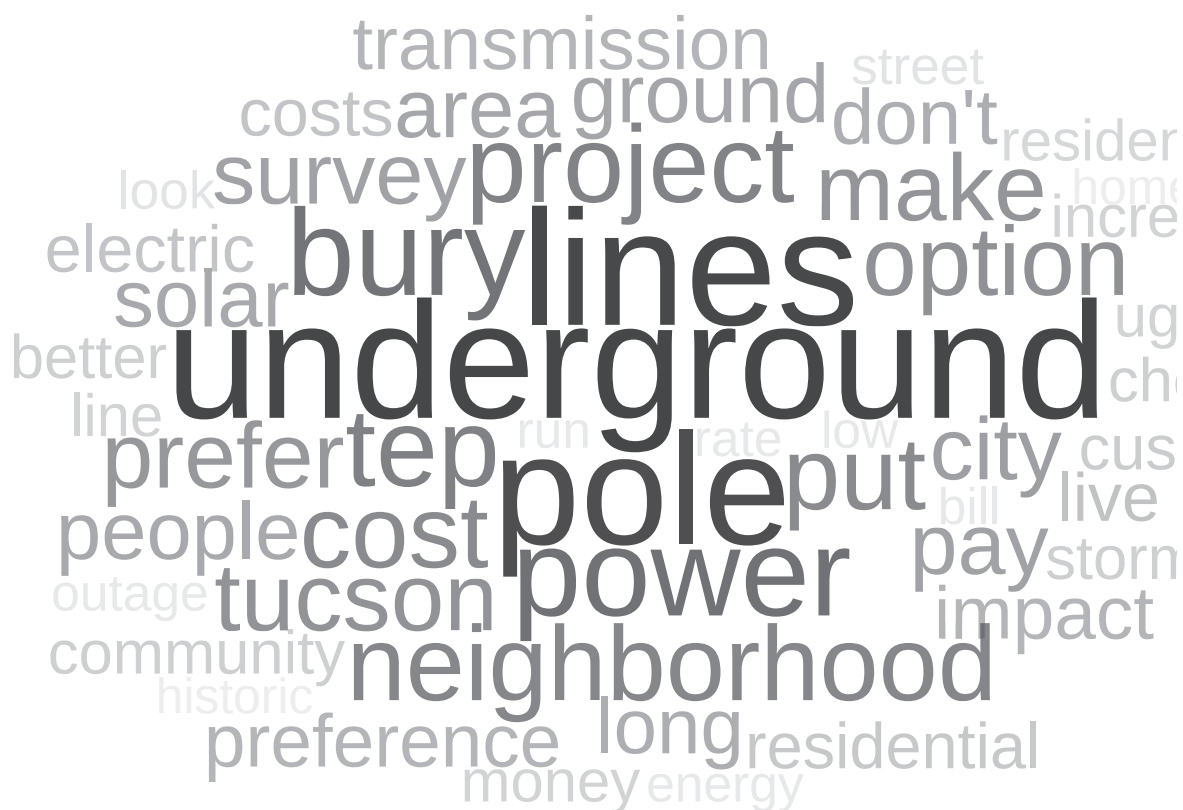


#	Field	Choice Count	
1	Galvanized steel (gray/silver-colored poles)	22.96%	641
2	Weathering steel (rust-colored poles)	48.53%	1355
3	No preference	28.51%	796
			2792

Showing rows 1 - 4 of 4



If there is anything else you would like to tell us about the Midtown Reliability Proj...



If there is anything else you would like to tell us about the Midtown Relia...

While the NIMBY crowd acts out and is upset over the prospect of visible power lines, the rest of the community could care less. Sam Hughes residents really should have no greater input than anyone else. The recent failure in the franchise vote clearly demonstrates that the rest of us aren't really willing to subsidize the pipe dreamers who live in the path of progress.

Bury the lines what are you thinking

This whole set up is really ugly. Is it necessary? Shouldn't we be putting lines underground? Shouldn't we have neighborhood grids from solar power.

If there is anything else you would like to tell us about the Midtown Relia...

Any electric poles and wires are simply awful. Electric companies need to be more highly regulated. You should be forced to bury all your wires and pay for it with your profits.

Let's get it done. Tucson's future shouldn't be hamstrung by those in a delapidated neighborhood east of the UA. If they want to be true to their historic neighborhood then they should be supplied power at 60 amps max per household.

I Support of new line, upgrading the system. Once a new line is overhead T line is built it can serve the area for decades. The distribution lines along Campbell Ave are in many cases old and in poor condition and should be upgraded as well. I live next to a T line along Ft Lowell east of Campbell and it doesn't affect me at all.

Your survey is idiotic. I don't want poles yet you fail to listen to that option.

Is it possible that the transmission lines can run down Grant and Campbell, instead of thru neighborhoods? These are already high traffic areas where power poles won't impact the surrounding neighborhoods (as much).

Engineers (not uneducated general residents) should design the solution, considering all criteria: capacity, cost, reliability, repair, etc. Only ask the public's opinion on color preference.

Tucson's aging infrastructure needs to be upgraded, so just do it, it's what's best for the majority so why pander to a small number of NIMBYS in Sam Hughes

I don't feel that TEP customers should have to pay extra for some one's view. If those neighbors want a nice view, let them pay for it.

Go underground. Yes, it's more expensive, but it's less expensive in the long run.

Put it underground.

\$400M in profit in the last two years, but it's too much to put these lines underground. I call BS

Please consider under grounding the line in the gateway area.

No underground for the rich unless they pay for it themselves.

If this is required for future energy consumption, particularly for Banner UMC I say build what's needed to ensure that proper supply. The community needs are much more important than how a bunch of NIMBYs object.

If there is anything else you would like to tell us about the Midtown Relia...

UofA is driving the need for this project however the TEP spokesperson has now started claiming it's needed because residents installed air conditioning? This re-shaping of the truth to protect the UofA isn't acceptable. UofA should pay for this project and the line should run through campus. There is absolutely no reason for the line to avoid the campus area.

#### UNDER GROUND POWER LINES

You should be going underground...period

Make it underground, no polls!

Who pays for the repairs to a building that one of the poles falls onto if it falls? Better be TEP without passing the cost to customers for TEP not securing the poles well enough to withstand our monsoon winds. I understand the need for newer power lines and equipment, but it shouldn't come at the cost of people being able to enjoy their homes and also being able to pay their electricity bills, or having to choose food over heat or cooling.

Underground is my preference. I am not buying the cost against it argument from your for profit master

This should be underground. These power lines are terrible to look at. I We look like a 3rd world country. Let's invest in Tucson and make it more modern and beautiful.

Why no underground?

I don't support above ground poles. Pass the cost of underground lines to your shareholders.

Are there going to be some type of lights flashing in them for low fly aircraft and helicopters???

I understand that underground is both expensive and technologically difficult, especially with respect to maintenance. Given that, are you looking at alleys for installation and will you be moving the lines on current poles to this set of poles, so we end up with fewer poles overall? I also wonder about the pole foundations. Will they be fully underground and not visible or are they large concrete pedestals? Of course I prefer smaller as that interferes less with walking, etc.

These poles and lines are unsightly, make it harder to see around to get onto major roads, the more you put up the more they will be in the way of new sidewalks and pedestrian walkways. They do not belong around or near parks. It is unfair to put on right next to home. They can create health issues for some. There is imperial evidence you are missing on your website around this issue. TEP could help mitigate costs with their hefty profit margins to help bury lines where they should be buried.

If there is anything else you would like to tell us about the Midtown Relia...

Maintain current pricing is very important to me.

These new poles do not belong in residential areas. I understand upgrades are necessary so build out the ones in residential and put the bulk of the new HUB on UofA property

We will fight TEP every step of the way if underground is no longer the proposed solution.

large scale use of solar options on public lands and roofs; possibly larger units on residential homes to produce excess power for use throughout neighborhood

These lines must be undergrounded through the heart of the city. The other consideration could be to do something completely different, such as micro-grids along the way, thereby eliminating the need for massive transmission lines.

The reason I have no preference for pole height or material is because I prefer underground and NO POLES at all.

Put the lines underground!!!!!!!!!!!!!!!!!!!!!! Do not use poles.

Survey offers no underground option which is my preference. Misleading survey. What are ALL the options?

this survey sucks and I dont care about any of it. just let me pay my bill already.

If it is a goal and a value in the city of Tucson to encourage people to bike and walk, the sidewalks and streets need to be friendly to these users. Giant poles suggest that this is not a city that cares about those who are not in cars and, as such, indifferent to sidewalk aesthetics.

refugee or people who need jobs to complete the project

I have 0.0 interest

Put them underground. Not above ground

giving a choice of surface of the pole is deceptive.....like this is real choice for the project. the poles are ugly

Tucson preferred overwhelmingly to bury these lines. Tucson laws say to bury the lines. It's time for TEP to compromise and help with costs via your very large profit margins.

If there is anything else you would like to tell us about the Midtown Relia...

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Please use main arterial roads rather than residential side roads. I know that undergrounding has not been budgeted for, but please reconsider when running lines thru historic neighborhoods.

Go underground

Asking about the height and type of poles precludes the option of undergrounding which is what should be done. This makes the survey meaningless

Many neighborhoods and adjacent transportation routes have already been adversely impacted by large circumference poles that block street visibility triangles and pedestrian paths. These areas are blighted not only by the new poles but by the remaining poles that carry communications lines. There needs to be much greater coordination and consideration to minimize the impact of electrical poles throughout the City.

Underground the lines. Follow City code. Stop acting as if TEP is above the law.

Investment in our city. Build underground. Maybe help pay for the Reid park renovation and you can run power line underneath.

I am disgusted with the re-labeling of this project, the consistent refusal of TEP to seriously consider placing the lines, underground, and the misleading of the public. Furthermore, TEP is spending way too much on advertising, and too little on respecting our environment.

Underground power utilities. Beautify the community. I will gladly pay my share of additional costs spread among all TEP users.

Please review the consistent feedback Tucson Electric Power has received from the residences and neighborhood associations that are effected by the midtown reliability project. We want underground lines.

I need more information on the different types of poles to make a more informed selection. I think the information on the TEP website is misleading. Police, fire, and EMT personnel already respond to other areas of Tucson with underground lines, so that does not seem like an actual barrier to undergrounding lines in central Tucson. Why are up to 8 substations being retired and a new substation being created. Why can't the existing substations be updated? This plan appears to be in direct violation of the University Area Plan as well as the Major Streets and Routes Plan.

Under grounding

Thank you!

If there is anything else you would like to tell us about the Midtown Relia...

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I think boosting the power that is already too much for the environment, is like raising the speed limits because drivers are exceeding them anyway! I am opposed to boosting power

A little more transparency would help in this process. Are certain neighborhoods reaching rooftop solar capacity because they are producing too much power for the grid transmit? Please be clear. University of Arizona is listed as a central Tucson resident, but does that mean their power needs are increasing? UofA has committed to reaching net zero carbon emissions by 2040. How does this affect the need increase grid capacity in central Tucson? Please be clear with more information. Modern survey tools should include a response like "none of the above" giving participants greater feeling of being heard - when none of the options/choice feel appropriate. Underground transmission lines NEED to remain an option.

Please just lower my bill! \$200 for a 2 bed 2 bath apartment is a little excessive!!!!!!

I am strongly against the installation of these eye-sore poles. TEP needs to take responsibility for following existing agreements/zoning guidelines that utilities should be undergrounded. This survey doesn't even offer undergrounding as an option- as such it appears to be a blatant manipulation of public data and a misrepresentation of public opinion and wishes. The installation of new poles would not only devalue the historic neighborhoods (one of which I live in), but it would also negatively impact the views and tourist attractions from which Tucsonans derive their livelihoods. Finally, undergrounded utilities would be much safer from serious weather events as well as random accidents such as cars crashing into poles. We understand that it impacts TEP's bottom line to underground the lines- but as customers, it is highly important to us that TEP honors our neighborhoods and the public support for undergrounding new utilities.

I would actual prefer buried power lines, but that was not an option.

Put them along major roads or near business, NOT near homes. Although they're necessary, they're unsightly, so they'll blend in with businesses better than with Tucson homes.

TEP's electric poles are not ugly, and I think they are a unique component of Tucson's local aesthetic. And once completed, the new poles will represent our community's transition to clean energy.

Why are the only choices above ground poles? Why isn't there an other option? We want candy cane poles! It's almost a non-choice choice.

It should not go through small residential streets

Underground or nothing... There's a reason why I'm going off grid solar

Need trash clean up & abandon buildings cleanup crime cleanup also streetlights in Estrella due to criminal activity

If there is anything else you would like to tell us about the Midtown Relia...

Question number one of this survey is so vague, it seems inappropriate to ask.

I don't want poles. I want it underground. I am tired of wires destroying the beauty of our city and surrounding area.

You already forced me to have a smart meter installed right next to the wall where I sleep. I do not want these running right through my street on Camilla right outside my bedroom window too.

You didn't show a choice for no poles, so I'm voting no poles!

no poles

Thank you for preparing this survey and providing great questions! We appreciate having input in the project.

Rate increase is horrific for those of us on limited funds.

All the options presented are ugly! You should underground the system. Stop trying to avoid what the people want. Do the RIGHT thing, not the greedy, corporate thing.

The committee should already be aware of the citizens' concerns. Don't ignore us! Work to alleviate the concerns! No unsightly and ugly poles and lines through residential neighborhoods! Work though 1-10 and industrial areas. Go underground where possible. Treat the project like it was going through YOUR neighborhood!

UTILITIES SHOULD BE UNDERGROUNDED. where's that option?

Regarding the poles, use whichever will last longer.

The color too should be the most resilient, reliable and cost effective to keep the rates down.

I would prefer power lines to be buried.

Some safe guards for downed lines

I prefer the lines to be put underground. No poles.





If there is anything else you would like to tell us about the Midtown Relia...

Hard to make an informed decision about pole height and pole material (galvanized vs. weathered) without more info, such as longevity of different poles, which height fares better in adverse weather (high winds, thunderstorms), etc.

Just make sure low income households do not bear the financial impact.

You are asking us to put lipstick on a pig. Your questions are an attempt to limit the discussion. Increased reliability is important, and it can be done by putting lines underground. TEP has lots of profit that can be used as investment. Don't just stick this to ratepayers.

Buried lines

Stop raising our rates

Even with increased cost poles and power need to be placed underground for less impact of the changing weather and protection of the grid.

no

I think the photos of the pole color should reflect the reality, demonstrating that the silver colored poles blend in better with the sky compared to the rust color poles in the photos

I hope with all this that everything will be updated. I am tired of losing power with every storm we have had this year.

please update residents about this project as it develops, thanks!

THE LINES MUST GO UNDERGROUND!!!! Undergrounding lines is essential if we are to maintain the Old Pueblo's unique character, develop and sustain tourism, and improve the general health of the city.

NO POLES!!!!!!!!!!!! Make it underground!!!!!!!!UNDERGROUND!!!!!! Enough being in the dark in the middle of Summer when there is a little bit of wind!!!! Enough paying for stupid pole repairs!!!!!!!! When will you learn?!?!? In France they started to bury all the lines in Paris in 1980!!!!

Underground is the way to go and since that has been shot down, make sure the poles are not blocking sidewalks, curbs, and bike path areas as they are on Country Club!!

Lines should go underground. There should be NO POLES!!!

If there is anything else you would like to tell us about the Midtown Relia...

People are more important than property. We are in a climate crisis and narcissistic wealthy folks are more concerned with electric poles than the gradual destabilization of civilization.

TEP should absorb the construction costs.

It is outrageous that TEP continues to ignore/defy the will of the people who are forced to be its customers and will suffer if an ugly above-ground transmission line is constructed as planned. It is a further affront to force us to express a preference for poles when poles are unacceptable to us. THE ONLY ACCEPTABLE CHOICE IS UNDERGROUNDING THIS NEW LINE.

I would prefer that these particular lines be run underground when next to neighborhoods

There should be no poles. These lines should be buried underground.

Why don't you give an option for "no poles - bury the transmission line"?

Why ask about poles when the concept was to underground the lines. Clearly there is no real desire for public input

You should require large property owners and landlords to use higher efficiency equipment. My apartment is always hot in the summer and my bill comes up to \$200-\$300 dollars because of the low efficiency A/C unit. They are already increasing rent significantly, it's the least they can do to improve quality of life for renters

Having recently returned to Tucson (85719) zip code. I am disappointed in the number of outages and the time to restore them. I was born here originally and have lost power more in the last 3 summers than in the 25 years I lived here previously.

This is a very biased survey and not reliable. There is no option for no poles. The only options are for what TEP wants. This is like asking me if I want to be hit by a car or a truck! Change the survey to offer options other than what you want to hear.

I'd like more information on the effect of the different height of the poles on reliability. Do fewer poles mean more people affected if one goes down? Are they more likely to go down if they're taller?

It's imperative the new powerlines do not go through historic neighborhoods like Sam Hughes, Blenman Elm and Feldmans. These are wonderful neighborhoods special to Tucson that have spent years preserving the history of this town. We have not honored our history with other neighborhoods for too long, and now that we know better and there are alternative routing options, those should be pursued.

If there is anything else you would like to tell us about the Midtown Relia...

I would just like you to put up the strongest poles that will stand up to our storms. I just pray every time a storm comes through that the power stays on. My biggest concern is no air conditioning. I used to care about all the electrical poles and how they look, don't anymore.

It is disturbing to me that TEP is assuming that these massive poles and lines will be cutting through our community. Why aren't you poling to find out how many of us want undergrounding? This project if carried out above ground will ruin the viability of the inner city.

is this a step towards turning Tucson into a 15min city? w/ most of us charging electric cars?

Upgrading the transmission lines is a necessity.

There are a lot of interests to be balanced, questionnaire shows TEP is aware this is true and the final decisions will involve balancing of interests. The project should be as safe as possible for everyone (including workers) and as cost effective as possible. We do not support objections that are petty or seem to be for individualized interests or just for "obstruction" of the project in general.

where will the new lines be

The project costs should not be financed (paid) by ALL TEP customers in Tucson.

No more poles on the chosen route. Underground the lines.

It should be underground

The rusted poles are nice at first, but look ugly after being tagged with graffiti then painted over in orange. Maybe galvanized would be more easily painted over in grey, and would maintain a uniform (rather than two-tone) appearance. You cannot eliminate graffiti.

You didn't ask me to put huge transformers in front of my house so why ask people on Campbell if ok.

Go under ground

Go for it! Your managers should take everyone out for a drink...and an Sonoran Dog (they are awesome)

If there is anything else you would like to tell us about the Midtown Relia...

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The way you worded the survey to make it seem like I was 'agreeing' to poles by not giving the option of NO POLES was devious. NO ONE WANTS THESE POLES ABOVE GROUND! They need to be underground, end of story. I've lived in Jefferson Park 29 years, the value in my home is my retirement security. You will devalue my home value if these poles are above ground and ruin the esthetic of the neighborhood.

"These lines need to be UNDERGROUND. Both pole options are absolutely inappropriate for densely populated neighborhoods of any economic strata. And the ones from 36th (low income, through HISTORIC NEIGHBORHOODS, and extremely active neighborhood associations with beautiful homes, and back through neighborhoods with high rentals is WRONG. Sticking them on a residential street because your huge poles won't fit on the r-o-w on Country Club is criminal. You are destroying the quality of life for all neighbors. You are trashing our neighborhood on Grant Road with your 6'+ diameter rusty poles on Grant Roads RTA. Don't cram more down our throats. It is interesting how the underground option is intentionally omitted from this survey - it's time you cough up some of the big bucks in the black column and underground your projects. Shame on you."

Again why in the world run it down Camilla, a 100% residential street? Run it down Tucson Boulevard or Country Club if you have to do this. And it would be nice if you'd consider residents instead of stockholders.

See my earlier notes about who should shoulder the costs

Please continue to invest in clean energy

As long as you're a private company (meaning not a public utility; I know the company is "public" and has shareholders), upgrading your equipment is your responsibility. You've been raising our rates year after year even with record profits, so what exactly have you been doing with that money?

I wrote what I needed in the earlier spot

Our skylines already have too many transmission lines - we should be burying the lines

The bills are already high for my family, I am extremely worried about the cost that will be passed on in higher bills.

Offer really good solar deals. If solar was cheaper to install, I would be going that route.

If there is anything else you would like to tell us about the Midtown Relia...

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Tucson is well situated to meet the majority of its electricity needs with renewable energy. Parking lots and commercial buildings that do not host solar arrays should be assessed at a higher property tax rate and there should be incentives to aid the transition. Same for public buildings. El Con is. a perfect example, acres of unused parking that could support solar. Alternate the rows of solar arrays with trees. It's an embarrassment in a city with more than enough space and sun. TEP should be a national leader in this sort of approach (as opposed to tearing up the desert for solar arrays that are disruptive and damaging to ecosystems). Infill solar systems in Tucson is super low hanging fruit.

Just bury it and save everyone the eye sore.

Midtown is about as dense as it can get. Up grade needed yes but at less cost and impact.

Please keep costs low. Residents are already paying more than is tenable long-term.

Underground electric is the only way to go. More invasive, grotesque power lines. Just keep Tucson looking shitty. This is another example of the city of Tucson'poor planning for growth.

Fuck the rich people and their property values

No poles! Place the lines underground. We live in the 21st century for Pete's sake.

The survey asks for preference of heights of poles, either taller or shorter. My preference is no poles. The incremental cost of under grounding as a percentage of TEP's rate base is immaterial.

Bury the lines!

I would prefer utility pole color choice be made on basis of cost over life of the poles.

Can the wires go underground? I think that should be the future going forward.

I would prefer you did the project underground without poles. Why wasn't that an option in your choices? Seems like the questionnaire doesn't truly seek our views.

Underground if possible

Which costs less to maintain: fewer, taller poles or more, shorter poles?

If there is anything else you would like to tell us about the Midtown Relia...

---

Bury the lines and have hospital and other large users pay for it.

No poles

Be nice if poles, lines, were buried underground! Improve the view to the mountains.

Underground is the only way this works

These are leading questions, as I would prefer underground power lines and not poles at all. I chose "no preference" only because you didn't offer an underground option. Please correct this in the survey.

I can't say what I REALLY want to say, so I'll say nothing more!

I don't have much knowledge on the topic but cost to the average consumer is a huge concern as well as overall impact to the average consumer. Type of pole and number and height really only matter to me in the context of the best case scenario for the people who need to live next to the power structures. What's safest and equitable.

Please consider undergrounding for this project.

Prefer buried lines

Please re-evaluate your position on STAKEHOLDERS as opposed to SHAREHOLDERS. Resist ESG scores etc.

Why doesn't the money we and the government already give and continue to give you go to this project? Additionally, why is your electric buyback for solar not sufficient enough to incentivize overall load reduction?

Bury the power lines

How will this Project, if applicable, have any impact on residents seeking to decrease the cost of electricity by considering TEP solar programs and/or installation of solar panels?

Why don't you put the wiring underground like in other states. You make the city so ugly with so much wiring. And ugly piles everywhere

poles should be underground. safer, less maintenance. just do the right thing, put them underground

If there is anything else you would like to tell us about the Midtown Relia...

Don't do it.

Please consider wildlife and vegetative plants and most importantly low income and disadvantage communities.

Electricity cables should be underground in populated areas not overhead power lines.

Good luck getting anything done given how nitpicky rolls are anymore.

As long as you insist on running above-ground lines, putting them higher, and making fewer/sturdier poles makes more sense to reduce the points of failure.

Bury the lines.

Is it possible to put under ground

Stop stole poors money

Although I selected a pole preference I did so only because there was no option of underground.

What about putting the electrical lines underground if this project MUST be done? Will the infrastructure reduce or increase power outages during storms? Is the proposed infrastructure more resilient? If not, then why do it?

Please plan on shifting to renewable energy sources, such as solar energy. We live in the sunbelt. Please please - renewable sources of energy will make Tucson livable, rather than depending on fossil fuel or nuclear.

Reuse as much existing infrastructure as possible.

Concerned about impact to people's health especially with high voltage power and it's emission to human health.

Underground the transmission lines.

They should not be so tall as to cover clear view of the sky.

I sure hope that it will help with the power fluctuations that we experience daily in our home. Had electrician come and do \$6,000+ of electrical work and house is still flickering! They say that the TEP feeder line in the neighborhood is too small for our home.

If there is anything else you would like to tell us about the Midtown Relia...

Be quick and limit traffic disruptions.

More power is not the answer. Higher efficiency and use moderation is. Upgrading infrastructure is ambient damaging to all surrounding life. This is not a positive direction, only a greedy/disconnected one.

Not having the lines hanging n dropping so low to the residential housing

These lines need to be UNDERGROUND. BOTH pole options are inappropriate for densely populated neighborhoods of any economic strata. Interesting how your survey intentionally omits that option... Shame on you.

I would prefer lines to be underground.

Survey sounds like you already made the decision to put the lines above ground. Thanks for asking anyway.

TEP should bury the lines, not use poles.

Power poles should be as unobtrusive as possible and as much of the grid post substations as possible should be underground. TEP power poles and lines largely define Tucson as a pretty ugly city surrounded by beautiful landscapes. Huge mistakes in urban planning were made largely in the 50s, 60s, and 70s. Try making things better looking and stop throwing light into the sky. One can hardly see the stars anymore.

Update your shit.

I would strongly prefer underground lines. If not, they at least need to run on main arteries, not through neighborhoods. You should at the least include the underground option in your survey.

why not hide the cables underground?

My real preference would be to bury all lines!

The previous page did not have "underground lines" as a preference. This is a biased survey due to that. If you need to run the lines through the Sam Hugues area, you need to put them underground per ordinances at TEP's, and not the customers' expense.

Your survey asked for a pole preference, but did not give the option for "No Poles" I am choosing No Poles!



If there is anything else you would like to tell us about the Midtown Relia...

My interest is as a paying TEP customer. I don't want to pay

I prefer the lines be put unerground and pay extra on my electric bill

No good reason for customers to absorb all the cost.If customers pay more then also reduce upper administration bonuses and stockholders dividends

Put the lines underground along Kino & Campbell

I would prefer that the lines be under grounded where possible.

It would have been far preferable for the new lines to be underground, but I understand that the costs associated with that approach make it untenable without usage rates also becoming untenable. Therefore, I think fewer/taller utility poles in the project you propose will improve viewsheds in the effected neighborhoods relative to the wood poles currently in use.

I feel like this is just another thinly veiled excuse to jack rates up for customers who are forced to get their electricity from you.

I don't know anything about it. When did you plan to notify the residents about this project and also how it's going to effect their bills and the danger of all these electrical lines and the issues it can cause one's health?

Please bury the lines or don't do this at all. We don't need more eye soars in town

Please put it underground!!!

These lines should be under grounded, not strung on poles, for increased safety. This is particularly important in light of global warming. Plus Tucson has laws against these above-ground wires.

I don't prefer any of the pole choices, because the line should go underground, and TEP should pay for it.

Would be nice if power didn't go out every single time there's any storm as I am disabled and rely on several electric items to function and keep myself safe

Is it possible to bury the lines?

If there is anything else you would like to tell us about the Midtown Relia...

You should be spending this money on solar panels

Please go underground!

As long as we continue to allow the growth in Arizona, we are going to continue to have electric and water issues. We need to have restrictions as to how many people are allowed to live in the state of Arizona for the well being of the whole state of Arizona people. as of right now we have way too many people living here already. If we make a proposal to stop allowing people to come in and moving here, then eventually, we will go back into a community which is healthy for Arizona.

We do not want poles on Camilla Blvd

Hopefully, with upcoming projects, you will be more transparent at an earlier stage, so the public can evaluate it and help come up with solutions instead of push back.

Would prefer underground lines.

Put the lines underground. This is safer (fire prevention) and more attractive for everyone who lives nearby or who travels through. Force the UofA to invest in solar panels on the roofs of buildings on campus. Why are there no solar panels? I have solar panels on my house, so surely the UA can do that too. I don't see why neighborhoods should have to tolerate unsightly power lines to accommodate increased needs from the UA. The UA needs to do their part.

Preference would be no poles and bury our utilities lines... pay more now to ensure a safer future.

Bury the lines

Please put the poles along commercial streets rather than more unsightly utility poles in residential neighborhoods.

Like I said fuck you and fuck off and die. You raised my bill. You so fucking worried about money take it out of your five and six figure salaries. Eat shit and die mother fuckers

I could not answer the last questions correctly because ALL LINES MUST BE UNDERGROUND!!!!

What is the project?

I am concerned about the energy these will give off, as there have been health risks associated with proximity to substations and high voltage transmission lines.

If there is anything else you would like to tell us about the Midtown Relia...

This is a deceiving survey. You should not ask people opposed to the idea of having ugly poles added to their neighborhood, which pole they prefer. There should have been an option: "Oppose to the idea of underground poles." Any option offered in this survey is an attempt to manipulate the statistics.

I voted no on this proposal

Bury these poles!!! They are a huge safety hazard, and a huge eyesore.

Please go with the most efficient solution that also minimizes impact on autochthonous species into account. I don't care about the view of the poles, screw those NIMBYs!

Please note that I STRONGLY prefer no poles at all. This project does not make TEP look like a good neighbor—it was quite clear the company was determined to take the easy route on the installation, and was unconcerned that it will contribute to the aesthetic degradation of our neighborhoods, in the name of profit. And no, I'm not a rich Sam Hughes resident; my wife and I live in a 1,000-square-foot house on North Campbell and will have to look at these poles every day. Shame on TEP.

Put the lines underground. Less maintainance and higher roi long term. Junking up the skyline is ridiculous and never ending.

Just build it and let all the trash from California and Texas ruin our city already...

You are biasing the ordinance by calling it Midtown and ignoring the legal issues above ground.

I do not want any tall poles of any color. Put them under ground.

Underground is the only acceptable way for the us project to move forward.

I do NOT want ANY poles! TEP is ignoring the wishes of stakeholders near the new transmission lines and bullying to get its way. Placing lines underground is the most common-sense solution for this massive new infrastructure project. Poles are an eyesore, they are a traffic hazard, and they greatly diminish the quality of life in our neighborhood. Tall or short, the poles are behemoths that will be an eyesore on the main route into the U of A, downtown, resorts, and other destinations for visitors to our city. Not to mention for those of us living on that route. And while I understand that these are not wooden poles, it's nonetheless ironic to see so many poles & lines that go down during our monsoon every damned year. I'm curious to know if anybody can identify the huge numbers of TEP customers who've lost power over the decades, not to mention the financial outlay to repair them during that time. Had TEP taken steps to move lines underground (as you have in the Catalina foothill\$\$\$ and other areas) starting decades past, we'd have better views, reliable electricity, and fewer deaths & injuries due to vehicle v. power poles. Why not begin to change NOW?

If there is anything else you would like to tell us about the Midtown Relia...

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Consider buried poles and having largest users (UA and UMC) paying the cost.

I am concerned with health and well-being impacts of transmission lines. Are they noisy? do they vibrate or create electrostatic effects that are bothersome? are they going to be placed on residential streets or major thoroughfare streets?

These lines should be buried. Pass the cost along to either the consumer of the power or profits.

All utility lines should be placed underground as they are in the more affluent neighborhoods.

I would prefer the lines be underground as all aboveground options will negatively impact views of the mountains which is one of the most beautiful aspects of Tucson.

Please put overhead power lines and poles along the major thoroughfares that are already congested, loud, ugly, and polluted rather than carving through washes and residential neighborhoods. This "gateway corridor" business is a special-interest ruse.

[comments on previous page](#)

As there has been a significant increase in power outages in my neighborhood (Hedrick Acres) in the last few years, anything to minimize future outages would be greatly appreciated.

Lines should be underground.

I prefer the lines be run underground

Thank you in advance for the tremendous work these changes will experience to upgrade.

The area where I live is comprised of 2 churches, an elementary school, and residential homes (Campbell Ave between Speedway and Elm). I feel that putting the proposed electrical poles in this area would negatively affect the feeling and appearance of this neighborhood.

Bury all poles in residential areas

More extreme storms mean more risk to power lines. In the long term, undergrounding is a better strategy. It will be safer and will protect all neighborhoods from declining property values and loss of aesthetic value. I believe TEP is making short-sighted decisions with this project that will harm all Tucson residents in the future.

If there is anything else you would like to tell us about the Midtown Relia...

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I absolutely do not want more poles and power lines to go up especially in the historic Sam Hughes neighborhood, I would be willing to pay a good amount more in costs if the cables would all be hidden.

I do not wish my cost to increase more than they already are.

Put the poles underground for safety and beauty of Tucson and its residents

I'm offended that my only aesthetic options are two different colors of the same hideous power poles. Both of them suck. Put your transmission lines underground.

Construct underground lines only.

I feed solar panel generated energy back into the grid (Tucson/Elm) from loan I took out. Get more homes installed with solar to also help stabilize the grid

Asking others can to pay the cost of line burial shirks your responsibility to be good community members.

Why is underground not mentioned when we have been fighting for this and you lost the referendum Partly because you would not commit to underground?

You need to bury the lines. Be a progressive, not part of the problem. The number of outages is ridiculous. There's no reason for this. You need to fund the infrastructure, not the taxpayers. TEP makes PLENTY of money. Developers do not need tax cuts just so they can add to the existing poorly-constructed infrastructure.

I need more information to comment

I hate the look of poles and lines. Nothing to do about that. Only way to remove the ugliness from the environment is to put them underground and at this point, I'm sure we're too far down the road to plan for this....bummer! But, that's my dream, underground lines.

I've resided in the project area for years and this is the first I am hearing of the project via a newsletter from my city councilman. Community awareness efforts need to strengthen.

build the most robust hardened system you can given financial considerations. Reliable electric should be number 1 consideration.

Please bury the lines when possible

If there is anything else you would like to tell us about the Midtown Relia...

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I am happy to see this taking place as the need has become apparent especially during monsoon season. I hope to see Tucson do away with the types of power lines in my neighborhood which are unsafe, flimsy, older and wooden and install the taller metal types and have fewer of them

This is a ridiculous survey. What a farce. This is about where the transmission poles go -- not what they look like. Or whether they go underground or above ground.

How are other western cities dealing with power transmission lines? Are they above or below ground? In the graphic you presented showing use increasing over time, it actually appears that use has plateaued since 2005. it isn't clear that demand will increase substantially. How effective would a robust distributed power grid based upon extensive residential solar systems be in meeting future demand?

You should underground the lines

Seems like the assumption here is that everybody is fine with poles.

I'm a landlord in the affected area.

Please put the lines underground.

1. See my previous answer. Neither TEP ratepayers nor the City should pay for any optional undergrounding of the new transmission line(s). Defer to ARS 48-620 and require any property owners objecting to poles to form an improvement district to pay for the desired undergrounding. 2. Do not attempt to embed millions of dollars for undergrounding in the next franchise agreement. That's the reason it failed the first time. Hold a completely transparent franchise negotiation process, and solve all problems in advance so the next election will approve the new agreement.

This is a flawed survey. When I'm asked for a preference, I need to know more. For example, could this project be moved underground? In general, my choice is by default a potential acceptance of that choice when I might have no desire to accept the original premise.

Do not compel survey respondents to select from your choices to respond to your plan and your survey.

Underground transmission lines should be an option. Add to the list of options and indicate potential cost of all options.

lower rates

If there is anything else you would like to tell us about the Midtown Relia...

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I hope your project can go forward in spite of the many complaints that will inevitably arise.

Why are you not going underground?

Not enough information provided to answer the survey questions, such as how a Midtown reliability project will facilitate additional use of clean energy resources. Why not solar powered substations to improve reliability during high demand and extreme conditions?

Prefer underground transmission, not poles of any sort

Don't use poles - go underground

Undergrounding should be considered

it will look just as ugly in miracle manor neighborhood as it will in sam hughes. just put it away from the animals and don't pawn it off onto the poor folk.

the visual impact of your proposal will affect many over the years with this visual clutter and ruining the wonderful natural views we have here in Tucson.

I hate the thought of these ugly poles all through Midtown (which is aesthetically challenged to start with!). Views of beautiful sunsets will be ruined. If this was in the Foothills, you'd bury those lines.

Underground transmission lines.

Whatever you do erect poles that will withstand the more frequent micro bursts we are now experiencing. I had 4 power outages this summer & no place to go. One lasted 23 hours. It was miserable since it was stiflingly hot even at night.

Cables installed below ground preferred over poles.

Underground as much as possible

Underground along primary or specific arterial streets.

If there is anything else you would like to tell us about the Midtown Relia...

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I am glad to see these needed upgrades being pursued. Please consider making this system as household-solar friendly as possible immediately, and allowing for future growth. Household solar makes a lot of sense for Tucson, since we are all running air conditioning the most during the day. Also, can you incorporate sites for utility scale solar development in this area in the future? TEP could look at purchasing vacant commercial lots, or tearing down old commercial buildings and installing acres of solar within the city. This allows TEP customers who rent their homes or can't afford solar to still participate and support renewable energy. Overall I recommend making the system as renewable friendly as possible; nearly everyone I know in the Tucson community is supportive of this and would love to see more!

Underground cables!!!!!!

The pole thing makes no sense since it is height vs "width". Can't see why there would be additional poles because they are of shorter height. Nor why there would be less poles because they are taller.

Burying lines when poles are required in residential areas should be done despite costs, and placing poles directly behind or in front of people's homes is not right at all. People work so hard for their homes. They should be able to enjoy them and their views whether they are living in historic neighborhoods or low-income homes. Also, I am concerned about old and leaning poles behind my home at 3110 -3124 e. 4th street, and I hope this means that they can be removed. Especially after what happened in Hawaii.

Those who have greatest need should share the cost so TEP customers don't have to bear the cost.

Lines need to be underground!

Using rusting poles (in this or any other project) looks like shoddy engineering and construction.

make it look like surrounding environment as much as possible-don't make it an eye sore by cutting corners and saving money. In other words, do a good job!

I prefer underground powerlines. If they have to be above ground, I prefer those that are most sensitive to the wildlife.

I'm no expert...and that's the problem. TEP and the city need to do more to educate the public about the details of this project. Choosing between which ugly pole, at this late stage, seems ridiculous. In my attempts to educate myself in order to vote on the proposition I found very little useful information available. The information that was available seemed political in nature.



If there is anything else you would like to tell us about the Midtown Relia...

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Please do not prioritize the voices of wealthy neighborhoods over those of low income neighborhoods. Additionally, the additional cost of a more expensive project disproportionately affects individuals at the lower end of the income bracket. Prioritize sensible, lower cost solutions that have the least impact such as running transmission lines along main roadways.

Do it with underground lines. The blight of poles and wires is bad enough already

We don't need more poles. Put the lines inderground. Do not make bigger networks.

there should not be poles put on the streets turning the city into an industrial zone.

Please take into consideration the costs being passed on to the average customer . With inflation and the rising cost of everyday needs a lot of people are struggling to keep up already

Resident safety

Considering that thick clouds bring an extra bill when paying for solar. Having to pay for that project is expensive to Residential households.

No poles of any color would be even better than any of those options

The US might be the only first world country still using poles for electricity...any other proposals that won't affect views and neighborhoods?

Why is TEP not providing the citizens with the opportunity to ask that the poles be placed underground? This survey appears to be biased as that was not provided as an option. As our local utility, TEP has an obligation to serve the community by providing reliable electric service in a manner that protects the health and safety of the community. This option should have been provided in the survey.

Just a general note. While being a huge environmentalist (actually, because I am!!), I am a strong proponent of rethinking newer, safer nuclear power -- AT LEAST in the short term. There is no chance of getting carbon emissions down fast enough using solar, wind, etc. If climate change is truly an existential crisis (and I'm pretty sure it is), let's treat it as such!!! Thanks for listening :-)

I'd rather you consider putting the lines underground.

Electric poles are always ugly and it would be nicer if we didn't have to look at them. But we all need power and beefing up our grid and using as many renewable resources as possible should be priority.

If there is anything else you would like to tell us about the Midtown Relia...

Are you having community meetings and robust public input? This survey is not adequate for that.

You already got your rate hike. Prioritize renewable energy instead of natural gas, commit to carbon reduction standards. I know unisource is a huge corp, but make TEP more responsive to community needs instead of going after solar.

Poles should not be used anywhere. Take them all down. Go underground

it sounds scary

Tep must place the new lines UNDERGROUND

Is there conversation about buried lines? Overhead seems less safe and reliable.

I do worry about the cost passed on to customers. As the summers get hotter and for longer periods, the cost of electricity for some families is becoming prohibitively expensive. While TEP does have programs for those struggling to pay their bill, that doesn't solve the problem. That's a band aide to a select few who reach out.

Lineman safety for maintenance of power lines

More reliability during storms

Please consider environmental impact and overall expansion goals for the city. Can we not have buried lines?

I think it should be run underground

Underground the poles. Don't be an awful corporation focused only on your share holders. Please care about the customers. Underground the poles.

Make sure the polls stay up and the power stays on as best as possible. No solar?

TEP customers should also be given the option of putting new transmission lines UNDERGROUND! Be up front that this would cost more, but give customers the option. In fact, ALL of TEPs lines should be underground. It would save tons of money in the long run.

This survey is rigged. What happened to undergrounding the power lines instead of erecting poles?

If there is anything else you would like to tell us about the Midtown Relia...

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The choice on poles is false. No poles. All lines should be buried.

Your pole options do not include "No Poles", another way to rig the results.

What's the impact on wildlife ?

Again what is it?

Lives should all be underground. Tucson is a good size city to make this happen.

I hope there will be more updates about the scope and scheduling of this project.

I'm assuming this is necessary so I would say do what you can to keep costs down while building for longevity.

Lines should be buried underground when close to homes. Keep lines on major roads away from homes.

Poles of these sizes shown should never be installed in residential neighborhoods. Especially historic neighborhoods. This is when putting cables underground should be considered

Bury the line

No

thank you for sharing, getting the average consumers opinion

We need it

Even though I selected the fewer power poles and rust-colored options, if there are implications for cost or potential storm damage with these options, those considerations would overrule my earlier choices.

This "survey" is basically asking how ugly would you like us to make your city? it's a no for me.

I wish electric itself didn't cost so much. And that Tucson didn't get so hot. Do whatever you do, just don't disturb the peace (b/c we just went through that Broadway and Country Club constructing for how many years?!) Don't rip down all the trees, bushes, nature in general and look back on you or upon others and personally think about why (of 30+ yrs) you moved here and look what's happening.

If there is anything else you would like to tell us about the Midtown Relia...

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This is a rather cynical survey. You try to pose construction cost against infringement on historically significant properties, for example. The energy needs of the University of Arizona and the Health Sciences Center are amongst the reasons behind the project. Some of the up-front construction costs should be borne by the university/state--the university is a state resource for all ... not just TEP customers, and not just people who live near the university.

Bury transmission lines

I selected no preference on height or material because the lines should be buried, period.

Hello! Can't you make the poles more aesthetically pleasing, by making them look natural to the landscape if you will not put them underground which is the best option?

Put the poles underground!!!!!!!!!!

Underground transmission lines was not offered as an option. Shame on TEP. TEP is aware of the need to preserve and protect historic neighborhoods

Why are lines not underground in a area with thunderstorms and wind events?

I prefer the big sturdy poles

Our electric system in the Pueblo Garden's area is way out of date. While attending a community meeting prior to the substation being built at 36th and Kino, I was told by TEP that neighborhood power lines would be replaced soon after the substation was built. It was built years ago and we still have issues with dimming and blinking lights and no new promised power lines.

Under-grounding the proposed transmission lines is the only acceptable solution especially in scenic corridors and adjacent to residential neighborhoods. It's worth the investment. More poles is not the answer. Step up and do the right thing for Tucson.

I wish that TEP would invest in underground power. I know the cost is very high, but with the increasing wind storms, it would prevent a lot of power outages and people without power in the future. Not to mention overhead power lines are so ugly. They really detract from our beautiful city.

Rock on, take care and remember who funds you your utility (i.e. your cusotmers).

please bury the lines on Campbell between Broadway and Speedway!!

If there is anything else you would like to tell us about the Midtown Relia...

Underground please. No poles.

Under ground?

There should be no poles running through residential areas, the lines should be run underground

The thought that a few wealthy people along the route can strong arm the entire city to pay for their undergrounding is not right. Make them pay for it with adjusted costs if that is what they want. Don't pass it on to all of us.

TEP needs to put all its efforts into aiming for 100% clean, safe, renewable energy sources. We have a climate in crisis!!!

I would like for this to be done underground

Poles of this size do NOT belong in residential neighborhoods, historic or not. While I understand the need for this project, all poles should be on major streets and routes. The Vine substation needs to be replaced with a substation on a major street or route.

If Tucson needs more electricity because of growth then it should be subsidized by the city not increasing residents rates whom did nothing and are not increasing their energy usage. And also electric services should not be a corporation to bring profit but a service provided by effective taxes but that's late stage capitalism for you.

Do NOT put anymore poles and powerlines above ground in Tucson. We want these new lines UNDERGROUND.

I don't understand why you are planning to put in more poles, etc., when people are converting to solar.

Using the best materials for the project. Using the best route for the job at hand.

Poles of any sort are unacceptable.

No poles at all, please. We are a wealthy enough society to deserve all these unsightly cables being underground.

As said before, more poles of any height or material are unacceptable. UNDERGROUND ONLY.

I prefer no poles but to have lines buried underground.

If there is anything else you would like to tell us about the Midtown Relia...

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I live in midtown Tucson. TEP's service is not reliable.

Bury your lines. I suspect that the neighborhoods your executives live in are not burdened by views of unsightly power poles, or by the risks of downed lines in monsoon season. Treat others as you wish to be treated. Lighten your wallets ever so slightly and unburden your souls.

What methods are being used to generate at the source? We need to continue a path to self sufficiency with every future plan. If we don't have a goal, get one!

Underground poles only. Do not accept anything above ground

I THOUGHT NEW LINES WERE SUPPOSED TO BE UNDERGROUND FROM NOW ON

Not at the moment thank you

Keep costs low

This survey is biased - the questions about preference only refer to type of pole. NO POLES! underground is better for Tucson.

The wording of the previous question is disingenuous and designed to produce misleading results. I would prefer that the lines be underground, as did many voters, and that is not one of the choices.

Dip into corporate profits to underground the lines without passing on the cost to the consumers.

Map location of proposed placement

Underground wires

Pole height is irrelevant. We should have NO POLES.

How about underground? Our city is going to look horrible! Common! I can't imagine these tall poles and cables stretching for miles along our city. Oh no! Why can't it be done underground?

Placing poles above ground will further deteriorate the appearance, safety, and overall desirability of living in Tucson. I personally plan to move out of Tucson if poles are erected above ground.

If there is anything else you would like to tell us about the Midtown Relia...

I selected "no preference" for the question regarding pole type because I think the option of above ground poles and lines is unacceptable. They are totally old school and will make Tucson feel outdated - not to mention less beautiful and charming. I also feel their use is misguided with more and more power outages occurring due to storms related to climate change. No more poles please! Literally everyone I've spoken with about this is strongly against adding more above ground transmission lines.

Who cares what they look like. You should be doing everything in your power to make your RATES reasonable for us to afford since there is literally NO ONE else we can go to.

Project should be undergrounded for safety of the residents, the animals, and the contributing properties in impacted historic neighborhoods. Climate change has worsened the extreme wind speeds/frequency and storm damage and there's no sign of it getting any better in the future. Above ground poles are not acceptable.

There's no option in this survey to DECLINE use of above ground facilities/poles. Underground is the option and end result that is preferred in my neighborhood.

undergrounding is necessary in historic and/or residential neighborhoods

Power poles need to be constructed along the major roadways and not be placed through neighborhoods.

The line HAS to go underground. Climate change and basic ascetics drive this choice. Lowest cost is pure lunacy.

Highly prefer underground to poles!

All I care about is reliable and affordable power.

This is a huge project that deserves to be done once and right. Well-engineered burial alignments will best serve the city's needs.

Make sure power lines can withstand storms. I've had the power go out on 5 times now

Underground lines preferred. Storm proof No live wires on roads when lines go down Long term benetits

Please keep these away from Reid Park. Most people, if given the choice, would prefer you bury these electric lines. This really shouldn't be a problem. Given him the profits TEP is making.

Power lines really should be buried, despite the cost. Water is buried. Gas is buried.

If there is anything else you would like to tell us about the Midtown Relia...

See previous comments. Underground lines eliminate weather induced power outages, pole repairs, overtime costs, etc. In the long run, underground lines are cost effective and keep Tucson an attractive place to live (also a financial benefit to TEP!).

I'd rather buried lines to poles.

Will the power company pay to replace the service line from their new lines to my home?

This needs to be underground!!

Eliminate poles. Go underground.

Haven't heard about this project. Would like to know the proposed routes of the new lines.

There is no reason in this day and age to have overground lines. They are unsightly, dangerous and inefficient. It may cost more initially, but in the medium and long term, they work out cheaper. Fewer power cuts, less chance of fire (remember Lāhainā!), less ugly, fewer car accidents ...in fact, it is hard to find a reason for above ground lines other than electric companies and shareholders making more money by cutting corners.

Please use underground option. It is the best option and worth the investment.

We prefer buried transmission lines, therefor NO POLES at all.

this power line project needs to run along the Interstate an already established industrial corridor ... DO NOT run it through primarily residential areas. Running it up Campbell is just stupid ... run it along I-10

Would prefer underground lines. In the long run oral come out cheaper with less outages and happier customers. We will end up paying for it one way or another do it correctly.

Install the poles underneath the streets to prevent weather related problems.

My preference is no poles. These line must be put underground for esthetics and safety. In the long run there will be less maintenance and lower costs.



If there is anything else you would like to tell us about the Midtown Relia...

Tucson is at a crossroads for future generations and i believe we must prioritize our own city folk who work and contribute daily to society. Although the surrounding desert is beautiful and it is incredibly tempting to sell out our interests to those willing to pay huge sums of money for the land and views and water rights, Protecting those who live here first and foremost will never lead you down the wrong path. Stay true.

Make sure that renovation does not lower quality in my area.

Really would prefer everything underground

underground

Construction should proceed on a 24hr schedule so as not to delay or unduly interrupt traffic and other daily activities of local residents

Thank you for obtaining resident feedback.

Yes, this survey is not really giving us any choices. You just want us to believe you're letting us make choices. Underground is the best solution. But you're not even giving us that as a consideration. So you're not following what the community is asking for!!!!!!!!!!!!!!!!!!!!!!!!!!!! Go back and create a meaningful survey!! Actually listen to the Community!!

I prefer no poles.

Please bury your electrical lines, as is done by the most progressive and enlightened communities!

In this TEP Survey for the Midtown Reliability project THE choice of COLOR Weathering steel ( RUSTABLE ?) verses Galvanized steel should have been MUCH better explained regards the cost of replacement . due to " RUST "

Put it underground. Instead of wasting money, on remodeling and adding buildings on the Irvington campus, where most work from home, it should have been put towards this.

Consider a Virtual Power Plant option.

The project is needed to continue to serve midtown. Please protect the hawks.

I love the idea of undergrounding but don't believe it should be done in a manner that all the taxpayers and individual consumers should bear the cost.

If there is anything else you would like to tell us about the Midtown Relia...

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Would like to see underground

Thanks for asking our input.

I think all the electric lines need to be buried.

Underground would be my preference, if possible.

The options on the previous page were a joke. The lines should be underground. I do have a preference: It is 'neither, the power should be run underground. Both poles are ugly and unsightly."

I am willing to pay the extra costs to put it underground along the scenic corridor.

It would be great if we could actually get reliable power in our neighborhood without staring at power lines, large or small.

I'm not sure why we are doing this

As I said above, NO POLES at all: underground the power lines and save ratepayers and yourselves money while adding resiliency and reliability to the power supply.

Rather than running the lines on poles, could the lines be buried in an underground tunnel/raceway? This would be so much better for the views.

Why can't the lines be underground?

Do was is most efficient and safw

As a homeowner in historic Jefferson Park I strongly prefer undergrounding options even with the increased cost.

Continue to provide info and updates as progress is made. A better informed citizenry is more likely to support reasonable infrastructure investment.

Please bury lines!!!

Bury the lines!

If there is anything else you would like to tell us about the Midtown Relia...

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See my earlier comment. Low-income neighborhoods with renters deserve nice things too. Not just historic neighborhoods, which tend to be better off financially than us.

Burying the lines is preferable to either pole height

yes: admit that the high costs of burying the lines is offset by the exceptionally low cost of maintaining them on top of quality of life issue

The path of the poles through our community is the only reasonable consideration, at this point. It's premature to select preferences on pole height or color.

Please keep in on Kino or have it follow railroad tracks. It would actually be best to keep everything underground. I know that underground costs more, but it will prevent wild fires. Paradise,CA was destroyed by a downed pole. Lahaina Hawaii is also no more. It will ultimately cost you less with putting the investment up front to bury everything.

above ground or under ground installations should be decided on cost and efficiency basis' not neighborhood political muscle or screaming

It would be a wise decision to have a project communication tool with all those affected by the Midtown Reliability Project. I was a Program Manager for MaBell and I found out projects worked smoother when we kept the neighborhoods informed of events they should experience on a weekly basis, sometimes we had neighborhood Q&A hotdog days and the neighborhoods impacted were very helpful and friendly to our construction crews. My main message to you is please partner up with customers during the project. Thank You

Please put poles underground

We absolutely oppose installation of big poles and want undergrounding, even at additional cost to us.

Burying lines reduces safety risks including fire hazards, accidents, and power outages. I have lived in much poorer cities that have underground lines. These lines should be buried.

Strive towards long-term conservation of natural resources and science-based recommendations for renewable energy technologies. Thank you

Please look at the cost long term of burying the electric lines. This option although costly in short term seems safer for people and property in the long term and certainly more aesthetically appealing.

If there is anything else you would like to tell us about the Midtown Relia...

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Equity for all.

Why not put the lines underground.

Overall environmental impacts, both positive and negative, should prevail.

Keep the noise down. Thanks 🙏

I do not want any poles and everybody else in Tucson does not want any poles. We all want the lines to be buried like a modern day city should do. We will pay for it. Charge us on our electric bills if that's what it takes!

It looks like TEP is currently supplying about 20% renewable energy. I know we all know that this is far lower than it should be in 2023. Please prioritize reducing your contribution to the climate crisis. Thank you.

I am still not sure you have thought of all the possibilities with this project. With the high cost of our power there might be a better solution where cost can be spread out over many years. If TEP would be more pro-active in promoting alternatives like roof-top solar I think that could impact the need for projects such as this.

The lines should be underground!

Raptor protection

Please don't raise the monthly bill to make us pay for it

No poles. put the lines underground.

I do not support this.

We would like taller poles to increase line distance from our HOA common areas below so we can use the space.

You did not provide enough information regarding the pros & cons of pole height/distance of lines NOR if there are any pros or cons regarding color (other than visual). Most importantly - WHERE is the option to BURYING (undergrounding) lines when appropriate/possible? (Yes, higher cost upfront BUT if you consider lots less maintenance (animals, storms, fire, vandalism, etc.) fewer power outages for so many other reasons. Isn't this what/customers want RELIABILITY from TEP? VERY IMPORTANT NOTE: When considering BURYING (undergrounding) & COSTS (to ratepayers in Midtown) . . . PLEASE think in the same vein as you did with the costs passed on to the Foothills ratepayers (positive visual impact with little if any on them financially).

If there is anything else you would like to tell us about the Midtown Relia...

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I prefer lines in/near historical neighborhoods to be buried.

I'm glad you guys are still trying to get that extra cash, it's amazing.

The best result would be electrical lines in the ground.

The photo you used for the poles make it look like they're both dark in daylight -- they're not. The galvanized disappear against the sky. Also, hello, undergrounding? Are we past that now? I'm willing to pay a little extra each month.

You suck.

No poles should be an option, I greatly prefer underground. This skews your data significantly by not having the option presented.

The lines should be buried.

transmission lines should be buried

Consider underground lines. Why was that not given as an option?

Our preference is underground wiring.

How reliable will this make our service? Also how much downtime is it?

Bury the lines - and have the wealthy Canadian parent company pay for it. You're killing this community and for once it would be nice to put the people of Tucson BEFORE your fucking profits.

do not pass on costs to low income customers

Sounds like we're stuck with the giant poles either way. Why even do a survey?

too bad you can't bury it or figure out a way to hide it so the views aren't obstructed.

Underground the power lines is the only option we along the path will accept.

If there is anything else you would like to tell us about the Midtown Relia...

---

Tired of Sam Hugh's trying to control everything

On Poles Color & Height. I would Leave this to the discretion of TEP engineers, and maybe the lowering of cost for them and the consumer.

No polls! Please bury the lines.

Every thing is ok

Do the right thing and bury the lines!

Your stockholders are making plenty of money. You can afford to bury power lines.

No poles is my preference and bury the lines. The cost needs to be passed on over time and it's never gonna be cheaper. They do it in Phoenix why can't we do it here? The new huge poles down Grant Rd look hideous and should have been buried during construction.

underground transmission lines

Our biggest concerns is that it's done respectfully to property and to low income housing and also not to lower property values

Announce to the news media the political action being undertaken by TEP to build a needed project that does not scar the landscape of the city. The more Arizona citizens that are made aware of a reasonable path to this issue makes it more likely to happen.

Don affect our wallets with your unneeded projects.

I would like to have more info on how this affects residents in the area.

Please consider under grounding lines.

I think the poles are an eyesore and I'd like to more of these power lines buried. There would be less maintenance and exposure to extreme weather that we experience in Tucson.

If there is anything else you would like to tell us about the Midtown Relia...

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I would like to see that the poles used (gray or red) can be sustained for long periods of time. (Consider the wind/storms of the area.) With technology changing, would poles become a thing of the past? I know my question is basic but I am curious.

build underground!

Just hope there are not major traffic issues.

Service goes out too much!!!!

Don't care about low income impact or anything other than reliable electricity

This is a critical project and TEP needs to tell the city to push off. Trying to force their personal agenda items into the agreement, at the cost of losing reliability, is an absolute moral crime.

Why not buried lines?

I'm very excited! Keep up the great work!

I propose a collaboration between Cox/Comcast/Centurylink, City of Tucson, and TEP to put all powerlines and cable/internet/fiber lines underground side by side.

don't run it through Jefferson Park Historic neighborhood!

Please try to use existing utility corridors and place the appropriate polls that you need to do it. In existing corridors there is already visual and environmental impact and this new line will be nothing different.

What color, what type of poles, how many per mile should not be the question but safety from weather issues and cost. How much more is it going to cost the customer per month.

don't know enough at this time.

Maybe I can find this information online or printed, but I wonder what areas this work will be done in specifically, what kind of work will be done, how extensive it will be, and when it will start and finish.

Should be under ground!

If there is anything else you would like to tell us about the Midtown Relia...

Time to go underground. There is little reason for poles when you can go underground and be more efficient. Yes it may cost more today but in the long run it is a solid investment.

Need more information of the two pole choices than were offered. Are aesthetics the only difference?

Why not underground?

Placement of poles directly in front of people's homes is unacceptable

Please consider aesthetics

I appreciate that you're seeking feedback on design. It's a lose lose scenario but at least we a picking our poison

Keeping our rates low is important over anything else. There are people with low incomes or growing families that need good power but it's needs to be affordable. I think buried lines are a waste of money and will take much longer to commission.

Where is the proposed line going in? Who will be effected? What is the timeline? What will the cost be?

none

I am so disgusted with the invasive 5 G towers, that it's a tough decision for me to select more ugly poles. You have a long-term option by going underground. Please do the "right" thing by selecting underground. NO MORE POLES that get destroyed by winds/ lightning. Do what actually makes common sense. Don't waste our money and make our city uglier than it is now!

Consider all options, Pray about it, Listen to God, Do the right thing

Please protect our health.

Disruption of traffic is an additional concern, as we have been through so much disruption with Broadway, Grant, and soon the 22nd street bridge. This needs to be considered with this project.

no poles



If there is anything else you would like to tell us about the Midtown Relia...

I do not have enough information to make a decision on the size, number, and color of the polls. This survey creates a false narrative: TEP gets to claim they solicited feedback but all options are not on the table. Recent violent storms and outages the likelihood of an increase of these in the future indicates that current methods are not up to the task. More reliable options need to be engineered.

Significantly increase residential and business solar roof capacity in the project area so you do not need the huge power lines. What would cost us more?

Put them underground as any intelligent planner would.

Go underground as much as possible.

No preference selected in size and make up of poles as I would not like to see POLES of any kind. My preference is underground lines, and yes I realize the cost is at this time prohibitive, but as we the citizens will end up paying for this "project" bite the bullet now rather than destroy neighborhoods.

Expanding use of renewable sources of power would be nice since it would be environmentally friendly and it would drive costs down in the long term.

What's the difference between the poles and color if there is any?

It would be nice to see a mock-up of what the taller and shorter pole set ups will look like

Why all the power outages???

Please fix the grid reliability in our area as it seems very vulnerable to outages. I live in Richland Heights East (north of Greenlee Rd).

I have no preference for height or color of the poles because I don't want ANY poles!

Since you're going through this expenditure, put the lines in the ground instead of on the poles

We need more incentive for solar to include rebates.

the naming of the project (reliability) is funny

If there is anything else you would like to tell us about the Midtown Relia...

no i do not.

Prefer no poles. Poles are unsightly. Poles and their lines make it difficult to plant trees along our streets.

What happened to buried lines??

Would like most aesthetically pleasing inconspicuous poles

Design poles & lines to be robust against high winds, microbursts, & tornadoes.

As a resident, I understand the tremendous need to power the hospital, UA, and PCC campuses.

Why can't underground transmission lines be considered?

for ht and number of poles the least costly but good solution for project. Everyone should live poor so they could realize they do not have to have a 4 bedroom house all at 75 degrees, lower the temp in unused rooms. spread the cool around by using more fans

My preference is for underground power lines. Based on what we saw in Maui I don't think it's a good thing to have wood, even treated wood, above ground power lines.

Try to bury them without passing cost onto rate payers or tax payers. Burying the lines would give you greater reliability over the life of the lines, saving money in the long term. There is no reason to charge us extra for it.

Would prefer underground lines.

All transmission lines need to be buried. It's a long process but quite affordable by a billion dollar corporation. Bury the lines.

This should go underground! They will be the best way forward and will be long term more sustainable.

i wish we could have all underground.

Please include as much reliance upon solar and other environmentally friendly energy sources as possible

Stop raising your rates. Stop giving preference to "investors" and "shareholders"

If there is anything else you would like to tell us about the Midtown Relia...

NO PREFERENCE because I DON'T WANT POLES AT ALL. The prior question is known as a leading question.

Underground the lines. They will not be subject to storms, wind, etc.

Absolutely no extra money should go to the rich!!! The rich must pay their fair share!

I would hope this improves my many power outages that I have had this summer. At least four outages in two months from storms near Winterhaven with very inconvenient results!

I would prefer the lines be run underground.

Need to underground distribution lines, especially Limberlost from Oracle to First Ave. The trees are in the lines.

These lines need to be routed underground!!!!

The lines should run underground in any residential neighborhoods or high-visibility areas (downtown, UA, etc.) These poles are truly an eyesore and can directly impact property values for the property owners who are unfortunate enough to be adjacent to them.

Put it underground---last night during a storm I lost electricity repeatedly. One night this summer my electric was out for 10 hours. Scary.

It's important for TEP to transition to renewables as quickly as possible, using TEP profits to support transition, keeping customer costs reasonable.

Please put lines underground. Totally understand the need for new infrastructure but this will be a big burden to neighborhoods that have to live nearby

f this survey constitutes a vote of approval to use taxpapayers' money for this project, then I decline to participate.

Consult with leadership of neighborhood associations, as well as leadership of schools (not just TUSD).

the sooner you bite the bullet and start thinking long term, the better your bottom line will be. BURY the lines, and greatly reduce storm outages, property damage, litigation, etc.

If there is anything else you would like to tell us about the Midtown Relia...

I don't know where this is located. Is it along a particular road? That would be helpful to know. I'm mostly concerned about the effects of storms, and how easy it is for TEP to repair and maintain the lines/poles. Underground would be ideal citywide going forward with new lines. Underground is also best if/when there's a CME (Coronal Mass Ejection) from the sun.

Please bury the poles.

Something I haven't heard discussed is maybe creating a path that is bus, pedestrian and bike ONLY for where the poles go, and use the opportunity to move that agenda forward for a street like Country Club, which is already too narrow for 4 lanes. Or transition to 2 lanes and bike lanes, as a different strategy for the roads you want to impact positively instead of just adding something folks don't want.

I am not an expert, I am sure you will do your best to keep town safe, secure and pretty Thank you

I don't have a preference about the poles because these lines should be buried.

All electric lines should be underground. Didn't we just learn this In Hawaii?

Please keep the community informed regarding traffic or other closures during construction. Also, please be fair in sourcing construction materials.

Low income and disadvantaged communities have long received excessive burden with this type of project while high income neighborhoods are spared. That needs to stop.

I responded "no preference" to number of poles and type of poles because you did not allow for an "no poles" option. Your survey is geared to putting up poles, but I think it should be (and you should allow people the option) to go underground. Clearly, you are resisting that other option.

Are burying utility lines an option? Probably vastly more expensive, but if it would keep lines from falling/sparking fires and protect the lines from elements, it might be worth it.

Consider underground lines.

The project should be re-named. The fact that laggard TEP has not kept up with the growth of Tucson and the increasing load on the power grid should not incur some sort of sudden, big project at the end of a franchise agreement period. The hyped "project" shows TEP as a poor planner and poor operator, and an unreliable utility going forward. The proposition was an opportunistic attempt at a scheme that, fortunately for all the citizenry, a sufficient number of voters were able to see through. New management is necessary and immediately in order. Mayor and Council should insist on this at the earliest.

If there is anything else you would like to tell us about the Midtown Relia...

We (as ratepayers) are willing to pay more for buried utility lines. Then we don't have to worry about poles falling due to severe weather.

No poles out the lines underground so we have less issues during monsoon

Bills are already so expensive this year. Some people are paying over \$500 for the summer. If this isn't going to help our bills and instead make it worse please don't do it. I seriously cannot afford to have my bill go up Again this year has been a total struggle cause if you guys. Like seriously I'm a server, I can barely make ends meet as it is, and y'all gave me the highest electric bill I've had in 4 years.

Please stop gouging every penny you possibly can from your customers who have no alternative. You spit in the face of the people and the institution you stand on. If electricity is so precious a resource, perhaps you should give bigger credits to the private citizens that support your grid with their own solar and wind projects.

Sham survey. Where is the choice of no poles at all? Also the name of the project is misleading- typical.

I'm opposed to users paying for this.

Bury the line!

I hope that this project is completed in a way that respects the land, animals, and especially the people who live around the target areas. It is extremely disrespectful and infuriating when TEP comes into a community and destroys the plants and beautification projects that the community has done to better our neighborhoods.

Impact on pedestrians trying to navigate through poor sidewalks and crosswalks

I have lived in midtown for over 18 years and this issue has been going on the whole time. Every time, you ignore what we want and give us what you want. This is such a waste of time, you are going to ignore results and put up the poles you already bought. Lying bunch of crooks.

No

Underground routing spares the lose of property values from overhead lines.

Only acceptable answer is to put it underground. That's it! You already know that however!

My hope is that you remove whatever (old) poles are no longer in use.

If there is anything else you would like to tell us about the Midtown Relia...

Consider burying the transmission lines underground. They're shielded from the elements and the money saved on materials from not using poles can be used to make the underground lines safer.

Why can't these lines be put underground?

I would've liked more than two choices regarding my priorities, and I would like to add impact to low income individuals and families to my choices.

Do what's best for the surrounding community.

Stop building power lines through trees. I really hope this project actually affects midtown, because in general, no one ever upgrades or takes care of midtown.

Underground lines would be my preference, we have such beautiful surroundings and power poles are such an eyesore! They don't fall over either!

Reliability in Barrio Hollywood has been good since I moved here in 2014. Am concerned w you controlling electric rates and pushing everyone to electric but you're having blackout and still charging areas experiencing blackouts more. Your service declines, you charge more, pay less for solar than you're getting. It's you making profit, not providing what people NEED to live. Rates they can afford for use.

These and all future lines should be put underground. The initial cost is higher, but long term it protects the lines better from disaster/attack, and looks better.

Can the line be overhead be installed along Kino and Campbell north to Speedway, and then buried from there to the ultimate destination that I believe is near Banner? Is it all or nothing? Seems like if it can be partially underground and partially aboveground, it would solve a lot of problems.

This is needed quickly We also need. Ore street lights And or sidewalks in areas with none Help us protect pedestrians on the dark

We live in the Miramonte neighborhood, and when the power goes out it always happens in our little block. So it would be nice to have more reliable power, as sometimes people across the street will have it and we don't.

quit putting the cost of upgrading systems on the customers just to justify profits to the shareholders

No poles, go underground

If there is anything else you would like to tell us about the Midtown Relia...

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I understand this upgrade was planned and approved with buried lines. Buried lines are not likely to be damaged with our increasing violent storms.

Underground the lines.

I wish Tucson would move towards underground as corridors are upgraded

I definitely don't want our rates to increase just to accommodate wealthy neighborhoods' views and property values. They are fine; they will survive and continue to be perfectly fine. I am a historic homeowner living in a historic neighborhood near the UA and would rather see funds spent to underground smaller lines that are closer to our homes and interfere with our trees -- I imagine that would do more to improve our safety/resiliency, as well as protect historic character. More importantly, this project needs to get done so that people on the Southside stop having brownouts -- it's ridiculous that some people's access to reliable electricity is being prevented by these wealthy white people and Steve K.

New power lines should be buried. Large poles will negatively impact the appearance of the university entrance from the east.

I'd like to see it completed sooner than later. We have lost power for 12-24 hours during summer storms a ridiculous number of times this year. If I could obtain power from another utility I would drop TEP in a heartbeat. But unfortunately, I have no other more reliable option.

Please bury the powerlines to reduce fire risk given the extreme winds and dry conditions that Tucson faces

no comments

would prefer buried lines (underground). I understand this is an added cost, but willing to pay for it.

What will be the considerations of climate change with this project

really wish this was not happening above ground. so many cities bury their lines. why can't we?

underground lines are better; reduce risk of outages and fires; easier to access.

ABSOLUTELY protect the homes, property, environment of those least able to protect themselves.. the poor, retired, disabled... don't cater to those with money and means to keep this out of their neighborhoods. Try to keep any disruption around businesses instead of homes.

If there is anything else you would like to tell us about the Midtown Relia...

This seems to be of special benefit to the University of AZ; it should cover an appropriate share of the cost.

Regarding the height vs. number of poles per mile - I would opt for lower poles on E-W runs and higher poles on N-S runs. Our mountain views are to the NNE, so to minimize the impact, shorter poles on lines running East-West makes sense.

This survey is horribly skewed toward TEP's desire to continue doing what it has always done instead of investing in the future.

Please consider under grounding cables when the lines are not running along main thoroughfares. Especially in neighborhoods.

people learn to not see stuff of no importance .. not just zero importance, less than that like the train honking at zero dark thirty am. This issue is not worth this survey .

Put all power lines under ground. Any pole is a blight on our environment.

I'd like you to focus on actually sustainable energy. Businesses using the most energy should be funding this. As climate impacts continue to worsen, TEP needs to be focusing on things like solar infrastructure.

Please put these underground

I think this should be done with underground lines, whatever the cost. Get it together, people.

Don't destroy trees with horrid pruning. Keep our city beautiful

Why are we, Tucson, totally green??? Solar especially. Other countries have and are doing it. Why not show America what can be done with green energy??

Where we live at it's so dark in our area.

If you go down Campbell, you will have to underground. If you go down Euclid, you won't.

If you add tall metal poles, remove the old wooden poles. A tall pole was added right in front of my house and no one ever came to remove the old pole next to it. Now there are two poles there.



If there is anything else you would like to tell us about the Midtown Relia...

Drivers of the need for the project is not is not clear

Figure out a different route that doesn't impact neighborhoods (keep poles main city streets or in occasional alleys)

Please prioritize reliability, especially since we can likely expect bigger, stronger storms in the years to come. I've been so impressed with the fact that we haven't lost power even once in the almost 3 years we've lived in Midtown. Keep up the good work!

Put it underground!

Please follow the rules and laws already in place.

It should be underground! Tep has more than enough funding!

Build it underground

The sooner the better, being that I have been with out power in the heat of the summer 1 to many times this summer.

Bury the lines! It's ridiculous to think that in 2023, in the middle of our vibrant city, the idea is to put up tall poles. These poles will negatively impact the neighborhoods the border AND will be a daily reminder (apparently, several reminders per mile, towering high into the sky) about TEP's decision to ignore the city and the people to do what was easiest/cheapest for them. TEP makes enough money. TEP customers should not be forced to pay the entire bill for this. TEP should do better - just as every family does - to plan for future expenses. TEP should recognize that every year they make record profits, we take note and then wonder why none of those profits were earmarked for future infrastructure. And if that is something TEP is already doing, then they have failed to do so accurately and the amount earmarked should be doubled, tripled!

Everything should be underground. Your electric bills are way too high now - and those of us with historic house can not use the solar panels and keep our homes on the historic register. The solar panels are also ugly and who really wants an ugly home. I care more about wildlife and historic property than I do about TEP who have been difficult to deal with for years and years

More solar on rooftops!!!! Stop trying to step on the neck of solar.

It shouldn't matter what color it is or what it looks like. What is the most cost effective, efficient, economy friendly option? Spending more money on looks is like a single mom with no job getting her nails done with someone else's money.

If there is anything else you would like to tell us about the Midtown Relia...

Bury the poles. You guys make enough money- protect our vistas.

Use whatever poles, and other equipment, that is the least costly and longest lasting.

As a solar homeowner, I'd like to see better compensation for the contribution we make to the energy grid, which means less reliance on your own energy generation facilities.

I am not too familiar with it.

These wants by TEP are putting lower middle class families deeper into poverty with the increase in bills to fund them. We don't want more power, we don't want bills to raise, we want financial security which Tucson hasn't been allowing, so why add more insecurity.

I would prefer to see buried electric distribution than more poles.

Underground Preferred

I really don't like all these choices. You want tucson to look like lincoln blvd in Los Angeles? It seems so outdated and short sighted and is detrimental to our environment.

It's my hope to be off the TEP grid with a solar power system and adequate storage by 2030

I have read all of the related project materials and one thing that is not clear to me is if this significant investment will result in fewer outages. It talks a lot about system overload but seems to make no promises regarding an improvement in the current frequency nor duration of outages.

Underground lines are the only acceptable solution. Think long term.

I would prefer underground lines. I don't know why that wasn't an option in this survey. I am concerned that you are using this survey to avoid putting lines underground as the city and residents prefer.

I don't think poles are appropriate for the project

You are legally obligated to underground wires along Campbell avenue. You made billions of dollars of profit last year. Stop whining and get it done.

If there is anything else you would like to tell us about the Midtown Relia...

There is absolutely no reason to put poles up and permanently ruin the landscape of Tucson. TEP does NOT care about the impact to the community at Large, just dollars for shareholders. I by the way am a shareholder and a 5th generation Tucsonian and Im appalled at this project! TEP, DO NOT Put up above ground poles, put them under ground. It costs more, yes, but it's better for the community and environment.

Don't do it. We're drowning in inflation and more costs now. We can't afford higher bills for us to rebuild YOUR infrastructure.

The power lines should be under ground.

Minimum disruption and disfigurement of the area as possible. It's special and beautiful here and it needs to be preserved as well as comfortable for living.

Underground everything. Should not be seen a all.

your last question was bullshit. 2 choices? Build it along I-10, you already have poles there & leave the middle of town alone !!

I appreciate being asked for input

My bill has significantly increased due to climate change and these hotter and longer summer days! Solar would be a great option to be able to own outright

Should be underground

Help put solar panels on everyone's roofs instead

Please DO NOT use polls. Bury it!

Avoid historic neighborhoods if possible. Is burying them an option? Tucson has so many power lines already.

Efficiency of installation of the various stages, especially coordinating with other major capital projects. Planning, disruptions and adjacent changes necessary should be coordinated with other projects in the same areas to minimize transportation and life quality impacts.

It would be good to know if the very tall poles fall in lines at the same rate as the shorter ones during wind and storms.

If there is anything else you would like to tell us about the Midtown Relia...

Take it underground. Don't further degrade Country Club, the current pole proximity to the road is too close and has been for twenty years.

Pay for it yourself

I support this project and welcome them in my back yard

Under ground lines should be installed in residential areas and above ground if necessary in commercial areas

The lines must be buried underground.

This really needs to go underground, underground underground!

Why can't the power lines be buried like they are in Phoenix? TEP collects plenty in revenue.

You ask the preference for what type of pole or how tall the pole is. How about letting us know how much the pole cost so that we can make a better choice of which one we prefer. I'm sure we can find another way to pay for this project besides making people like me pay more. I'm sure some of the money for this project is being funneled into something else because that's usually what happens with taxpayer money. We vote for it to go one place and the next thing you know they're passing another bill to cover that money because the money was sent someplace else. Are you using local people to do the work? Or are you bringing in people from another state? Let's employ the people that actually live in Tucson Arizona! Quit giving the job to the highest bidder!

It's 2023. Enough of above-ground transmission lines; let's put these lines underground.

The best way to approach this is to underground the lines. TEP needs to be responsive to community members and take their concerns seriously.

We want as much undergrounding as possible, and incentivized rooftop solar and residential batteries to relieve pressure from the grid.

It's great to hear a fix is coming. Getting silly how often simple rainstorms interrupt power in tucson. Should be more preventable

Underground utilities. Why on earth are you not doing this?

If there is anything else you would like to tell us about the Midtown Relia...

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view sheds are not as important to me as reliability and safety. When considering safety, I am considering chemicals used to cool underground lines and how risky those are to our groundwater and soil in terms of contamination.

It seems like the shittier the neighborhood the more power lines are overhead. I'm looking at spaghetti right now. It would be nice if there were less of that. I never notice the power lines in affluent neighborhoods, so there must be a way to make it less obtrusive. Everyone deserves quality of life and clear skies.

I would like safety to include raptors & fire.

Is the underground option off the board?

The lines should be put under the ground

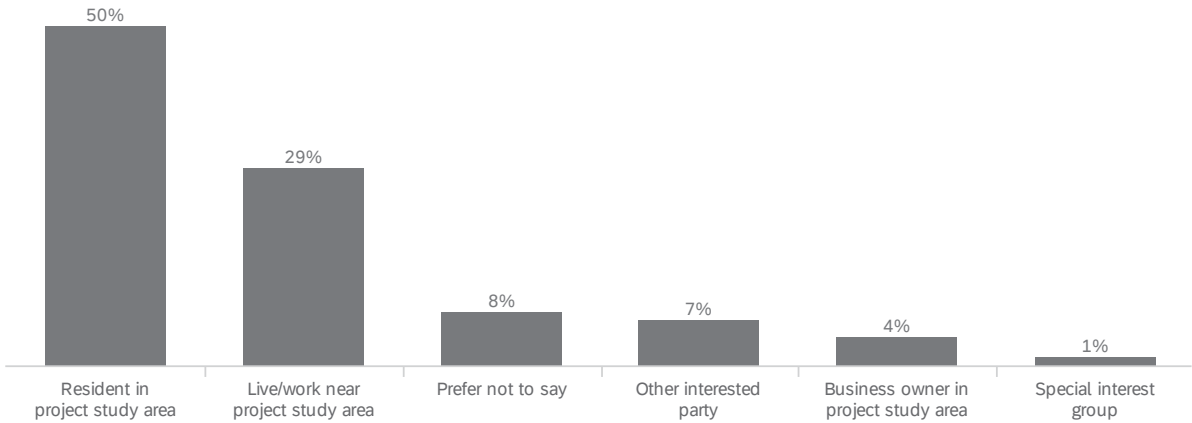
Bury the lines!!! Stop cluttering our neighborhoods and bury the lines!!!

Bury those lines. If that is not feasible, keep the piles out of the sidewalk ride of way so wheelchairs and strollers can easily pass

Maybe service (maintain) the poles on a more regular basis. Making sure no trees, etc are not in close vicinity.

Let's get it done - too much time kibitzing

Please indicate your interest in the project. Select all that apply.



#	Field	Choice Count
1	Resident in project study area	50.33% 1770
2	Business owner in project study area	4.24% 149
3	Live/work near project study area	29.34% 1032
4	Special interest group	1.36% 48
5	Other interested party	6.77% 238
6	Prefer not to say	7.96% 280
		3517

Showing rows 1 - 7 of 7

End of Report

## **Appendix B**

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## APPENDIX B

### Midtown Reliability Project

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#### Procedure and criteria for creation of GIS suitability assessment model and identifying refined segments.

### **1.0 Alternative Analysis and Suitability Criteria and Procedure**

In order to analyze links, develop alternatives, and identify a preferred alternative, specific data models need to be created. These data models will then be combined and weighted based on different factors in order to evaluate alternatives best suited to minimizing impacts to different goals.

### **2.0 Procedure**

Create an ArcGIS Pro project titled, “MRP\_Alternative\_Analysis.aprx” and save it to the project GIS file at \\TUSWPARC03\Land\Line\_Siting\01\_Active\_Projects\Midtown\_Reliability\_Project\03\_GIS\_Projects.

Note 1 – Every raster needs to cover the full size of the clip area otherwise raster calculator will not work and will only return a value where one exists for all input layers. The clip area will be the study area.

Note 2 – Use dissolve when creating buffers.

Note 3 – When using Feature to Raster tool, under Environments, set Extent to “Clip\_Area”.

Note 4 – raster cell size 10m

#### 1. Create the following datasets and criteria models:

- A. **Criteria 1 – Biological Resources:** Fish, wildlife and plant life and associated forms of life on which they are dependent.

##### Detailed Description

- Sensitive plant and wildlife species and/or habitat is classified as areas designated as Critical Habitat for a federal listed Threatened, Endangered, or Candidate species. In addition, any areas classified as riparian habitat within the study area would also be included.

##### Phase 3 Suitability Assessment

- Critical habitat data as well as riparian habitat data will be compiled. Any preliminary links that pass through areas of habitat, as defined under the detailed description, will be given a lower suitability for this criterion, where preliminary links that do not will be given a higher suitability for this criterion.

##### Data Required

- Critical habitat for T&E species
- Riparian Areas

Procedure to create criteria 1 dataset: add a new field "Cell\_Value" as type Double to each of the datasets listed above – assign appropriate cell values as noted below; union those results with "Clip\_Area" for each dataset; use those results with Feature to Raster classifying by "Cell\_Value"; then create a composite raster by weighting each of the datasets as indicated below and adding the results together.

- Critical Habitat (60% weight)
  - Cell Value = 10: critical habitat for T&E Species
  - Cell Value = 0: all other cells
- Wildlife Habitat (40% weight)
  - Cell Value = 10: riparian area
  - Cell Value = 8: buffered area for perennial/open water
  - Cell Value = 4: forest and woodland
  - Cell Value = 0: all other cells

**B. Criteria 2 – Noise & Communication:** Noise emission levels and interference with communication signals.

Detailed Description

- Although a 138kV transmission line is not a significant source of noise, certain land uses can be more sensitive to noise. For purposes of this study these sensitive noise receptors are classified as schools, hospitals, adult/child care facilities, and churches. Further, for a very limited distance, transmission lines have the potential to create interference with certain communications signals. For purposes of this study an area within 250 feet of a communications antenna licensed by the Federal Communications Commission (FCC) will be assessed.

Phase 3 Suitability Assessment

- Geospatial data will be collected on all sensitive noise receptors and FCC licensed antennas as defined under the detailed description. Any preliminary links that pass through more of these areas classified to have greater sensitivity, will be given a lower suitability for this criterion, where preliminary links that pass through less will be given a higher suitability for this criterion.

Data Required

- FCC data on licensed antennas (within 250' of antenna)
- Proposed licensed antennas (within 250' of antenna)
- Sensitive receptors: schools, hospitals, adult/child care facilities, churches (within 500' of property boundary)
- Proposed sensitive receptors: schools, hospitals, adult/child care facilities, churches (within 500' of property boundary)

Procedure to create criteria 2 dataset: create 250 foot buffer around FCC licensed antenna sites; create 500 foot buffer around sensitive receptor locations; add a new field "Cell\_Value" as type Double to each of the datasets listed above – assign appropriate cell values as noted below;

union each of these layers, with layers with highest cell value ranked in priority order; union those results with "Clip\_Area"; finally use those results with Feature to Raster classifying by "Cell\_Value".

- Cell Value = 10: cell is located within buffered area for FCC licensed antennas
- Cell Value = 8: cell is located within buffered area for sensitive receptors
- Cell Value = 0: all other cells

**C. Criteria 3 – Total Environment:** Total environment of the area.

Detailed Description

- This is a broad criterion and is inclusive of several other more detailed criteria. For purposes of this study, the total environment will include water resources, biological resources, cultural resources, visual resources, geology and soils, air quality, land uses, sensitive noise receptors, communications interference, and socioeconomic considerations.

Phase 3 Suitability Assessment

- Geospatial data will be collected on each of the resources/factors listed under the detailed description. A composite geospatial model will be created classifying areas where multiple resources/factors exist or where the impact is expected to be greater. Any preliminary links that pass through more of these areas classified to have greater sensitivity, will be given a lower suitability for this criterion, where preliminary links that pass through less will be given a higher suitability for this criterion.

**Data Required**

- Future land uses, from specific development plans (permits and unbuilt PADs)
- Existing land uses
- Existing well sites (within 100')
- Existing linear features – pipelines, railroads, major roads, canals, etc. (within 150')
  - Washes are not included (no washes with the study area represent opportunities)
- Existing licensed antennas (incorporated from Criteria 2)
- Sensitive Noise Receptors (incorporated from Criteria 2)
- Geology and soils
- Water resources (incorporated from Criteria 1)
- Biological resources (incorporated from Criteria 1)
- Cultural resources (incorporated from Criteria 3)
- Air quality
- Visual resources (incorporated from Criteria 3)
- Socioeconomic considerations (minority and poverty)

Procedure to create criteria 5 dataset: create buffers as noted above; add a new field "Cell\_Value" as type Double to each of the datasets listed above – assign appropriate cell values as noted below; union those results with "Clip\_Area" for each dataset; use those results with Feature to Raster classifying by "Cell\_Value"; then create a composite raster by weighting each of the datasets as indicated below and adding the results together.

- Existing and Future Land Uses/Well Sites/Linear Features (30% weight) – Future land use would supersede an existing land use.
  - Cell Value = 10: High Density Residential, Public/Quasi Public
  - Cell Value = 8: Low/Medium Density Residential
  - Cell Value = 6: Commercial/Mixed Use
  - Cell Value = 4: Industrial
  - Cell Value = 3: Parks and Recreation/Golf Course
  - Cell Value = 2: Agriculture/Ranching
  - Cell Value = 1: Open Space
  - Cell Value = 10: cell is located within buffered well site
  - Cell Value = 0: within buffer of existing linear infrastructure (supersedes all other values)
  - Cell Value = 0: all other cells
- Existing and Future License Antennas/Sensitive Noise Receptors (10% weight)
  - Cell Value – Criteria 2 model
- Geology and Soils (10% weight)
  - Farmland (50% weight)
    - Cell Value = 5: Prime Farmland
    - Cell Value = 0 – all other cells
  - Erosive Soils (50% weight)
    - Cell Value = 10: Very Severe Erosion
    - Cell Value = 7: Severe Erosion
    - Cell Value = 5: Moderate Erosion
    - Cell Value = 2: Light Erosion
    - Cell Value = 0: all other cells
- Water/Biological Resources (10% weight)
  - Cell Value – Criteria 1 model
- Cultural/Visual Resources (10% weight)
  - Cell Value – Criteria 3 model
- Air Quality (10% weight)
  - Cell Value = 2 – Nonattainment Area for PM 2.5, PM 10, or Ozone
  - Cell Value = 0 – all other cells
- Socioeconomic Conditions (20% weight)
  - Cell Value = 10 – % census tract at or below poverty level is > 1.5x % county at or below poverty level
  - Cell Value = 5 – % census tract at or below poverty level is > % county at or below poverty level

- Cell Value = 10 – % census tract classified as a minority population is > 1.5x % county classified as a minority population
- Cell Value = 5 – % census tract classified as a minority population is > % county classified as a minority population
- Cell Value = 0 – all other cells

**D. Criteria 4 – Existing and Future Residential properties adjacent to transmission lines:**

Detailed Description

- Residential areas are defined as single family residential areas by existing or future land use, or in the case of undeveloped land, planned land use as defined by current zoning. Purpose of this criterion is to identify routes that minimize construction and operation in single family residential areas.

Phase 3 Suitability Assessment

- Existing land use will be inventoried and mapped, with future residential land use added, then supplemented with current zoning data for any undeveloped areas not already mapped for a future land use. Any preliminary links that pass through, or are located immediately adjacent to residential areas, as defined under the detailed description will be given a lower suitability for this criterion, where preliminary links that do not will be given a higher suitability for this criterion.

Data Required

- Existing land use
- Future land uses, from specific development plans (permits and unbuilt PADs)
- Zoning

Procedure to create criteria 4 dataset: create a single dataset of residential areas, as defined above. Buffer these by 100 feet to represent areas located immediately adjacent to a residential area; add a new field “Cell\_Value” as type Double to the dataset listed above – assign appropriate cell values as noted below; union those results with “Clip\_Area” for the dataset; use those results with Feature to Raster classifying by “Cell\_Value”.

- Cell Value = 10: within buffered residential area
- Cell Value = 0: all other cells

**E. Criteria 5A – Historic properties and neighborhoods adjacent to the transmission line:**

Detailed Description

- Historic properties are those listed, or eligible for listing, on the National Register of Historic Places and/or the Arizona Register of Historic Places. Historic neighborhoods are those designated by the City of Tucson.

Phase 3 Suitability Assessment

- A qualified archaeologist will conduct a records review to identify known historic and pre-historic sites within the project study area. Historic neighborhoods will be identified through the City of Tucson. Any preliminary links that pass through, or are located within the vicinity of a historic property or historic neighborhood, as defined under the detailed description will be given a lower suitability for this criterion, where preliminary links that do not will be given a higher suitability for this criterion.

Note A – define vicinity as within 500 feet, implies some sort of adjacency.

Data Required

- Listed or eligible sites (buffered by 500')
- Historic Neighborhood (as designated by City of Tucson) (buffered by 500')

Procedure to create criteria 5A dataset: create buffers as noted above; add a new field "Cell\_Value" as type Double to each of the datasets listed above – assign appropriate cell values as noted below; union those results with "Clip\_Area" for each dataset; use those results with Feature to Raster classifying by "Cell\_Value"; then create a composite raster by weighting each of the datasets as indicated below and adding the results together.

- Listed or eligible sites (50% weight)
  - Cell Value = 10: within site boundary
  - Cell Value = 6: within buffered distance to site
  - Cell Value = 0: all other cells
- Historic Neighborhood (50% weight)
  - Cell Value = 10: Located within Historic Neighborhood
  - Cell Value = 6: within buffered distance to historic neighborhood
  - Cell Value = 0: all other cells

**F. Criteria 5B – Historic properties adjacent to the transmission line:**

Detailed Description

- Historic properties are those listed, or eligible for listing, on the National Register of Historic Places and/or the Arizona Register of Historic Places.

Phase 3 Suitability Assessment

- A qualified archaeologist will conduct a records review to identify known historic and pre-historic sites within the project study area. Any preliminary links that pass through, or are located within the vicinity of a historic property, as defined under the detailed description will be given a lower suitability for this criterion, where preliminary links that do not will be given a higher suitability for this criterion.

Note A – define vicinity as within 500 feet, implies some sort of adjacency.

Data Required

- Listed or eligible sites (buffered by 500')

Procedure to create criteria 5B dataset: create buffers as noted above; add a new field "Cell\_Value" as type Double to each of the datasets listed above – assign appropriate cell values as noted below; union those results with "Clip\_Area" for each dataset; use those results with Feature to Raster classifying by "Cell\_Value".

- Cell Value = 10: within site boundary
- Cell Value = 6: within buffered distance to site
- Cell Value = 0: all other cells

**G. Criteria 6 – Impact on native lands**

Detailed Description

- Defined as any land held in trust by a Native American tribe or included as part of a reservation. Ancestral lands are not included.

Phase 3 Suitability Assessment

- Any preliminary links that pass through native lands as defined under the detailed description will be given a lower suitability for this criterion, where preliminary links that do not will be given a higher suitability for this criterion.

Through a property records search, identify all land within the project study area owned and held in trust by a Native American Tribe.

Data Required

- Land held in trust by any Native American Tribe

Procedure to create criteria 6 dataset: create feature dataset; add a new field "Cell\_Value" as type Double to each of the datasets listed above – assign appropriate cell values as noted below; union those results with "Clip\_Area" for each dataset; use those results with Feature to Raster classifying by "Cell\_Value".

- Cell Value = 10: within property boundary
- Cell Value = 0: all other cells

**H. Criteria 7 – Impact on low-income and/or disadvantaged communities.**

Detailed Description

- The project study area is diverse, representing a broad range of demographic and racial backgrounds. This criterion would be used to evaluate if potential routes are disproportionately located in areas classified as low-income or disadvantaged as compared to the study area as a whole. For purposes of this evaluation, low-income or disadvantaged communities are defined by census tract where the percentage of the

census tract at or below the poverty level is greater than the percentage of the City of Tucson as a whole.

- As of July 1, 2022, City of Tucson Poverty level is 19.8% (<https://www.census.gov/quickfacts/fact/table/tucsoncityarizona/PST045222>)

#### Phase 3 Suitability Assessment

- Any preliminary links that pass through a low income and/or disadvantaged community as defined under the detailed description will be given a lower suitability for this criterion, where preliminary links that do not will be given a higher suitability for this criterion.

#### Data Required

- Census Tracts
- Census Data

Procedure to create criteria 7 dataset: create feature dataset; add a new field “Cell\_Value” as type Double to each of the datasets listed above – assign appropriate cell values as noted below; union those results with “Clip\_Area” for each dataset; use those results with Feature to Raster classifying by “Cell\_Value”.

- Cell Value = 10: percentage of population below poverty level within census tract > 250% the City Poverty Level of 19.8% (49.5%)
- Cell Value = 8: percentage of population below poverty level within census tract > 200% and < 250% the City Poverty Level of 19.8% (39.6%)
- Cell Value = 6: percentage of population below poverty level within census tract > 150% and < 100% the City Poverty Level of 19.8% (29.7%)
- Cell Value = 4: percentage of population below poverty level within census tract => than the City Poverty Level of 19.8%
- Cell Value = 0: all other cells

- I. **Exclusion Areas:** Any areas where a transmission line cannot be built or maintained due to one of the factors listed below:

- FAA structure height limitation  $\leq 0$



## Suitability Criteria Models



### 2. Create composite models

Create several composite models, using the criteria above to evaluate the compatibility of links and segments with respect to the environmental, land use, other factors considered by statute in granting a Certificate of Environmental Compatibility, and other factors raised by the public. At a minimum, a model should be created for each of the following:

#### A. Balanced Compatibility Model

- Criteria 1 – Biological Resources (1/7 weight)
- Criteria 2 – Noise & Communication (1/7 weight)
- Criteria 3 – Total Environment (1/7 weight)
- Criteria 4 – Residential properties adjacent to transmission lines (1/7 weight)
- Criteria 5 (1/7 weight) – *create a composite model under each alternative criterion model*
  - Criteria 5A – Historic properties and neighborhoods adjacent to the transmission line
  - Criteria 5B – Historic properties adjacent to the transmission line
- Criteria 6 – Impact on native lands (1/7 weight)
- Criteria 7 – Impact on low-income and/or disadvantaged communities (1/7 weight)

#### B. Environmentally Preferred Model

- Criteria 1 – Biological Resources (20% weight)
- Criteria 2 – Noise & Communication (10% weight)
- Criteria 3 – Total Environment (20% weight)
- Criteria 4 – Residential properties adjacent to transmission lines (10% weight)
- Criteria 5 (20% weight) – *create a composite model under each alternative criterion model*

- Criteria 6A – Historic properties and neighborhoods adjacent to the transmission line
- Criteria 6B – Historic properties adjacent to the transmission line
- Criteria 6 – Impact on native lands (10% weight)
- Criteria 7 – Impact on low-income and/or disadvantaged communities (10% weight)
- C. Cultural and Historic Preferred Model
  - Criteria 1 – Biological Resources (8% weight)
  - Criteria 2 – Noise & Communication (8% weight)
  - Criteria 3 – Total Environment (8% weight)
  - Criteria 4 – Residential properties adjacent to transmission lines (8% weight)
  - Criteria 5 (40% weight) – *create a composite model under each alternative criterion model*
    - Criteria 6A – Historic properties and neighborhoods adjacent to the transmission line
    - Criteria 6B – Historic properties adjacent to the transmission line
  - Criteria 6 – Impact on native lands (20% weight)
  - Criteria 7 – Impact on low-income and/or disadvantaged communities (8% weight)
- D. Residential and Land Use Preferred Model
  - Criteria 1 – Biological Resources (8.33% weight)
  - Criteria 2 – Noise & Communication (8.33% weight)
  - Criteria 3 – Total Environment (8.33% weight)
  - Criteria 4 – Residential properties adjacent to transmission lines (50% weight)
  - Criteria 5 (8.33% weight) – *create a composite model under each alternative criterion model*
    - Criteria 5A – Historic properties and neighborhoods adjacent to the transmission line
    - Criteria 5B – Historic properties adjacent to the transmission line
  - Criteria 6 – Impact on native lands (8.33% weight)
  - Criteria 7 – Impact on low-income and/or disadvantaged communities (8.33% weight)
- E. Public, Stakeholder, and Agency Preferred Model (weight based on survey, with a minimum weight of 5%)
  - Criteria 1 – Biological Resources (19% weight)
  - Criteria 2 – Noise & Communication (9.5% weight)
  - Criteria 3 – Total Environment (9.5% weight)
  - Criteria 4 – Residential properties adjacent to transmission lines (16% weight)
  - Criteria 5 (14% weight) – *create a composite model under each alternative criterion model*
    - Criteria 5A – Historic properties and neighborhoods adjacent to the transmission line
    - Criteria 5B – Historic properties adjacent to the transmission line
  - Criteria 6 – Impact on native lands (10% weight)
  - Criteria 7 – Impact on low-income and/or disadvantaged communities (22% weight)

Use Weighted Sum tool to add each of the criteria together with the appropriate weights to create the models.

## Composite Suitability Models



### 3. Identify Refined Segments

Use the composite suitability models to identify the most suitable routes (Refined Segments).

- Create a buffer of 250 feet (125 feet on either side) around the preliminary segments layer. Use the "Feature to Raster" tool in ArcGIS Pro to convert the resulting feature class to a raster with the same cell size as the suitability models (10m). Set the extent of the raster to be the same as that of the composite suitability models. Reclassify the raster so all cells have a value of 1.
- Using "Raster Calculator" multiply the reclassified preliminary segments layer by each of the composite suitability models. This will result in a raster surface that represents levels of suitability only within the vicinity of the identified preliminary segments.
- For each of the resulting composite suitability models, use the "Least Cost Path" tool in ArcGIS Pro. Inputs are set using these composite suitability models as the "input cost surface", the Kino substation as the "input starting point" and the Vine substation as the "input ending point". The output path feature class will represent the path of highest suitability with respect to priorities of that given model. This is repeated for each model.
- All of the highest suitability paths are then overlaid with the preliminary segments in order to identify those segments that represent the highest level of suitability based on multiple priorities and are included in a new "Refined Segments" feature class.
- Step A (above) is repeated, but any segments through areas identified as a "constraint" in Phase 1 of the planning and siting analysis are eliminated from the preliminary segments layer. Then steps B, C, and D are repeated using this more limited set of options. This results in identifying the most suitable paths if whatever constraints identified cannot be overcome. Each of these

- paths are then overlaid with the preliminary segments in order to identify those segments they represent and are added to the new “Refined Segments” feature class.
- F. Lastly, the “Least Cost Path” tool identifies those routes that quantitatively represent the most suitable routes. But there may be another preliminary segment that represents a nearly identical degree of suitability for a path from a point east to west or north to south as the path that was selected through the tool. A visual analysis of the remaining preliminary segments is conducted to assess their suitability, with respect to each composite suitability model, in comparison with the suitability of the path(s) selected. If the suitability is nearly identical for a given preliminary segment, it is added to the new “Refined Segments” feature class.

## **Appendix C**

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**Compatibility Analysis - Summary  
Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
1	Active							Yes	Yes	Yes	Yes	1.42	1.55	Land Use Comments: ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: Project is ca. 1,000 ft from Santa Cruz River. Use SWPPP BMPs to avoid or minimize siltation into the Santa Cruz. ; Cultural Comments: ; Engineering Comments: Segment crosses existing lines that need to be considered.
2	Eliminated											1.21	1.36	Land Use Comments: ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 138kV on South (No space), distribution North
3	Eliminated											1.37	1.47	Land Use Comments: ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 138kV on South (No space)
4	Active							Yes	Yes	Yes	Yes	1.47	1.56	Land Use Comments: - adjacent to Neighborhood Plan "Unit 6" = essential no limitations, aligns with Neighborhood plan land use map (industrial along edges of neighborhood); ROW Comments: ; Biology Comments: ; Cultural Comments: Intersects AZ FF-9:17(ASM), Historic SR 80. No adverse effect anticipated.; Engineering Comments: Existing 46kV and DC distribution on North, distribution on South. Either line chosen would need to be rebuilt.
5	Active						Yes					1.37	1.55	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Portion of link along Jefferson park and could be subject to Jefferson park Neighborhood Plan = no limitations, would help address the challenge of "clutter of overhead wires"; ROW Comments: Private easement acquisition may be required- South side of street- Landowner COT; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on South, mostly steel poles but will need to be rebuilt. Plenty of space on the North.

**Compatibility Analysis - Summary**  
**Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
6	Active							Yes	Yes	Yes	Yes	1.53	1.56	Land Use Comments: ; ROW Comments: ; Biology Comments: ; Cultural Comments: Intersects AZ FF-9:17(ASM). Historic SR 80. No adverse effect anticipated. ; Engineering Comments: Existing 46kV and distribution on South, mostly steels poles but will need to be rebuilt. Plenty of space on the North.
7	Active							Yes	Yes	Yes	Yes	1.21	1.34	Land Use Comments: - adjacent to Neighborhood Plan "Unit 6" = essential no limitations, aligns with Neighborhood plan land use map (Industrial along edges of neighborhood); ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and DC distribution on North, distribution on South. Either line chosen would need to be rebuilt.
8	Active							Yes	Yes	Yes	Yes	1.32	1.40	Land Use Comments: - adjacent to Neighborhood Plan "Unit 6" = essential no limitations, aligns with Neighborhood plan land use map (Industrial along edges of neighborhood); ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and DC distribution on North, distribution on South. Either line chosen would need to be rebuilt. A few distribution taps crossing Grant.
9	Eliminated											1.32	1.42	Land Use Comments: ; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Some distribution poles, plenty of space on both sides.
10	Eliminated											1.53	1.60	Land Use Comments: ; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing DC distribution on West, plenty of space East.



Compatibility Analysis - Summary  
Appendix C

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
11	Eliminated											1.89	1.92	Land Use Comments: - very small OCR-1 zoning along southwest part of link. Along Gateway Corridor - Oracle. Adjacent to Neighborhood Plan "Unit 6" = likely compatible use bc along commercial; ROW Comments: ; Biology Comments: ; Cultural Comments: Intersects AZ FF-9:17(ASM). Historic SR 80. No adverse effect anticipated.; Engineering Comments: Plenty of space on both sides.
12	Eliminated											1.68	1.68	Land Use Comments: ; ROW Comments: ; Biology Comments: ; Cultural Comments: Intersects AZ FF-9:17(ASM). Historic SR 80. No adverse effect anticipated.; Engineering Comments: Plenty of space on both sides
13	Active						Yes			Yes		1.84	1.93	Land Use Comments: - within the "University Area Plan" boundary = preference for UG; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Space on both sides but narrow road and edges will make it difficult to place poles
14	Active						Yes			Yes		1.74	1.74	Land Use Comments: - very small OCR-1 zoning along northeast part of link (current land use is commercial: Red Roof Inn). Within the "University Area Plan" boundary = preference for UG; ROW Comments: ; Biology Comments: ; Cultural Comments: Intersects AZ FF-9:17(ASM). Historic SR 80. No adverse effect anticipated.; Engineering Comments: Plenty of space on West but might be Pima CC property, narrow on East.
15	Active					Yes						1.89	1.92	Land Use Comments: - southwest portion of link adjacent to El Centro redevelopment plan. Within the "University Area Plan" boundary = preference for UG. Adjacent to West University Neighborhood Plan = might argue that transmission structures don't align with historic or neighborhood character, but increasing reliability does help this plan achieve it's goal of supporting growth in this area, specifically TOD; ROW Comments: ; Biology Comments: ; Cultural Comments: Intersects AZ FF-9:17(ASM). Historic SR 80. No adverse effect anticipated.; Engineering Comments: Space on both sides but narrow road and edges will make it difficult to place poles. Some buildings close to the road.

**Compatibility Analysis - Summary**  
**Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
16	Active					Yes				Yes		2.05	2.07	Land Use Comments: - adjacent to PAD-20 Casa de los ninos. Within the "University Area Plan" boundary = preference for UG. Adjacent to West University Neighborhood Plan = might argue that transmission structures don't align with historic or neighborhood character, but increasing reliability does help this plan achieve it's goal of supporting growth in this area, specifically TOD; ROW Comments: ; Biology Comments: ; Cultural Comments: Intersects AZ FF-9:17(ASM), Historic SR 80. No adverse effect anticipated.; Engineering Comments: Space on both sides but narrow road and edges in some segments anticipated.
17	Active					Yes	Yes					1.68	1.66	Land Use Comments: - adjacent to El Centro redevelopment plan, PAD-33 Partners on Fourth, and Southern Pacific Reserve redevelopment Plan (1979). Likley enough space and similar existing land use that impact would be minimal. Half of link in higher-income area, other half in low-income area. Within the "University Area Plan" boundary = preference for UG. Adjacent to Greater South Park Area Plan & Old Pueblo South Neighborhood Plan = no limitations; ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: ; Cultural Comments: Intersects AZ FF-9:17(ASM), Historic SR 80. No adverse effect anticipated.; Engineering Comments: Plenty of space but this is in railroad property
18	Eliminated											1.63	1.50	Land Use Comments: - adjacent to Greater South Park Area Plan = no limitations; ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: ; Cultural Comments: Intersects AZ EE-1:300(ASM), Twin Buttes Railroad. No adverse effect anticipated.; Engineering Comments: Plenty of space but this is in railroad property
19	Active					Yes						1.32	1.32	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space to cross railroad and Aviation.
20	Active					Yes	Yes					1.63	1.50	Land Use Comments: - this goes through the South Pacific Reserve redevelopment plan (1979) but unlikely to negatively impact. In Greater South Park Area Plan = no limitations; ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: ; Cultural Comments: Intersects AZ EE-1:300(ASM), Twin Buttes Railroad. No adverse effect anticipated. Intersects AZ BB-13:679(ASM), Tucson & Nogales Railroad. No adverse effects anticipated.; Engineering Comments: Plenty of space, probably need to place poles in parking lots.

**Compatibility Analysis - Summary**  
**Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
<b>WEIGHT</b>														
21	Active				Yes	Yes	Yes					1.26	1.23	Land Use Comments: - In Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space, probably need to place poles in parking lots.
22	Eliminated											1.16	1.13	Land Use Comments: - In Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on North, space on South
23	Active			Yes	Yes							2.05	2.16	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Runs through a HPZ - West University = utility land use acceptable via undivided land use but conflicts with design standards and development criteria (UG HIGHLY preferred). Within West University Neighborhood Plan - might be push back for not aligning with historic or neighborhood character but increasing reliability foes align with the plans TOD goals and land use plans around Park Ave; ROW Comments: ; Biology Comments: ; Cultural Comments: AZ BB-13-445(ASM), unnamed historic residential block. All houses razed. Site not evaluated for archaeological eligibility in NRHP. No adverse effects anticipated; <i>Engineering Comments: Existing distribution on West, some space East, narrow road</i>
24	Active			Yes	Yes	Yes				Yes		1.58	1.69	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Adjacent to West University Neighborhood Plan = might argue that transmission structures don't align with historic or neighborhood character, but increasing reliability does help this plan achieve it's goal of supporting growth in this area, specifically TOD; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Space on North, buildings too close to road on South
25	Active				Yes							1.89	2.10	Land Use Comments: - half of link in low-income area, half in higher income area. Within the "University Area Plan" boundary = preference for UG. Bottom portion of link partly in Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on West, some space East, narrow road

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**Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
26	Active			Yes								1.84	2.13	Land Use Comments: - within the "University Area Plan" boundary = preference for UG; ROW Comments: Buells Alley Way; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution, will need to install 46kV on new poles and ug distribution.
27	Eliminated											1.47	1.47	Land Use Comments: - adjacent to PAD-39 Welcome Broadway, within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: Private easement acquisition may be required- South side of street- Landowner ASD; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on South, plenty of space North.
28	Eliminated											1.42	1.44	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on South, plenty of space North.
29	Active				Yes	Yes	Yes					1.21	1.26	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on West, few spans of 46kV East but plenty of space for poles.
30	Eliminated											1.53	1.64	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on South, plenty of space North.

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Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
31	Active				Yes	Yes	Yes					1.42	1.55	Land Use Comments: - half of link in low-income area, half in higher income area. In Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on East, plenty of space West
32	Active				Yes	Yes	Yes					1.47	1.58	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: UPRR permit may be required. ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on East, plenty of space West
33	Active				Yes	Yes	Yes					1.42	1.62	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on East, plenty of space West
34	Eliminated											1.47	1.56	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
35	Active				Yes	Yes	Yes					1.42	1.50	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on North, plenty of space South

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**Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
36	Eliminated											1.68	1.77	Land Use Comments: - within the "University Area Plan" boundary = preference for UG; ROW Comments: Private easement acquisition may be required- North and South side of street- Landowner U of A- AZ Board of Regents; Biology Comments: ; Cultural Comments: ; Engineering Comments: Some space on North, buildings too close to the road South.
37	Active								Yes			1.63	1.83	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Within Jefferson Park NPZ - should NOT affect NRHP status but conflicts with design preference; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on East, plenty of space West.
38	Active			Yes	Yes	Yes				Yes		1.63	1.83	Land Use Comments: - within the "University Area Plan" boundary = preference for UG; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on East, some space West.
39	Active			Yes	Yes	Yes			Yes	Yes		1.79	2.07	Land Use Comments: - within the "University Area Plan" boundary = preference for UG; ROW Comments: Monterey Addition Alley Way; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution, will need to install 46kV on new poles and ug distribution.
40	Eliminated											1.68	1.60	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: ; Cultural Comments: Intersects AZ EE:1:300(ASM), Twin Buttes Railroad. No adverse effect anticipated.; Engineering Comments: Plant of space on both sides.

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Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
41	Eliminated											1.53	1.42	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: ; Cultural Comments: Intersects with AZ BB:13:721(ASM), Arizona Ice and Cold Storage Company Plant. Segments do not intersect with the properties. No adverse effects anticipated. ; Engineering Comments: Plenty of space but this is in railroad property
42	Eliminated											1.58	1.55	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: ; Cultural Comments: Intersects with AZ BB:13:679(ASM), Tucson & Nogales Railroad. No adverse effects anticipated. ; Engineering Comments: Existing distribution on West but has space, not really any space on East with buildings and lots.
43	Eliminated											1.26	1.27	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on North, plenty of space South.
45	Eliminated											1.89	2.07	Land Use Comments: - adjacent to PAD-39 Welcome Broadway. Half of link in low-income area, half in higher income area. Within the "University Area Plan" boundary = preference for UG. Partly in Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Has space on both sides but narrow edges
46	Eliminated											1.16	1.13	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Some distribution North but plenty of space on both sides.

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**Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
<b>WEIGHT</b>														
47	Eliminated											1.32	1.30	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: Private easement acquisition may be required- West side of street- Landowner ASLD; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
48	Eliminated											1.16	1.14	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on East, some space West.
49	Eliminated											1.79	1.92	Land Use Comments: - PAD-15 at very bottom portion of link, unlikely to affect. In Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
50	Active					Yes	Yes					1.42	1.53	Land Use Comments: - residential development to be built on south side of the road. Lot still undeveloped but once construction complete this would be ranked a 3 (zoning south of road is PAD15 The Bridges). In Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on North, existing 138kV South. Should be able to install new circuit on existing 138kV poles if allowed.
51	Eliminated											1.53	1.61	Land Use Comments: - half of link in low-income area, half in higher income area. In Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on West, space on West.



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Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
52	Eliminated											1.26	1.27	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on South, plenty of space North.
53	Eliminated											1.47	1.57	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on West, plenty of space East.
54	Eliminated											1.79	1.94	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Space on both sides, park on North side.
55	Active			Yes								1.79	2.06	Land Use Comments: - within the "University Area Plan" boundary = preference for UG; ROW Comments: Buells Alley Way; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution, will need to install 46kV on new poles and ug distribution.
56	Active			Yes								1.84	2.12	Land Use Comments: - within the "University Area Plan" boundary = preference for UG; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on East, no space West. Narrow road.

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Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
57	Active			Yes								1.74	1.94	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones. Within Miles Neighborhood Plan = no limitations but structures may not align with preference for historical designs; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on West, might be difficult to place East due to space. Narrow road.
58	Active			Yes								1.42	1.44	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Some distribution North, might be difficult to place South due to space.
59	Active			Yes								1.42	1.47	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Might need to place turning structure in private property.
61	Active			Yes								1.37	1.37	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space to place turning structure.
62	Eliminated											1.32	1.30	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: UPRR permit may be required. ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space but this is in railroad property

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Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
63	Active			Yes								1.47	1.63	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution, will need to install 46kV on new poles and ug distribution. Poles might be in floodplain.
64	Eliminated											1.42	1.42	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Might need to place poles between bike path and road on North, plenty of room South.
65	Active			Yes								1.37	1.43	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Some space on both sides.
66	Eliminated											1.37	1.54	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: Private easement acquisition may be required.; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution, no alley looks like poles are on private property. Will need to install 46kV on new poles and ug distribution.
67	Active						Yes				Yes	1.89	2.03	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Adjacent to Jefferson Park Neighborhood Plan = should NOT affect NRHP status but conflicts with design preference; ROW Comments: Private easement acquisition may be required.; Biology Comments: ; Cultural Comments: ; Engineering Comments: Some space on both sides, narrow edges.

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Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
68	Active						Yes	Yes			Yes	1.84	1.99	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Adjacent to Jefferson Park Neighborhood Plan = should NOT affect NRHP status but conflicts with design preference; ROW Comments: Private easement acquisition may be required.; Biology Comments: ; Cultural Comments:; Engineering Comments: Some space on both sides, narrow edges.
69	Eliminated											1.84	2.13	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Within Jefferson Park NPZ - should NOT affect NRHP status but conflicts with design preference; ROW Comments: Jefferson Park Alley Way- Private easements may be required. ; Biology Comments: ; Cultural Comments:; Engineering Comments: Existing 46kV and distribution, will need to install 46kV on new poles and ug distribution.
70	Active							Yes				1.84	1.99	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Within Jefferson Park NPZ - should NOT affect NRHP status but conflicts with design preference; ROW Comments: ; Biology Comments: ; Cultural Comments:; Engineering Comments: Space on both sides.
71	Active		Yes	Yes	Yes	Yes						1.74	1.94	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Within Jefferson Park NPZ - should NOT affect NRHP status but conflicts with design preference; ROW Comments: ; Biology Comments: ; Cultural Comments:; Engineering Comments: Existing 46kV on East, including drop into UA Med sub, some space West.
72	Active											1.79	1.96	Land Use Comments: - no development plans around here but new apartments currently being built and occasional road closures on Mabel. Construction likely to be complete by the time we are installing structures so probably non-issue. Within the "University Area Plan" boundary = preference for UG; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Space on West, new buildings close to the road on East might be an issue.

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**Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
73	Eliminated											1.58	1.68	Land Use Comments: - half of link in low-income area, half in higher income area. Along Gateway Corridor - Kino-Campbell. In Greater South Park Area Plan = no limitations; ROW Comments: ADOT permit may be required.; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
74	Eliminated											1.42	1.42	Land Use Comments: - along Gateway Corridor - Kino-Campbell. In Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
75	Eliminated											1.11	1.08	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides, will need taller poles if line crosses bridge.
76	Eliminated											1.63	1.80	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
77	Eliminated											1.68	1.75	Land Use Comments: - PAD-15 at very bottom portion of link, unlikely to affect. Along Gateway Corridor - Kino-Campbell. In Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.

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Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
78	Eliminated											1.53	1.55	Land Use Comments: - In Greater South Park Area Plan = no limitations; ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Not much space to place poles on East or West of bridge but there are spots.
79	Active			Yes								1.37	1.44	Land Use Comments: - In Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on both sides, plenty of space. Not much after you turn on Cherry.
80	Eliminated											1.37	1.46	Land Use Comments: - portion running north up Cherry is a 1. within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on East, plenty of space on North 16th and West Cherry.
81	Eliminated											1.26	1.28	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution crossing but plenty of space on both sides.
82	Eliminated											1.32	1.36	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46KV and distribution crossing, some space on both sides.

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Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
83	Eliminated											1.37	1.41	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Besides the bridge on Kino, plenty of space on both sides. Will need angled structures
84	Eliminated											1.47	1.51	Land Use Comments: - along Gateway Corridor - Kino-Campbell. within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: UPRR/ADOT permits may be required. ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Line will need to span over railroad and bridge ramps, might need taller structures
85	Eliminated											1.21	1.20	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: UPRR permit may be required.; Biology Comments: The SE end is in a nice strand of xerophilic.; Cultural Comments: ; Engineering Comments: Plenty of space but this is in railroad property
86	Eliminated											1.53	1.65	Land Use Comments: - half of link in low-income area, half in higher income area. Along gateway corridor - Kino-Campbell. within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: Private easement acquisition may be required- North side of street- Landowner COT; Biology Comments: Kino goes over a wash with medium quality xerophilic habitat.; Cultural Comments: ; Engineering Comments: Existing 46kV crossing will need taller poles, plenty of space on both sides.
87	Active		Yes									1.53	1.61	Land Use Comments: - within the "University Area Plan" boundary = preference for UG; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.

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Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
88	Active		Yes									1.53	1.64	Land Use Comments: - adjacent to PAD-35 Speedway/Campbell. Unlikely to affect, PAD generally has same land use as current residential apartments (planned land use is office and residential). Half of link in low-income area, half in higher income area. Within the "University Area Plan" boundary = preference for UG; ROW Comments: Private easement acquisition may be required- South side of street- Landowner AZ Board of Regents; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
89	Eliminated											1.47	1.60	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: Private easement acquisition may be required- Landowner COT; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides, except channel on North side
90	Active			Yes								1.21	1.23	Land Use Comments: - in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution on North but plenty of space on both sides.
91	Active	Yes	Yes	Yes	Yes	Yes	Yes					1.47	1.55	Land Use Comments: - adjacent to PAD-15, The Bridges, in Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on North, existing 138kV south outside Kino sub but plenty of space after that.
92	Eliminated											1.53	1.62	Land Use Comments: - along Gateway Corridor - Kino-Campbell. within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.



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Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
<b>WEIGHT</b>														
93	Eliminated											1.37	1.49	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
94	Active	Yes	Yes	Yes								1.47	1.62	Land Use Comments: ; ROW Comments: Private easement acquisition may be required- Landowner Goodwill Industries ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space but will need to place poles in parking lot.
95	Active	Yes	Yes	Yes								1.37	1.48	Land Use Comments: - adjacent to Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
96	Eliminated											1.63	1.82	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Within Jefferson Park NPZ - should NOT affect NRHP status but conflicts with design preference; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on West, space on East.
97	Active						Yes					1.37	1.32	Land Use Comments: - within the "University Area Plan" boundary = preference for UG. Adjacent to Jefferson Park Neighborhood Plan - should NOT affect NRHP status but conflicts with design preference; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides, park on North.

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Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
98	Eliminated											1.68	1.88	Land Use Comments: - is within PAD-28 Banner's PAD. Appears that northern portion of Banner parcel is open space and line wouldn't negatively impact, but if the line goes further south into Banner lot then potentially change this ranking to 3. Within the "University Area Plan" boundary = preference for UG. Within Jefferson Park NPZ - should NOT affect NRHP status but conflicts with design preference; ROW Comments: Private easement acquisition may be required- Landowner Banner; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution on West, space on East.
99	Active	Yes					Yes				Yes	1.74	1.84	Land Use Comments: - completely within Pad-28, Banner. If line is on north side of road could avoid impacts. Within the "University Area Plan" boundary = preference for UG. Within Jefferson Park NPZ - should NOT affect NRHP status but conflicts with design preference; ROW Comments: Private easement acquisition may be required- Landowner Banner; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides
100	Active	Yes					Yes				Yes	1.47	1.42	Land Use Comments: - completely within PAD-28, Banner. Likely no impacts however since this portion is mostly along road/entrance into Banner lot. Within the "University Area Plan" boundary = preference for UG; ROW Comments: Private easement acquisition may be required- Landowner Banner; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides
101	Active	Yes	Yes									1.37	1.33	Land Use Comments: - partly in Arroyo Chito Area Pland and part in Greater South Park Area Plan = likely no limitations; ROW Comments: UPRR permit may be required.; Biology Comments: There is a xeroriparian strand on the east side of Segment 101.; Cultural Comments: ; Engineering Comments: Existing distribution on North Willis but plenty of space on both sides. Existing distribution on West, plenty of space on both sides but trucks park there.
102	Eliminated											1.63	1.64	Land Use Comments: - adjacent to PAD-15, The Bridges. Adjacent to Kino Area Plan = no limitations, aligns with future commercial use (site 1 in area plan map); ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution North, plenty of space on both sides.

**Compatibility Analysis - Summary**  
**Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
103	Active	Yes	Yes	Yes								1.74	1.78	Land Use Comments: - PAD-15 at very bottom portion of link, unlikely to affect. Adjacent to Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: There is some nice woodland west of Segment 103 albeit a small patch with no consequences on T&E species; ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
104	Eliminated											1.47	1.60	Land Use Comments: - put 2 to be cautious, if it's mostly on the north side of the road could be a 1; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution South, plenty of space on both sides.
105	Active	Yes										1.37	1.48	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
106	Active	Yes										1.37	1.46	Land Use Comments: - along Gateway Corridor - Kino-Campbell. Adjacent to the Miles Neighborhood Plan = no limitations but structures may not align with preference for historical designs; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
107	Active						Yes				Yes	1.58	1.56	Land Use Comments: - southwest portion of link next to PAD-28, Banner. Unlikely to impact but putting as 2 to be cautious. Along Gateway Corridor - Kino-Campbell. Within the "University Area Plan" boundary = preference for UG. Adjacent to Blenman-Vista Neighborhood Plan = no limitations but structures may not align with preference for historical design; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides, building too close to road near intersection on West.

**Compatibility Analysis - Summary  
Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
108	Eliminated											1.42	1.39	Land Use Comments: - Within the "University Area Plan" boundary = preference for UG. Adjacent to Blenman-Vista Neighborhood Plan = no limitations but structures may not align with preference for historical design; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution South, plenty of space on both sides but Grant will expand.
109	Active	Yes										1.63	1.77	Land Use Comments: - along Gateway Corridor - Kino-Campbell. Within the "University Area Plan" boundary = preference for UG. Adjacent to the Miles Neighborhood Plan = no limitations but structures may not align with preference for historical designs; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution East and crossing, plenty of space on both sides.
110	Eliminated											1.21	1.37	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution North and crossing, space on South.
111	Active	Yes										1.63	1.73	Land Use Comments: - half of link in low-income area, half in higher income area. Along Gateway Corridor - Kino-Campbell. Within the "University Area Plan" boundary = preference for UG. Adjacent to Sam Hughes Neighborhood Plan = preference for UG (neighborhood preservation section, category U); ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution East, plenty of space on West.
112	Eliminated											1.53	1.60	Land Use Comments: - Along Gateway Corridor - Broadway. Within the "University Area Plan" boundary = preference for UG. Adjacent to Miles Neighborhood Plan = along Sunshine Mile Overlay District, consistent with commercial/mixed use zoning. But Sam Hughes Neighborhood preference for UG; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.

**Compatibility Analysis - Summary**  
**Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
113	Active	Yes										1.63	1.66	Land Use Comments: - adjacent to PAD-28, Banner and PAD-35 Speedway/Campbell. Unlikely to impact nut noting for reference. Along Gateway Corridor - Kino-Campbell. Within the "University Area Plan" boundary = preference for UG. Adjacent to Blenman Vista Neighborhood Plan = no limitations but structures may not align with preference for historical design; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution East, plenty of space on West.
114	Active	Yes										1.74	1.78	Land Use Comments: - Along Gateway Corridor - Kino-Campbell. Within the "University Area Plan" boundary = preference for UG. Adjacent to Sam Hughes Neighborhood Plan = preference for UG (neighborhood preservation section, category L); ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution East, narrow space in some segments of both sides.
115	Active		Yes									1.53	1.49	Land Use Comments: - put 3 to be cautious, could maybe be marked as a 2. Within the "University Area Plan" boundary = preference for UG. Adjacent to Sam Hughes Neighborhood Plan and Blenman-Vista Neighborhood Plan = preference to UG; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
116	Active	Yes	Yes	Yes								1.26	1.33	Land Use Comments: - within Greater South Park Area Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
117	Eliminated											1.37	1.49	Land Use Comments: - adjacent to Western Hills / Pueblo Gardens Neighborhood Plan = no limitations (aligns with land use map, industrial use); ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides and median.

**Compatibility Analysis - Summary**  
**Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
118	Active		Yes									1.47	1.61	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution crossing, plenty of space on both sides.
119	Active	Yes	Yes									1.21	1.36	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution East, plenty of space on West.
120	Active	Yes	Yes									1.21	1.32	Land Use Comments: - half of link in low-income area, half in higher income area. Within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: UPRR permit may be required.; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV and distribution East and crossing, space on West.
121	Eliminated											1.79	1.88	Land Use Comments: - adjacent to Western Hills / Pueblo Gardens Neighborhood Plan = no limitations; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution crossing on 34th, plenty of space on both sides and median.
122	Eliminated											1.42	1.56	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing 46kV crossing on Norris, plenty of space on both sides.

**Compatibility Analysis - Summary**  
**Appendix C**

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
WEIGHT														
123	Active		Yes									1.42	1.55	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides on 14th, existing 46kV and distribution on West, space on East.
124	Eliminated											1.37	1.49	Land Use Comments: - within Arroyo Chico Area Plan = preference for industrial land uses to be sited within existing industrial zones; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Plenty of space on both sides.
125	Eliminated											1.58	1.66	Land Use Comments: - Along Gateway Corridor - Broadway. Within the "University Area Plan" boundary = preference for UG. Adjacent to Sam Hughes Neighborhood Plan & within Sunshine Mile Overlay District = consistent with commercial/mixed use zoning. But Sam Hughes Neighborhood preference for UG; ROW Comments: Private easement acquisition may be required- North side of street- Landowner COT ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution South, plenty of space North.
126	Active		Yes									1.58	1.66	Land Use Comments: - Along Gateway Corridor - Broadway. Within the "University Area Plan" boundary = preference for UG. Adjacent to Sam Hughes Neighborhood Plan & within Sunshine Mile Overlay District = consistent with commercial/mixed use zoning. But Sam Hughes Neighborhood preference for UG; ROW Comments: Private easement acquisition may be required- North side of street- Landowner COT ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution South, plenty of space North.
127	Eliminated											1.84	2.05	Land Use Comments: - Within the "University Area Plan" boundary = preference for UG. Directly through Blenman-Vista Neighborhood Plan = preference to UG to align with historic design preference; ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution West then it goes East, narrow space on both sides.

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Appendix C

Segment No.	Status	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt A	Alt B	Alt C	Alt D	Overall Average	Public Weighted Average	Comments
128	Active											1.79	1.92	Land Use Comments: - mostly a 1 but small portion of link adjacent to lower income area. Within the "University Area Plan" boundary = preference for UG. Directly through Sam Hughes Neighborhood Plan = preference for UG (neighborhood preservation section, category L); ROW Comments: ; Biology Comments: ; Cultural Comments: ; Engineering Comments: Existing distribution West, space on East but narrow in a portion.



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Segment No.	Status	Impact on low-income and/or disadvantaged communities.	Cost of transmission line construction, including relocation/undergrounding of distribution lines.	Sensitive plant and wildlife species and/or habitat within the transmission line corridor.	Residential properties adjacent to transmission lines.	A - Historic properties and districts adjacent to transmission lines.	B - Historic properties adjacent to transmission lines.	Impact on views near transmission lines.	Impact on the total environment	Noise	Communication Signal Interference	Existing development plans
WEIGHT		10	9	8	7	6	0	5	4	4	4	4
1	Active	3	1	1	1	2	2	1	1	1	1	1
2	Eliminated	3	1	1	1	1	1	1	1	1	1	1
3	Eliminated	3	1	1	1	2	2	2	1	1	1	1
4	Active	3	3	1	1	3	3	1	1	1	1	1
5	Active	3	1	1	2	2	1	1	1	1	1	1
6	Active	3	1	1	1	3	3	1	1	1	1	1
7	Active	2	3	1	1	1	1	1	1	1	1	1
8	Active	2	3	1	1	2	2	1	1	1	1	1
9	Eliminated	3	1	1	1	2	2	1	1	1	1	1
10	Eliminated	3	1	1	2	3	3	2	1	1	1	1
11	Eliminated	3	1	1	1	3	3	3	1	3	1	1
12	Eliminated	3	1	1	1	3	3	3	1	3	1	1
13	Active	3	1	1	3	2	2	3	1	3	1	1
14	Active	3	1	1	1	3	3	3	1	3	1	1
15	Active	3	1	1	2	3	3	3	1	1	1	2
16	Active	3	1	1	3	3	3	3	1	3	1	2
17	Active	3	1	1	1	3	3	3	1	1	1	2
18	Eliminated	1	1	1	1	3	3	3	1	3	1	1
19	Active	1	1	1	1	1	1	2	1	1	1	1
20	Active	1	1	1	1	3	3	3	1	1	1	2
21	Active	1	1	1	1	1	1	2	1	1	1	1
22	Eliminated	1	1	1	1	1	1	2	1	1	1	1
23	Active	3	3	1	3	3	3	2	1	3	1	1

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Segment No.	Status	Impact on low-income and/or disadvantaged communities.	Cost of transmission line construction, including relocation/undergrounding of distribution lines.	Sensitive plant and wildlife species and/or habitat within the transmission line corridor.	Residential properties adjacent to transmission lines.	A - Historic properties and districts adjacent to transmission lines.	B - Historic properties adjacent to transmission lines.	Impact on views near transmission lines.	Impact on the total environment	Noise	Communication Signal Interference	Existing development plans
WEIGHT		10	9	8	7	6	0	5	4	4	4	4
24	Active	3	1	1	2	1	1	3	1	3	1	1
25	Active	3	3	1	3	2	1	2	1	3	1	1
26	Active	3	3	1	3	2	1	1	2	3	1	1
27	Eliminated	1	1	1	1	1	1	2	1	3	1	2
28	Eliminated	1	1	1	2	1	1	2	1	3	1	1
29	Active	1	3	1	1	1	1	1	1	3	1	1
30	Eliminated	3	1	1	2	1	1	2	1	3	1	1
31	Active	3	1	1	2	1	1	1	2	3	1	1
32	Active	3	1	1	1	1	1	1	1	3	3	1
33	Active	3	1	1	3	1	1	1	1	3	1	1
34	Eliminated	3	1	1	1	1	1	3	1	3	1	1
35	Active	3	1	1	1	2	2	1	1	3	1	1
36	Eliminated	3	1	1	1	2	2	3	1	1	1	1
37	Active	3	1	1	3	2	1	2	1	3	1	1
38	Active	3	1	1	3	2	1	2	1	1	1	1
39	Active	3	3	1	3	1	1	1	2	3	1	1
40	Eliminated	1	1	1	1	3	3	3	1	3	1	1
41	Eliminated	1	1	1	1	3	3	3	1	1	1	1
42	Eliminated	1	3	1	1	3	3	2	1	1	1	1
43	Eliminated	1	1	1	3	1	1	2	1	1	1	1
45	Eliminated	3	1	1	3	2	1	3	1	3	1	2
46	Eliminated	1	1	1	1	1	1	2	1	1	1	1
47	Eliminated	1	1	1	1	1	1	3	1	1	1	1

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Segment No.	Status	Impact on low-income and/or disadvantaged communities.	Cost of transmission line construction, including relocation/undergrounding of distribution lines.	Sensitive plant and wildlife species and/or habitat within the transmission line corridor.	Residential properties adjacent to transmission lines.	A - Historic properties and districts adjacent to transmission lines.	B - Historic properties adjacent to transmission lines.	Impact on views near transmission lines.	Impact on the total environment	Noise	Communication Signal Interference	Existing development plans
WEIGHT		10	9	8	7	6	0	5	4	4	4	4
48	Eliminated	1	1	1	1	1	1	1	1	1	1	1
49	Eliminated	3	1	1	3	2	2	3	1	3	3	1
50	Active	3	1	1	2	2	2	1	1	1	1	2
51	Eliminated	3	1	1	3	1	1	2	1	3	1	1
52	Eliminated	1	1	1	3	1	1	2	1	1	1	1
53	Eliminated	3	1	1	1	1	1	2	1	3	1	1
54	Eliminated	3	1	1	3	1	1	3	1	3	1	1
55	Active	3	3	1	2	2	1	1	2	3	1	1
56	Active	3	3	1	3	2	1	2	2	3	1	1
57	Active	3	1	1	3	2	1	2	1	3	1	1
58	Active	1	1	1	1	1	1	2	1	1	1	1
59	Active	1	1	1	1	1	1	3	1	1	1	1
61	Active	1	1	1	1	1	1	3	1	1	1	1
62	Eliminated	1	1	1	1	1	1	3	1	1	1	1
63	Active	1	3	1	3	1	1	1	1	3	1	1
64	Eliminated	1	1	1	1	1	1	3	1	3	1	1
65	Active	1	1	1	2	1	1	2	1	1	1	1
66	Eliminated	1	3	1	2	1	1	1	1	1	1	1
67	Active	3	1	1	3	2	1	3	1	3	1	1
68	Active	3	1	1	3	2	1	3	2	1	1	1
69	Eliminated	3	3	1	3	2	1	1	2	3	1	1
70	Active	3	1	1	3	2	1	2	2	3	1	1
71	Active	3	1	1	3	2	1	2	2	3	1	1

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Segment No.	Status	Impact on low-income and/or disadvantaged communities.	Cost of transmission line construction, including relocation/undergrounding of distribution lines.	Sensitive plant and wildlife species and/or habitat within the transmission line corridor.	Residential properties adjacent to transmission lines.	A - Historic properties and districts adjacent to transmission lines.	B - Historic properties adjacent to transmission lines.	Impact on views near transmission lines.	Impact on the total environment	Noise	Communication Signal Interference	Existing development plans
WEIGHT		10	9	8	7	6	0	5	4	4	4	4
72	Active	3	1	1	3	1	1	2	2	3	1	1
73	Eliminated	3	1	1	1	1	1	3	1	1	1	1
74	Eliminated	1	1	1	1	1	1	3	1	1	1	1
75	Eliminated	1	1	1	1	1	1	1	1	1	1	1
76	Eliminated	3	1	1	3	1	1	3	1	1	3	1
77	Eliminated	3	1	1	2	2	2	3	1	1	1	1
78	Eliminated	1	1	1	1	1	1	3	1	1	1	1
79	Active	1	3	1	1	1	1	2	1	1	1	1
80	Eliminated	2	1	1	2	1	1	2	1	1	1	1
81	Eliminated	1	1	1	1	1	1	3	1	1	1	1
82	Eliminated	1	1	1	1	1	1	2	1	1	1	1
83	Eliminated	1	1	1	1	1	1	3	1	1	1	1
84	Eliminated	1	1	1	1	1	1	3	1	1	1	1
85	Eliminated	1	1	1	1	1	1	1	1	1	1	1
86	Eliminated	3	1	1	1	1	1	1	1	1	1	1
87	Active	3	1	1	1	1	1	2	2	3	1	1
88	Active	3	1	1	1	1	1	3	1	1	1	2
89	Eliminated	3	1	1	1	1	1	3	1	1	1	1
90	Active	2	1	1	1	1	1	2	1	1	1	1
91	Active	3	1	1	2	2	2	1	1	3	1	2
92	Eliminated	3	1	1	1	1	1	3	1	1	1	1
93	Eliminated	3	1	1	1	1	1	2	1	1	1	1
94	Active	3	1	1	1	1	1	2	1	1	1	1

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Segment No.	Status	Impact on low-income and/or disadvantaged communities.	Cost of transmission line construction, including relocation/undergrounding of distribution lines.	Sensitive plant and wildlife species and/or habitat within the transmission line corridor.	Residential properties adjacent to transmission lines.	A - Historic properties and districts adjacent to transmission lines.	B - Historic properties adjacent to transmission lines.	Impact on views near transmission lines.	Impact on the total environment	Noise	Communication Signal Interference	Existing development plans
WEIGHT		10	9	8	7	6	0	5	4	4	4	4
95	Active	3	1	1	1	1	1	3	1	1	1	1
96	Eliminated	2	2	1	3	2	1	2	2	3	1	1
97	Active	1	1	1	1	2	1	1	1	3	1	1
98	Eliminated	2	2	1	3	2	1	2	1	1	1	2
99	Active	3	1	1	2	2	1	2	2	3	1	2
100	Active	1	1	1	1	1	1	3	1	3	1	2
101	Active	1	1	1	1	1	1	2	1	1	3	1
102	Eliminated	3	1	1	1	2	2	1	1	3	3	2
103	Active	3	1	1	2	2	2	2	1	3	3	1
104	Eliminated	3	1	1	2	1	1	2	2	1	1	1
105	Active	3	1	1	1	1	1	3	1	1	1	1
106	Active	3	1	1	1	1	1	1	1	1	1	1
107	Active	1	1	1	2	1	1	2	1	3	1	2
108	Eliminated	1	1	1	2	2	1	1	1	3	1	1
109	Active	3	1	1	2	2	1	1	1	3	1	1
110	Eliminated	3	1	1	1	1	1	1	1	1	1	1
111	Active	3	1	1	2	2	1	1	1	3	1	1
112	Eliminated	3	1	1	1	2	1	1	1	3	1	1
113	Active	2	1	1	2	2	1	2	1	3	1	2
114	Active	2	1	1	2	2	1	1	1	3	1	1
115	Active	1	1	1	2	2	1	3	1	3	1	1
116	Active	2	1	1	1	1	1	2	1	1	1	1
117	Eliminated	3	1	1	1	1	1	2	1	1	1	1

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Segment No.	Status	Impact on low-income and/or disadvantaged communities.	Cost of transmission line construction, including relocation/undergrounding of distribution lines.	Sensitive plant and wildlife species and/or habitat within the transmission line corridor.	Residential properties adjacent to transmission lines.	A - Historic properties and districts adjacent to transmission lines.	B - Historic properties adjacent to transmission lines.	Impact on views near transmission lines.	Impact on the total environment	Noise	Communication Signal Interference	Existing development plans
WEIGHT		10	9	8	7	6	0	5	4	4	4	4
118	Active	3	1	1	1	1	1	3	1	1	1	1
119	Active	3	1	1	1	1	1	1	1	1	1	1
120	Active	3	1	1	1	1	1	1	1	1	1	1
121	Eliminated	3	1	1	2	2	2	2	1	3	3	1
122	Eliminated	3	1	1	1	1	1	2	1	1	1	1
123	Active	3	1	1	1	1	1	1	1	3	1	1
124	Eliminated	3	1	1	1	1	1	2	1	1	1	1
125	Eliminated	3	1	1	1	1	1	1	1	3	1	1
126	Active	3	1	1	1	1	1	1	1	3	1	1
127	Eliminated	2	3	1	3	2	1	1	1	3	1	1
128	Active	2	1	1	3	2	1	2	1	3	1	1

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Segment No.	Status	Engineering feasibility and challenges	ROW Acquisition	Compliance with applicable ordinances, master plans and regulations	Health and safety impacts	Transit Impacts (Pedestrian, Public Transit, Traffic)	Use of existing utility corridors	Impact on native lands	Public/ Stakeholder Feedback	Overall Average	Public-Weighted Average
WEIGHT		7	6	4	4	4	4	0	10		
1	Active	2	3	1	1	1	1	1	2	1.42	1.55
2	Eliminated	1	2	1	1	1	1	1	2	1.21	1.36
3	Eliminated	1	2	1	1	1	1	1	2	1.37	1.47
4	Active	1	2	1	1	1	1	1	1	1.47	1.56
5	Active	1	3	1	1	1	1	1	2	1.37	1.55
6	Active	1	2	1	1	1	3	1	2	1.53	1.56
7	Active	1	2	1	1	1	1	1	1	1.21	1.34
8	Active	1	2	1	1	1	1	1	1	1.32	1.40
9	Eliminated	1	2	1	1	1	1	1	2	1.32	1.42
10	Eliminated	1	2	1	1	1	1	1	2	1.53	1.60
11	Eliminated	1	2	3	1	1	3	1	3	1.89	1.92
12	Eliminated	1	1	1	1	1	3	1	2	1.68	1.68
13	Active	2	2	1	2	1	3	1	2	1.84	1.93
14	Active	1	2	1	1	1	3	1	2	1.74	1.74
15	Active	2	2	1	2	2	3	1	2	1.89	1.92
16	Active	2	2	1	2	2	3	1	2	2.05	2.07
17	Active	1	3	1	1	1	3	1	1	1.68	1.66
18	Eliminated	1	3	1	1	1	3	1	1	1.63	1.50
19	Active	2	3	1	1	1	3	1	1	1.32	1.32
20	Active	1	3	1	2	1	3	1	1	1.63	1.50
21	Active	1	2	1	2	1	3	1	1	1.26	1.23
22	Eliminated	1	1	1	1	1	3	1	1	1.16	1.13
23	Active	2	2	1	2	2	3	1	2	2.05	2.16

Compatibility Analysis - Details  
Appendix C

Segment No.	Status	Engineering feasibility and challenges	ROW Acquisition	Compliance with applicable ordinances, master plans and regulations	Health and safety impacts	Transit Impacts (Pedestrian, Public Transit, Traffic)	Use of existing utility corridors	Impact on native lands	Public/ Stakeholder Feedback	Overall Average	Public-Weighted Average
WEIGHT		7	6	4	4	4	4	0	10		
24	Active	1	2	1	1	1	3	1	2	1.58	1.69
25	Active	2	2	1	2	2	3	1	2	1.89	2.10
26	Active	2	3	1	1	2	1	1	3	1.84	2.13
27	Eliminated	1	3	1	1	1	3	1	2	1.47	1.47
28	Eliminated	1	2	1	1	1	3	1	2	1.42	1.44
29	Active	1	1	1	1	1	1	1	1	1.21	1.26
30	Eliminated	1	2	1	1	1	3	1	2	1.53	1.64
31	Active	1	2	1	1	1	1	1	2	1.42	1.55
32	Active	1	3	1	1	1	1	1	2	1.47	1.58
33	Active	1	1	1	1	1	1	1	3	1.42	1.62
34	Eliminated	1	1	1	1	1	3	1	2	1.47	1.56
35	Active	1	2	1	1	1	1	1	2	1.42	1.50
36	Eliminated	2	3	1	1	2	3	1	2	1.68	1.77
37	Active	1	2	1	2	1	1	1	3	1.63	1.83
38	Active	1	2	1	2	1	3	1	3	1.63	1.83
39	Active	2	3	1	1	2	1	1	3	1.79	2.07
40	Eliminated	1	3	1	1	1	3	1	2	1.68	1.60
41	Eliminated	1	3	1	1	1	3	1	1	1.53	1.42
42	Eliminated	1	3	1	1	1	3	1	1	1.58	1.55
43	Eliminated	1	1	1	1	1	3	1	1	1.26	1.27
45	Eliminated	2	2	1	2	1	3	1	3	1.89	2.07
46	Eliminated	1	1	1	1	1	3	1	1	1.16	1.13
47	Eliminated	1	3	1	1	1	3	1	1	1.32	1.30



Compatibility Analysis - Details  
Appendix C

Segment No.	Status	Engineering feasibility and challenges	ROW Acquisition	Compliance with applicable ordinances, master plans and regulations	Health and safety impacts	Transit Impacts (Pedestrian, Public Transit, Traffic)	Use of existing utility corridors	Impact on native lands	Public/ Stakeholder Feedback	Overall Average	Public-Weighted Average
WEIGHT		7	6	4	4	4	4	0	10		
48	Eliminated	1	2	1	1	1	3	1	1	1.16	1.14
49	Eliminated	1	2	1	1	1	3	1	3	1.79	1.92
50	Active	1	2	1	1	1	1	1	2	1.42	1.53
51	Eliminated	1	2	1	1	1	3	1	1	1.53	1.61
52	Eliminated	1	1	1	1	1	3	1	1	1.26	1.27
53	Eliminated	1	2	1	1	1	3	1	2	1.47	1.57
54	Eliminated	1	2	1	2	2	3	1	3	1.79	1.94
55	Active	2	3	1	1	2	1	1	3	1.79	2.06
56	Active	2	2	1	2	1	1	1	3	1.84	2.12
57	Active	2	2	1	2	2	1	1	3	1.74	1.94
58	Active	2	2	1	2	2	3	1	2	1.42	1.44
59	Active	2	3	1	1	1	3	1	2	1.42	1.47
61	Active	2	3	1	1	1	3	1	1	1.37	1.37
62	Eliminated	1	3	1	1	1	3	1	1	1.32	1.30
63	Active	2	2	1	1	1	1	1	2	1.47	1.63
64	Eliminated	1	2	1	1	1	3	1	2	1.42	1.42
65	Active	2	2	1	1	1	3	1	2	1.37	1.43
66	Eliminated	2	3	1	1	1	1	1	2	1.37	1.54
67	Active	2	3	1	2	2	3	1	2	1.89	2.03
68	Active	2	3	1	2	2	3	1	2	1.84	1.99
69	Eliminated	2	3	1	1	2	1	1	3	1.84	2.13
70	Active	1	2	1	2	2	3	1	3	1.84	1.99
71	Active	2	2	1	1	2	1	1	3	1.74	1.94

Compatibility Analysis - Details  
Appendix C

Segment No.	Status	Engineering feasibility and challenges	ROW Acquisition	Compliance with applicable ordinances, master plans and regulations	Health and safety impacts	Transit Impacts (Pedestrian, Public Transit, Traffic)	Use of existing utility corridors	Impact on native lands	Public/ Stakeholder Feedback	Overall Average	Public-Weighted Average
WEIGHT		7	6	4	4	4	4	0	10		
72	Active	2	2	1	1	2	3	1	3	1.79	1.96
73	Eliminated	1	3	3	1	1	3	1	2	1.58	1.68
74	Eliminated	1	2	3	1	1	3	1	2	1.42	1.42
75	Eliminated	1	1	1	1	1	3	1	1	1.11	1.08
76	Eliminated	1	1	1	1	1	3	1	3	1.63	1.80
77	Eliminated	1	2	3	1	1	3	1	2	1.68	1.75
78	Eliminated	2	3	1	2	2	3	1	2	1.53	1.55
79	Active	2	2	1	1	1	3	1	1	1.37	1.44
80	Eliminated	1	2	1	1	1	3	1	2	1.37	1.46
81	Eliminated	1	1	1	1	1	3	1	2	1.26	1.28
82	Eliminated	2	2	1	1	1	3	1	2	1.32	1.36
83	Eliminated	2	2	1	1	1	3	1	2	1.37	1.41
84	Eliminated	2	3	1	2	1	3	1	2	1.47	1.51
85	Eliminated	1	3	1	1	1	3	1	1	1.21	1.20
86	Eliminated	2	3	3	1	1	3	1	2	1.53	1.65
87	Active	1	2	1	1	1	3	1	2	1.53	1.61
88	Active	1	3	1	1	1	3	1	2	1.53	1.64
89	Eliminated	1	3	1	1	1	3	1	2	1.47	1.60
90	Active	1	1	1	1	1	3	1	1	1.21	1.23
91	Active	1	1	1	1	1	1	1	2	1.47	1.55
92	Eliminated	1	2	3	1	1	3	1	2	1.53	1.62
93	Eliminated	1	2	1	1	1	3	1	2	1.37	1.49
94	Active	2	3	1	1	1	3	1	2	1.47	1.62

Compatibility Analysis - Details  
Appendix C

Segment No.	Status	Engineering feasibility and challenges	ROW Acquisition	Compliance with applicable ordinances, master plans and regulations	Health and safety impacts	Transit Impacts (Pedestrian, Public Transit, Traffic)	Use of existing utility corridors	Impact on native lands	Public/ Stakeholder Feedback	Overall Average	Public-Weighted Average
WEIGHT		7	6	4	4	4	4	0	10		
95	Active	1	1	1	1	1	3	1	2	1.37	1.48
96	Eliminated	1	2	1	1	1	1	1	3	1.63	1.82
97	Active	1	2	1	1	2	3	1	1	1.37	1.32
98	Eliminated	1	3	1	1	1	3	1	3	1.68	1.88
99	Active	1	3	1	1	1	3	1	2	1.74	1.84
100	Active	1	3	1	1	1	3	1	1	1.47	1.42
101	Active	1	3	1	1	1	3	1	1	1.37	1.33
102	Eliminated	1	1	1	1	1	3	1	2	1.63	1.64
103	Active	1	2	1	1	1	3	1	2	1.74	1.78
104	Eliminated	1	2	1	1	1	3	1	2	1.47	1.60
105	Active	1	1	1	1	1	3	1	2	1.37	1.48
106	Active	1	1	3	1	1	3	1	2	1.37	1.46
107	Active	1	2	3	1	1	3	1	2	1.58	1.56
108	Eliminated	1	2	1	1	2	3	1	1	1.42	1.39
109	Active	1	1	3	1	1	3	1	3	1.63	1.77
110	Eliminated	2	1	1	1	1	1	1	2	1.21	1.37
111	Active	1	2	3	1	1	3	1	2	1.63	1.73
112	Eliminated	1	1	3	1	1	3	1	2	1.53	1.60
113	Active	1	1	3	1	1	3	1	2	1.63	1.66
114	Active	2	2	3	2	2	3	1	2	1.74	1.78
115	Active	1	2	1	1	2	3	1	1	1.53	1.49
116	Active	1	1	1	1	1	3	1	2	1.26	1.33
117	Eliminated	1	2	1	1	1	3	1	2	1.37	1.49

Compatibility Analysis - Details  
Appendix C

Segment No.	Status	Engineering feasibility and challenges	ROW Acquisition	Compliance with applicable ordinances, master plans and regulations	Health and safety impacts	Transit Impacts (Pedestrian, Public Transit, Traffic)	Use of existing utility corridors	Impact on native lands	Public/ Stakeholder Feedback	Overall Average	Public-Weighted Average
WEIGHT		7	6	4	4	4	4	0	10		
118	Active	2	2	1	1	1	3	1	2	1.47	1.61
119	Active	1	2	1	1	1	1	1	2	1.21	1.36
120	Active	1	3	1	1	1	1	1	1	1.21	1.32
121	Eliminated	1	2	1	1	1	3	1	3	1.79	1.88
122	Eliminated	2	2	1	1	1	3	1	2	1.42	1.56
123	Active	2	2	1	2	1	1	1	2	1.42	1.55
124	Eliminated	1	2	1	1	1	3	1	2	1.37	1.49
125	Eliminated	1	3	3	1	1	3	1	2	1.58	1.66
126	Active	1	3	3	1	1	3	1	2	1.58	1.66
127	Eliminated	2	2	1	2	2	3	1	3	1.84	2.05
128	Active	2	2	1	2	2	3	1	3	1.79	1.92

## **Appendix D**

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ROUTE COMPARISON DATA - CRITERIA  
APPENDIX D

Alternative Route	*Impact on low-income and/or disadvantaged communities.	*Cost of transmission line construction, including relocation/undergrounding of distribution lines.	*Sensitive plant and wildlife species and/or habitat within the transmission line corridor.	*Residential properties adjacent to transmission lines.	Historic properties and districts adjacent to transmission lines.	*Historic Districts	*Impact on views near transmission lines.	Impact on the total environment	Noise	Communication Signal Interference	Existing development plans	Engineering feasibility and challenges	ROW Acquisition
1	1	1	1	2	1	1	1	1	1	6	4	1	1
2	5	4	1	5	2	5	2	3.5	2	6	2	2.5	5
3	6												
4	3	2	1	3.5	3	3	5	6	4.5	1	1	6	6
5	3	3	1	3.5	4.5	4	6	3.5	3	1	3	2.5	2
6	3	5	1	1	4.5	6	4	3.5	6	1	6	4.5	4
A	2	1	1	2	2.5	2	2	4	1	1	1	2.5	1
B	4	3	1	4	1	1	1	1	2	1	1	2.5	1
C	3	4	1	3	4	4	4	1	4	1	2.5	4	2.5
D	1	2	1	1	1	3	3	1	3	1	4	1	4

ROUTE COMPARISON DATA - CRITERIA  
APPENDIX D

Alternative Route	Compliance with applicable ordinances, master plans and regulations	Health and safety impacts	Transit Impacts (Pedestrian, Public Transit, Traffic)	Use of existing utility corridors	Impact on native lands	Average Criteria Evaluation Score	Average Criteria Evaluation Score (* Key Factors from Survey)	Public/ Stakeholder Order of Preference	Average Criteria Evaluation and Public Preference Score	TEP Preference
1	6	1	1	1	1	1.78	1.15	1	1.74	Alternative
2	5	2	5.5	3	1	3.42	3.70	6	3.55	Alternative
3	3	6	5.5	4	1	4.28	4.60	5	4.32	Alternative
4	4	4.5	3.5	2	1	2.72	2.38	3	2.74	Preferred
5	2	4.5	3.5	5	1	3.39	3.08	4	3.42	Alternative
6	1	3	2	6	1	3.47	3.10	2	3.39	Alternative
A	2.5	2.5	2.5	3	1	1.92	37.00	1	1.87	Alternative
B	2.5	1	1	1	1	1.67	46.00	2	1.68	Preferred
C	1	4	4	4	1	2.89	72.50	4	2.95	Alternative
D	4	2.5	1	2	1	2.03	43.50	3	2.08	Alternative



# ROUTE COMPARISON DATA - COST

## APPENDIX D

Alternative Route	Length	ROW Cost	Eng/Mtl/Construct Cost	OH/UG Dist Cost	Total Cost
1	4.1	\$2,405,672	\$4,715,997	\$2,620,996	\$9,742,665
2	5.1	\$3,832,660	\$7,005,516	\$2,450,054	\$13,288,230
3	5	\$4,329,791	\$7,410,325	\$2,702,315	\$14,442,431
4	5	\$3,898,321	\$5,693,364	\$1,820,522	\$11,412,207
5	5.9	\$4,461,489	\$7,076,901	\$645,491	\$12,183,881
6	7.6	\$4,923,858	\$8,007,213	\$444,601	\$13,375,672
A	3.2	\$1,992,189	\$3,391,681	\$810,814	\$6,194,684
B	3.5	\$2,171,231	\$4,150,192	\$1,809,404	\$8,130,827
C	4.2	\$2,489,887	\$5,985,270	\$810,814	\$9,285,971
D	3.8	\$2,185,855	\$4,167,304	\$926,526	\$7,279,685

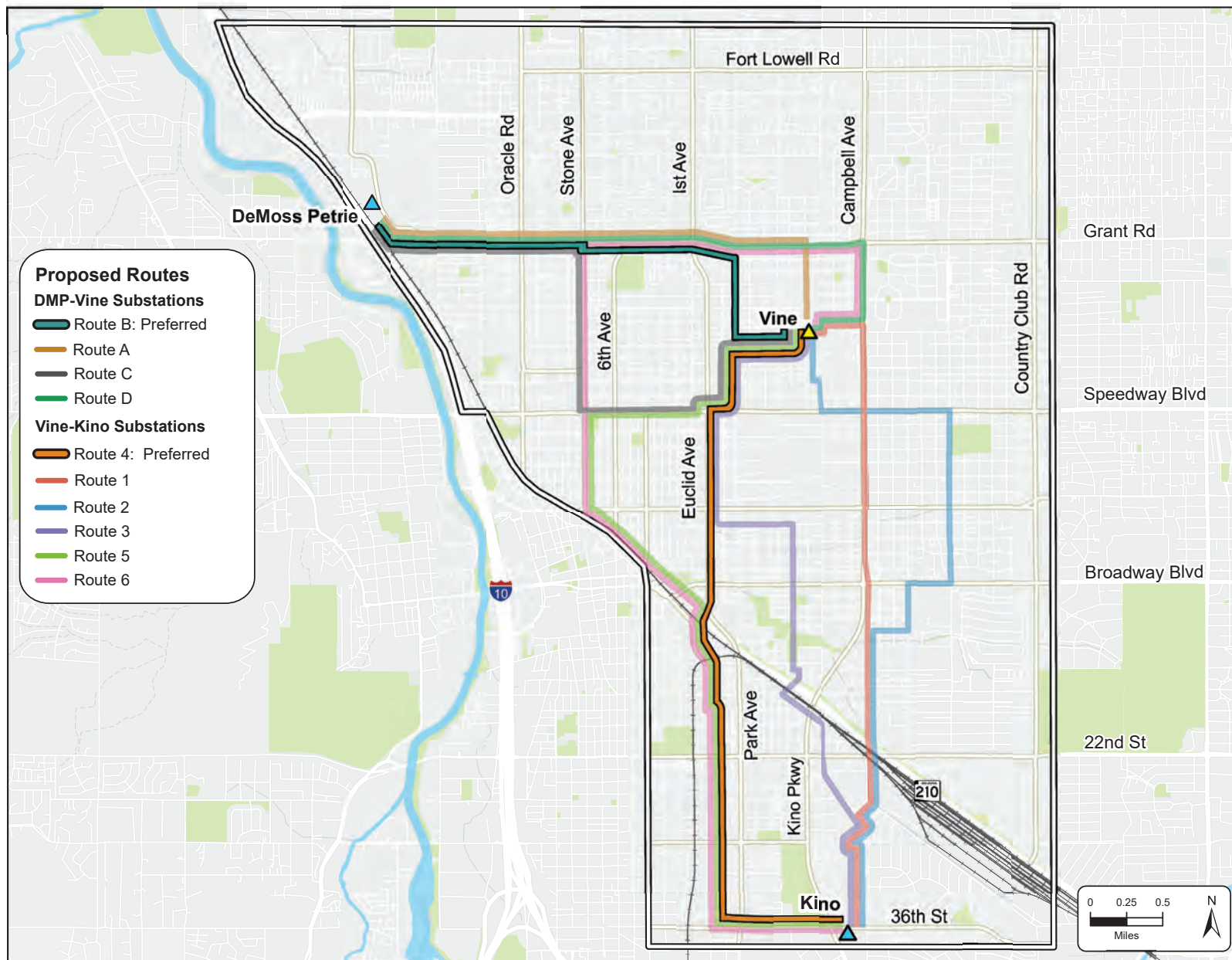
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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit B-2**

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## Exhibit B-2

### Midtown Reliability Project

#### *Preferred Routes*

- In-Service 138kV Substation
- Proposed 138kV Substation
- Study Area

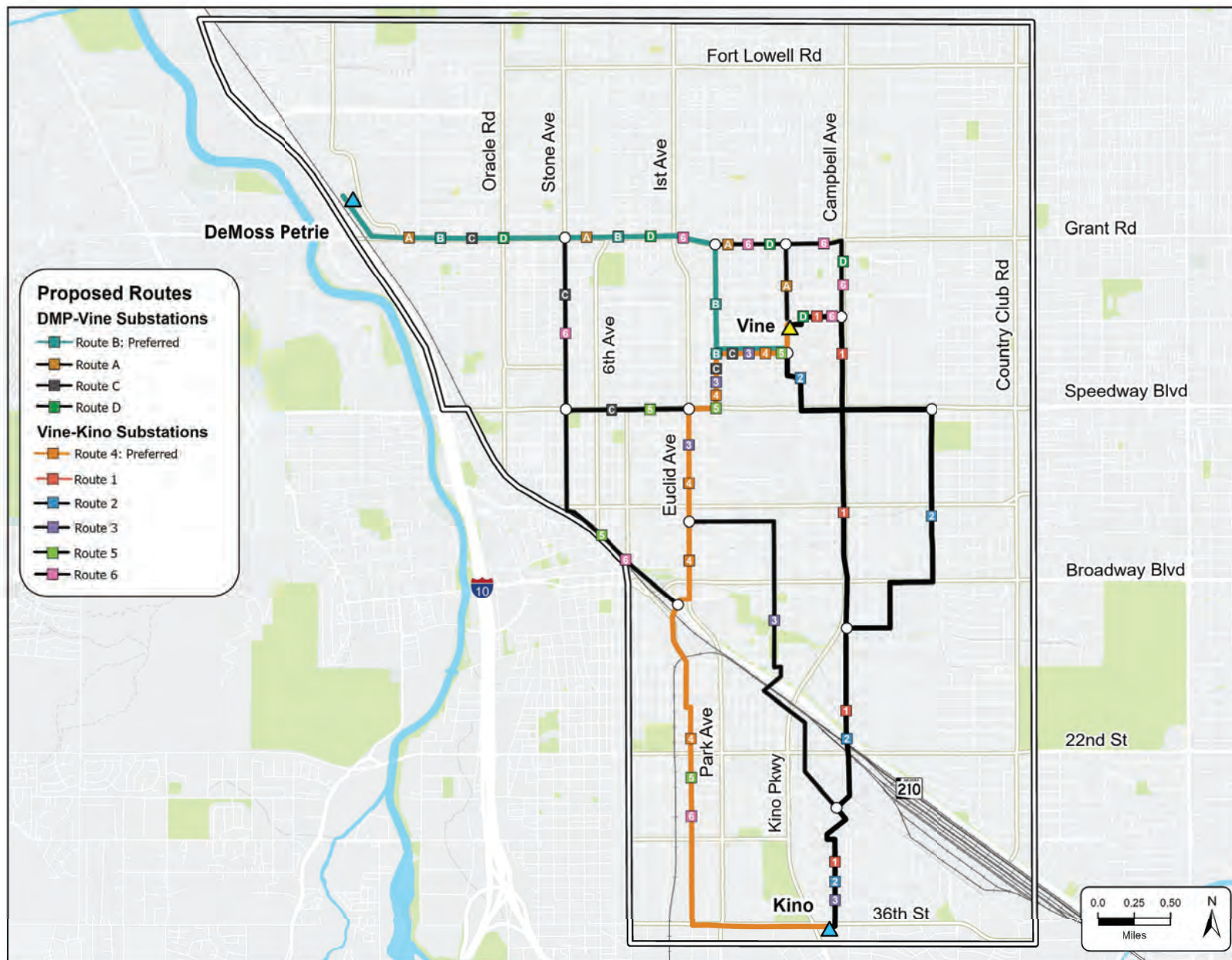
Sources: TEP, Pima County GIS  
 Projection: NAD 1983 UTM Zone 12 N  
 Basemap: TEP/ESRI Custom Basemap 2024

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 TEP makes no warranty of its accuracy.



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## Exhibit B-2

### Midtown Reliability Project

#### Preferred Routes

- In-Service 138kV Substation
- Proposed 138kV Substation
- Route Alternative Nodes
- Study Area

Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: TEP/ESRI Custom Basemap 2024

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**EXHIBIT C**

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## EXHIBIT C: AREAS OF BIOLOGICAL WEALTH

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As stated in R14-3-219 of the Rules of Practice and Procedure Before Power Plant and Transmission Line Siting Committee, Exhibits to Application, Exhibit C:

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

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C.1 Introduction .....	C-1
C.2 Biological Wealth .....	C-1
C.2.1 Areas of Biological Wealth .....	C-2
C.2.2 Special Status Species .....	C-2
C.2.3 Important Riparian Areas.....	C-3
C.3 Summary Of Potential Effects.....	C-3
C.3.1 Construction.....	C-3
C.3.2 Operation and Maintenance.....	C-4
C.4 Conclusion.....	C-4
C.5 References .....	C-4

### C.1 Introduction

The following analysis describes impacts to areas of biological wealth within the Biological Study Area, which is three miles on either side of the route centerlines analyzed for the Project.

### C.2 Biological Wealth

Exhibit C-1 maps the alternative routes in relation to major washes and riparian habitat. The Biological Evaluation (BE) in Exhibit C-2 (Tierra, 2024) and this section provide a general description of the existing environment with respect to vegetation, wildlife, and the potential for special status species to occur in the study area.

Areas of biological wealth include Important Bird Areas, Wildlife Connectivity Linkages, and designated Critical Habitat. None of these areas or features occur in the Study Area. As discussed in Exhibit B, there is, however, one special-status species with the potential to occur of “Likely” in the Study Area.

The information analyzed includes a list of special status species obtained from the USFWS, Information for Planning and Consultation (“IPaC”) online database, and species lists, ranges, and habitat data obtained from the Arizona Game and Fish Department (“AZGFD”), Heritage Database Management System (“HDMS”) On-line Environmental Review tool, National Wetlands Inventory Maps, Federal Emergency Management Agency (“FEMA”) Flood Insurance Rate Maps (“FIRM”), and review of habitat and life history requirements. The BE analyzed the entire Biological Study Area.

### C.2.1 Areas of Biological Wealth

The following areas of biological wealth are present in or near the Biological Study Area.

#### **Riparian Habitat**

Three Classes of Riparian Habitat are mapped within the Project Area and overlap the proposed routes, Class B, Class C, and Class D (see Exhibit C-1). The Project will span washes and riparian areas to the extent possible. Construction and installation of new structures will occur in previously disturbed locations.

### C.2.2 Special Status Species

Desktop research identified 11 special status species known to occur within 3 miles of the Project study area. A detailed screening analysis of each species’ life history, habitat requirements, known range and distribution, and known locality information determined that 10 of the 11 species could be removed from further consideration as the Biological Study Area is either outside their range, or suitable habitat is not present within the Biological Study Area. The one species that has the potential to occur in the Biological Study Area or vicinity of the Project study area is the monarch butterfly (see Table 6). No proposed or designated critical habitats are located in the Biological Study Area.

**Table 6. Listed Species and Their Potential for Occurrence in the Biological Study Area**

Scientific Name	Common Name	Status*	Potential to Occur
<b>BIRDS</b>			
<i>Coccyzus americanus</i>	yellow-billed cuckoo	LT, 1A**	
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	LE	
<i>Sterna antillarum browni</i>	California least tern	LE	
<i>Strix occidentalis lucida</i>	Mexican spotted owl	LT, 1A	
<i>Haliaeetus leucocephalus</i>	bald eagle	BGA	
<b>MAMMALS</b>			
<i>Leopardus pardalis</i>	Ocelot	LE	
<b>REPTILES</b>			
<i>Kinosternon sonoriense longifemorale</i>	Sonoyta mud turtle	LE	
<i>Gopherus morafkai</i>	Sonoran desert tortoise	C	
<b>FISHES</b>			
<i>Gila intermedia</i>	Gila chub	LE	
<i>Poeciliopsis occidentalis</i>	Gila topminnow	LE,UR	

Scientific Name	Common Name	Status*	Potential to Occur
<b>INSECTS</b>			
<i>Danaus Plexippus</i>	monarch butterfly	C	Likely
<b>PLANTS</b>			
<i>Eryngium sparganophyllum</i>	Arizona eryngo	LE	
<i>Lilaeopsis schaffneriana</i> var. <i>recurva</i>	Huachuca water-umbel	LE	

Note: From (Tierra, 2024), Table 1

\*Key: LE = Listed Endangered (U.S. Fish and Wildlife Service); LT = Listed Threatened (U.S. Fish and Wildlife Service); UR = Under Review; C = Candidate; 1A, B = Species of Greatest Conservation Need Tier (Arizona Game and Fish Department).

### C.2.3 Important Riparian Areas

Three classes of Regulated Riparian Habitat are mapped within the project area and overlap alternative routes (see Exhibit C-1). There are no mapped Important Riparian Areas within the Project Area. Xeroriparian Habitat is defined as having a connection with ephemeral streams, and plant species similar to upland habitat, but with greater plant densities due to the availability of water. Xeroriparian Habitat A is the most dense, and D is the least dense, but provides hydrologic connectivity to other riparian habitat areas (PCRFGD, 2011). While most of the riparian habitat would be spanned by the proposed transmission line, some trimming of riparian vegetation may be required for line safety and equipment access.

There are no perennial or intermittent waterways within the study area, however, several ephemeral drainages are present that would be crossed by the alternative routes. Arroyo Chico is the major drainage in the study area and is crossed by Alternative Routes 1 and 2 along North Campbell Avenue, and Alternative Route 3 between South Highland Avenue and South Fremont Avenue.

**Table 7. Xeroriparian Habitat**

Xeroriparian Habitat	Routes spanning
B	1, 2, 3
D	1, 2, 3
C	3

## C.3 Summary Of Potential Effects

The potential for the Project’s activities to affect any of the special status species was evaluated in the BE. Though there is the potential for one special status species to occur in the study area, there were no individuals observed, and no forage species present in the project area; therefore, the project would have “No Effect” on species listed under the Endangered Species Act (“ESA”).

### C.3.1 Construction

Construction of the proposed transmission line would have no effect on species listed under the ESA, is not likely to have impacts on water resources, would have no impacts on riparian habitat, and would not

likely have any long-term impacts on urban wildlife movement or create barriers to wildlife. Construction activities may impact native plants through trimming or removal to gain equipment access. TEP will implement appropriate pre-construction surveys to reduce potential impacts to wildlife.

#### **C.3.2 Operation and Maintenance**

Potential impacts from operation and maintenance activities would be similar in nature to those previously described above for construction activities. However, the scope of impacts would be lower in magnitude than those for construction as there would be less equipment and fewer people working. Under normal circumstances, operation and maintenance impacts would be temporary, and would occur once or twice per year over the life of the Project.

#### **C.4 Conclusion**

The Project would have no effect on areas of biological wealth, species listed under the ESA, designated critical habitat, washes, or riparian habitat. Minimal, temporary, disturbance is anticipated to native vegetation due to plant trimming and removal to allow for equipment access during construction.

#### **C.5 References**

PCRFGD. (2011). *Regulated Riparian Habitat Mitigation Standards and Implementation Guidelines*. Tucson: Pima County Regional Flood Control District.

Tierra. (2024). *Biological Evaluation for the Midtown Reliability Project, Tucson, Pima County, Arizona*. Tucson: Tierra Right of Way Services, Ltd.

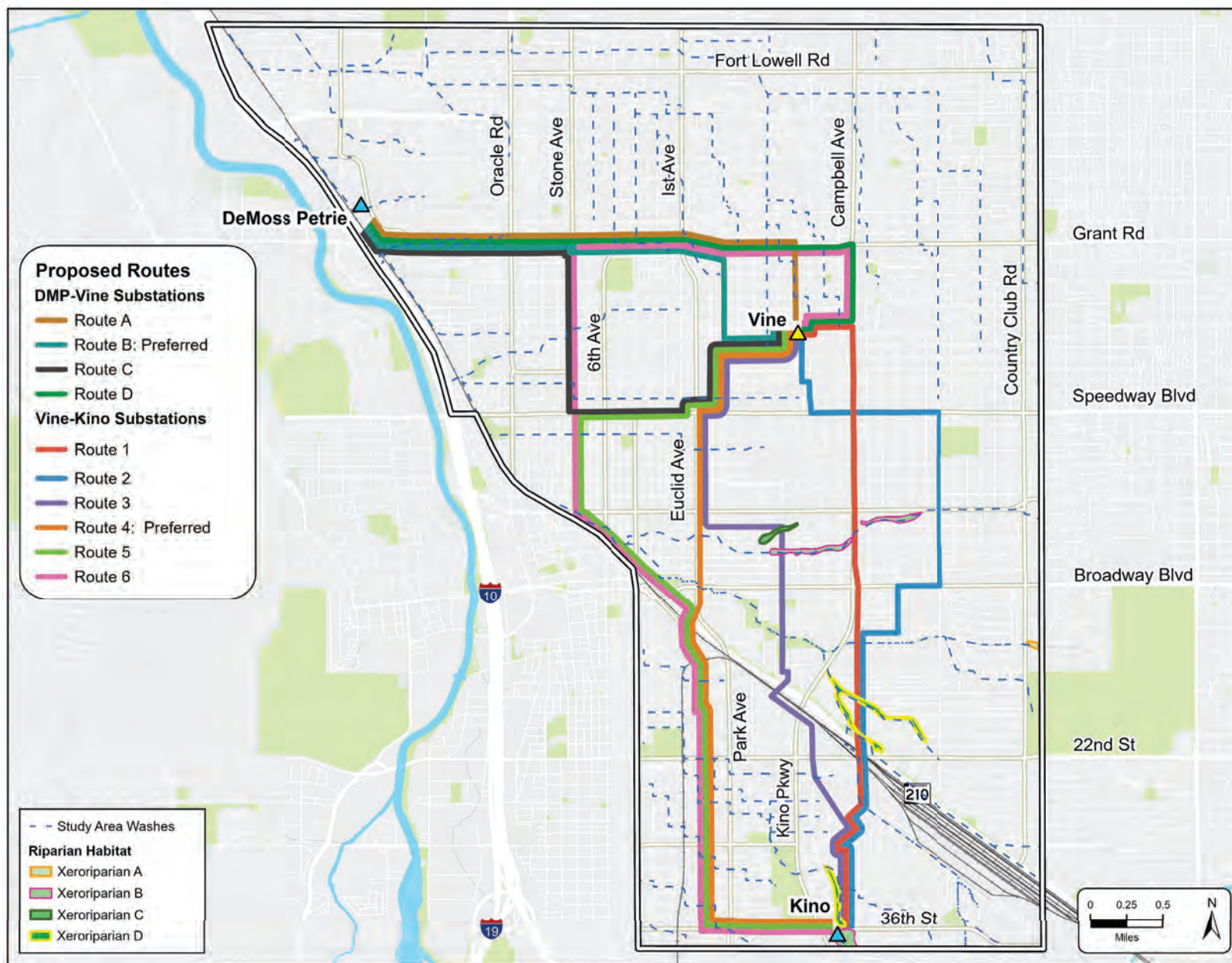
# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit C-1**

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## Exhibit C-1

### Midtown Reliability Project

#### Riparian

- In-Service 138kV Substation
- Proposed 138kV Substation
- Study Area

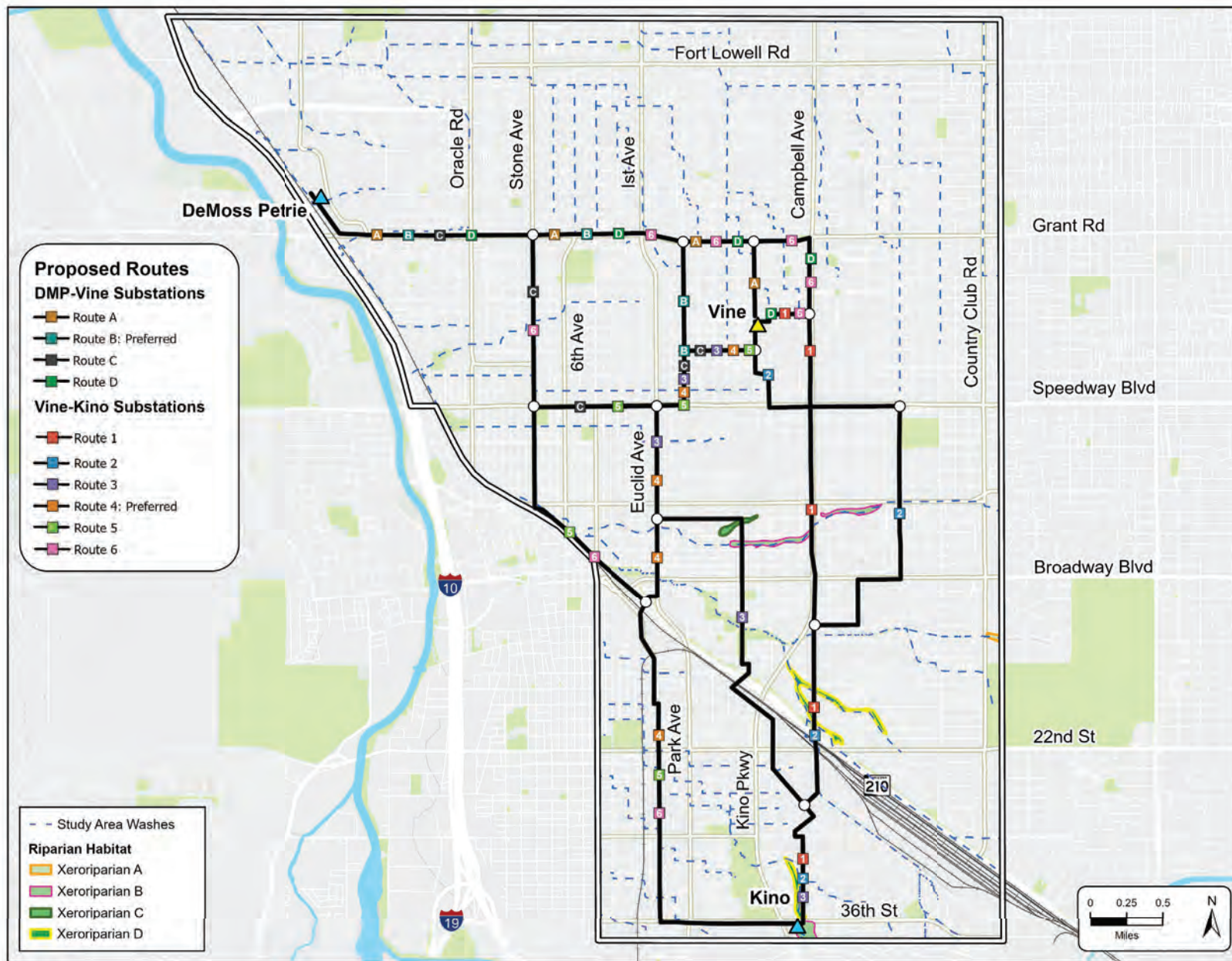
Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: TEP/ESRI Custom Basemap 2024

This map is for planning purposes only.  
TEP makes no warranty of its accuracy.



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## Exhibit C-1

### Midtown Reliability Project

#### Riparian

- In-Service 138kV Substation
- Proposed 138kV Substation
- Route Alternative Nodes
- Study Area

Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: TEP/ESRI Custom Basemap 2024

This map is for planning purposes only.  
TEP makes no warranty of its accuracy.



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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit C-2**

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# **Biological Evaluation for the Midtown Reliability Project, Tucson, Pima County, Arizona**

*Prepared by:*

Tierra Right of Way Services, Ltd.  
1575 East River Road, Suite 201  
Tucson, Arizona 85718

*Prepared for:*

Tucson Electric Power Company  
4350 East Irvington Road  
Tucson, Arizona 85714-2114

Tierra Project No. 21TA09-345.72  
May 10, 2024

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# 1. INTRODUCTION

Tucson Electric Power (TEP) contracted Tierra Right of Way Services, Ltd. (Tierra), to conduct a Biological Evaluation (BE) for the Midtown Reliability Project in Tucson, Pima County, Arizona.

## *1.1. Study Area*

The project is on private land in the City of Tucson corporate limits. It is bound by Interstate 10 on the west, Tucson Boulevard on the east, Glenn Street on the north, and 36th Street on the south.

The project area is shown on the Tucson and Tucson North U.S. Geological Survey 7.5-minute quadrangles, in Sections 35 and 36, Township 13 South, Range 13 East; Sections 1, 12, and 13, Township 14 South, Range 13 East; and Sections 5–8 and 17–20, Township 14 South, Range 14 East; Gila and Salt River Baseline and Meridian (Figure 1).

## *1.2. Project Description*

The proposed project will strengthen the local energy grid in central Tucson that provides daily power to about 44,000 residences and businesses. The project involves construction of a new 138kV transmission line that will connect the existing Kino and DeMoss Petrie substations, and construction of a planned upgraded Vine substation between the two. An interdisciplinary team was formed to identify and analyze alternative routes with the least overall impact on a suite of factors that includes the environment.

## *1.3. Purpose of Study*

The purpose of this BE is to provide a current impacts analysis of the alternative routes on plant and animal species and critical habitat protected under the Endangered Species Act (ESA). A BE was previously prepared for this project (Jordan 2020), but substantial changes have since occurred that triggered the need for this updated study. The changes important to the context of this study include considerable differences between the former and the current alternative routes, and the addition of several species that have ESA status.

It is important to note that the findings reported by Jordan (2020) that remain applicable to the current alternatives, are considered valid and are adopted herein by direct and implied reference. For example, site photographs, descriptions of vegetation, waterways, and so forth.

## *1.4. Terminology*

Several terms in this report have specific working definitions:

- Project area: The alignments of the route alternatives buffered by a variable distance within which direct project impacts and most indirect impacts from the project are expected to occur. Common effects include habitat loss and modification, noise, dust, light, and vibration. The buffer distance varies among each species and varies in time and space for each species.
- Project vicinity: The project area in a landscape context. This study applies a 3-mile buffer.
- Listed species: Species listed as endangered or threatened, with existing protections provided under the ESA. This term includes species that are proposed for listing, and species that are candidates for listing. Listed species also include birds protected under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA).

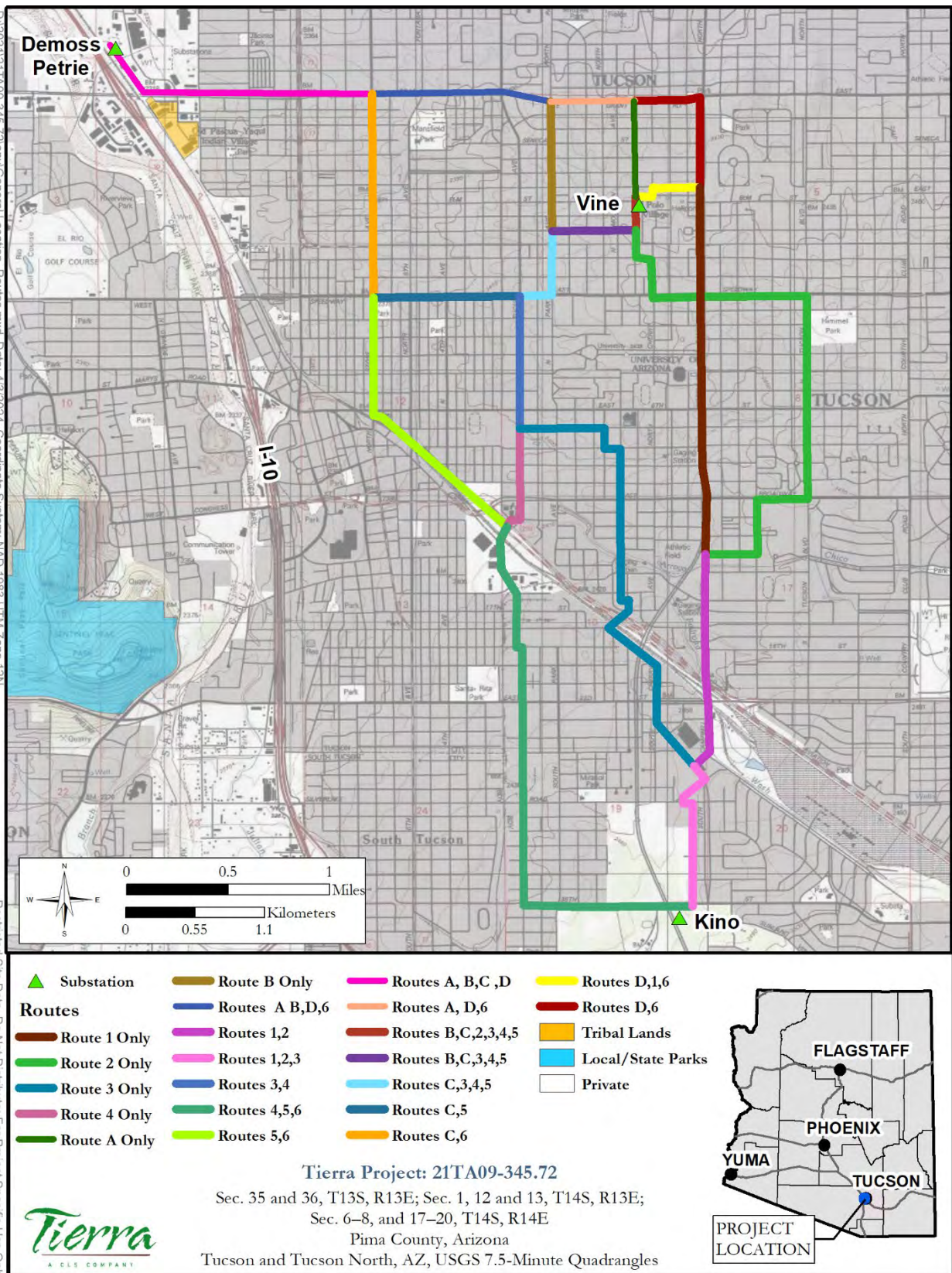


Figure 1. Project location.

## 2. METHODS

The listed species evaluated in this study were compiled from information in project reviews provided by the U.S. Fish and Wildlife Service (FWS) Information, Planning, and Conservation System (IPaC) and the Arizona Game and Fish Department (AZGFD) Heritage Data Management System (HDMS). The potential for each special status species to occur was then determined by comparing the geographic distribution and habitat requisites of each listed species to existing habitats in the project area.

In February and March 2024, a Tierra senior biologist conducted a desktop review of current route alternatives to determine whether any listed species or critical habitat could be present and/or affected by the project. The review included examination of the previous BE (Jordan 2020) and inspection of recent aerial imagery of the project area to identify areas of potential habitat for any listed species with current ESA status. Tierra concluded that the current routes are in a heavily urbanized area and do not include any suitable habitat for any of the ESA and BGEPA species. Further, Tierra determined from the desktop review that no new field work or ground truthing is necessary to investigate any areas of potential habitat or to validate the absence of suitable habitat.

## 3. EXISTING CONDITIONS

### 3.1. Overview

The project area is in metropolitan Tucson from roughly 2,316 feet in the northwest part near DeMoss Petrie Substation to 2,474 feet in the southeast part near the Kino Substation. All the route alternatives are in or adjacent to existing rights of way and easements with utilities and are chiefly fronted by residential, commercial, and industrial properties.

### 3.2. Biotic Community

The study area was mapped by Brown and Lowe (1980) as the Arizona Upland subdivision of the Sonoran Desertscrub biotic community and described in detail by Brown (1994). However, the project area contains very little natural desert, and the community is best described as Urban (Brown 1980). The Urban category can be a monoculture, but more often and in the project area, is a mix of Industrial, Commercial, Heavy Residential, Light Residential, and Recreational (i.e., cultivated parks).

Much of the project area is in or along roadways with adjacent paths and sidewalks. Portions of the rights of way have been landscaped with both native and non-native plants. A few minor exceptions include wider rights of way and frontage properties with vegetated stormwater drainages and detention basins, and public parks. While the parks provide some habitat for general wildlife, there is no direct connectivity to larger areas of native habitat. Resident wildlife is chiefly restricted to birds, squirrels, rabbits, lizards, and arthropods.

### 3.3. Vegetation

Native plants in upland parts of the study area include trees such as velvet mesquite (*Prosopis velutina*) and blue palo verde (*Parkinsonia* spp.). Native shrubs include catclaw acacia (*Senegalia greggii*), four-wing saltbush (*Atriplex canescens*), creosote bush (*Larrea tridentata*), desert broom (*Baccharis sarothroides*), desert marigold, globemallow (*Sphaeralcea ambigua*), jimmyweed (*Isocoma tenuisecta*), fluffgrass (*Dasyochloa pulchella*), and sixweeks threeawn (*Aristida adscensionis*).

A few of the alternative routes abut or cross regulated riparian habitat (Pima County Ordinance 2005-FC-2) areas mapped as Xeroriparian classes B, C, and D (Figure 2). Xeroriparian strands are generally associated with ephemeral drainages and differ from wetter meso- and hydrioriparian habitats by the absence of broadleaf riparian trees. Plants in xeroriparian habitats are typically the same as those in adjacent upland areas but are larger and occur at higher densities because they receive more water.

### **3.3.1. Invasive and Non-native Plants**

Invasive plants often compete with and exclude native plants that impact the quality of natural areas. Several invasive and nuisance plants commonly seen in the project area include Bermuda grass (*Cynodon dactylon*), buffelgrass (*Pennisetum ciliare*), fountain grass (*P. setaceum*), and Mexican palo verde (*Parkinsonia aculeata*).

### **3.4. Wildlife**

Wildlife seen in the study area by Jordan (2020) was limited to mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), and whiptails (*Aspescelis* spp.). Other species expected to occur in the study area include pigeon (*Columba livia*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), desert cottontail (*Sylvilagus audubonii*), and coyote (*Canis latrans*).

### **3.5. Waterbodies**

No perennial or intermittent waters are in the study area. Several ephemeral drainages are crossed or adjacent to some of the alternate routes. Most notable is the Arroyo Chico that has some xeroriparian vegetation along some of the more natural reaches. The Arroyo Chico and other unnamed drainages are patchily vegetated and provide suitable habitat for some species of wildlife.

## **4. EVALUATION OF LISTED SPECIES**

Listed species considered in this evaluation were compiled from project review reports provided by the FWS and AZGFD. The FWS project review includes an Official Species List with 10 ESA species (seven Endangered, two Threatened, and one Candidate), and one BGEPA species (bald eagle) that could be affected by the project (see Appendix A). The AZGFD HDMS database records indicate that six listed species are known to occur in the project vicinity (see Appendix B). Two of the six species on the AZGFD list known from the project vicinity (Sonoran Desert tortoise, a Candidate, and the Endangered Gila topminnow,) are not among the ten on the Official Species List. Therefore, 13 species were evaluated in this study (Table 1). Some species discussed by Jordan (2020) are not discussed here because they currently have no applicable legal status.

### **4.1. Critical Habitat**

No critical habitat for any ESA species is in the project area (see Appendix A).

### **4.2. Wildlife Linkages**

There are no designated wildlife connectivity areas in the study area (see Appendix B).

### **4.3. Endangered, Threatened, and Candidate Species**

All ESA species and eagles were excluded from detailed analysis because none of the alternatives intersect suitable habitat, and no effects are expected to result from any of the alternative routes (Table 1). For example, seven of the ten ESA species on the Official Species List are aquatic or true riparian obligates, and there is no aquatic or hydrioriparian habitat in the project area.



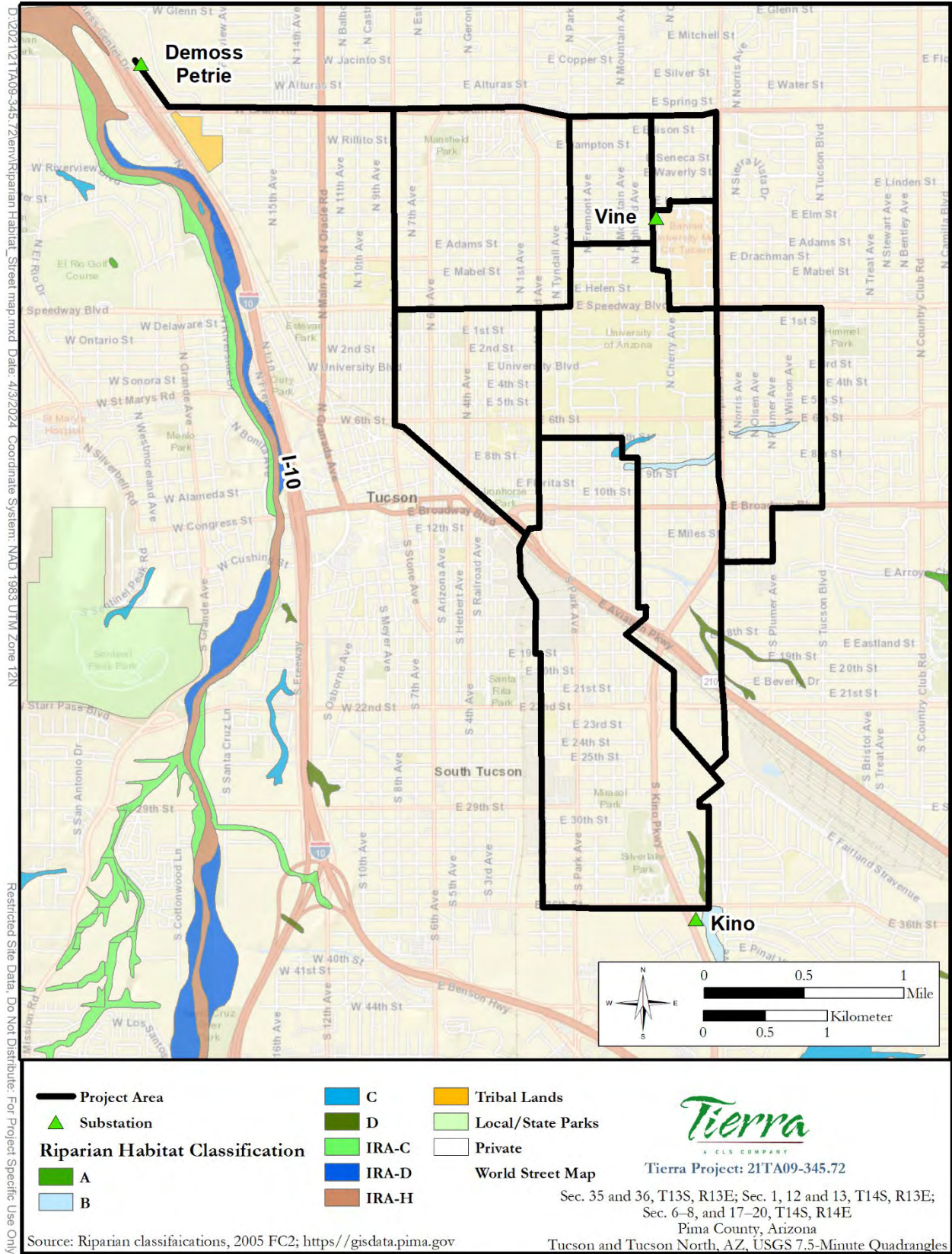


Figure 2. Riparian habitat.

**Table 1. Listed Species and Eagles Excluded from Analysis.**

SPECIES	STATUS	HABITAT REQUISITES	EXCLUSION RATIONALE
<i>Mammals</i>			
ocelot ( <i>Leopardus pardalis</i> )	LE	This medium-sized carnivore is rare in Arizona. When seen, it is usually around streams in brushy or shrubby habitats and sometimes forested areas chiefly below 4,000 feet elevation. Habitat requisites include dense cover/vegetation, patch connectivity to avoid open country, and abundant prey. All recent records except one from near Globe in Pinal County are from Santa Cruz, southern Pima, and southwestern Cochise counties.	<b>Very unlikely to be impacted by the project. Very unlikely to occur in the project area.</b>  Ocelot is rare in Arizona, and the project area does not contain suitable habitat.
<i>Birds</i>			
California least tern ( <i>Sternula antillarum browni</i> )	LE	This piscivore lives in colonies in open or sparsely vegetated sand, sandbars, gravel pits, or exposed flats along shorelines of inland rivers, lakes, reservoirs, or drainage systems.	<b>Very unlikely to be impacted by the project. Very unlikely to occur in the project area.</b>  The project area does not contain suitable habitat.
Mexican spotted owl ( <i>Strix occidentalis lucida</i> )	LT	This carnivore occurs in a variety of native plant communities from canyon cliffs to old growth alpine forests with multiple-layered closed canopies from 2,720 to 9,000 feet elevation.	<b>Very unlikely to be impacted by the project. Very unlikely to occur in the project area.</b>  The project area does not contain suitable habitat.
Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	LE	This insectivore is a riparian obligate that uses dense cottonwood-willow and/or tamarisk habitats with saturated soils or surface water below 8,500 feet elevation. Riparian habitat not suitable for nesting may be used for migration and foraging.	<b>Unlikely to occur in the project area. Unlikely to be affected by the project.</b>  While known from vicinity, there is no suitable habitat in the project area.

SPECIES	STATUS	HABITAT REQUISITES	EXCLUSION RATIONALE
yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	LT	This riparian obligate primarily eats large insects but also feeds on small vertebrates. They use large, contiguous patches of dense, multilayered riparian habitat in desert scrub up to woodlands with cottonwood-willow gallery forests along rivers and streams from 3,564 to 5,480 feet elevation. Tamarisk is also a common component. Intermittent and ephemeral streams and adjacent uplands are important components of nesting and foraging habitat.	<b>Unlikely to occur in the project area. Unlikely to be affected by the project.</b>  While known from vicinity, there is no suitable habitat in the project area.
bald eagle ( <i>Haliaeetus leucocephalus</i> )	BGEPA	This carnivore chiefly eats fish, but small mammals, carrion, waterfowl, turtles, and snakes are also taken. In Arizona, bald eagles inhabit a variety of communities in the Lower and Upper Sonoran Life Zones near large waterbodies with tall perch sites and an abundant prey base from 460 to 7,930 feet elevation. Breeding eagles are limited to central Arizona in the Bill Williams River drainage, upper and lower Verde and Salt rivers, Gila River, Colorado River, Roosevelt Lake, and many Mogollon Rim and White Mountain lakes.	<b>Unlikely to be impacted by the project. Unlikely to occur in the project area.</b>  There is no suitable breeding or foraging habitat in the project area.
<b><i>Reptiles</i></b>			
Sonoyta mud turtle ( <i>Kinosternon sonoriense longifemorale</i> )	LE	This omnivorous freshwater obligate feeds on insects, crustaceans, fish and frogs and lives in ponds and streams from sea level to 6,700 feet elevation. The distribution in Arizona is restricted to Quitobaquito Pond near the international border in Organ Pipe Cactus National Monument.	<b>Very unlikely to occur in the project area. Very unlikely to be affected by the project.</b>  The project area is far removed from the narrow distribution of this subspecies. No suitable habitat is in the project area.

SPECIES	STATUS	HABITAT REQUISITES	EXCLUSION RATIONALE
Sonoran desert tortoise ( <i>Gopherus morafkai</i> )	C	This tortoise is chiefly herbivorous and occurs in Arizona south and east of the Colorado River. It prefers rocky and steep slopes, incised washes, and bajadas of desert scrub communities from near 0 to 5,000 feet elevation. Known home ranges are a minimum of 6 acres for females and substantially more for males.	<b>Unlikely to occur in the project area. Unlikely to be affected by the project.</b>  While desert tortoise is known from vicinity, there are no suitable habitat patches in the project area large enough to support a tortoise home range and that provide connectivity to an existing population.
<b>Fishes</b>			
Gila chub ( <i>Gila intermedia</i> )	LE	This omnivorous chub occurs in pools of smaller streams, and in cienegas and artificial ponds at elevations with broadleaf riparian vegetation from 1,998 to 5,500 feet. Selection of specific habitat elements varies by life stage.	<b>Unlikely to occur in the project area. Unlikely to be affected by the project.</b>  No suitable habitat is in the project limits.
Gila topminnow ( <i>Poeciliopsis occidentalis</i> )	LE, UR	This small, opportunistic omnivore occurs along shorelines and slack waters of small streams, springs, and marshes in cottonwood – willow and burrobrush – seep willow communities from 1,320 to 7,510 feet elevation. Reintroduction efforts have increased populations over the past two decades. Gila topminnow <i>P. o. occidentalis</i> is currently listed while Yaqui topminnow ( <i>P. sonoriensis</i> ) has been petitioned to be listed and is under review.	<b>Unlikely to occur in the project area. Unlikely to be affected by the project.</b>  This fish is known from vicinity, but there is no suitable habitat in the project area.



SPECIES	STATUS	HABITAT REQUISITES	EXCLUSION RATIONALE
<i>Insects</i>			
monarch butterfly ( <i>Danaus plexippus</i> )	C	Monarchs are nectar feeders that prefer milkweeds ( <i>Asclepias</i> ) as host plants. They migrate through Arizona from October to April, from the low deserts to higher elevations. Other non-host food plants include species of <i>Zinnia</i> and <i>Baccharis</i> (Bailowitz and Brock 1991).	<b>Likely to occur in the project area. Unlikely that populations could be affected by the project.</b>  Monarchs are known from the project vicinity and probably occur in the project area during migration, but the project is not expected to cause the species to be listed as endangered or threatened. Host and food plants are not expected to be abundant in the project area.
<i>Plants</i>			
Arizona eryngo ( <i>Eryngium sparganophyllum</i> )	LE	The perennial herb is a wetland obligate that is limited to two Arizona cienegas on moist, organic alkali soils from 2,720 to 4,000 feet elevation usually in pinyon-juniper and to a lesser extent from desert scrub communities.	<b>Unlikely to occur in the project area. Unlikely to be affected by the project.</b>  While known from project vicinity – northeast of Tucson near Tanque Verde Wash - there is no suitable habitat in the project area.
Huachuca water-umbel ( <i>Lilaeopsis schaffneriana</i> var. <i>recurva</i> )	LE	This herbaceous aquatic obligate occurs in wetland situations in desert scrub, grasslands, and oak and conifer forests on perennially wet, silty substrates in water about 2 to 10 inches deep with organic matter from 2,800 to 7,100 feet elevation.	<b>Unlikely to occur in the project area. Unlikely to be affected by the project.</b>  While known from project vicinity - most likely from perennial reaches of the Santa Cruz River - there is no suitable habitat in the project area.

Note: Habitat, distribution, and natural history information, unless otherwise cited, is based on that gathered from maps and species abstracts compiled by the Arizona Game and Fish Department available at: <https://www.azgfd.com/wildlife-conservation/on-the-ground-conservation/cooperative-programs/az-natural-heritage-program/> accessed on and before March 31, 2024.

Key: BGEPA = Bald and Golden Eagle Protection Act; C = Candidate; LE = Listed Endangered; LT = Listed Threatened; UR = Under Review.

A notable exception is monarch butterfly that is known to migrate through the project area. The project area has very little suitable breeding habitat, and the project is not expected to result in the need to list monarchs as threatened or endangered.

This study does not address some species discussed by Jordan (2020) because those species have no current Federal status at the time of this report.

#### ***4.4. Migratory Birds***

Besides bald eagle, nine migratory birds are on the FWS Official Species List (see Appendix A) and are protected under the MBTA. Four of the birds are known to occur in the project vicinity. Breeding season among these species varies markedly, and it is possible that active nests are in the project area during most months of the year. To comply with the MBTA, no site clearing should proceed before a pre-construction survey for nesting birds is conducted by a qualified biologist.

### **5. CONCLUSIONS AND RECOMMENDATIONS**

The project area is heavily urbanized and none of the alternatives contain any patches of habitat that are suitable, large enough, and have connectivity to other patches of suitable habitat, for any listed ESA species or for bald eagle.

Migratory birds may nest in the project area at any time. To comply with the MBTA, no site clearing should proceed before a pre-construction survey for nesting birds is conducted by a qualified biologist. Construction near active nests should be delayed until eggs have hatched and the young have fledged.

No Federally listed endangered or threatened species, or species that are candidates for listing, were observed in the project area during field work conducted in 2020, during which only a few very common wildlife species were observed. No critical habitat exists for any listed species. No breeding habitat for any listed ESA animal species or eagles is present, and no suitable habitat occurs in any of the alternative routes for any listed ESA species or for eagles.

Tierra recommends a “no effect” determination for project impacts on species listed as threatened or endangered under the ESA.

## 6. REFERENCES

- AZGFD (Arizona Game and Fish Department)  
2024 Various Species Abstracts and Range Maps. Unpublished abstracts and maps compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix. Multiple dates on and before March 31, 2024.
- Bailowitz, Richard A., and James P. Brock  
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1980 A System for Classifying Cultivated and Cultured Lands within a Systematic Classification of Natural Ecosystems. *Journal of the Arizona-Nevada Academy of Science* 15:48–53.
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1994 *Biotic Communities: Southwestern United States and Northwestern Mexico*. University of Utah Press, Salt Lake City.
- Brown, David. E., and Charles H. Lowe  
1980 *Biotic Communities of the Southwest*. General Technical Report RM-78 (map), Rocky Mountain Forest and Range Experiment Station, U.S. Forest Service, Fort Collins, Colorado.
- Jordan, Tim  
2020 *Biological Evaluation and Alternatives Analysis: TEP Kino–DeMoss–Petrie Transmission Line Project, Tucson, Pima County, Arizona*. Tierra Right of Way Services, Ltd., Tucson.

## **APPENDIX A. FWS IPAC REPORT**



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Arizona Ecological Services Field Office  
9828 North 31st Ave  
#c3  
Phoenix, AZ 85051-2517  
Phone: (602) 242-0210 Fax: (602) 242-2513



In Reply Refer To:  
Project Code: 2024-0037910  
Project Name: Midtown Reliability Project

January 18, 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

### To Whom It May Concern:

The Fish and Wildlife Service (Service) is providing this list under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The list you have generated identifies threatened, endangered, proposed, and candidate species, and designated and proposed critical habitat, that *may* occur within the One-Range that has been delineated for the species (candidate, proposed, or listed) and its critical habitat (designated or proposed) with which your project polygon intersects. These range delineations are based on biological metrics, and do not necessarily represent exactly where the species is located. Please refer to the species information found on ECOS to determine if suitable habitat for the species on your list occurs in your project area.

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect federally listed species and/or designated critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If the Federal action agency determines that listed species or critical habitat *may be affected* by a federally funded, permitted or authorized activity, the agency must consult with us pursuant to 50 CFR 402. Note that a "may affect" determination includes effects that may not be adverse and that may be beneficial, insignificant, or discountable. An effect exists even if only one individual

or habitat segment may be affected. The effects analysis should include the entire action area, which often extends well outside the project boundary or "footprint." For example, projects that involve streams and river systems should consider downstream affects. If the Federal action agency determines that the action may jeopardize a *proposed* species or may adversely modify *proposed* critical habitat, the agency must enter into a section 7 conference. The agency may choose to confer with us on an action that may affect proposed species or critical habitat.

Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event they become proposed or listed prior to project completion. More information on the regulations (50 CFR 402) and procedures for section 7 consultation, including the role of permit or license applicants, can be found in our Endangered Species Consultation Handbook at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>.

We also advise you to consider species protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668 *et seq.*). The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when authorized by the Service. The Eagle Act prohibits anyone, without a permit, from taking (including disturbing) eagles, and their parts, nests, or eggs. Currently 1,026 species of birds are protected by the MBTA, including the western burrowing owl (*Athene cunicularia hypugaea*). Protected western burrowing owls can be found in urban areas and may use their nest/burrows year-round; destruction of the burrow may result in the unpermitted take of the owl or their eggs.

If a bald eagle or golden eagle nest occurs in or near the proposed project area, our office should be contacted for Technical Assistance. An evaluation must be performed to determine whether the project is likely to disturb or harm eagles. The National Bald Eagle Management Guidelines provide recommendations to minimize potential project impacts to bald eagles (see <https://www.fws.gov/law/bald-and-golden-eagle-protection-act> and <https://www.fws.gov/program/eagle-management>).

The Division of Migratory Birds (505/248-7882) administers and issues permits under the MBTA and Eagle Act, while our office can provide guidance and Technical Assistance. For more information regarding the MBTA, BGEP, and permitting processes, please visit the following web site: <https://www.fws.gov/program/migratory-bird-permit>. Guidance for minimizing impacts to migratory birds for communication tower projects (e.g. cellular, digital television, radio, and emergency broadcast) can be found at <https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation>.

The U.S. Army Corps of Engineers (Corps) may regulate activities that involve streams (including some intermittent streams) and/or wetlands. We recommend that you contact the Corps to determine their interest in proposed projects in these areas. For activities within a National Wildlife Refuge, we recommend that you contact refuge staff for specific information about refuge resources, please visit [this link](#) or visit <https://www.fws.gov/program/national->

[wildlife-refuge-system](#) to locate the refuge you would be working in or around.

If your action is on tribal land or has implications for off-reservation tribal interests, we encourage you to contact the tribe(s) and the Bureau of Indian Affairs (BIA) to discuss potential tribal concerns, and to invite any affected tribe and the BIA to participate in the section 7 consultation. In keeping with our tribal trust responsibility, we will notify tribes that may be affected by proposed actions when section 7 consultation is initiated. For more information, please contact our Tribal Coordinator, John Nystedt, at 928/556-2160 or [John\\_Nystedt@fws.gov](mailto:John_Nystedt@fws.gov).

We also recommend you seek additional information and coordinate your project with the Arizona Game and Fish Department. Information on known species detections, special status species, and Arizona species of greatest conservation need, such as the western burrowing owl and the Sonoran desert tortoise (*Gopherus morafkai*) can be found by using their Online Environmental Review Tool, administered through the Heritage Data Management System and Project Evaluation Program (<https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/project-evaluation-program/>).

We appreciate your concern for threatened and endangered species. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. If we may be of further assistance, please contact our Flagstaff office at 928/556-2118 for projects in northern Arizona, our general Phoenix number 602/242-0210 for central Arizona, or 520/670-6144 for projects in southern Arizona.

Sincerely,  
/s/

Heather Whitlaw  
Field Supervisor  
Attachment

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

## OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether

any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Arizona Ecological Services Field Office**

9828 North 31st Ave

#c3

Phoenix, AZ 85051-2517

(602) 242-0210



## PROJECT SUMMARY

Project Code: 2024-0037910

Project Name: Midtown Reliability Project

Project Type: Transmission Line

Project Description: Tucson Electric Power Company (TEP) is developing the Midtown Reliability Project, which includes connecting a 138 kilovolt (kV) transmission line from the Kino Substation to a proposed Vine Substation and from Vine Substation to the DeMoss-Petrie Substation (the Project). Planning and siting activities necessitate the need for environmental resource services.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@32.22515035,-110.95183312811885,14z>



Counties: Pima County, Arizona

## ENDANGERED SPECIES ACT SPECIES

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## MAMMALS

NAME	STATUS
Ocelot <i>Leopardus (=Felis) pardalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4474">https://ecos.fws.gov/ecp/species/4474</a>	Endangered

## BIRDS

NAME	STATUS
California Least Tern <i>Sternula antillarum browni</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/8104">https://ecos.fws.gov/ecp/species/8104</a>	Endangered
Mexican Spotted Owl <i>Strix occidentalis lucida</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8196">https://ecos.fws.gov/ecp/species/8196</a>	Threatened
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/6749">https://ecos.fws.gov/ecp/species/6749</a>	Endangered
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/3911">https://ecos.fws.gov/ecp/species/3911</a>	Threatened

## REPTILES

NAME	STATUS
Sonoyta Mud Turtle <i>Kinosternon sonoriense longifemorale</i> There is <b>final</b> critical habitat for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7276">https://ecos.fws.gov/ecp/species/7276</a>	Endangered

## FISHES

NAME	STATUS
Gila Chub <i>Gila intermedia</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/51">https://ecos.fws.gov/ecp/species/51</a>	Endangered

## INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## FLOWERING PLANTS

NAME	STATUS
Arizona Eryngo <i>Eryngium sparganophyllum</i> Population: There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/10705">https://ecos.fws.gov/ecp/species/10705</a>	Endangered
Huachuca Water-umbel <i>Lilaeopsis schaffneriana</i> var. <i>recurva</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1201">https://ecos.fws.gov/ecp/species/1201</a>	Endangered

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

## USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

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

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

# BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act<sup>1</sup> and the Migratory Bird Treaty Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats<sup>3</sup>, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

- 
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
  2. The [Migratory Birds Treaty Act](#) of 1918.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

## There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Oct 15 to Aug 31

## PROBABILITY OF PRESENCE SUMMARY

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

### Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

### Breeding Season (■)

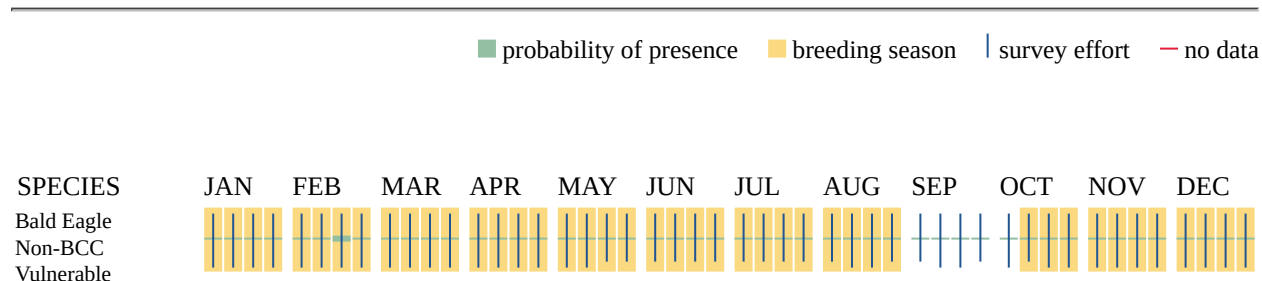
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

### Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

### No Data (—)

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



Additional information can be found using the following links:

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

## MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats<sup>3</sup> should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

- 
1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE

SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>Bald Eagle <i>Haliaeetus leucocephalus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p> <p><a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a></p>	Breeds Oct 15 to Aug 31
<p>Black-chinned Sparrow <i>Spizella atrogularis</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p><a href="https://ecos.fws.gov/ecp/species/9447">https://ecos.fws.gov/ecp/species/9447</a></p>	Breeds Apr 15 to Jul 31
<p>Costa's Hummingbird <i>Calypte costae</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p><a href="https://ecos.fws.gov/ecp/species/9470">https://ecos.fws.gov/ecp/species/9470</a></p>	Breeds Jan 15 to Jun 10
<p>Gila Woodpecker <i>Melanerpes uropygialis</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p><a href="https://ecos.fws.gov/ecp/species/5960">https://ecos.fws.gov/ecp/species/5960</a></p>	Breeds Apr 1 to Aug 31
<p>Gilded Flicker <i>Colaptes chrysoides</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p><a href="https://ecos.fws.gov/ecp/species/2960">https://ecos.fws.gov/ecp/species/2960</a></p>	Breeds May 1 to Aug 10
<p>Grace's Warbler <i>Dendroica graciae</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p><a href="https://ecos.fws.gov/ecp/species/9514">https://ecos.fws.gov/ecp/species/9514</a></p>	Breeds May 20 to Jul 20
<p>Lawrence's Goldfinch <i>Carduelis lawrencei</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p><a href="https://ecos.fws.gov/ecp/species/9464">https://ecos.fws.gov/ecp/species/9464</a></p>	Breeds Mar 20 to Sep 20
<p>Rufous-winged Sparrow <i>Aimophila carpalis</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p><a href="https://ecos.fws.gov/ecp/species/9508">https://ecos.fws.gov/ecp/species/9508</a></p>	Breeds Jun 15 to Sep 30
<p>Western Grebe <i>aechmophorus occidentalis</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p><a href="https://ecos.fws.gov/ecp/species/6743">https://ecos.fws.gov/ecp/species/6743</a></p>	Breeds Jun 1 to Aug 31

NAME	BREEDING SEASON
<b>Willet <i>Tringa semipalmata</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/10669">https://ecos.fws.gov/ecp/species/10669</a>	Breeds elsewhere

## PROBABILITY OF PRESENCE SUMMARY

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

### Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

### Breeding Season (■)

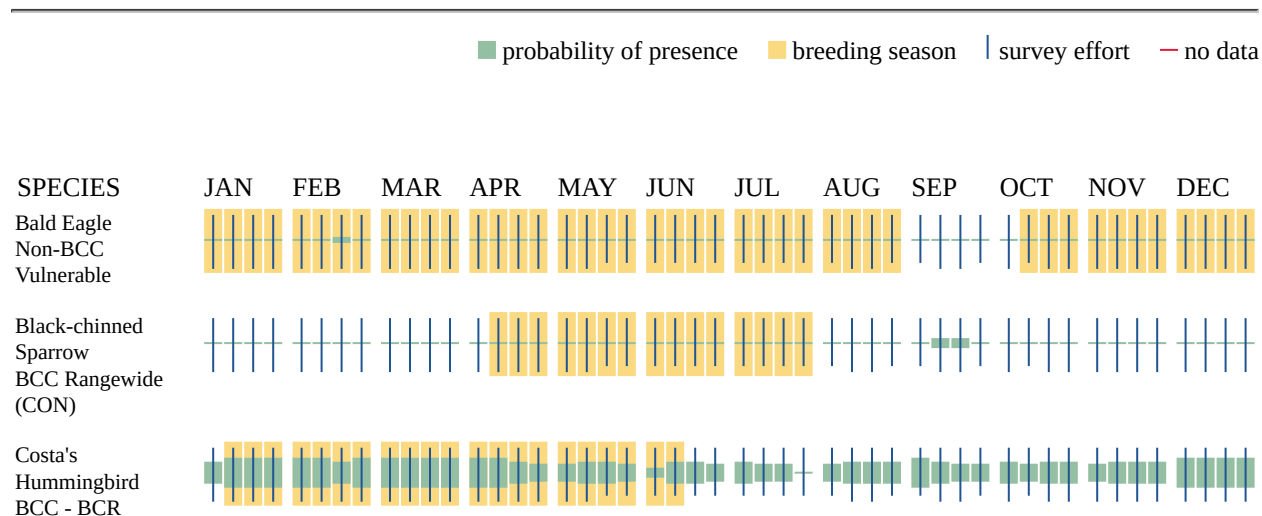
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

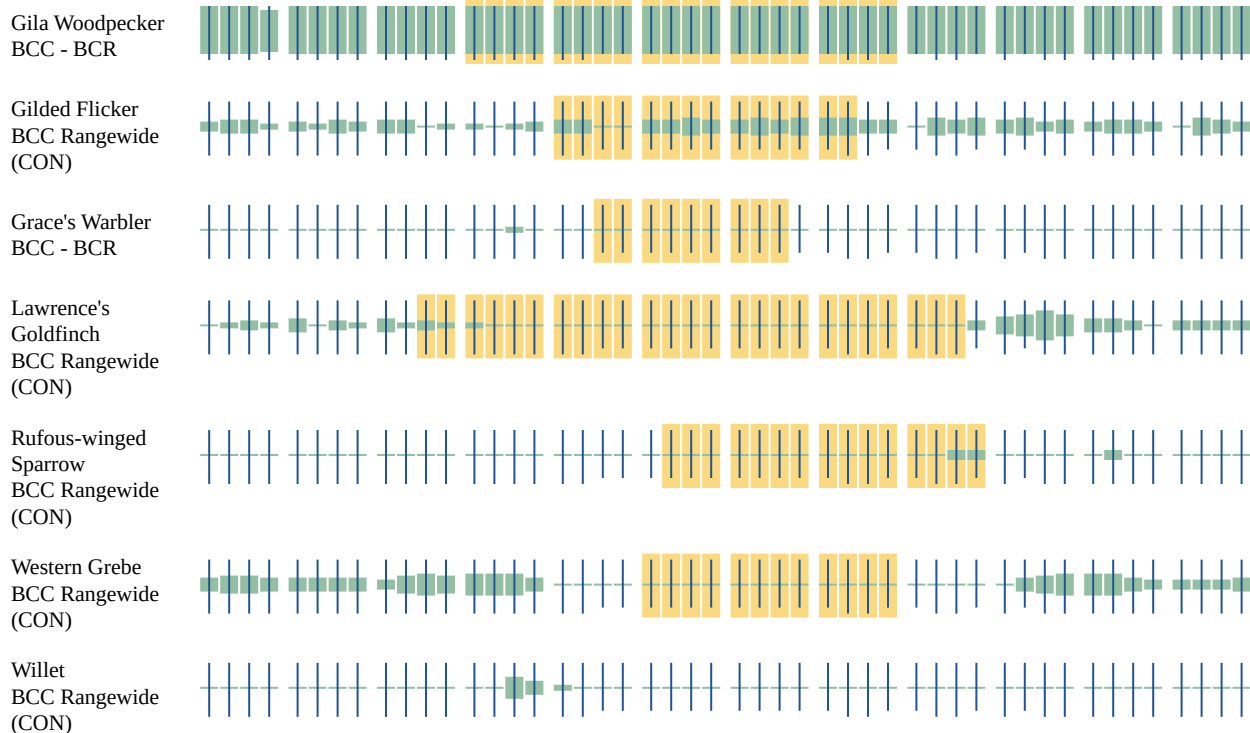
### Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

### No Data (—)

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





Additional information can be found using the following links:

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

## WETLANDS

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

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

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



RIVERINE  
▪ R4SBC

## **IPAC USER CONTACT INFORMATION**

Agency: Tierra Right of Way Services, Ltd.

Name: Kelsey Crawford

Address: 1575 E River Rd Ste 201

City: Tucson

State: AZ

Zip: 85718

Email: [kcrawford@tierra-row.com](mailto:kcrawford@tierra-row.com)

Phone: 8008870847

## **APPENDIX B. AZGFD HDMS ENVIRONMENTAL ONLINE REVIEW TOOL REPORT**

# Arizona Environmental Online Review Tool Report



## ***Arizona Game and Fish Department Mission***

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

### **Project Name:**

Midtown Reliability Project

### **User Project Number:**

Tierra: 21TA09-345.72

### **Project Description:**

Tucson Electric Power Company (TEP) is developing the Midtown Reliability Project, which includes connecting a 138 kilovolt (kV) transmission line from the Kino Substation to a proposed Vine Substation and from Vine Substation to the DeMoss-Petrie Substation. Planning and siting activities necessitate the need for environmental resource services.

### **Project Type:**

Energy Storage/Production/Transfer, Energy Transfer, Power line/electric line

### **Contact Person:**

Jennifer Jennings

### **Organization:**

Tierra Right of Way Services, Ltd.

### **On Behalf Of:**

OTHER

### **Project ID:**

HGIS-21106

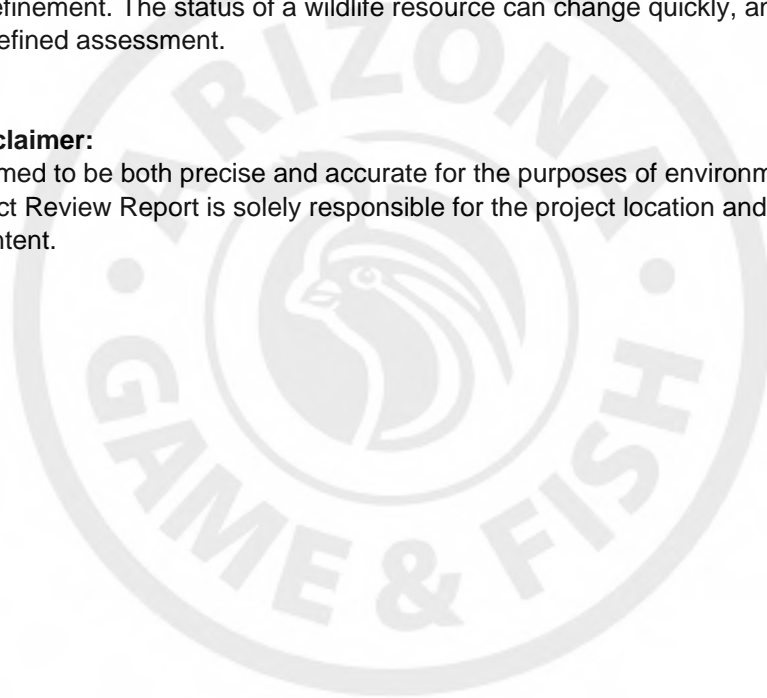
***Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.***

**Disclaimer:**

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. Arizona Wildlife Conservation Strategy (AWCS), specifically Species of Greatest Conservation Need (SGCN), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

**Locations Accuracy Disclaimer:**

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

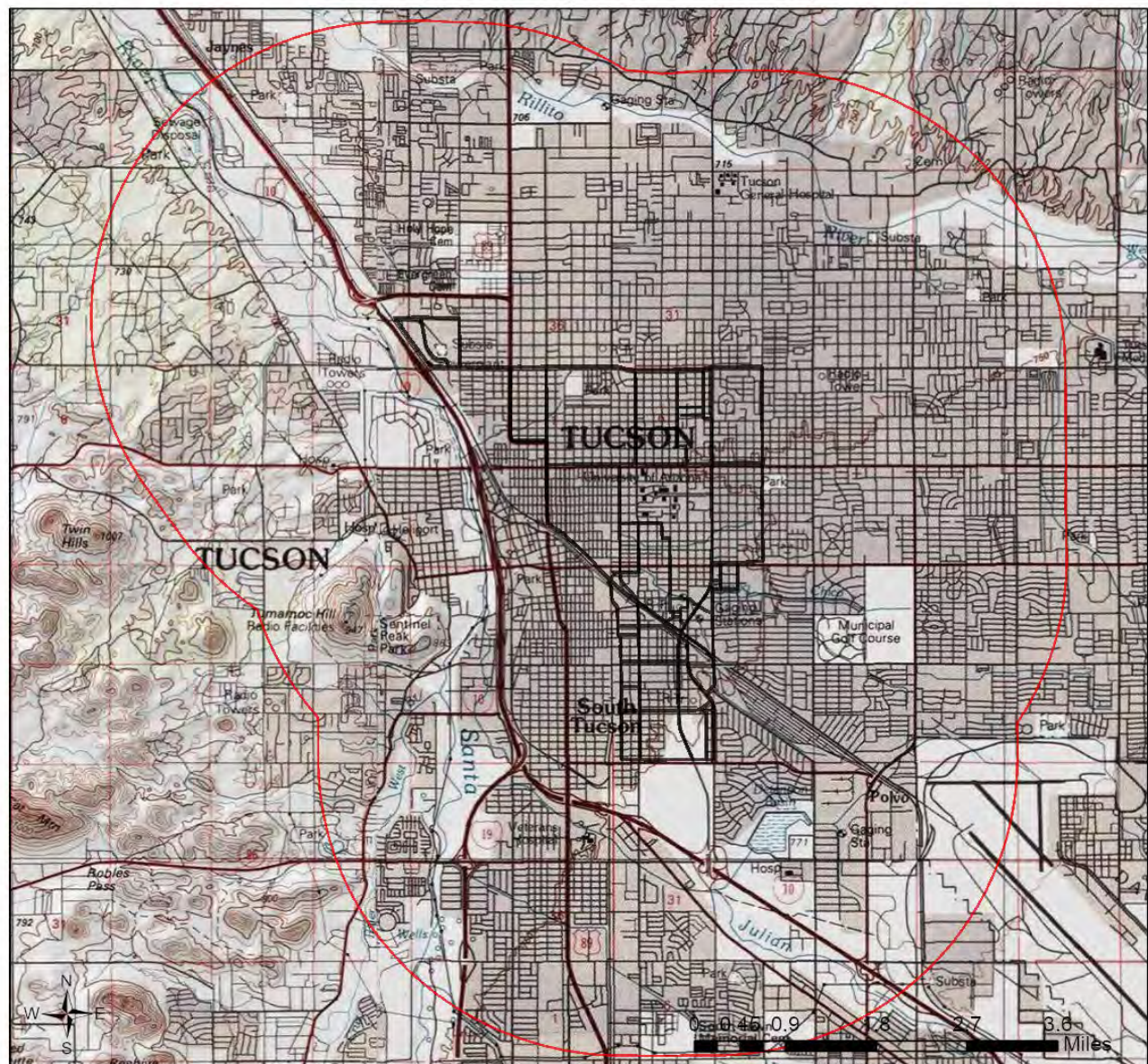


**Recommendations Disclaimer:**

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



## Midtown Reliability Project USA Topo Basemap With Locator Map



- Buffered Project Boundary
- Project Boundary

Project Size (acres): 305.67

Lat/Long (DD): 32.2236 / -110.9664

County(s): Pima

AGFD Region(s): Tucson

Township/Range(s): T13S, R13E; T13S, R14E; T14S, R13E +

USGS Quad(s): TUCSON; TUCSON NORTH

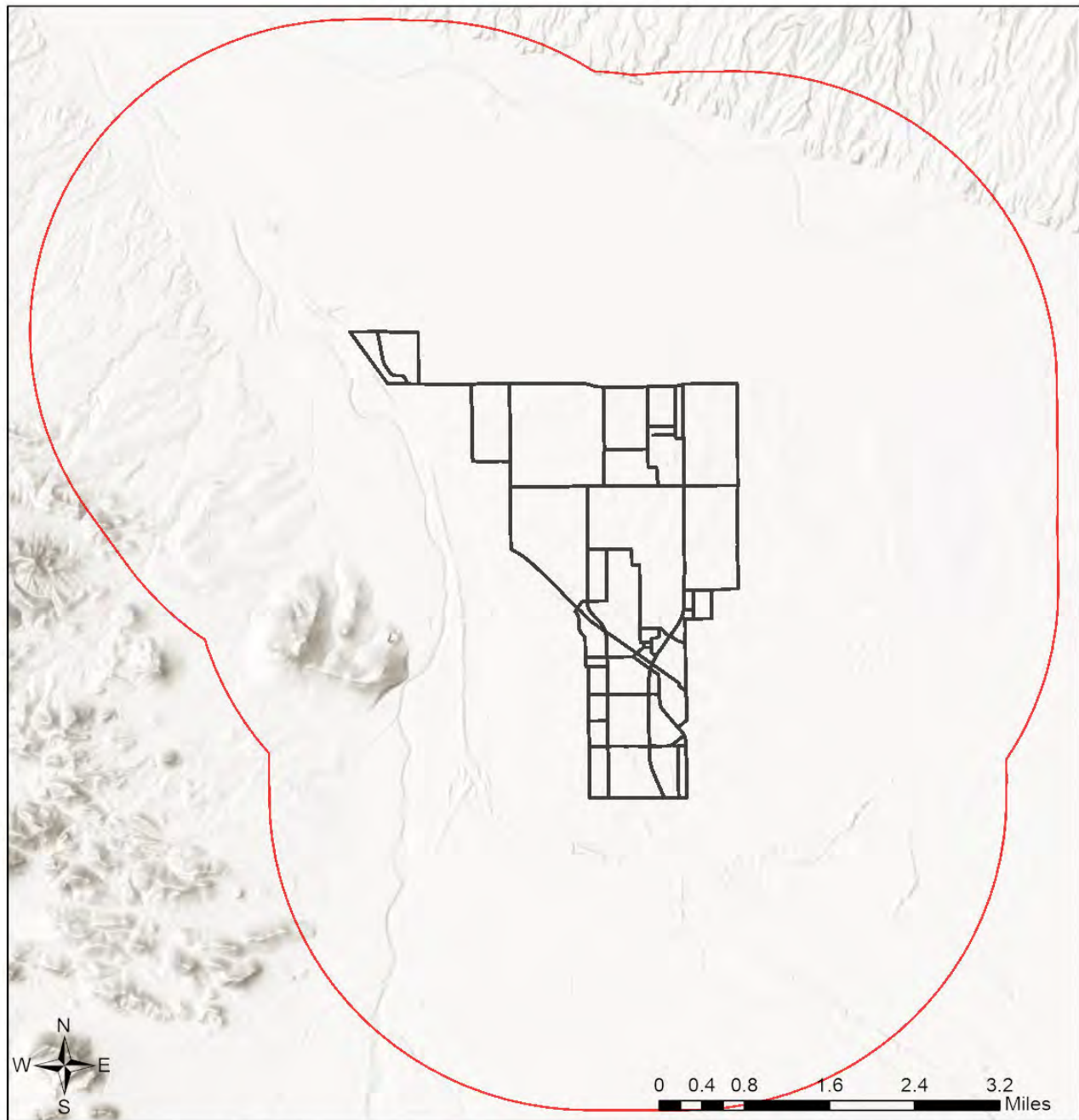
Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community





## Midtown Reliability Project

### Web Map As Submitted By User



- Buffered Project Boundary
- Project Boundary

Project Size (acres): 305.67

Lat/Long (DD): 32.2236 / -110.9664

County(s): Pima

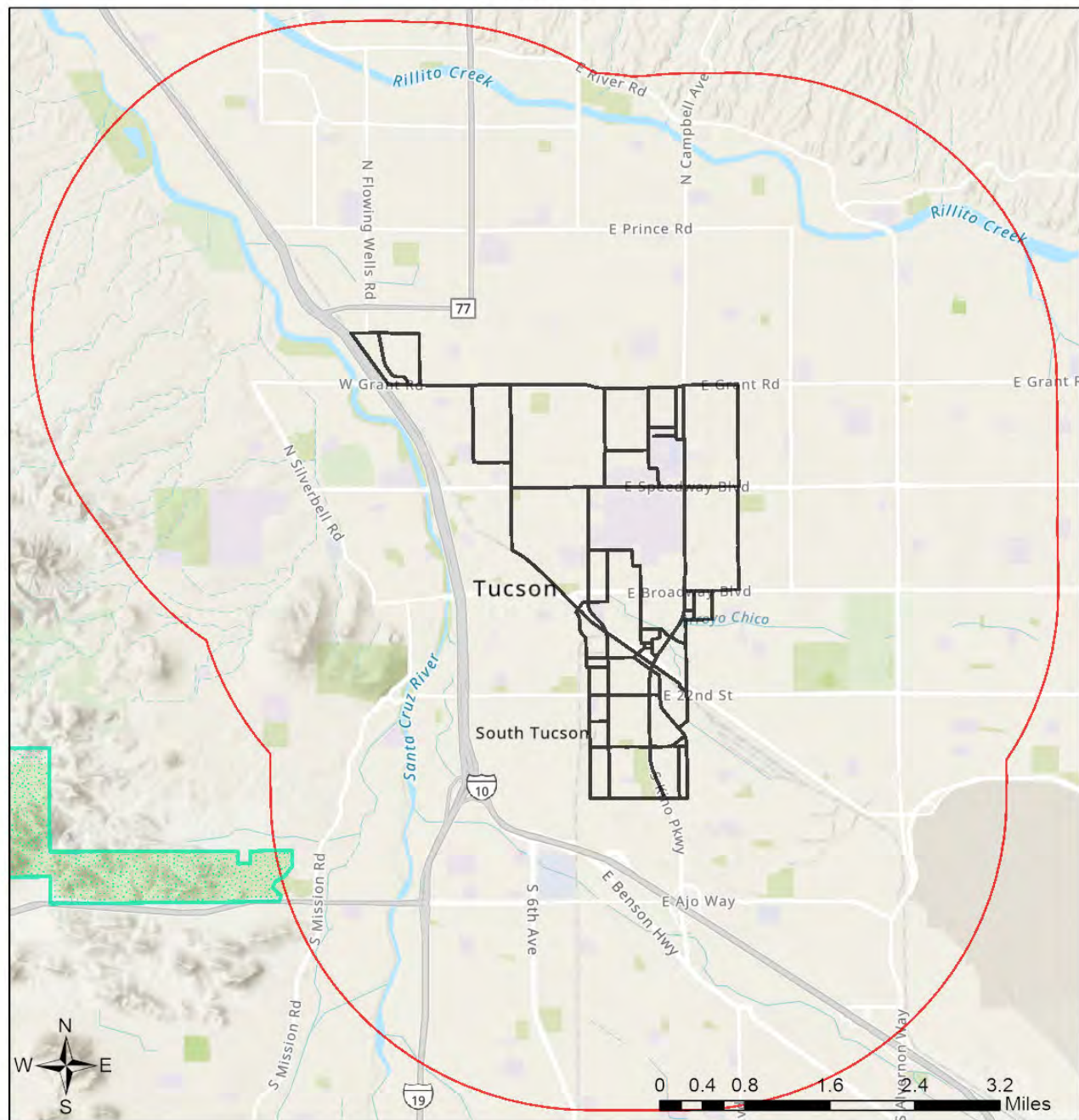
AGFD Region(s): Tucson

Township/Range(s): T13S, R13E; T13S, R14E; T14S, R13E +

USGS Quad(s): TUCSON; TUCSON NORTH

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

## Midtown Reliability Project Important Areas



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

Project Size (acres): 305.67

Lat/Long (DD): 32.2236 / -110.9664

County(s): Pima

AGFD Region(s): Tucson

Township/Range(s): T13S, R13E; T13S, R14E; T14S, R13E +

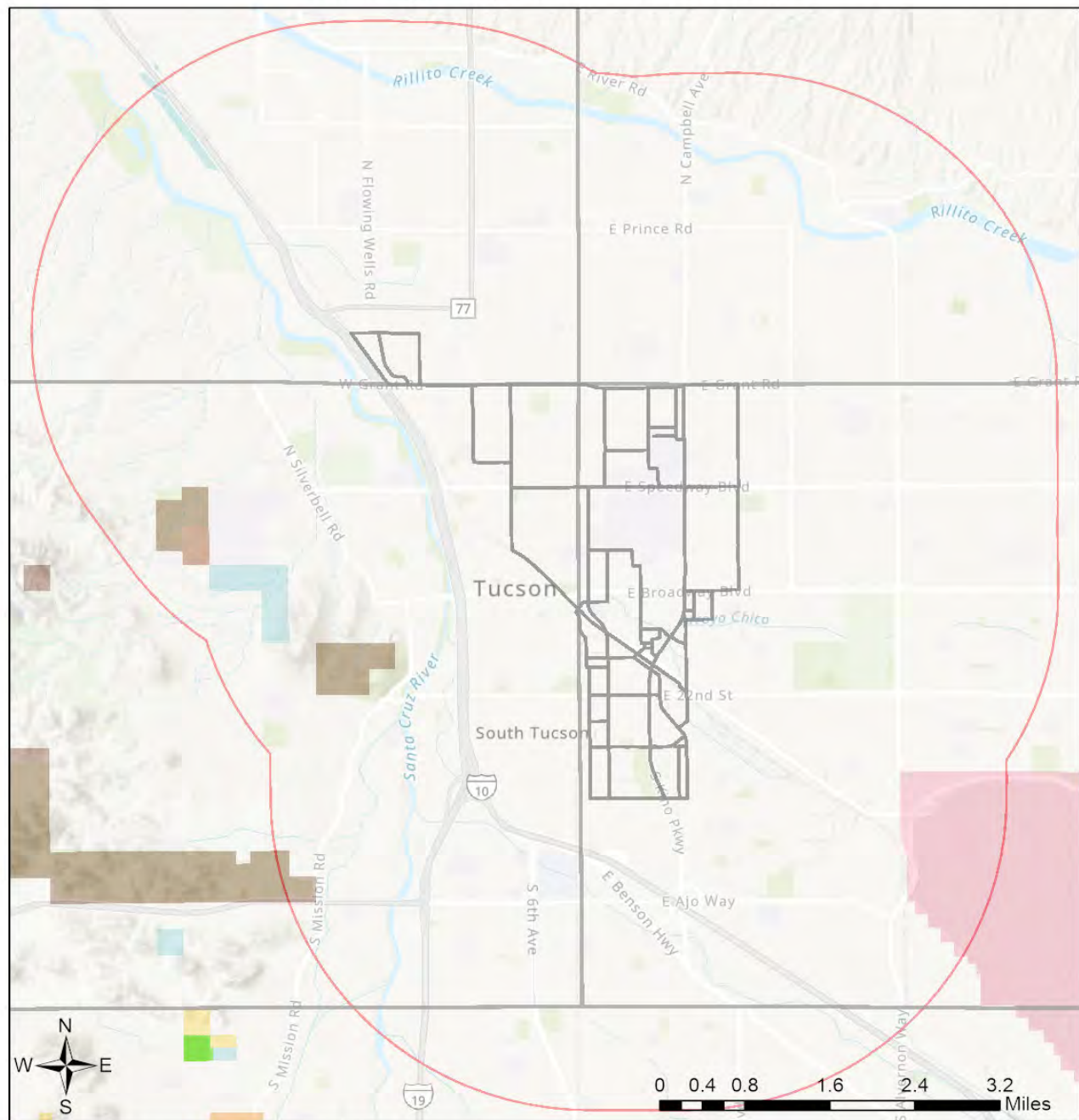
USGS Quad(s): TUCSON; TUCSON NORTH

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community  
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community



## Midtown Reliability Project

### Township/Ranges and Land Ownership



- |   |   |
|---|---|
| <span style="border: 2px solid red; border-radius: 50%; padding: 2px;"> </span> Buffered Project Boundary     | <span style="background-color: #d8bfd8; border: 1px solid black; padding: 2px;"> </span> National Park/Mon.     |
| <span style="border: 1px solid black; padding: 2px;"> </span> Project Boundary                                | <span style="background-color: #ffffff; border: 1px solid black; padding: 2px;"> </span> Private                |
| <span style="background-color: #ffb6c1; border: 1px solid black; padding: 2px;"> </span> AZ Game & Fish Dept. | <span style="background-color: #a0522d; border: 1px solid black; padding: 2px;"> </span> State & Regional Parks |
| <span style="background-color: #ffff00; border: 1px solid black; padding: 2px;"> </span> BLM                  | <span style="background-color: #add8e6; border: 1px solid black; padding: 2px;"> </span> State Trust            |
| <span style="background-color: #d2b48c; border: 1px solid black; padding: 2px;"> </span> BOR                  | <span style="background-color: #90ee90; border: 1px solid black; padding: 2px;"> </span> US Forest Service      |
| <span style="background-color: #ffa500; border: 1px solid black; padding: 2px;"> </span> Indian Res.          | <span style="background-color: #3cb371; border: 1px solid black; padding: 2px;"> </span> Wildlife Area/Refuge   |
| <span style="background-color: #ffb6c1; border: 1px solid black; padding: 2px;"> </span> Military             | <span style="border: 1px solid black; padding: 2px;"> </span> Township/Ranges                                   |
| <span style="background-color: #32cd32; border: 1px solid black; padding: 2px;"> </span> Mixed/Other          |   |

Project Size (acres): 305.67

Lat/Long (DD): 32.2236 / -110.9664

County(s): Pima

AGFD Region(s): Tucson

Township/Range(s): T13S, R13E; T13S, R14E; T14S, R13E +

USGS Quad(s): TUCSON; TUCSON NORTH

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community  
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

**Special Status Species Documented within 3 Miles of Project Vicinity**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Accipiter atricapillus	American Goshawk	SC	S	S		2
Aechmophorus occidentalis	Western Grebe					2
Agelaius phoeniceus	Red-winged Blackbird					2
Agosia chrysogaster chrysogaster	Gila Longfin Dace	SC		S		2
Amphispiza bilineata	Black-throated Sparrow					2
Anthus rubescens	American Pipit					2
Aspidoscelis sonora	Sonoran Spotted Whiptail					2
Aspidoscelis stictogramma	Giant Spotted Whiptail	SC	S			2
Aspidoscelis stictogrammus	Giant Spotted Whiptail	SC	S			2
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		2
Auriparus flaviceps	Verdin					2
Bat Colony						
Buteo swainsoni	Swainson's Hawk					2
Buteogallus anthracinus	Common Black Hawk					2
Calamospiza melanocorys	Lark Bunting					2
Callipepla squamata	Scaled Quail					2
Calypte costae	Costa's Hummingbird					2
Campylorhynchus brunneicapillus	Cactus Wren					2
Capsicum annuum var. glabriusculum	Chiltepin		S			
Cardinalis sinuatus	Pyrrhuloxia					2
Catharus guttatus	Hermit Thrush					2
Catharus ustulatus	Swainson's Thrush					2
Chaetodipus baileyi	Bailey's Pocket Mouse					2
Charadrius vociferus	Killdeer					2
Circus hudsonius	Northern Harrier					2
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S	S		1
Colaptes chrysoides	Gilded Flicker			S		2
Coluber bilineatus	Sonoran Whipsnake					2
Columbina inca	Inca Dove					2
Contopus cooperi	Olive-sided Flycatcher	SC				2
Contopus sordidulus	Western Wood-Pewee					2
Corvus cryptoleucus	Chihuahuan Raven					2
Crotalus tigris	Tiger Rattlesnake					2
Cynanthus latirostris	Broad-billed Hummingbird		S			2
Danaus plexippus	Monarch	C		S		
Empidonax wrightii	Gray Flycatcher					2
Eryngium sparganophyllum	Arizona Eryngo	LE		S		
Euphagus cyanocephalus	Brewer's Blackbird					2
Falco mexicanus	Prairie Falcon					2

**Special Status Species Documented within 3 Miles of Project Vicinity**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1
Falco sparverius	American Kestrel					2
Gastrophryne mazatlanensis	Sinoloan Narrow-mouthed Toad			S		2
Geothlypis tolmiei	MacGillivray's Warbler					2
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1
Heloderma suspectum	Gila Monster					1
Icterus bullockii	Bullock's Oriole					2
Icterus cucullatus	Hooded Oriole					2
Incilius alvarius	Sonoran Desert Toad					2
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		2
Lanius ludovicianus	Loggerhead Shrike	SC				2
Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC		S		1
Lilaeopsis schaffneriana ssp. recurva	Huachuca Water-umbel	LE		S	HS	
Macrotus californicus	California Leaf-nosed Bat	SC		S		2
Mammillaria thornberi	Thornber Fishhook Cactus				SR	
Megascops kennicottii	Western Screech-owl					2
Melanerpes uropygialis	Gila Woodpecker					2
Melospiza lincolni	Lincoln's Sparrow					2
Melospiza aberti	Abert's Towhee		S			2
Melospiza fusca	Canyon Towhee					2
Myotis velifer	Cave Myotis	SC		S		2
Parabuteo unicinctus	Harris's Hawk					2
Passerculus sandwichensis	Savannah Sparrow					2
Peucaea botterii arizonae	Arizona Botteri's Sparrow			S		2
Peucaea carpalis	Rufous-winged Sparrow					2
Phrynosoma solare	Regal Horned Lizard					2
Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE,UR		S		1
Poocetes gramineus	Vesper Sparrow					2
Progne subis hesperia	Desert Purple Martin			S		2
Rana yavapaiensis	Lowland Leopard Frog	SC	S	S		1
Selasphorus platycercus	Broad-tailed Hummingbird					2
Setophaga nigrescens	Black-throated Gray Warbler					2
Spizella breweri	Brewer's Sparrow					2
Tadarida brasiliensis	Brazilian Free-tailed Bat					2
Toxostoma bendirei	Bendire's Thrasher					2
Tumamoca macdougallii	Tumamoc Globeberry	SC	S	S	SR	
Zonotrichia leucophrys oriantha	Mountain West White-crowned Sparrow					2

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

**Special Areas Documented that Intersect with Project Footprint as Drawn**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Santa Cruz River	Pima County Wildlife Movement Area - Riparian/Wash					

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

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

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Accipiter gentilis	Northern Goshawk	SC	S	S		2
Ammodramus savannarum perpallidus	Western Grasshopper Sparrow					
Ammospermophilus harrisi	Harris' Antelope Squirrel					
Anthus spragueii	Sprague's Pipit	SC				2
Aquila chrysaetos	Golden Eagle			S		2
Asio otus	Long-eared Owl					2
Aspidoscelis sonora	Sonoran Spotted Whiptail					2
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		2
Auriparus flaviceps	Verdin					2
Buteo regalis	Ferruginous Hawk	SC		S		2
Buteo swainsoni	Swainson's Hawk					2
Buteogallus anthracinus	Common Black Hawk					2
Calcarius ornatus	Chestnut-collared Longspur					2
Callipepla squamata	Scaled Quail					2
Calypte costae	Costa's Hummingbird					2
Camptostoma imberbe	Northern Beardless-Tyrannulet		S			2
Campylorhynchus brunneicapillus	Cactus Wren					2
Catharus ustulatus	Swainson's Thrush					2
Chaetodipus baileyi	Bailey's Pocket Mouse					2
Charadrius montanus	Mountain Plover	SC				2
Chilomeniscus stramineus	Variable Sandsnake					2
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)					
Colaptes chrysoides	Gilded Flicker			S		2
Columbina inca	Inca Dove					2
Corvus cryptoleucus	Chihuahuan Raven					2
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1
Crotalus tigris	Tiger Rattlesnake					2
Cynanthus latirostris	Broad-billed Hummingbird		S			2

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

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Cyprinodon macularius	Desert Pupfish	LE				1
Empidonax wrightii	Gray Flycatcher					2
Eumops perotis californicus	Greater Western Bonneted Bat					
Falco mexicanus	Prairie Falcon					2
Falco peregrinus anatum	American Peregrine Falcon					
Falco sparverius	American Kestrel					2
Gastrophryne mazatlanensis	Sinoloan Narrow-mouthed Toad					
Glauclidium brasilianum cactorum	Cactus Ferruginous Pygmy-owl					
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1
Heloderma suspectum	Gila Monster					1
Icterus cucullatus	Hooded Oriole					2
Incilius alvarius	Sonoran Desert Toad					2
Kinosternon sonoriense sonoriense	Desert Mud Turtle					
Lanius ludovicianus	Loggerhead Shrike	SC				2
Lasiurus blossevillii	Western Red Bat		S			2
Lasiurus cinereus	Hoary Bat					2
Lasiurus xanthinus	Western Yellow Bat		S			2
Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC				1
Lepus alleni	Antelope Jackrabbit					2
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1
Macrotus californicus	California Leaf-nosed Bat	SC		S		2
Megascops kennicottii	Western Screech-owl					
Melanerpes uropygialis	Gila Woodpecker					2
Melospiza lincolni	Lincoln's Sparrow					2
Melospiza aberti	Abert's Towhee		S			2
Micrathene whitneyi	Elf Owl					
Micruroides euryxanthus	Sonoran Coralsnake					2
Myadestes townsendi	Townsend's Solitaire					2
Myotis auriculus	Southwestern Myotis					2
Myotis velifer	Cave Myotis	SC		S		2
Myotis yumanensis	Yuma Myotis	SC				2
Notiosorex cockrumi	Cockrum's Desert Shrew					2
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					2
Parabuteo unicinctus	Harris's Hawk					2
Passerculus sandwichensis	Savannah Sparrow					2
Perognathus amplus	Arizona Pocket Mouse					2
Peucaea carpalis	Rufous-winged Sparrow					2
Phrynosoma solare	Regal Horned Lizard					2
Phyllorhynchus browni	Saddled Leaf-nosed Snake					2

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

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE				1
Poocetes gramineus	Vesper Sparrow					2
Progne subis hesperia	Desert Purple Martin					
Sigmodon arizonae cienegae	Arizona Cotton Rat					2
Spizella breweri	Brewer's Sparrow					2
Tadarida brasiliensis	Brazilian Free-tailed Bat					
Toxostoma bendirei	Bendire's Thrasher					2

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

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

**Project Type: Energy Storage/Production/Transfer, Energy Transfer, Power line/electric line (new)**

**Project Type Recommendations:**

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

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

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



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

Based on the project type entered, coordination with State Historic Preservation Office may be required (<https://azstateparks.com/>).

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

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

#### **Project Location and/or Species Recommendations:**

HDMS records indicate that one or more native plants listed on the **Arizona Native Plant Law and Antiquities Act** have been documented within the vicinity of your project area. Please contact:

Arizona Department of Agriculture

1688 W Adams St.

Phoenix, AZ 85007

Phone: 602.542.4373

<https://agriculture.az.gov/sites/default/files/Native%20Plant%20Rules%20-%20AZ%20Dept%20of%20Ag.pdf> starts on page 44

Analysis indicates that your project is located in the vicinity of an identified **wildlife habitat connectivity feature**. The **County-level Stakeholder Assessments** contain five categories of data (Barrier/Development, Wildlife Crossing Area, Wildlife Movement Area- Diffuse, Wildlife movement Area- Landscape, Wildlife Movement Area- Riparian/Washes) that provide a context of select anthropogenic barriers, and potential connectivity. The reports provide recommendations for opportunities to preserve or enhance permeability. Project planning and implementation efforts should focus on maintaining and improving opportunities for wildlife permeability. For information pertaining to the linkage assessment and wildlife species that may be affected, please refer

to: <https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-identifying-corridors/>.

Please contact the Project Evaluation Program ([pep@azgfd.gov](mailto:pep@azgfd.gov)) for specific project recommendations.

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

**Phoenix Main Office**

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

**Tucson Sub-Office**

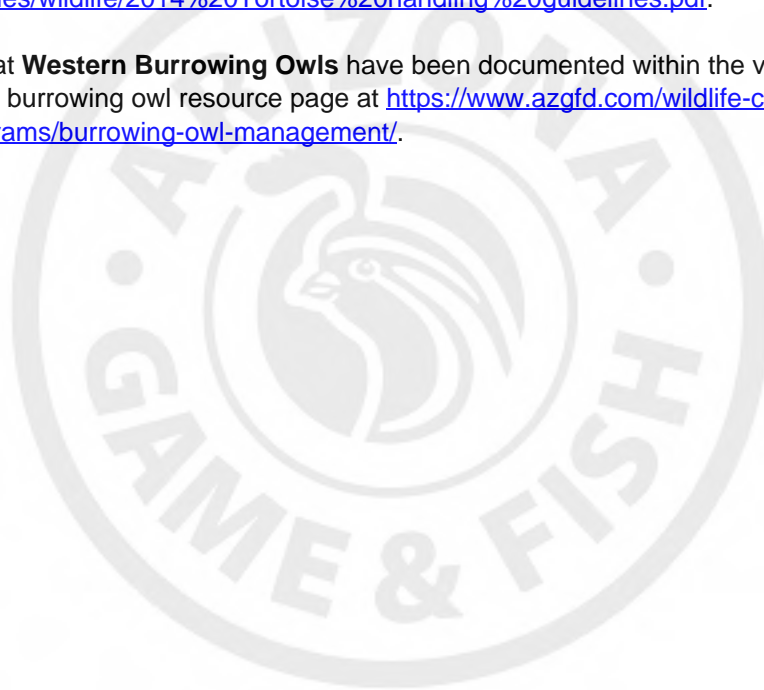
201 N. Bonita Suite 141  
Tucson, AZ 85745  
Phone: 520-670-6144  
Fax: 520-670-6155

**Flagstaff Sub-Office**

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

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

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



**EXHIBIT D**

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## EXHIBIT D: BIOLOGICAL RESOURCES

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As stated in R14-3-219 of the Rules of Practice and Procedure Before Power Plant and Transmission Line Siting Committee, Exhibits to Application, Exhibit D:

*“List the fish, wildlife, plant life and associated forms of life in the vicinity of the proposed site or route and describe the effects, if any, the proposed facilities will have thereon.”*

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D.1 Introduction .....	D-1
D.2 Existing Conditions .....	D-1
D.3 Effects of the Proposed Project .....	D-2
D.4 Conclusion .....	D-3
D.5 References .....	D-3

### D.1 Introduction

This exhibit includes a description of biological resources within the Biological Study Area, which is three miles on either side of the route centerlines analyzed for the Project. The Project will be constructed in a largely urban area within the COT. Approximate elevations within the Biological Study Area range from 2,560 to 2,800 feet above mean sea level, sloping from southeast down to the northwest. The Biological Study Area consists mostly of disturbed and landscaped areas, with a combination of native and non-native plants.

Annual precipitation recorded in Tucson, Arizona is 11.62 inches. Nearly half of the annual rainfall occurs during the summer monsoon season (July to September); the remainder is spread over the balance of the year, with approximately one quarter of the total occurring during the winter rainy season (December to February). High summer temperatures are consistently just over 100 degrees Fahrenheit (°F), with winter highs approximately 68 °F (WRCC, 2018). Terrain is low profile valley floor. Soils in the Biological Study Area are unconsolidated to strongly consolidated alluvial and aeolian deposits. Storm water runoff generally drains in a west-northwest direction.

### D.2 Existing Conditions

Alternative route corridors within the Biological Study Area are located in built-up urban areas of Tucson, Arizona. All alternative route corridors follow previously disturbed, existing road and utility ROWs, and land use in the vicinity consists of commercial, industrial, and residential areas. The topography of the study area is relatively flat with a slight northwestern aspect. A brief discussion of vegetation and wildlife resources potentially occurring within the study area and the potential impacts to them from the Project are outlined below and described in more detail in the BE, Exhibit C-2.

### Vegetation

Native plants observed in the study area are characteristic of the Arizona Upland biotic community described above, and include trees such as velvet mesquite and blue palo verde. Other native species observed include catclaw acacia (*Senegalia greggii*), four-wing saltbush (*Atriplex canescens*), creosote (*Larrea tridentata*), desertbroom (*Baccharis sarothroides*), desert marigold (*Baileya multiradiata*), globemallow (*Sphaeralcea* spp.), Jimmy weed (*Haplopappus heterophyllus*), fluff grass (*Dasyochloa pulchella*), and sixweeks threeawn (*Aristida adscensionis*). Several areas along the alternative route corridors have been landscaped with a combination of native and non-native plants and most of the other vegetation present in the study area is ruderal, commonly found in disturbed areas. However, patches of native vegetation are present throughout the Study Area.

Three Arizona Wildlands Invasive Plant Working Group (AZWIPWG) listed weed species, including Bermuda grass (*Cynodon dactylon*), buffelgrass (*Pennisetum ciliare*), and fountain grass (*Pennisetum setaceum*) were identified in the study area at the time of the 2020 site visit (AZWIPWG, 2005). A summary of the locations where these weeds were observed is presented in Table 8.

**Table 8. Invasive, Non-native Plant Species Observed in the Project Area**

Species	Location	Alternative Routes
Bermuda grass	Scattered throughout study area	All
buffelgrass	Scattered along Campbell and Cherrybell from 36th north to 22nd	2 and 5
fountain grass	Scattered along Euclid from Broadway north to Speedway	3 and 5

### Wildlife

Wildlife species observed in the study area at the time of the survey were limited to mourning dove, common raven (*Corvus corax*), and whiptail. Some additional species expected to occur in urban areas such as the study area, but were not observed during the field visit, include pigeon (*Columba livia*), house sparrow (*Passer domesticus*), European Starling (*Sturnus vulgaris*), red-tailed hawk, (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), desert cottontail (*Sylvilagus audubonii*), and coyote.

### Wildlife Linkages

Wildlife movement areas are present in the biological study area, and can serve as wildlife corridors for small, urban species, such as coyote (*Canis latrans*) and javelina (*Tayassu tajacu*). Construction of any of the alternative routes would not likely create barriers to wildlife or have any long-term impacts on urban wildlife movement. There are no designated wildlife connectivity corridors in the Study Area.

## **D.3 Effects of the Proposed Project**

Removal of vegetation associated with clearing and grading has the potential to impact nesting birds protected under the Migratory Bird Treaty Act ("MBTA"). In the event construction is scheduled during nesting/breeding seasons, TEP will conduct pre-construction bird surveys and avoid nesting birds until

fledging is complete. Vegetation will be checked prior to construction to ensure there would be no impacts to protected species.

Native plants in the study area are protected by Arizona Native Plant Law (“ANPL”) and subject to standards included in COT Unified Development Code Section 3.8.0 for native plant preservation within construction areas and guidance for mitigation of impacts, which TEP will follow. Some native vegetation and riparian habitat would be trimmed or removed to allow for equipment access during construction. As stated above, construction of the transmission line in the wildlife movement areas is not anticipated to create barriers to wildlife movement or likely to have any long-term impacts on urban wildlife movement.

#### **D.4 Conclusion**

Impacts to general wildlife and vegetation along the alternative routes are anticipated to be minor given the urban development in the study area and planned use of existing roads for access. Potential impacts to plants and animals will be addressed through pre-construction surveys, timing of work, and compliance with all applicable statutes, ordinances, and regulations of any local, state, or federal agency having jurisdiction.

#### **D.5 References**

- AZWIPWG. (2005). *Invasive Non-native Plants that Threaten Wildlands in Arizona*. Arizona Wildlands Invasive Plant Working Group.
- Tierra. (2024). *Biological Evaluation for the Midtown Reliability Project, Tucson, Pima County, Arizona*. Tucson: Tierra Right of Way Services, Ltd.

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**EXHIBIT E**

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## EXHIBIT E: SCENIC AREAS, HISTORIC SITES AND STRUCTURES, AND ARCHAEOLOGICAL SITES

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As stated in Arizona Administrative Code R14-3-219:

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

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E.1 Introduction .....	E-1
E.2 Scenic Areas and Visual Resources .....	E-1
E.2.1 Overview .....	E-1
E.2.2 Visual Impact Assessment.....	E-2
E.2.3 Recommendations .....	E-2
E.3 Historic Sites and Structures, and Archaeological Sites .....	E-3
E.3.1 Overview .....	E-3
E.3.2 Inventory Methods and Results .....	E-3
E.3.3 Recommendations .....	E-5
E.4 Historic District Analysis.....	E-5
E.4.1 Overview .....	E-5
E.4.2 Inventory Methods .....	E-6
E.5 Conclusion .....	E-6
E.6 References.....	E-7

### E.1 Introduction

Exhibit E includes summaries of studies conducted for existing visual (scenic) resources, historic sites and structures, cultural resources, and archaeological resources, and evaluates the potential impacts the proposed Project may have on each resource.

### E.2 Scenic Areas and Visual Resources

#### E.2.1 Overview

This section of Exhibit E addresses scenic areas and visual resources in the Project area.

The Project area does not contain designated national, state or local scenic areas. However, the City does recognize Gateway Routes which are noted in page 3 of the city's Major Streets and Routes Plan (COT,

1982; as amended 2016). While Gateway Routes are not specifically considered scenic, they will be given additional consideration relative to viewer impacts. The City intends to upgrade the Gateway's streetscape, "their appearance, in contributing to a pleasant driving experience, is important to the overall image of Tucson."

A Visual Impact Assessment was conducted by Jeremy Palmer, Sole Proprietor (Palmer) for the entire Project (Exhibit E-1). The visual impact assessment combines objective and subjective evaluations of the existing landscape characteristics and potential changes to the landscape because of the Project and assesses the level of viewer sensitivity to different segments of the project's alternative routes.

#### E.2.2 Visual Impact Assessment

The visual impact assessment conducted by Palmer for the Project determined the potential impacts of the proposed Project on viewsheds and streetscapes. The proposed routes were scored based on the relative level of impact to existing versus future landscape, types of viewers, and degree of impact to visual resources.

The visual impact assessment considered the effects of new structures introduced into the existing setting on associated sensitive viewers, which considered the influence of existing facilities (i.e., existing utilities and other development).

Photos were taken along the alternative routes to illustrate typical viewpoints of residents, recreationists, commuters, and other viewers. Each photo location is a Key Observation Point ("KOP"). Photos from 71 KOPs were simulated (see Exhibit G-3) and analyzed for impacts to viewers. A value was assigned to each KOP indicating the potential visual impact to a casual viewer from that location, based upon contrast rating and visual impact from the proposed structures. The full analysis and table of ratings by KOP are located in the Visual Impact Assessment, Exhibit E-1.

#### E.2.3 Recommendations

The assessment of the project area yields a recommendation of routes which minimize visual impacts to the surroundings by:

- traversing along existing transmission corridors,
- traversing along non-gateway designated arterial streets, or
- avoiding residential areas.

Having evaluated all the alternative routing, landscape settings, designated scenic resources, and viewer types; a rating was assigned to both the level of contrast of a proposed action and the potential visual impact to the casual observer that is likely to be found in each respective setting.

Assigning a value based to each rating on a scale of 1 to 3 from low to high has allowed establishment of an average score for each of the alternatives being evaluated. The recommendations are based solely on impacts to visual resources and do not take into account other important factors, e.g., engineering, costs, etc.

### DeMoss Petrie to Vine

Alternatives A through D traverse land from the DeMoss Petrie Substation to the planned upgraded Vine Substation. With an average rating of 1.5, **Alternative Route A** is the recommended route based on a visual assessment.

### Vine to Kino

Alternatives 1 through 6 traverse land from the planned upgraded Vine Substation to the Kino Substation. With an average rating of 1.67, **Alternative Routes 4 and 6** both tie as recommended routes based on a visual assessment.

**Table 9. Visual Impact Assessment Scoring and Alternative Recommendation**

Route	Average Score	Ranking	Recommend Routes (based only on visual analysis)
1	2.04	6	
2	1.73	3	
3	2.03	5	
4	1.67	Tied-1	
5	1.77	4	
6	1.67	Tied-1	
A	1.5	1	
B	1.93	3	
C	1.84	2	
D	2.0	4	

## **E.3 Historic Sites and Structures, and Archaeological Sites**

### **E.3.1 Overview**

A Class I records review was conducted by Tierra Right of Way Services (“Tierra”), to determine the extent of existing archaeological survey work performed along the ten proposed alternative routes, and whether any sites were found to intersect with each alternative’s corridor, Exhibit E-2 (Tierra, 2024).

### **E.3.2 Inventory Methods and Results**

The Class I study included a records search of the Arizona State Museum’s (“ASM”) online database, AZSITE. All previously recorded sites within 300 feet of the Project study area, and all previous projects intersecting the alternative routes were reported to TEP. The records search identified 59 cultural resource studies conducted within the Class I Study Area (Exhibit E-2), which is defined as a 0.5-mile buffer

around each alternative route. Of these studies, 8 were conducted within the past 10 years. The findings included a total of 7 previously recorded sites. A total of 2 sites are along or within an alternative route. National Register Historic Districts or buildings listed on the National Register of Historic Places (“NRHP”) were also included in the study in case a listed archaeological property was present; however, none were found. The remainder of Historic Districts and properties have been evaluated as part of a Historic District Analysis (Exhibit E-4). No historic roads are present in the Project study area.

All alternative routes were scored, with scores defined as follows:

- 1: the route is not in proximity to any historic/archaeological site (least impact).
- 2: the route is within or adjacent to a historic district/neighborhood.
- 3: the route passes through or in proximity to a historic/archaeological site and has potential to affect the site (most impact).

No data recovery or other extensive mitigation measures are anticipated for any routes, and no alternative routes received a score of 1.

The Summary of the Route Analysis is shown in Table 10. The scores for the combined routes are in Table 11.

**Table 10. Summary of Route Analysis from Class I Study**

Alternative Route	Length (Miles)	# Sites in Corridor	In Sensitivity Zone	Recommend Class III	Recommend Monitoring
1	4.1	1	No	Yes	No
2	5.1	1	No	Yes	No
3	5	3	No	Yes	Yes
4	5	8	Downtown	Yes	Yes
5	5.9	14	Downtown and Court Street Cemetery	Yes	Yes
6	7.6	14	Downtown and Court Street Cemetery	Yes	Yes
A	3.2	3	Stone Pipe	Yes	Yes
B	3.5	3	Stone Pipe	Yes	Yes
C	4.2	4	Stone Pipe and Court Street Cemetery	Yes	Yes
D	3.8	3	Stone Pipe	Yes	Yes

**Table 11. Class I Study Alternative Route Analysis Scores**

Alternative Route	Score
1	2
2	2

Alternative Route	Score
3	3
4	3
5	3
6	3
A	3
B	3
C	3
D	3

### E.3.3 Recommendations

Each alternative route follows existing developed road ROW, and no significant prehistoric or historic archaeological sites have been identified in this part of Tucson. Tierra reported that there is little potential for the survey to identify significant archaeological sites within any of the project corridors. Four sites have been identified that should be monitored during ground-disturbing activities due to their intersection with or proximity to proposed routes. Monitoring of these sites will satisfy mitigation concerns. Tierra recommends that TEP use any combination of these routes to minimize any archaeological mitigation. Due to none of the alternatives being surveyed in the last 10 years, it is recommended that TEP consult with the COT Historic Preservation Office to determine if the COT will require additional survey prior to construction.

## E.4 Historic District Analysis

### E.4.1 Overview

In 2023, TEP reinitiated the process of holding public meetings and receiving comments on the potential effects of the Project to historic properties. TEP consulted with the COT's Historic Preservation Officer ("HPO"). The COT HPO confirmed that no historic contributing property, individually listed property or historic district would be removed or delisted as a result of any power pole location, and potential routes bordering historic districts would be favorable to those that bisect those districts. To further investigate alternative routes for the Project that would have some of the least potential effects to historic properties, TEP contracted Tierra and The Architecture Company ("TAC") to review the proposed alternative routes and perform a Historic District Analysis (Exhibit E-4).

The objective was to analyze and determine if any of the ten alternative routes from the existing Kino Substation to the planned upgraded Vine Substation (Routes 1 through 6) and the existing DeMoss Petrie ("DMP") Substation to the planned upgraded Vine Substation (Routes A through D) would have an impact to the historic districts and other architectural historic features, and if so, which would yield the least impact. TEP provided a total of ten routes for TAC to analyze for historic architectural factors. TAC did not look at alternate streets or alleys outside the proposed TEP routes, but focused on the ten routes and an 800' buffer around the proposed routes.

#### E.4.2 Inventory Methods

The Historic District Analysis (TAC/Tierra, 2024) analyzed and ranked measurable data using Geographic Information System (“GIS”) and aerial imagery, as well as a windshield survey following the proposed transmission line and an 800-ft buffer on each side of the potential transmission line routes, for each of the Kino Routes 1 through 6 and the DMP Routes A through D. General observations on each district are presented, followed by specific comments and observations that are relevant due to the potential impact of the transmission line and power poles. These observations include current architectural, landscape and historic features of the historic district and how the power poles might affect the district as a whole and its effect on the sense of place. The following factors were considered in the ranking of each historic district and further discussion of each of the criteria is presented in Section V. Historic Architectural Analysis of the Historic District Analysis.

- Historic district integrity
- Scale of the street adjacent to a historic district
- Scale of adjacent historic and non-historic structures along the route
- Size of historic district impacted
- Historic Architectural Impression.

Measurable criteria included: bisecting versus bordering historic districts; street designation; historic districts with 1 versus 2 sides of the route; existing power poles located on route; historic light fixtures within 800-ft route buffer; historic contributing properties in 800-ft route buffer; and access of historic contributing properties along the route. These factors were rated based on a scale from zero to ten (0 to 10). A rank of zero (0) means that the historic district(s) are not impacted by that criteria; a ranking of one (1) represents the least degree of historic impact on the affected historic district(s); and a ranking of ten (10) represents the greatest impact on the affected historic district(s).

#### E.5 Conclusion

Findings of the study resulted in the recommendation that Alternative Route 1 would have the least impact of the Kino to Vine routes, with Route 4 having the second least impact (see Table 12). Alternative Route B would have the least impact of the Vine to DMP routes. The ranking of the routes from least impacted to most impacted is as follows:

- Vine to Kino: 1, 4, 3, 5, 2, 6
- DMP to Vine: B, A, D, C

**Table 12. Historic District Analysis Alternative Route Ranking\***

Alternative Route	1	2	3	4	5	6	A	B	C	D
Bisecting vs Bordering Historic Districts	8	25	17	8	11	15	9	4	12	10
Street Designation	11	19	10	7	9	15	10	4	6	13
Historic Districts with 1 vs 2 sides of the Route	2	5	10	8	9	13	15	3	7	14
Existing Power Poles located on Route	27	18	27	22	35	44	3	3	17	7



Alternative Route	1	2	3	4	5	6	A	B	C	D
Historic Light fixtures within 800' Route Buffer	3	2	5	4	8	7	0	0	3	0
Historic Contributing Properties in 800' Route Buffer	36	51	47	41	63	57	27	20	37	25
Access of Historic Contributing Properties along Route	18	30	23	16	17	17	6	3	19	9
Historic Landmark Signage within 800' Route Buffer	0	0	0	0	1	3	0	0	2	0
Historic Architectural Analysis	89	109	107	96	105	119	53	50	85	54
<b>Total Alternative Route Rank</b>	<b>194</b>	<b>259</b>	<b>246</b>	<b>202</b>	<b>258</b>	<b>290</b>	<b>123</b>	<b>87</b>	<b>188</b>	<b>132</b>

*\*The rankings are cumulative over a given route for each criteria*

## E.6 References

Brown, J. (2020). COT Historic Preservation Officer.

TAC/Tierra. (2024). *Midtown Reliability Project Historic District Analysis*. Tucson: The Architecture Company, Tierra Right of Way.

Tierra. (2024). *Cultural Resources Records Search for Phase 4 of the TEP Midtown Reliability Project*. Tucson: Tierra Right of Way.

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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit E-1**

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# **MIDTOWN RELIABILITY PROJECT**

## **VISUAL IMPACT ASSESSMENT**

### **MAY 15, 2024**

#### **1.0 Overview**

Tucson Electric Power (TEP) is applying to the Arizona Corporation Commission for a Certificate of Environmental Compatibility to construct the Midtown Reliability Project (Project), which includes a new 138 kV transmission line totaling 7.3 to 11.8 miles in length, depending on the alternative approved. The line would connect the existing DMP Substation to the existing Kino Substation, and interconnect to the planned Vine 138 kV Substation. The new line will be supported by monopoles typically 75 feet above ground, with taller structures required for site specific clearance issues.

A Visual Impact Assessment was conducted by Jeremy Palmer, Sole Proprietor (Palmer) for the entire Project. The visual impact assessment combines objective and subjective evaluations of the existing landscape characteristics and potential changes to the landscape because of the Project and assesses the level of viewer sensitivity to different segments of the project's alternative routes.

The Project Area does not contain designated national or state scenic areas. However, the City of Tucson (COT) has a Gateway Corridor Overlay Zone, as discussed in the Introduction to the Project's CEC Application.

#### **2.0 Visual Impact Assessment**

The visual impact assessment conducted by Palmer for the Project determined the potential impacts of the proposed Project on viewsheds and streetscapes. Viewsheds and streetscapes associated with the Project are measured by the frequency of casual observers and the classification of the viewer's experience (i.e., traveler, recreationist, resident). The proposed route is then scored based on the relative level of impact to existing versus future landscape, types of viewers, and degree of impact to visual resources.

Identification of potential visual impacts involved a review of the preliminary transmission line design and review of local planning documents, aerial photos, geographic information system (GIS) data maps, site visits by Palmer, 3d modeling, photos taken in the Project Area, and use of Google Earth Pro.

The components of the visual impact assessment included identification of the types of viewers and their sensitivity to the Project in each segment of the route and characterization of impacts that were quantified as low, medium, or high. The visual impact assessment considered the effects of new structures and wires introduced into the existing setting on associated sensitive viewers, which considered the influence of existing facilities (i.e., existing utilities and other development).

#### ***2.1 Landscape Setting***

The landscape setting for the Project Study Area is comprised of a mix of urban developed land and open space. The entire Project Area is contained on land that is within COT limits. The Project Area delineated

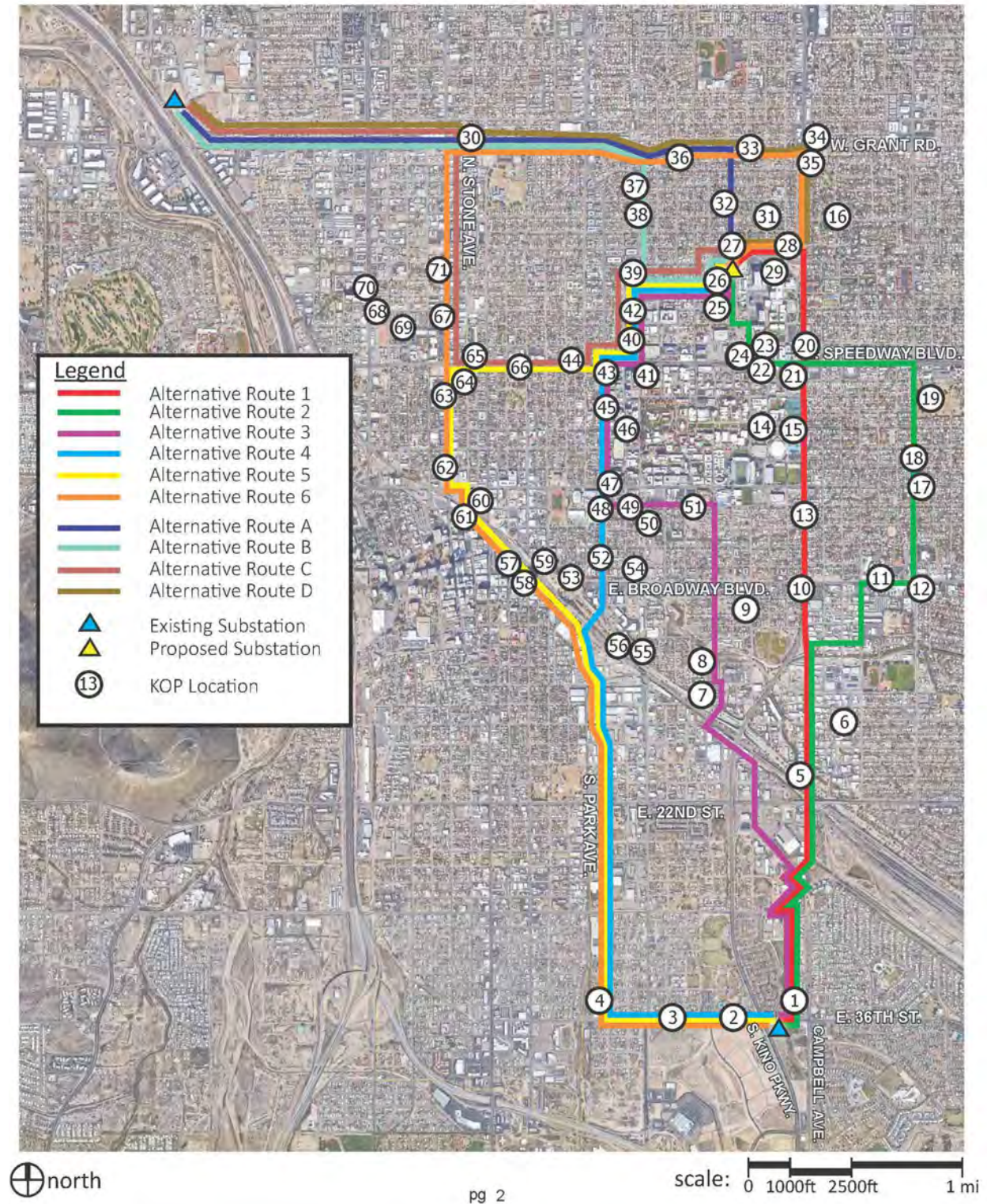
by TEP encompasses the evaluated alternative routes and is comprised of urban settings, including general residential, commercial, industrial, office, park/recreation, and open space.

For each type of land use within the Project Area, the expectations of the casual observer for the character of the landscape changes. Residential observers located within a home or private yard typically take in a viewshed with long and frequent views of the surrounding landscape; therefore, their respective sensitivity is typically higher. Similarly, recreational observers within parks or open space are expected to have a high sensitivity to their surroundings. Commercial observers are anticipated to have a medium sensitivity, due to shorter exposure to a viewshed and less familiarity. Commuters typically experience low sensitivity as they are in transit to and from an industrial setting because these developments are associated with viewers who are focused on work-related activities, and may not be as sensitive to changes in the landscape.

Per COTs adopted Major Streets and Routes Plan, additional sensitivity shall be placed on alternative routes and observation points that occur along the Gateway Corridor Zone ("GCZ"). For the purpose of this assessment, sensitivity modifiers will be added to the baseline sensitivity scale provided above.

The casual observer's sensitivity to changes in the landscape which is a direct result of proposed structures is also contingent on the character of the existing landscape. If the proposed structures are similar in character, e.g. form, line, scale, color when compared to the existing landscape then a viewer sensitivity to the resulting changes will be lower than when compared to an existing landscape in which there are no similar features.

Midtown Reliability Project  
Key Observation Point (KOP) - Key Map



**Figure 1. Key Observation Points for the Visual Assessment**

### **3.0 Visual Impact Assessment Results**

Visual contrasts are defined as the change to the visual environment resulting from modifications to the landscape. The degree of visual change resulting from a modification is directly related to the amount of contrast between the proposed structures and existing environment.

Visual contrasts were first rated by the degree to which transmission routes and structures would conflict with existing environment. Visual impacts were rated as follows:

- Low Contrast: the Project is adjacent or parallel to similar features and/or is within a more industrial setting, and casual observer's sensitivity to changes to the landscape resulting from the Project is low.
- Moderate Contrast: the Project is adjacent or parallel to similar features and casual observer's sensitivity to changes to the landscape resulting from the Project is moderate or high.
- High Contrast: the Project introduces new visual forms that contrast with the existing landscape, the setting is residential or recreational, and casual observer's sensitivity is high.

Impacts are anticipated to be low for the proposed Project when it is adjacent to or parallel with similar developed settings or features, such as industrial and commercial settings, because visual contrast is minimal. Park/recreation settings, which are typically characterized by open space and developed recreational facilities, typically result in greater impacts when adjacent to the Project, because it differs in form and line. Residential settings are characterized by moderate sized structures and/or open space; here, impacts are anticipated to be moderate because form and line are similar to the proposed Project, but sensitivity is higher.

Visual contrasts resulting from the Project would typically be reduced where: (1) the proposed route occurs within an industrial setting that is similar in form and line, (2) the route is within a corridor that has existing overhead electric lines, or (3) the route is some distance from the casual observer and is obscured or blends into the landscape.

To date, a number of alternative route segments have been analyzed and eliminated from consideration by TEP. There remain a number of alternative routes which were assessed and rated from Low contrast to High contrast. The routes were analyzed from Key Observation Points (KOPs) to understand the potential Visual Impacts to a casual observer from the respective KOP. The Impacts are weighted from 1 to 3 to weight and score the results in the following Visual Impact Assessment Matrix (Table 1). A value is assigned to each segment of the route as follows:

- High Visual Impact (Rank= 3): A value assigned to segments in which the installation of proposed TEP structures would negatively affect the casual observer's viewshed.
- Moderate Visual Impact (Rank= 2): A value assigned to segments in which the installation of proposed TEP structures would moderately affect the casual observer's viewshed.
- Low Visual Impact (Rank=1): A value assigned to segments in which the installation of proposed TEP structures would have minimal effect on the casual observer's viewshed.



Finally, the route's score is averaged across the matrix to develop a final ranking for the purpose of preparing a recommendation (

Table 2). The recommendations are based solely on impacts to visual resources and do not take into account other important factors, e.g., engineering, costs, etc.

**Table 1. Visual Impact Assessment Matrix**

KOP	Route	Contrast Rating	Visual Impact	Notes
1	1,2,3	High	High	Routed through residential area with natural open space. There are no similar structures in the immediate viewshed.
4	4,5,6	Low	Mod	Routed through residential area. Numerous similar lines, forms, colors from existing structure and development. Consolidation of existing utilities reduces impact.
6	1,2	Low	Mod	Routed through residential area. Numerous similar lines, forms, colors from existing structure and development. Consolidation of existing utilities and distance from KOP reduces impact.
9	3	Mod	Mod	Routed through residential area. Similar lines, forms, colors from existing structure and development, however new structures are larger and more prominent. Consolidation of existing utilities and distance from KOP reduces impact.
11	2	Mod	Mod	Similar existing structures. Routing on a commercial street. Existing structures are planned to be consolidated reducing impacts, however the street is designated as a GCZ-increasing impacts.
13	1	Low	Mod	Similar existing structures. Routing on a commercial street, however it is designated as a GCZ-increasing impacts.
14	1	Mod	High	Similar smaller existing structures. Routing is on a GCZ arterial street surrounded by residential zones. KOP captures impacts to a scenic vista from U of A campus.
16	6,D	Low	Mod	Similar lines, forms, colors from existing structure and development. Structure impacts reduced and obscured by vegetation and distance. However route is on designated GCZ street, increasing impact.
17	2	Mod	Mod	Similar existing structures. Routing on a mixed zone street. Existing structures are planned to be consolidated reducing impacts, however the Observation Point is located at a small cultural/shopping center, increasing impacts.
19	2	Mod	High	Similar existing structures. Routing on a mixed zone street. Existing structures are planned to

Midtown Reliability Project  
Visual Impact Assessment

KOP	Route	Contrast Rating	Visual Impact	Notes
				be consolidated reducing impacts, however the Observation Point is located at a park/open space, increasing impacts.
23	2	Low	Low	Similar existing structures. Routing on a commercial street.
25	3,4,5,B,C	Mod	High	Existing structures but not many. Routing on a residential street.
27	1,6,D	High	High	Any existing structures are obscured by vegetation, making area appear open and natural. Residential Area.
29	1,6,D	Mod	Mod	Similar existing structures are planned to be consolidated reducing impacts. The Observation Point is not residential, however as it may be a sustained view from a patient or office space to Mt. Lemon, the impacts are increased.
32	A	Low	Mod	Similar existing structures lowers contrast. Though in a residential area, the collector street does not have houses fronting it.
33	6,A,D	Mod	Mod	Similar existing structures in character and form. Routing on an arterial street, however residences front the street increasing the impacts.
37	B	Low	Mod	Replacing existing structures which limits contrast and impacts. Residential area increases impact.
39	3,4,5,B,C	Mod	High	Similar existing structures on Park Avenue, but none exist on Adams St. While the area is a transition of zoning, the new structures will have a notable impact on residential viewers along Adams St.
41	3,4,5,C	Mod	Mod	The proposed structures are similar to existing, but are more prominent. Commercial street with mixed use zone and increased impacts.
42	3,4,5,C	Low	Mod	Similar existing structures. Routing on a mixed zone street. Existing structures are planned to be consolidated, reducing impacts.
46	3,4	Low	Mod	Similar existing structures and streetcar overhead structures reduce contrast. Observation Point is located at a small cultural/shopping center, increasing impacts.
48	3,4	Mod	Mod	Similar existing structures. Routing on a mixed zone street. Existing structures are planned to be consolidated reducing impacts.
49	3,4	Mod	High	Routing through a residential area with no existing power lines.
53	5,6	Low	Mod	Bridge structure and pedestrian scale lights are similar form and line. Distance from viewer to structures minimizes contrast and impact. It is a key view to downtown skyline which increases impact.

KOP	Route	Contrast Rating	Visual Impact	Notes
54	4,5,6	Low	High	Bridge structure and pedestrian scale lights are similar form and line. Consolidation of existing structures reduces impacts for route 4. Distance from viewer to structures minimizes contrast and impact for routes 5 and 6. Broadway is a GCZ street, which increases impact.
55	4	Low	Low	Similar existing structures. KOP from bike path which may increase impact, however distance obscures view to structures.
58	5,6	Low	Low	Similar structures in line, form, character. View to structure is obscured by buildings and vegetation.
62	5,6	Mod	High	Existing structures are smaller and less prominent than proposed. Cultural area with historic properties increases impacts.
66	5,C	Mod	Mod	Existing structures are similar in size and character. Commercial street and properties with moderate impacts.
69	6,C	Low	Low	Similar structures. Commercial area and proposed structures are obscured.
70	6,C	Low	Low	Similar structures visible. Mixed Use area with some residential impacts, however contrast of proposed structures is diminished by distance.
71	6,C	Mod	Mod	Similar existing structure in form and character, however there is no existing powerline. Mixed Use, with some high-density residential impacts

**Table 2. Visual Impact Assessment Scoring and Alternative Recommendation**

Route	Average Score	Ranking	Recommended Route (based solely on visual assessment)
1	2.04	6	
2	1.73	3	
3	2.03	5	
4	1.67	Tied-1	
5	1.77	4	
6	1.67	Tied-1	
A	1.5	1	
B	1.93	3	

Route	Average Score	Ranking	Recommended Route (based solely on visual assessment)
C	1.84	2	
D	2.0	4	

### **3.1 Visual Impact Assessment/Narrative**

The following provides a narrative assessment of the KOPs for general segments of the proposed 138kV alignment.

#### **KOP 1**

Representing a view for the residential user or a person at the small church on Martin Avenue. The street's landform does not have much existing structure. The area on the west side of the street is fenced in but represents a natural open space visually. The introduction of monopoles creates an impact.

#### **KOP 2**

Representing a view along east 36<sup>th</sup> Street. There are existing structures which have a similar form and character to the proposed structures. The existing structures are proposed to be removed/replaced/consolidated, which minimizes impacts to the viewer.

#### **KOP 3**

Representing a view along east 36<sup>th</sup> Street. There are existing structures which have a similar form and character to the proposed structures. The existing structures are proposed to be removed/replaced/consolidated, which minimizes impacts to the viewer.

#### **KOP 4**

Representing a view for residents of the South Park neighborhood looking north on Euclid. The existing structures are proposed to be removed/replaced/consolidated, which minimizes impacts to the viewer. The new structures, however, are larger than the existing ones and will have an impact.

#### **KOP 5**

Representing a view for a recreational user of the Aviation Bikeway. The proposed structures are veiled by existing vegetation; however, they are introducing new forms and lines, which increase impacts to the viewer.

#### **KOP 6**

Representing a view for residents of the Arroyo Chico neighborhood looking west toward Campbell Avenue. Existing structures and development minimize contrasts. Consolidation of existing utilities and the distance of the proposed structures from the KOP reduces impact to the casual viewer.

**KOP 7**

Representing a view for a recreational user of the Aviation Bikeway. The proposed structures introduce new forms/lines/character to the viewshed, increasing contrast. Additionally, the structures' size increases impacts to the viewer.

**KOP 8**

Representing a view for a recreational user of the Arroyo Chico Greenbelt. The proposed structures are much larger than the existing structures, and are located in a more sensitive residential area. This increases the impacts of the proposed project.

**KOP 9**

Representing a view for the residents of the Miles neighborhood and students of the Miles Exploratory Learning Center. Existing structures create similar lines, forms, and colors to the proposed structures. However, the proposed structures are larger and more prominent. Consolidation of existing utilities and distance from the KOP reduces the impact to the casual viewer.

**KOP 10**

Representing a view at the intersection of Broadway Boulevard and Campbell Avenue. There are existing structures that have a similar form and character, however the proposed structures are larger and more prominent. Both streets are designated a GCZ, therefore increasing the impacts.

**KOP 11**

Representing a view along Broadway Boulevard. There are existing structures that have a similar form and character to the proposed structures. The existing structures are proposed to be removed/replaced/consolidated, which minimizes impacts to the viewer; however, the proposed structures are larger and more prominent than the existing structures. The street is designated as a GCZ, therefore increasing the impacts.

**KOP 12**

Representing a view at the intersection of Broadway and Tucson Boulevards. There are existing structures that have a similar form and character to the proposed structures. The existing structures are proposed to be removed/replaced/consolidated, which minimizes impacts to the viewer; however the proposed structures are larger and more prominent than the existing structures. The street is designated as a GCZ, therefore increasing the impacts.

**KOP 13**

Representing a view for the casual commuter along Campbell Avenue. The landscape here has existing structures similar to the proposed structures, and existing development that reduces visual contrast. The proposed structures are located on a commercial street, however, the street is designated as a GCZ, therefore increasing the impacts.

**KOP 14**

Representing a view for a student, professor, or other visitor to the University of Arizona Campus. The existing structures are similar to the proposed structures, but smaller, and not as prominent as the proposed structures. The proposed structures are in a GCZ, surrounded by residential neighborhoods, which increases impacts.

**KOP 15**

Representing a view for a student, professor, or other visitor to the University of Arizona Campus. The existing structures are similar to the proposed structures, but smaller, and not as prominent as the proposed structures. The proposed structures are in a GCZ, surrounded by residential neighborhoods, which increases impacts.

**KOP 16**

Representing a view from the Catalina Vista neighborhood. Similar lines, forms, and colors are present from existing structures and development. Impacts from the proposed structures are reduced and diminished by vegetation and distance. However, the proposed structures are in a GCZ, therefore increasing impacts.

**KOP 17**

Representing a view for the casual viewer from the small historic and cultural neighborhood shopping center on Tucson Boulevard and 6<sup>th</sup> Street. There are similar existing structures which are planned to be consolidated, therefore reducing contrast. It can be assumed, however, that there is value placed on the aesthetic of this area, which would increase viewer sensitivity and impacts.

**KOP 18**

Representing a view of the residential viewer in the Sam Hughes neighborhood. There are similar existing structures, and they are planned for removal with this alternative route, which will reduce contrast. However, the residents may experience impacts from the proposed new, larger structures.

**KOP 19**

Representing a view for a recreational user of Himmel Park. There are similar existing structures, and they are planned for removal with this alternative route, which will reduce contrast. This view is from a park and public open space, where it can be assumed casual viewers will value open air views and experience increasing impacts from the proposed new, larger structures.

**KOP 20**

Representing a view for a traveler on Campbell Avenue. There are similar existing structures which reduce contrasts; however, this arterial street is designated as a GCZ, therefore increasing impacts from the proposed new, larger structures.

**KOP 21**

Representing a view along East Speedway Boulevard. There are some existing structures with similar lines and forms as the proposed structures, but they are smaller and less prominent the proposed structures

which increases contrast. The residential apartments along this commercial corridor increase the viewer sensitivity to impacts.

**KOP 22**

Representing a view from the grade-separated crossing at the Warren and Helen streetcar station. There are similar forms and lines found in the streetcar infrastructure which reduce contrasts. The proposed structures are obscured by vegetation and distance, therefore reducing impacts.

**KOP 23**

Representing a view for a casual viewer at the streetcar station on Helen and Warren. There are existing structures similar to the proposed structures, and the view is within a commercial area, therefore resulting in minimal impacts.

**KOP 24**

Representing a view along Cherry Avenue heading north. There are not many existing structures of the same size, form, and character as the proposed structures on this block, which increases contrast of the proposed structures. The viewer type in this area is not highly sensitive, however, the size of the poles obstructing the horizon line does increase impacts.

**KOP 25**

Representing a view for the residential viewer in the Jefferson Park neighborhood. There are few existing structures in this residential area, so the proposed structures will have a large impact on the casual viewer.

**KOP 26**

Representing a view along North Vine Avenue adjacent to the existing UofA Medical substation. There are existing structures, which will decrease contrasts to the casual viewer. Alternatives 2-5, A, B, C will all be routed directly on Vine Avenue. The proposed structures are larger, which will increase impacts to the residential viewers. Alternatives 1, D are routed to the substation from the east and therefore will have less of an impact.

**KOP 27**

Representing a view for the residential viewer in the Jefferson Park neighborhood. There are few existing structures in this residential area, so the proposed structures will have a large impact on the casual viewer.

**KOP 28**

Representing a view from the natural open space and retention area just north of the Banner University Medical Center. There are few existing structures in this area, which will increase contrasts from the introduction of proposed larger structures. The impact on residents and recreational users will increase.

**KOP 29**

Representing a view from the Banner University Medical Center. This view is likely to be experienced by hospital officials or patients of the facility. Impacts will be increased by those wishing to see an unobstructed view of Mt. Lemmon from this elevated perspective. Existing structures will be removed

and replaced by proposed structures; however the proposed structures are larger and more prominent than the existing structures.

**KOP 30**

Representing a view for the casual traveler along Grant Road looking west at the intersection with Stone Avenue. There are similar existing structures in character and form to the proposed structures, which reduces contrast. Routing on an arterial street reduces impacts.

**KOP 31**

Representing a view from the Jefferson Park neighborhood looking south. The project proposes to remove and replace the transmission line in the alley, consolidating it with the new alternative which is half a block south. This reduces the contrasts and impacts from this KOP.

**KOP 32**

Representing a view for the residential viewer in the Jefferson Park neighborhood. There are existing structures in this residential area which reduces contrasts, and the alternative is routed on a collector street with no facing residences which reduces the impacts of this route.

**KOP 33**

Representing a view for the casual traveler along Grant Road looking west. There are similar existing structures in character and form to the proposed structures, which reduces contrast. Routing on an arterial street reduces impacts, however, residences do front the street, therefore increasing the impacts.

**KOP 34**

Representing a view for the travelers along Grant Road at the intersection of Campbell Avenue. There are existing similar structures to the proposed structures, which reduces contrasts. However, Campbell Avenue is a GCZ, which increases impacts.

**KOP 35**

Representing a view for the travelers along Campbell Avenue. There are existing similar structures similar to the proposed structures, which reduces contrast; however, the proposed structures are much larger and obstruct the horizon line, therefore increasing contrast. Campbell Avenue is a GCZ, which increases impacts.

**KOP 36**

Representing a view for the casual traveler along Grant Road looking west. There are existing structures similar in character and form to the proposed structures, which reduces contrast. Routing on an arterial street reduces impacts, however, residences do front the street, therefore increasing the impacts.

**KOP 37**

Representing a view for a casual traveler along Park Avenue, and residents of Jefferson Park neighborhood. This alternative proposes replacing existing structures with new larger structures. This limits contrast and impacts; however, it is a residential area, therefore increasing impacts.



**KOP 38**

Representing a view for a casual traveler along Park Avenue, and residents of Jefferson Park neighborhood. This alternative proposes replacing existing structures with new larger structures. This limits contrast and impacts; however, it is a residential area, therefore increasing impacts.

**KOP 39**

Representing a view for travelers and residents of the North University neighborhood. Similar structures can be found on Park Avenue, but none exist on Adams Street. Though the area is transitional from single family homes to larger university or apartment buildings, the proposed structures will have a notable impact on residential viewers along Adams Street.

**KOP 40**

Representing a view on Park Avenue just north of the intersection with Speedway Boulevard. There are existing structures similar to the proposed structures, thus reducing contrast, however the proposed structures are much larger and obstruct the horizon line. Impacts are further increased due to a nearby residential historic structure.

**KOP 41**

Representing a view for students, travelers, and others looking west on Speedway Boulevard. Existing structures are similar to the proposed structures; however, the proposed structures will be more prominent. While this is predominantly a commercial street, there are residences present, which will increase impacts.

**KOP 42**

Representing a view for students, travelers and others looking south on Park Avenue at University Heights. Existing structures are similar to the proposed structures. The existing structures are planned to be removed/replaced by the proposed structures, therefore reducing impacts.

**KOP 43**

Representing a view south on Euclid Avenue. The existing structures are similar to the proposed structures, but the proposed structures are larger and dominate the horizon, therefore increasing contrasts and impact for this mixed-use street with some residential properties that front it.

**KOP 44**

Representing a view on Speedway Boulevard looking west. There are no existing power line structures, therefore the proposed structures would increase the visual contrast. This route is on an arterial street with mixed uses. The proposed structures are larger than the development along the street, and would dominate the horizon, therefore increasing impacts.

**KOP 45**

Representing a view south on Euclid Avenue. The existing structures are similar to the proposed structures, but the proposed structures are larger and dominate the horizon, therefore increasing contrasts and impact for this mixed-use street with some residential properties that front it.

**KOP 46**

Representing a view for the casual user of the streetcar at the University and Tyndall station. Due to the existing streetcar infrastructure and other utility structures, the proposed structures would result in minimal contrast and impacts.

**KOP 47**

Representing a view south on Euclid Avenue. The existing structures are similar to the proposed structures, but the proposed structures are larger and dominate the horizon, therefore increasing contrast. If an alternative route in this location is selected, the similar existing structures would be consolidated, therefore reducing impacts.

**KOP 48**

Representing a view for a traveler or student at Tucson High Magnet School. The existing structures minimize contrast resulting from the proposed structures. This KOP is located on an arterial street, which also minimizes impacts.

**KOP 49**

Representing a view for the residents of the Pie Allen neighborhood. There are not many existing structures, therefore the proposed structures would increase the contrast and impact for the casual viewer in this residential area.

**KOP 50**

Representing a view for the residents of the Pie Allen neighborhood. There are not many existing structures, therefore the proposed structures would increase the contrast and impact for the casual viewer in this residential area.

**KOP 51**

Representing a view for the residents of the Pie Allen neighborhood. There are not many existing structures, therefore the proposed structures would increase the contrast and impact for the casual viewer in this residential area.

**KOP 52**

Representing a view south on Euclid Avenue. The existing structures are similar to the proposed structures, but the proposed structures are larger and dominate the horizon, therefore increasing contrast and impacts to the residences that front the street.

**KOP 53**

Representing a view for the casual user of the Aviation Bikeway at Rattlesnake Bridge. The bridge structure and pedestrian scale lights are similar in form and character to the proposed structures. The distance from the viewer to proposed structures minimizes contrast and impact. However, this is a key view to the downtown skyline which increases the impact.

**KOP 54**

Representing a view for the casual viewer or traveler on Broadway Boulevard looking west towards downtown. The bridge/overpass structure and pedestrian scale lights are similar in form and line to the proposed structures. Consolidation of structures would reduce impacts for route 4. Distance from viewer to structures minimizes contrast and impact for route 5. Broadway Boulevard is a GCZ, which increases impact.

**KOP 55**

Representing a southern view for the casual viewer of the Aviation Bikeway at the Aviation Bikeway Bridge. The proposed structures are similar to the existing structures. The casual recreational user of the bike path may have increased sensitivity to impacts from structures, however distance diminishes the impact from the structures.

**KOP 56**

Representing a northern view for the casual viewer of the Aviation Bikeway at the Aviation Bikeway Bridge. The proposed structures are similar to the existing structures. The casual recreational user of the bike path may have increased sensitivity to impacts from structures, however distance diminishes the impact from the structures.

**KOP 57**

Representing a view for the casual pedestrian/traveler/tourist from the Downtown Historic District looking east. There is an array of existing structures and developments that reduce contrast resulting from the proposed structures. While the view to proposed structures is obscured by buildings and vegetation, this is a rare view from downtown to Mt. Lemmon, which may increase impacts for some viewers.

**KOP 58**

Representing a view for the casual pedestrian and viewer from the Downtown Historic District looking east. There is an array of existing structures and developments that reduces contrast resulting from the proposed structures. Additionally, the view to the proposed structures is obscured by buildings and vegetation, therefore reducing impacts.

**KOP 59**

Representing a view for the traveler on the Maclovio Barraza Parkway. There are existing structures and development that reduce contrast and impacts from the proposed structures.

**KOP 60**

Representing a view for the recreational user of the Barraza Parkway shared use path. There are similar structures in line, form, and character along the parkway, that reduce contrast resulting from the proposed structures. However, recreational users may be more sensitive to the impacts of the proposed structures on views.

**KOP 61**

Representing a view for the recreational user of the Parkway shared use path. There are similar structures in line, form, and character along the parkway that reduce contrast resulting from the proposed structures. However, recreational users may be more sensitive to the impacts of the proposed structures on views.

**KOP 62**

Representing a view for the casual user and commuter along Stone Avenue. There are existing structures similar, but smaller and less prominent than the proposed structures. This is a cultural area with historic properties, thus increasing impacts.

**KOP 63**

Representing a view from Stone Avenue looking north near Anza Park. There are existing structures similar in line, form, and character, to the proposed structures. The proposed structures are larger, and more prominent, therefore increasing contrast. Impacts are high due to recreational viewers and street improvements.

**KOP 64**

Representing a view from Anza Park looking northwest. Most of the existing structures are obscured by trees, so the new, large, and dominant structures increase contrast and impacts for the recreational viewers.

**KOP 65**

Representing a view for the casual traveler along Speedway Boulevard looking east. Existing development is similar in size to the proposed structures, therefore reducing contrasts. This is an arterial street with commercial and residential properties, resulting in moderate impacts.

**KOP 66**

Representing a view for the casual traveler along Speedway Boulevard looking east. Existing development is similar in size to the proposed structures, therefore reducing contrasts. This is an arterial street with commercial properties, resulting in moderate impacts.

**KOP 67**

Representing the view for a casual traveler along Stone Avenue looking north. Existing light poles and other utility structures create similar forms and character to the proposed structures, however there are no existing powerlines, which increases contrast resulting from the proposed powerline. While it is a commercial arterial street with no designation, there does appear to be unique elements for the "Miracle Mile," which may increase impacts slightly.

**KOP 68**

Representing a view for the casual viewer just east of Oracle Road and Drachman Street looking east. There are many existing structures and developments which reduce the visual contrast. The distance between the viewer and the proposed structures diminishes visual impacts.

#### **KOP 69**

Representing a view for the casual viewer at the Pima Community College Campus looking east. There are many existing structures and developments, which reduce the visual contrast. The distance between the viewer and the proposed structures diminishes visual impacts.

#### **KOP 70**

Representing a view for the casual viewer at the Tucson House property looking east. There are many existing structures and developments, which reduce the visual contrast. The distance between the viewer and the proposed structures diminishes visual impacts.

#### **KOP 71**

Representing the view for a casual traveler along Stone Avenue looking north. Light poles and other utility structures create similar forms and character to the proposed structures, however there are no existing powerlines, which increases contrast resulting from the proposed powerline. While it is a commercial arterial street with no designation, there does appear to be mixed use, with some high-density residential impacts.

### **3.2 Color Variations**

Many of the simulations are rendered with color variations proposed by TEP, to study the impacts of their surfaces and finishes on the contrast ratings and visual impacts. Represented in the simulations are three variations: weathered steel, galvanized steel, and painted (Mojave Sage) steel.

It is difficult to assign a blanket recommendation for one material/color finish over another. A major component of assessing visual impacts is the evaluation of the level of contrast of a proposed structure/finish with the existing built or natural environment. Therefore, the context of each individual observation point contributes the contrast rating and subsequent recommendation of a material finish/color.

While one section of transmission line with a weathered steel finish in a residential area (e.g., KOP 25, Figure 2) may have less contrast with the existing vegetation and large trees; another section in a commercial area (e.g., KOP 13) the weathered steel finish may have more contrast. For the section of transmission line in KOP 13, a galvanized finish is recommended to lessen the contrast.

Color variation recommendations may have to be evaluated on a block-by-block basis and may vary depending on the surrounding level of development, vegetation, and other factors.



***Figure 2. Weathered Poles in Residential Setting***



***Figure 3. Galvanized Poles in Commercial Setting***

A general recommendation for color variation follows:

- Utilize galvanized poles in commercial and arterial road corridors, which typically contain many existing galvanized light poles, commercial street signage, and traffic control devices. A galvanized pole will be less likely to contrast in this context.
- Utilize weathered poles in residential neighborhoods, where smaller street cross-sections and more vegetation will be found which is less likely to contrast with a weathered pole.
- Utilize Mojave Sage poles in a natural and/open space area, which typically have unobstructed views of the horizon, natural vegetation, and are void of existing development.

While the above recommendations are made through the technical lens of visual contrast, TEP recognizes that preference for pole finish can vary from neighborhood to neighborhood based on local factors. As a result, TEP is committed to consulting with specific neighborhoods and City representatives directly affected by the approved route alternative, prior to finalizing the design and pole finish.

#### **4.0 Summary**

The assessment of the project area yields a recommendation of routes which minimize visual impacts to the surroundings by:

- traversing along existing transmission corridors,
- traversing along non-GCZ designated arterial streets, or
- avoiding residential areas.

Having evaluated all the alternative routing, landscape settings, designated scenic resources, and viewer types; a rating was assigned to both the level of contrast of a proposed action and the potential visual impact to the casual observer that is likely to be found in each respective setting.

Assigning a value based to each rating on a scale of 1 to 3 from low to high has allowed establishment of an average score for each of the alternatives being evaluated.

##### DeMoss Petrie to Vine

Alternatives A through D traverse land from the DeMoss Petrie Substation to the Vine Substation. With an average rating of 1.5, **Alternative Route A** is the recommended route based on a visual assessment.

##### Vine to Kino

Alternatives 1 through 6 traverse land from the Vine Substation to the Kino Substation. With an average rating of 1.67, **Alternative Routes 4 and 6** both tie as recommended routes based on a visual assessment.

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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit E-2**

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May 9, 2024

Clark Bryner, Manager, Transmission Line Siting  
Tucson Electric Power  
3950 East Irvington Road  
Tucson, Arizona 85714-2114

**RE: Cultural Resources Records Search for Phase 4 of the TEP Midtown Reliability Project  
(Tierra Archaeological Report No. 2024-053)**

Mr. Bryner,

At your request, Tierra Right of Way Services, Ltd. (Tierra), performed a records search of the Arizona State Museum's (ASM's) online database, AZSITE, to determine the extent of archaeological survey work performed along the 10 proposed route alternatives (Routes 1, 2, 3, 4, 5, 6, A, B, C and D; Figure 1) and whether any sites intersect the project corridors.

The records search began by identifying all previously recorded sites and previous projects within 91 m (300 feet) of the project corridors for the 10 proposed route alternatives. The search identified a total of 140 projects conducted within the 300-ft study area from as long ago as 1955. Areas covered by surveys older than 10 years will require an updated, current survey per ASM and State Historic Preservation Office (SHPO) guidelines. In addition, the study area contains a total of 17 previously recorded sites. A total of seven sites are within the proposed routes. National Register Historic Districts or buildings are being evaluated as part of a Built Environment Analysis and will not be discussed in detail in this report. In addition, General Land Office (GLO) maps covering the entire project area were checked for historic properties, but only roads are present on any of the maps, and none of those roads are present in the project area as mapped.

The results of the search by each proposed alternative route (Routes 1, 2, 3, 4, 5, 6, A, B, C, and D) and information on archaeological sites within the project area are presented below.

***Route 1***

Route 1 is approximately 6.8 km (4.1 miles) in length. The study area includes 32 previous projects, of which 21 intersect with the proposed route (Table 1; Figures 2a and 2b). Most of these surveys were performed over 10 years ago. No known archaeological sites are present within this proposed corridor, but one site is present within the 91-m (300-foot) buffer area (Table 2).



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### ***Route 2***

Route 2 is approximately 8.1 km (5.1 miles) in length. The study area for Route 2 includes 32 previous surveys, of which 25 intersect with the proposed route (Table 3; Figures 3a and 3b). Most of the previous surveys were performed more than 10 years ago. No known archaeological sites are present within this proposed corridor, but one site is present in the buffer area (Table 4).

### ***Route 3***

Route 3 is approximately 8.1 km (5.0 miles) in length. A total of 37 previous surveys were conducted in the study area, 29 of which intersect with the proposed route (Table 5; Figures 4a and 4b). The study area for Route 3 passes through two previously recorded sites (Table 6). The route passes through the boundary of one site, AZ BB:13:445(ASM). The site is recorded as a series of historic dwellings that have since been razed. The site has not been evaluated for its inclusion in the NRHP, and may still contain historical artifacts associated with the dwellings. Ground-disturbing activities should be monitored within 30.5 m (100 feet) of the site.

### ***Route 4***

Route 4 is 8.0 km (5.0 miles) in length. The study area for Route 4 intersects with 41 previous surveys, and 32 surveys intersect with the proposed route (Table 7; Figures 5a and 5b). The study area for Route 4 passes through three sites, and the route itself passes through the boundaries of five sites (Table 8). Two of these sites, AZ BB:13:445(ASM) and AZ BB:13:748(ASM) represent historic sites that have been substantially altered by modern construction. As noted above, AZ BB:13:445(ASM) should be monitored during ground-disturbing activities. Site AZ BB:13:748(ASM) has been determined ineligible for inclusion in the NRHP and monitoring is not necessary.

Site AZ BB:13:763(ASM) is the only prehistoric site Route 4 passes through. It is determined eligible for inclusion in the NRHP; however, considerable modern construction has altered the site. Nevertheless, ground-disturbing activities within 30.5 m (100 feet) of this site should be monitored.

Finally, Route 4 intersects with AZ EE:1:300(ASM) and AZ BB:13:679(ASM). These represent segments of the Twin Buttes Railroad and Tucson & Nogales Railroad, respectively. Both of these sites are determined eligible for inclusion in the NRHP, but the segments associated with Route 4 are considered non-contributing segments to the site. Therefore, monitoring ground-disturbing activities at these sites is not warranted.

### ***Route 5***

Route 5 is approximately 9.6 km (5.9 miles) in length. The study area intersects with 71 previous surveys, of which 46 intersect with the proposed route (Table 9; Figures 6a and 6b). The study area for Route 5 passes through nine previously recorded sites (Table 10). One of these sites is AZ BB:13:156(ASM), known as Court Street Cemetery, and represents one of the first municipal cemeteries in Tucson. Although the corridor for Route 5 runs adjacent to the site boundary, ground-disturbing activities within 30.5 m (100 feet) of this site should be monitored.

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Route 5 intersects with five sites. Four of these are described above (AZ EE:1:300[ASM]; AZ BB:13:679[ASM]; AZ BB:13:748[ASM]; AZ BB:13:763[ASM]). As noted above, ground-disturbing activities should be monitored within 30.5 m (100 feet) of AZ BB:13:763(ASM). The fifth site intersecting Route 5 is AZ FF:9:17(ASM), also known as State Route 80. This site is determined eligible for inclusion in the NRHP, but the segment coincident with the Route 5 corridor is non-contributing to the NRHP eligibility and does not warrant monitoring of ground-disturbing activities.

### ***Route 6***

Route 6 is approximately 12.2 km (7.6 miles) in length. The study area intersects with 84 previous survey projects, of which 45 intersect with Route 6 (Table 11; Figures 7a and 7b). Route 6 intersects with five previously recorded sites: AZ BB:13:679(ASM); AZ BB:13:748(ASM); AZ BB:13:763(ASM); AZ EE:1:300(ASM); and AZ FF:9:17(ASM) (Table 12). These are the same sites that intersect with Route 5 described above, and the same recommendations are appropriate here. The study area for Route 6 intersects with the same nine sites as Route 5, and the same recommendation as above applies. To wit: monitoring of any ground-disturbing activities should occur within 30.5 m (100 feet) of sites AZ BB:13:763(ASM) and AZ BB:13:156(ASM), the Court Street Cemetery.

### ***Route A***

Route A is approximately 5.2 km (3.2 miles) in length. The study area intersects with 33 previous survey projects, of which 18 intersect with Route A (Table 13; Figure 8). The study area for Route A intersects with one previously recorded site (Table 14). Route A intersects with two previously recorded sites. AZ FF:9:17(ASM), as noted above, is State Route 80, and the segment coincident with Route A is a non-contributing element of its eligibility for NRHP inclusion. Thus, no monitoring of ground-disturbing efforts associated with AZ FF:9:17(ASM) is necessary.

Route A also intersects with AZ BB:9:440(ASM). This site is recorded as a concrete slab foundation associated with the DeMoss-Petrie power plant. The site has not been evaluated for inclusion in the NRHP, and ground-disturbing activities within 30.5 m (100 feet) of the site boundary should be monitored.

### ***Route B***

Route B is approximately 3.4 km (2.1 miles) in length. The study area for Route B intersects with 35 previous survey projects, of which 22 intersect with the route (Table 15; Figure 9). The study area for Route B intersects with one previously recorded site, and the route itself intersects with two previously recorded sites (Table 16). These are AZ FF:9:17(ASM) and AZ BB:9:440(ASM), as described above. The recommendations are appropriate here: monitoring of ground-disturbing activities for site AZ BB:9:440(ASM), but not for AZ FF:9:17(ASM).

### ***Route C***

Route C is approximately 6.8 km (4.2 miles) in length. The study area for Route C intersects with 37 previous survey projects, of which 28 intersect with Route C (Table 17; Figure 10). The study area for Route C intersects with two previously recorded sites (Table 18). One of these is AZ BB:13:156(ASM),

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the Court Street Cemetery. Again, given the site type, it is appropriate to monitor any ground-disturbing activities within 30.5 m (100 feet) of this site.

Route C intersects with two previously recorded sites. Ground-disturbing activities within 30.5 m (100 feet) of site AZ BB:9:440(ASM) should be monitored. The Route C corridor intersects with AZ FF:9:17(ASM) in two locations. These locations intersect with segments of AZ FF:9:17(ASM) that do not contribute to the site's eligibility for NRHP inclusion, and therefore do not warrant monitoring.

### ***Route D***

Route D is approximately 6.2 km (3.8 miles) in length. The study area for Route D intersects with 33 previous survey projects, of which 17 intersect with the Route D corridor (Table 19; Figure 11). The Route D study area intersects with one previously recorded site, and the Route D corridor intersects with two previously recorded sites (Table 20). These sites are AZ BB:9:440(ASM), which warrants monitoring within 30.5 m (100 feet) of ground-disturbing activities, and AZ FF:9:17(ASM), which does not warrant monitoring.

### ***Recommendations***

Because none of the alternatives have been surveyed in their entirety within the past 10 years, Tierra recommends Class III surveys for the selected alternative(s) prior to construction to determine if sites are present and whether further mitigation is necessary. However, because each route follows existing developed road rights-of-way, there is little potential for the survey to identify significant archaeological sites within any of the project corridors. Any cultural resources identified in the course of these surveys with recommended eligibility for inclusion in the NRHP should be monitored during any ground-disturbing activities within 30.5 m (100 feet) of their boundaries. Additionally, the above record search has identified four sites that should be monitored during ground-disturbing activities due to their intersection with or proximity to proposed routes. These sites are presented in Table 21. Monitoring of these sites will satisfy mitigation concerns. Tierra further recommends that TEP consult with the City of Tucson's Historic Preservation Officer to determine if the City will require additional survey for this proposed project.

If you have any questions, please contact me or Barbara Montgomery at 520-319-2106.

Sincerely,



Mitchell A. Keur, M.A.  
Project Manager  
Cultural Resources Division



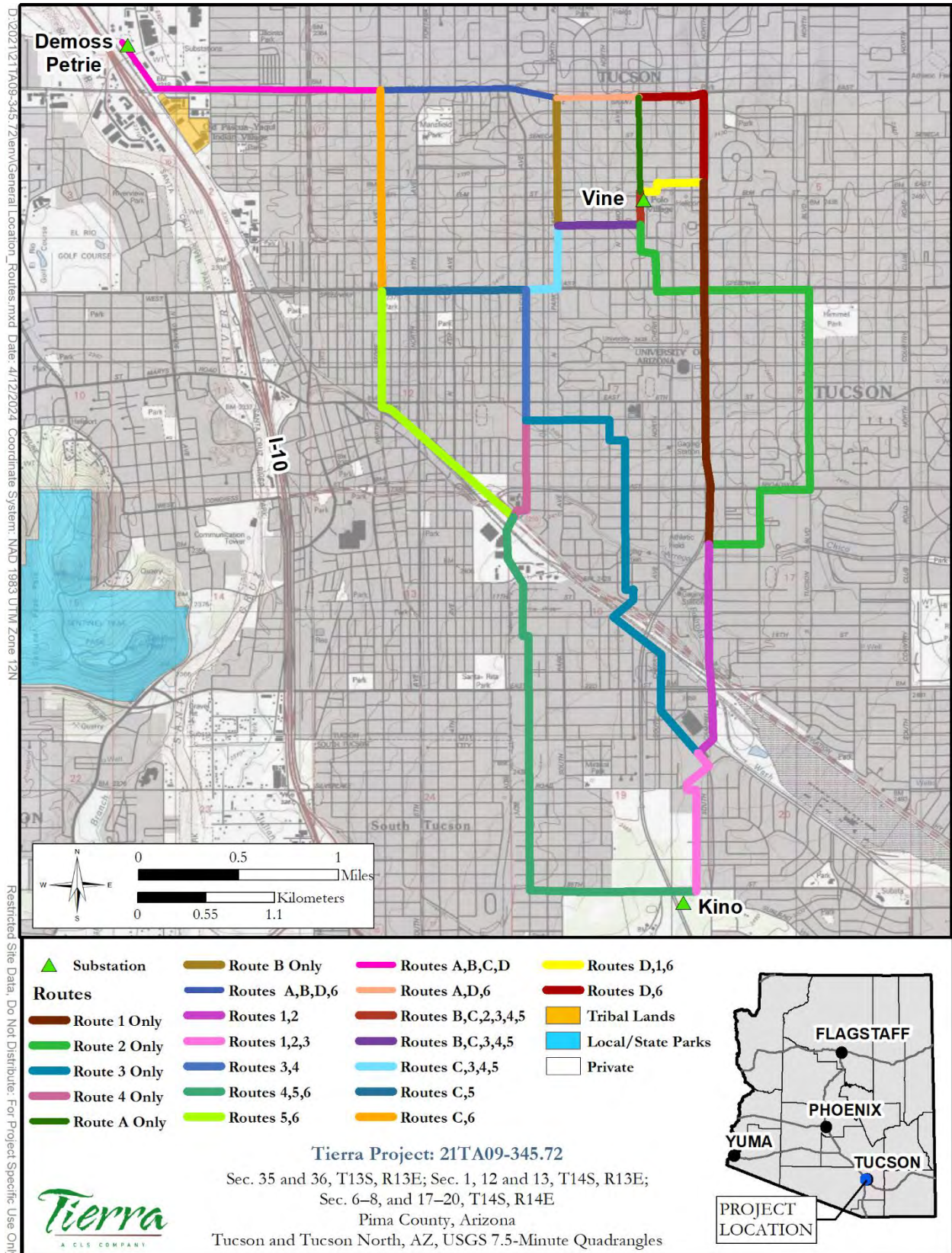


Figure 1. Project location detail with 10 proposed routes.



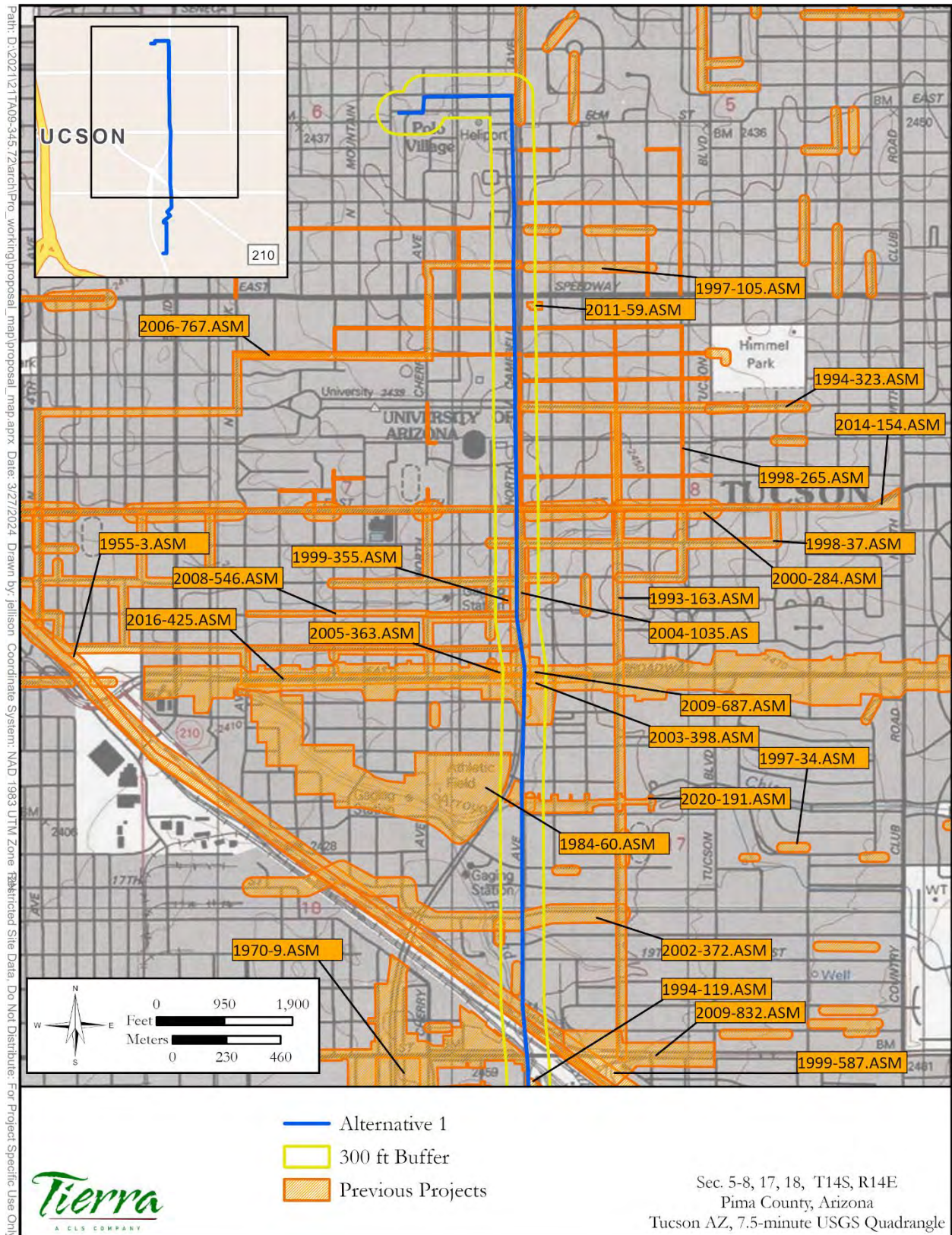
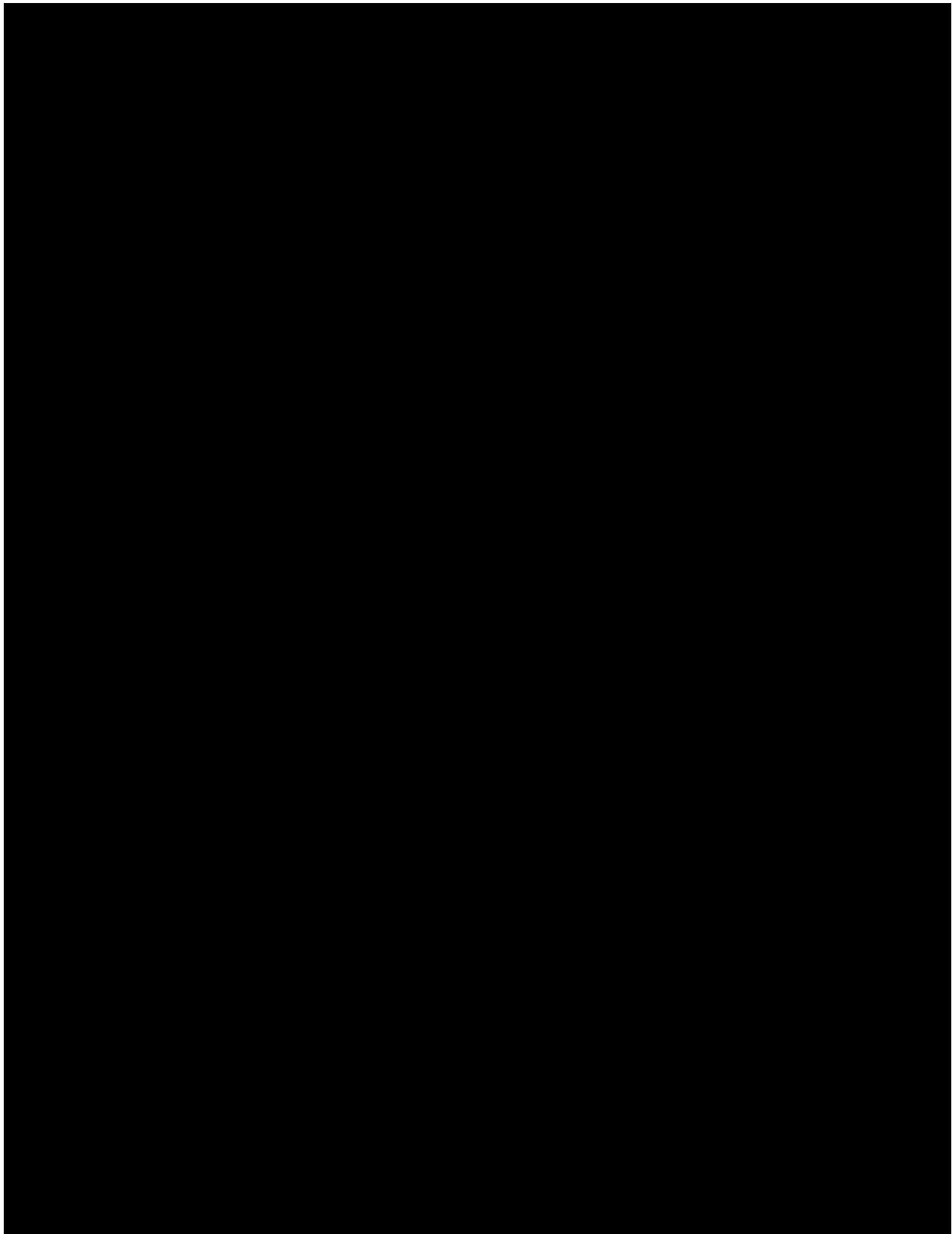


Figure 2a. Route 1 with previous projects and previously recorded sites, northern portion.





**Figure 2b. Route 1 with previous projects and previously recorded sites, southern portion.**

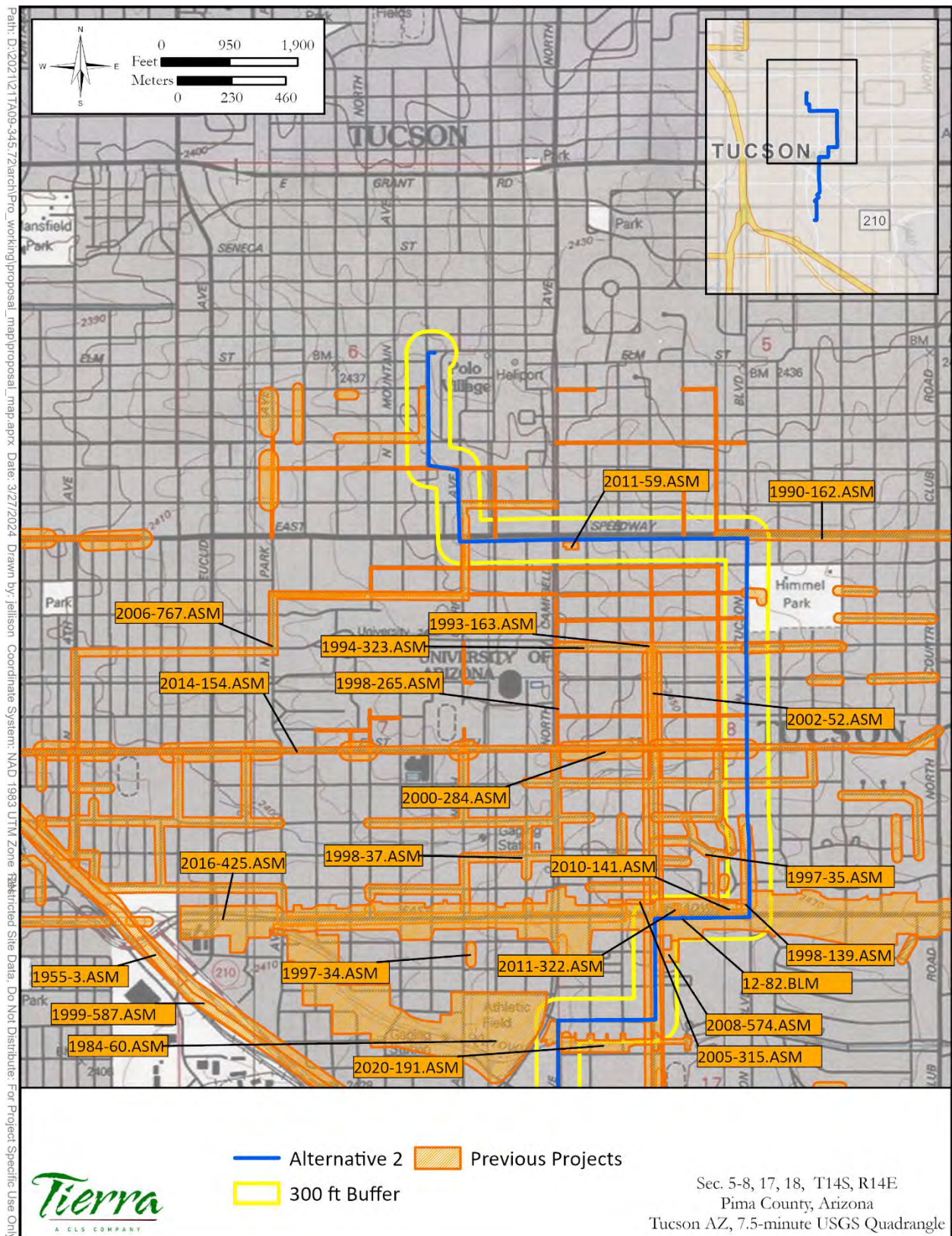
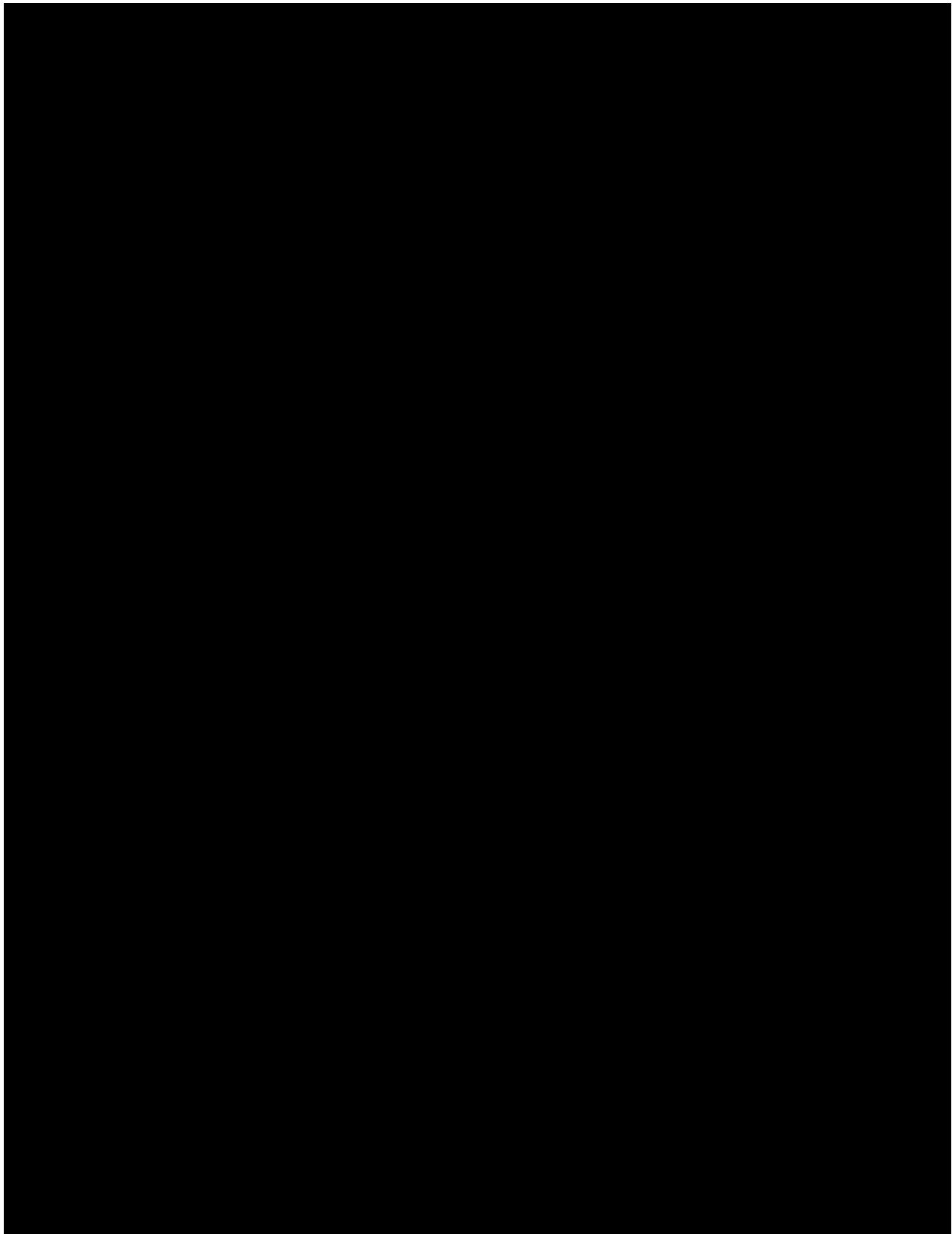
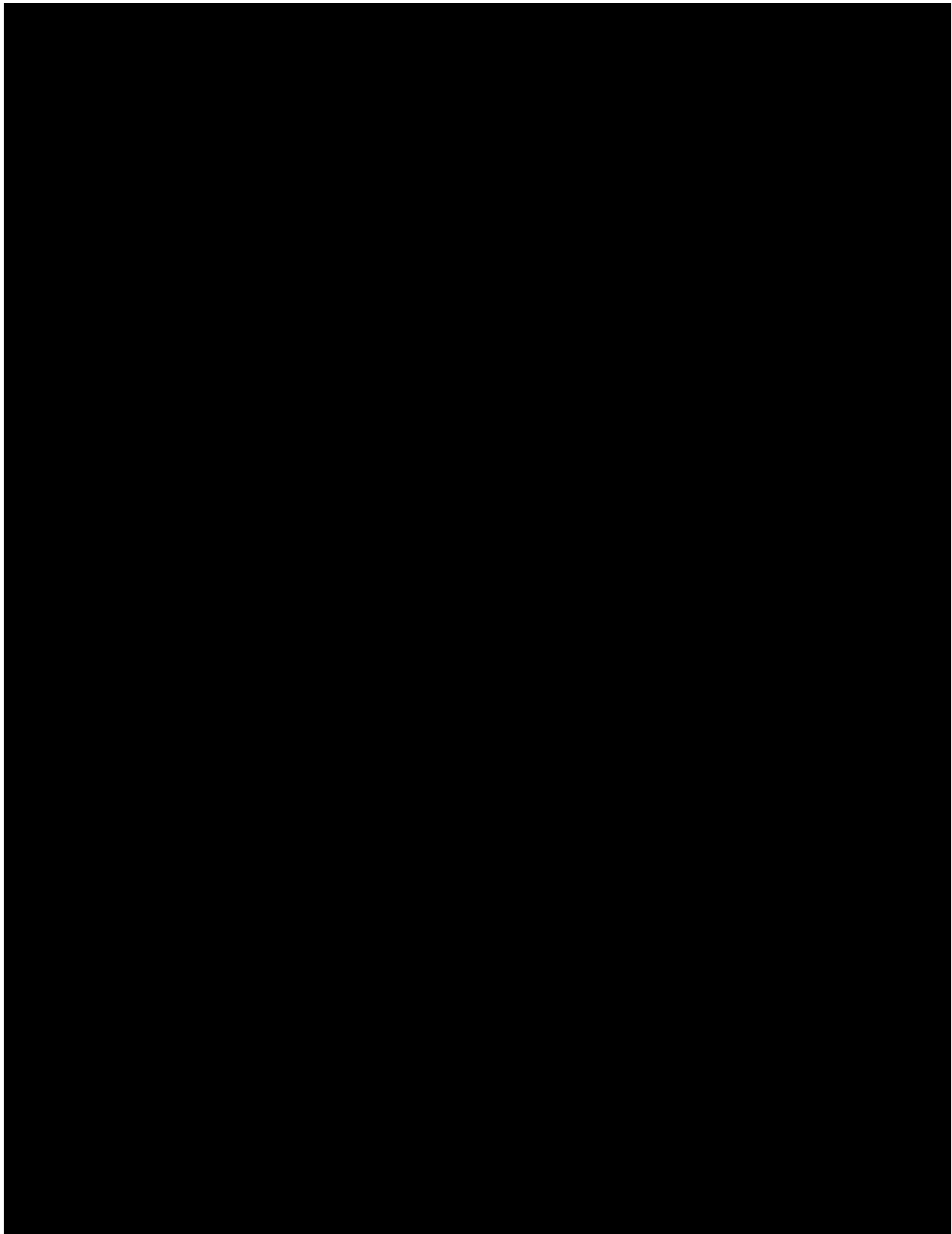


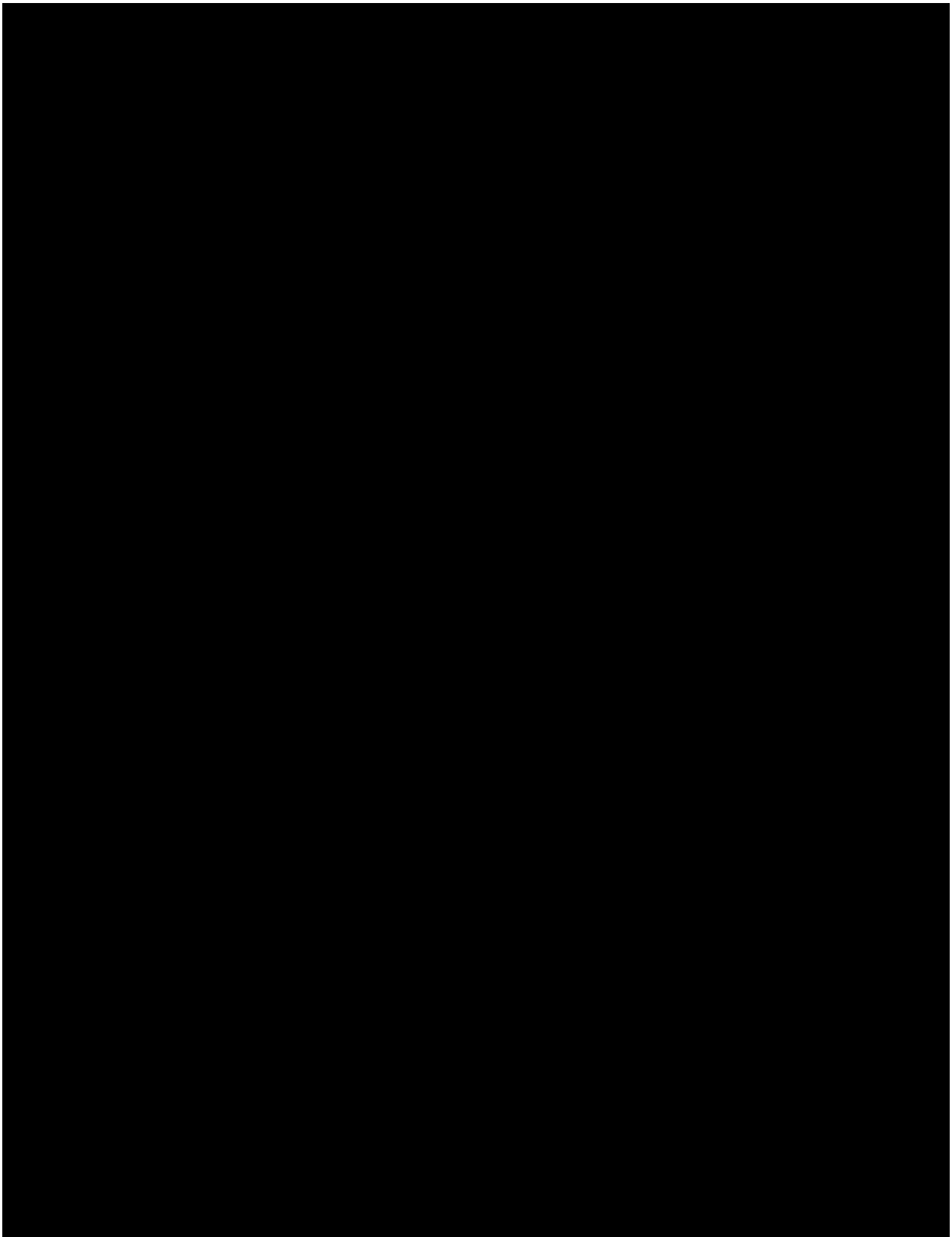
Figure 3a. Route 2 with previous projects and previously recorded sites, northern portion.



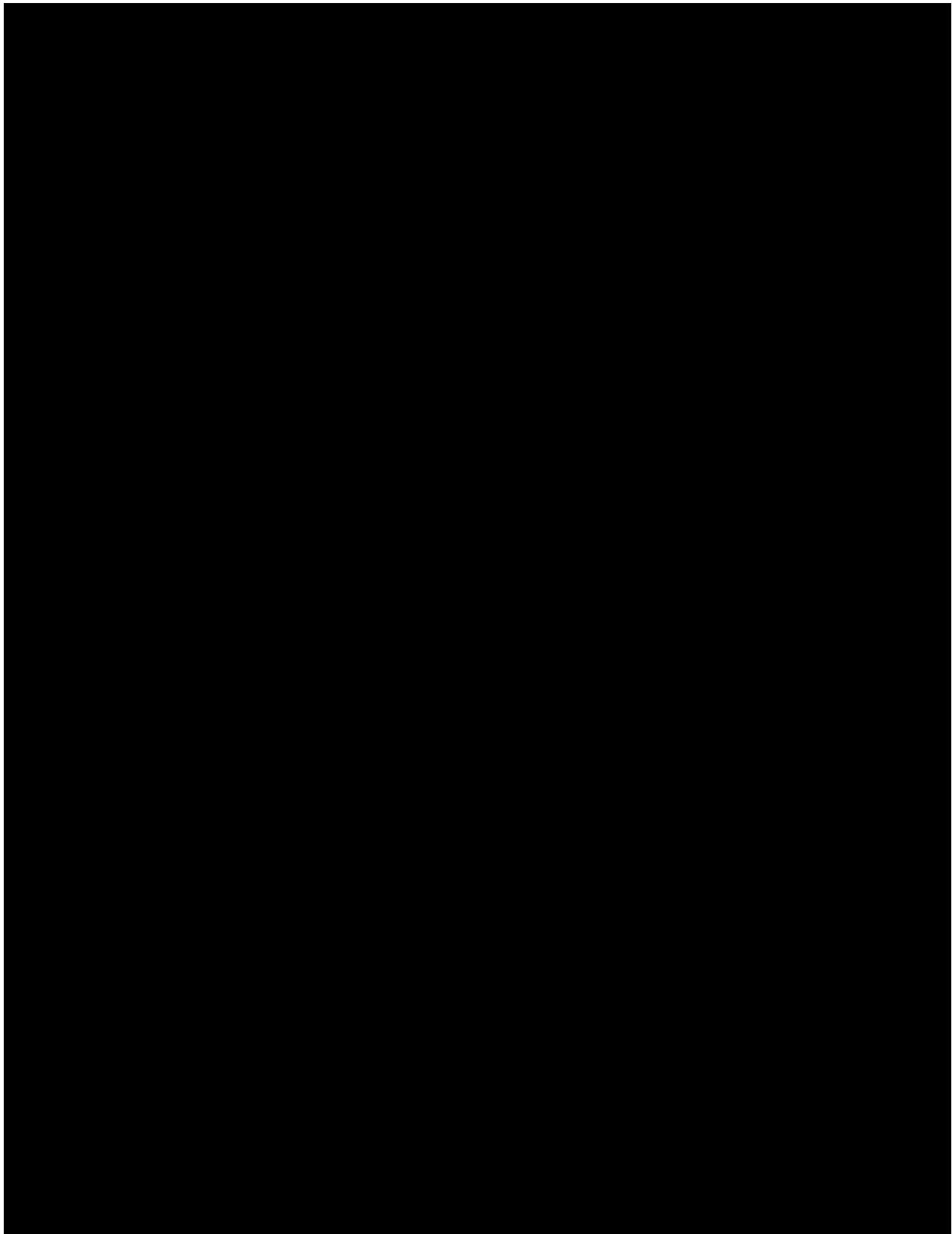
**Figure 3b. Route 2 with previous projects and previously recorded sites, southern portion.**



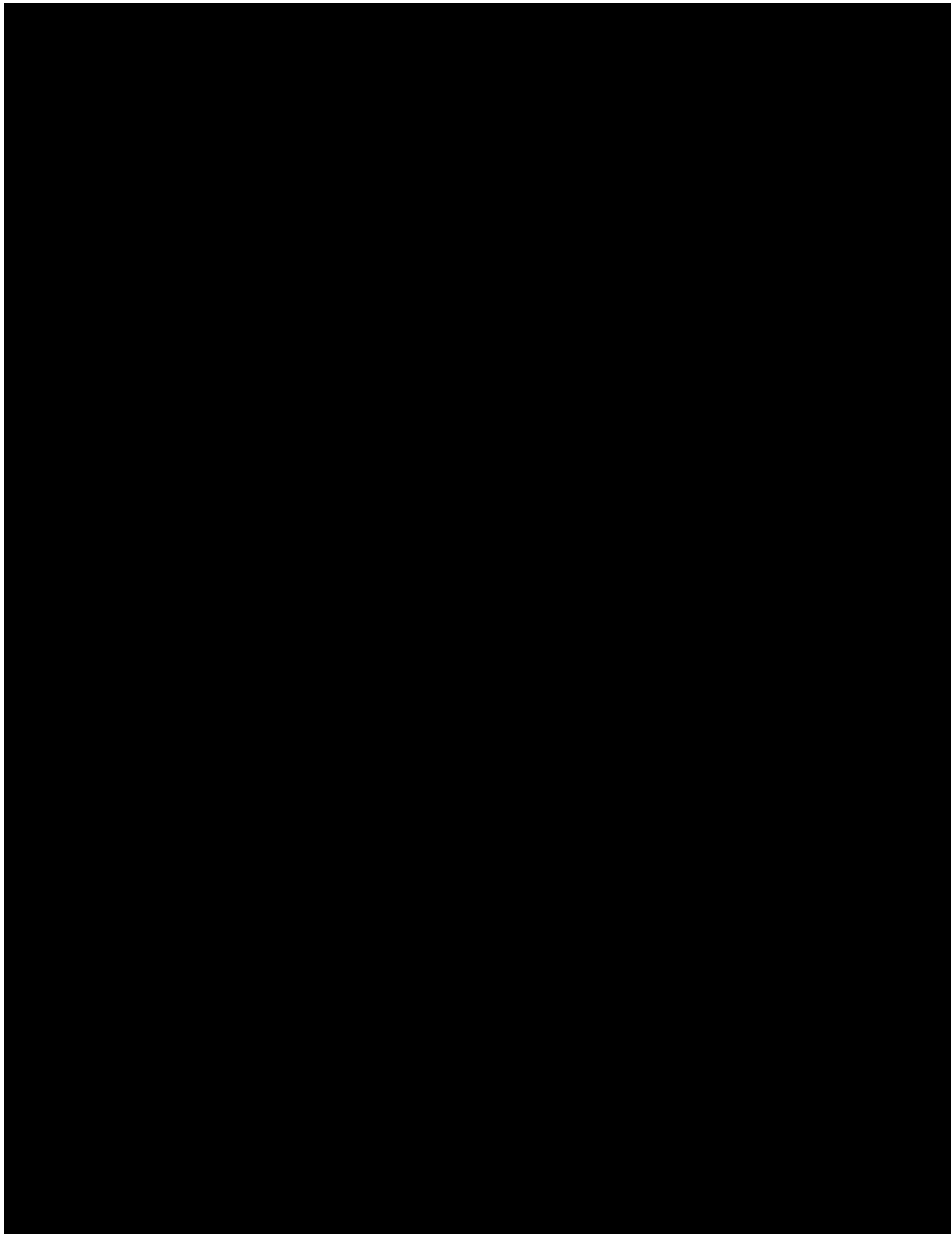
**Figure 4a. Route 3 with previous projects and previously recorded sites, northern portion.**



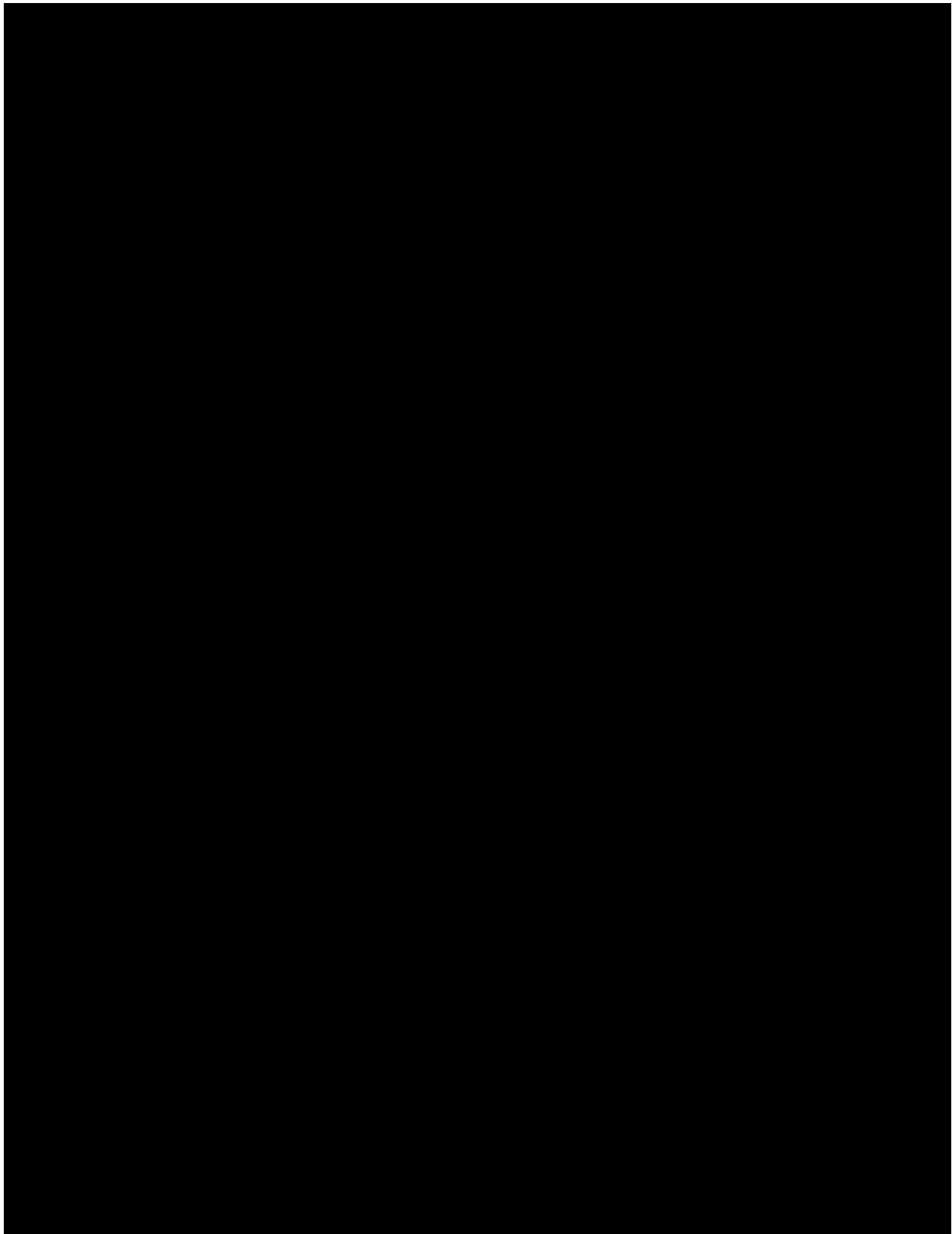
**Figure 4b. Route 3 with previous projects and previously recorded sites, southern portion.**



**Figure 5a. Route 4 with previous projects and previously recorded sites, northern portion.**

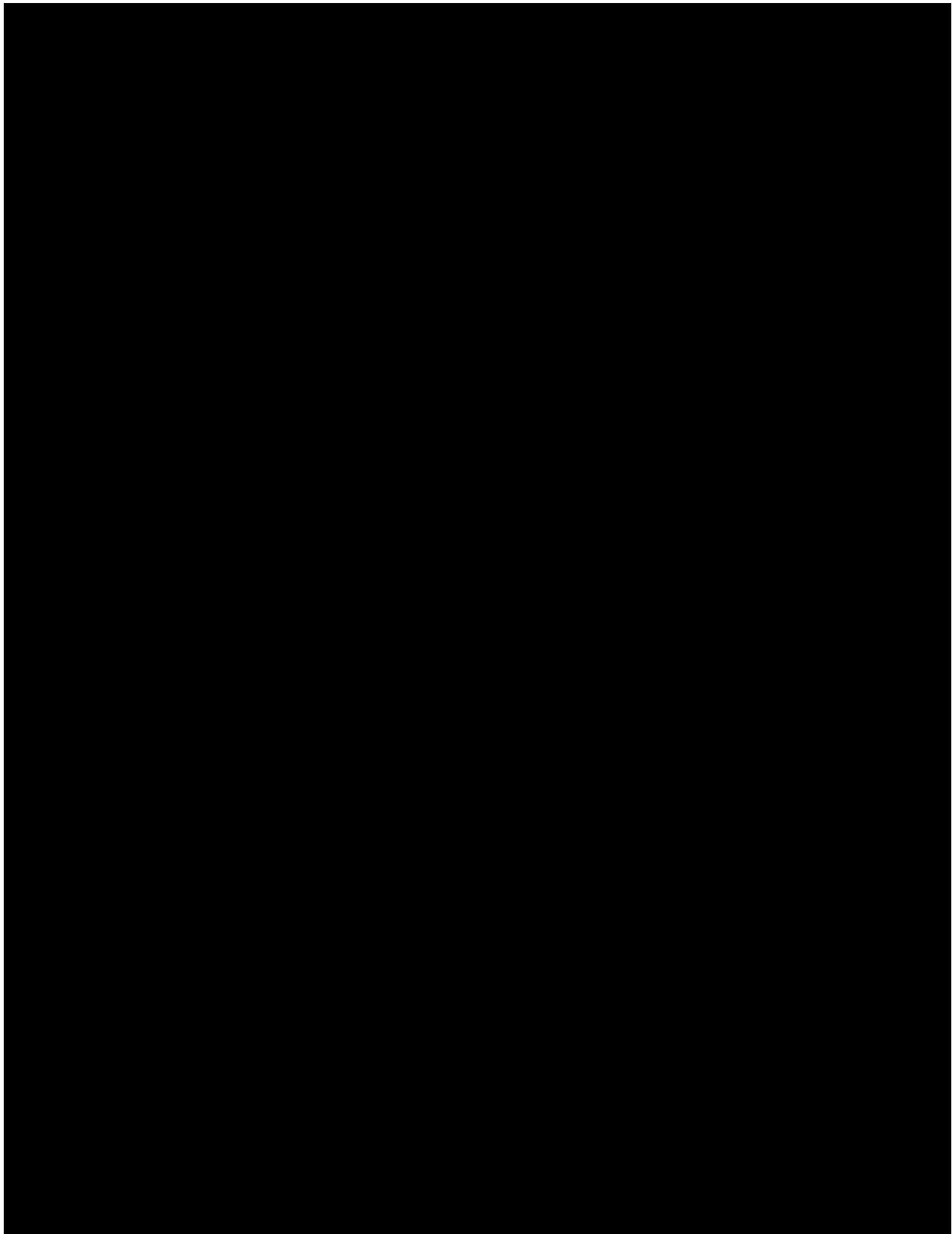


**Figure 5b. Route 4 with previous projects and previously recorded sites, southern portion.**

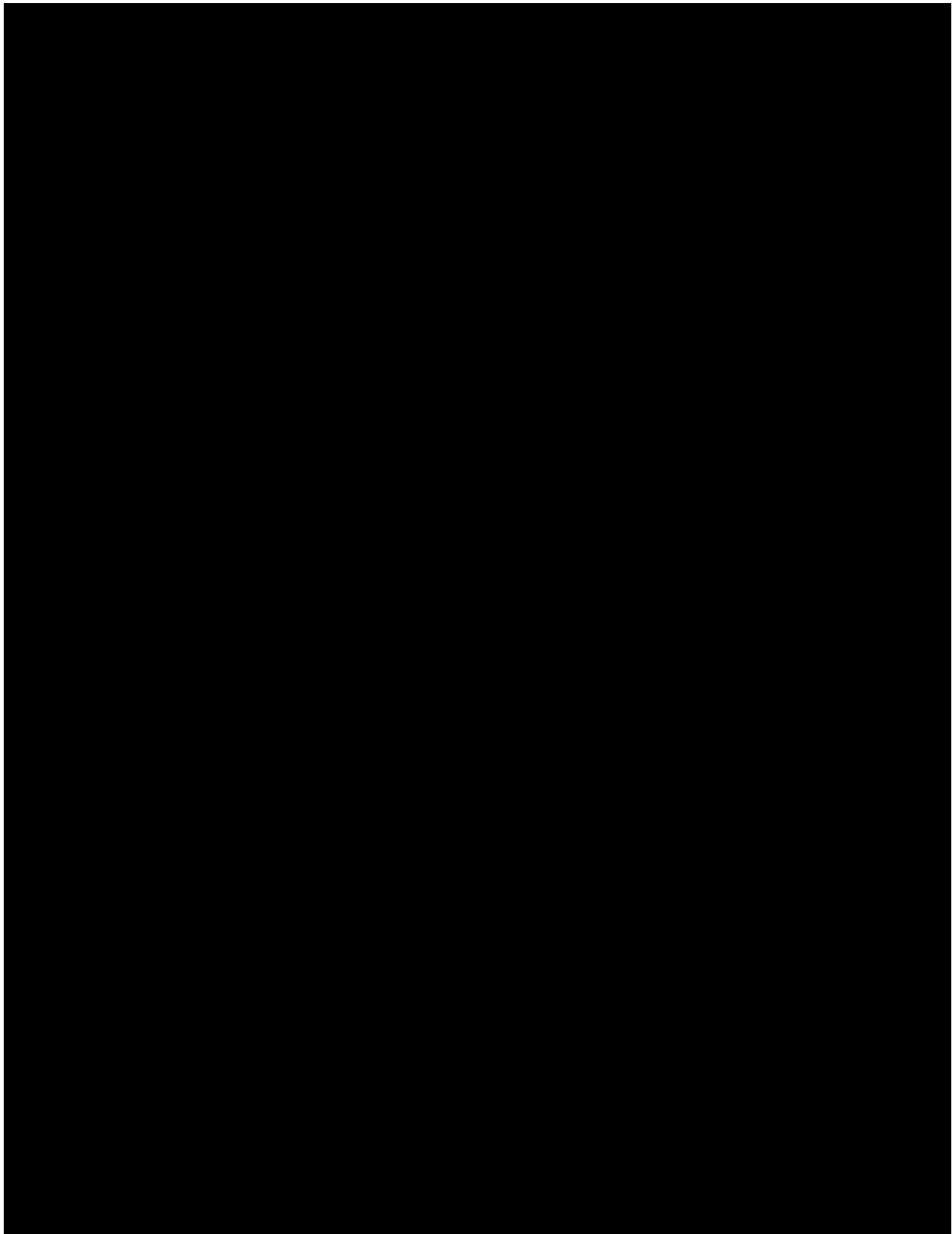


**Figure 6a. Route 5 with previous projects and previously recorded sites, northern portion.**

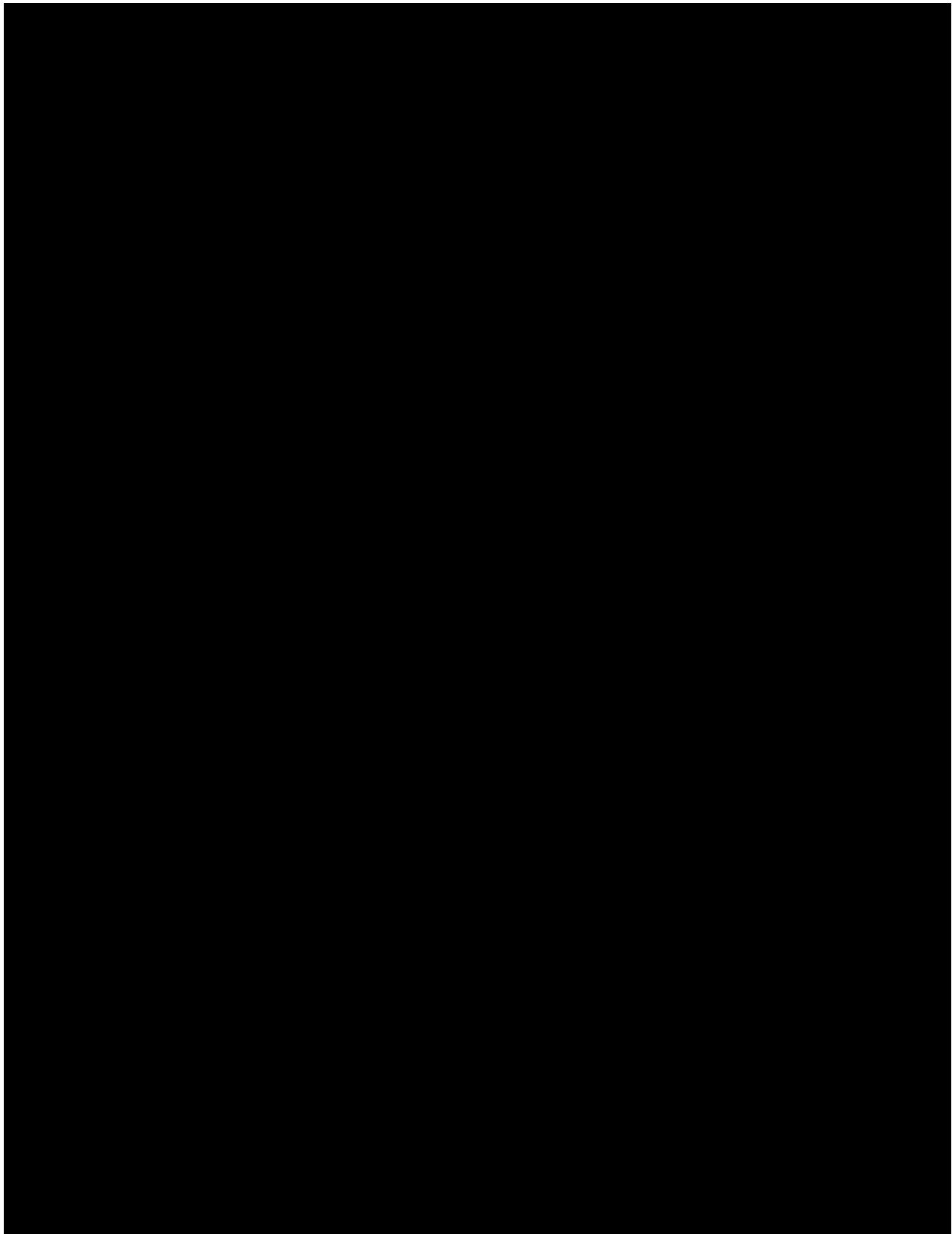




**Figure 6b. Route 5 with previous projects and previously recorded sites, southern portion.**



**Figure 7a. Route 6 with previous projects and previously recorded sites, northern portion.**



**Figure 7b. Route 6 with previous projects and previously recorded sites, southern portion.**

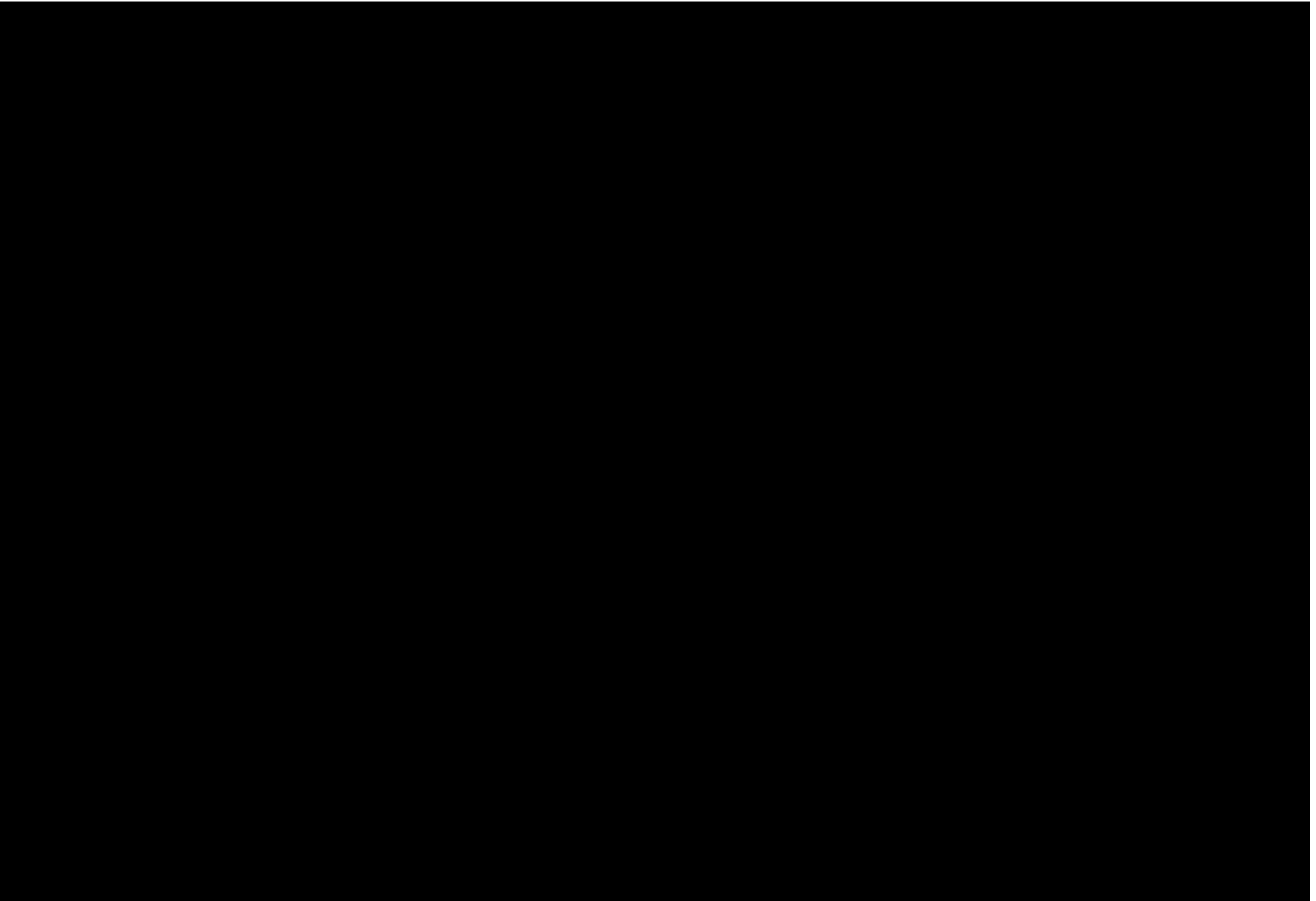


Figure 8. Route A with previous projects and previously recorded sites.

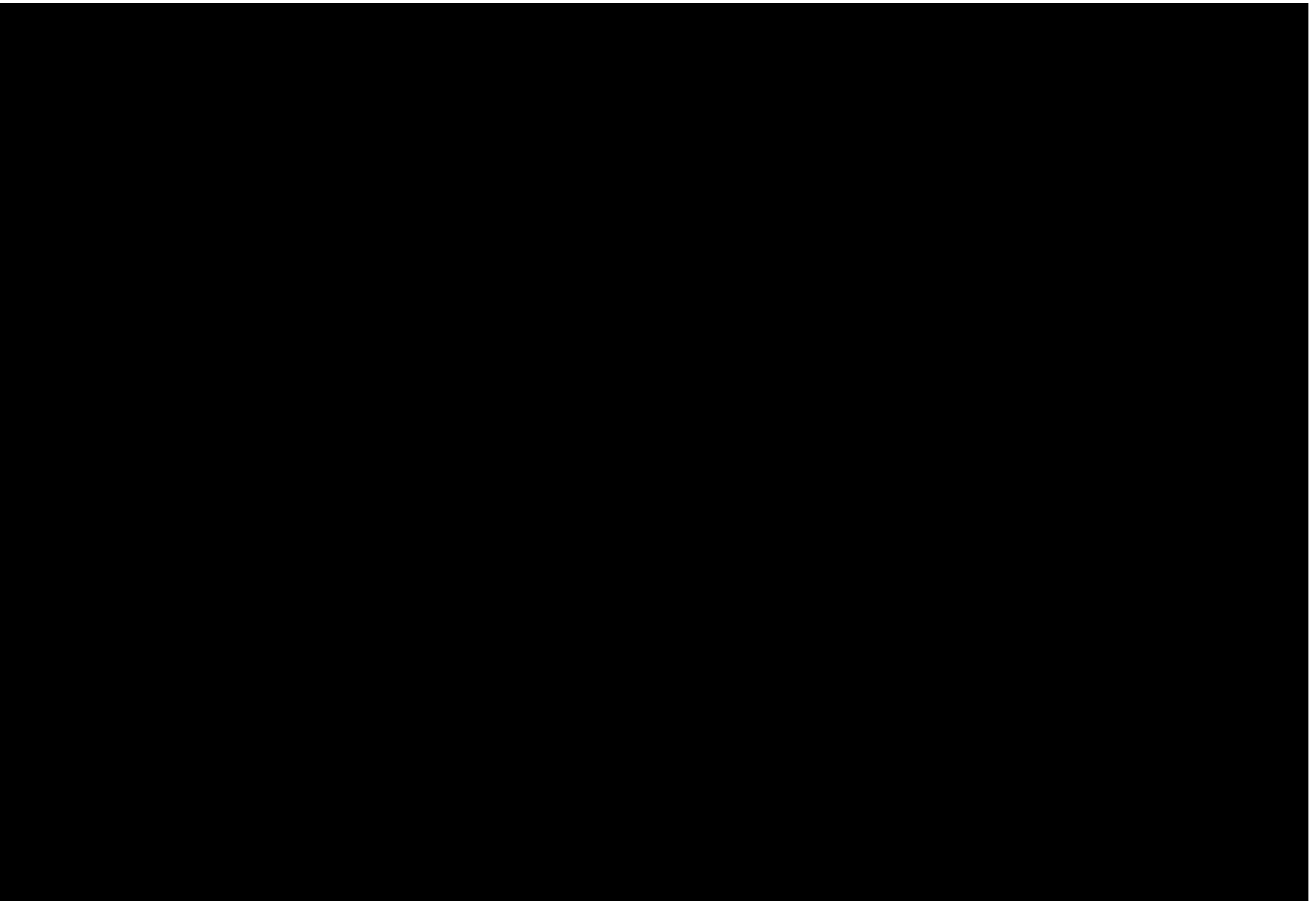


Figure 9. Route B with previous projects and previously recorded sites.

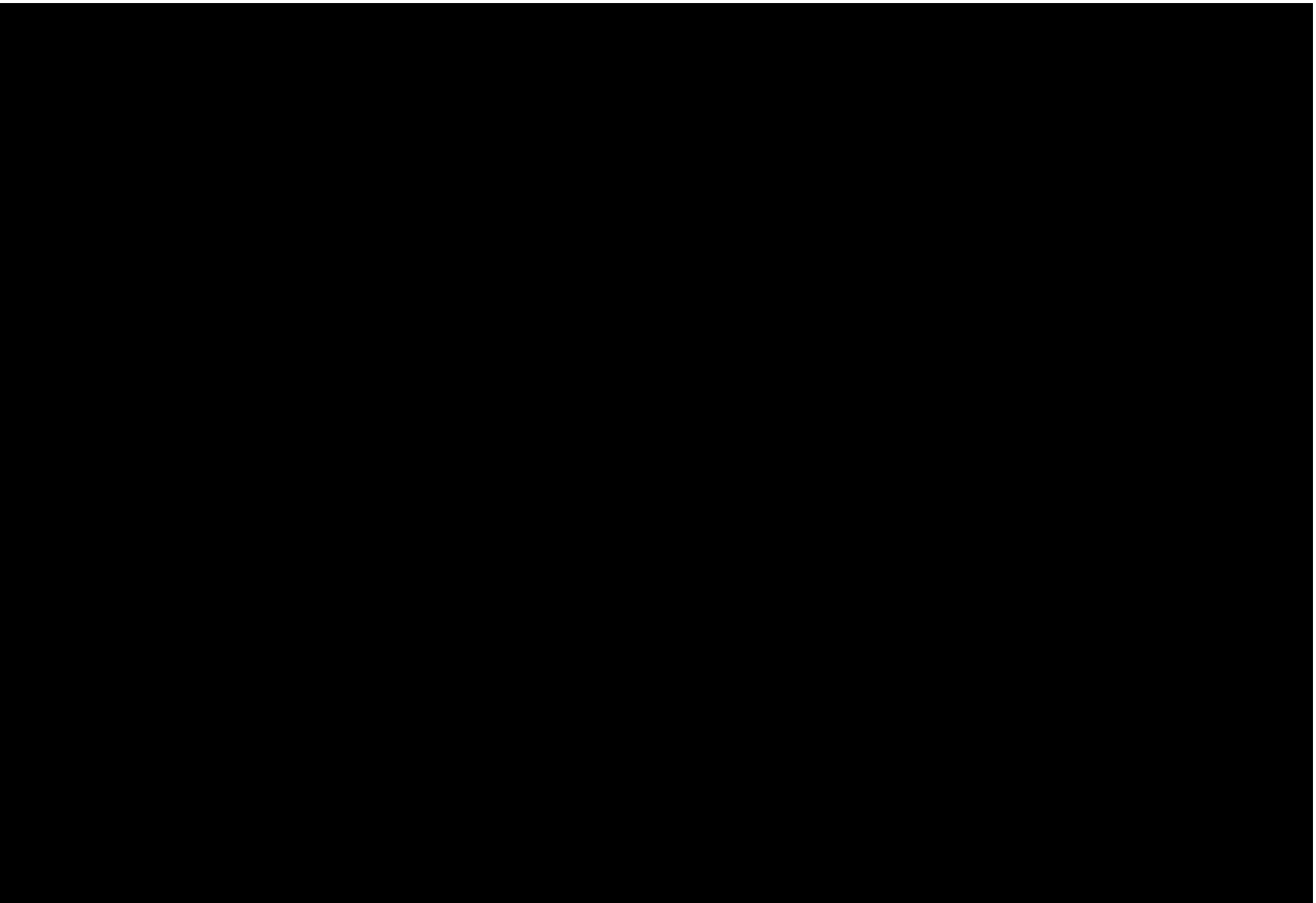


Figure 10. Route C with previous projects and previously recorded sites.

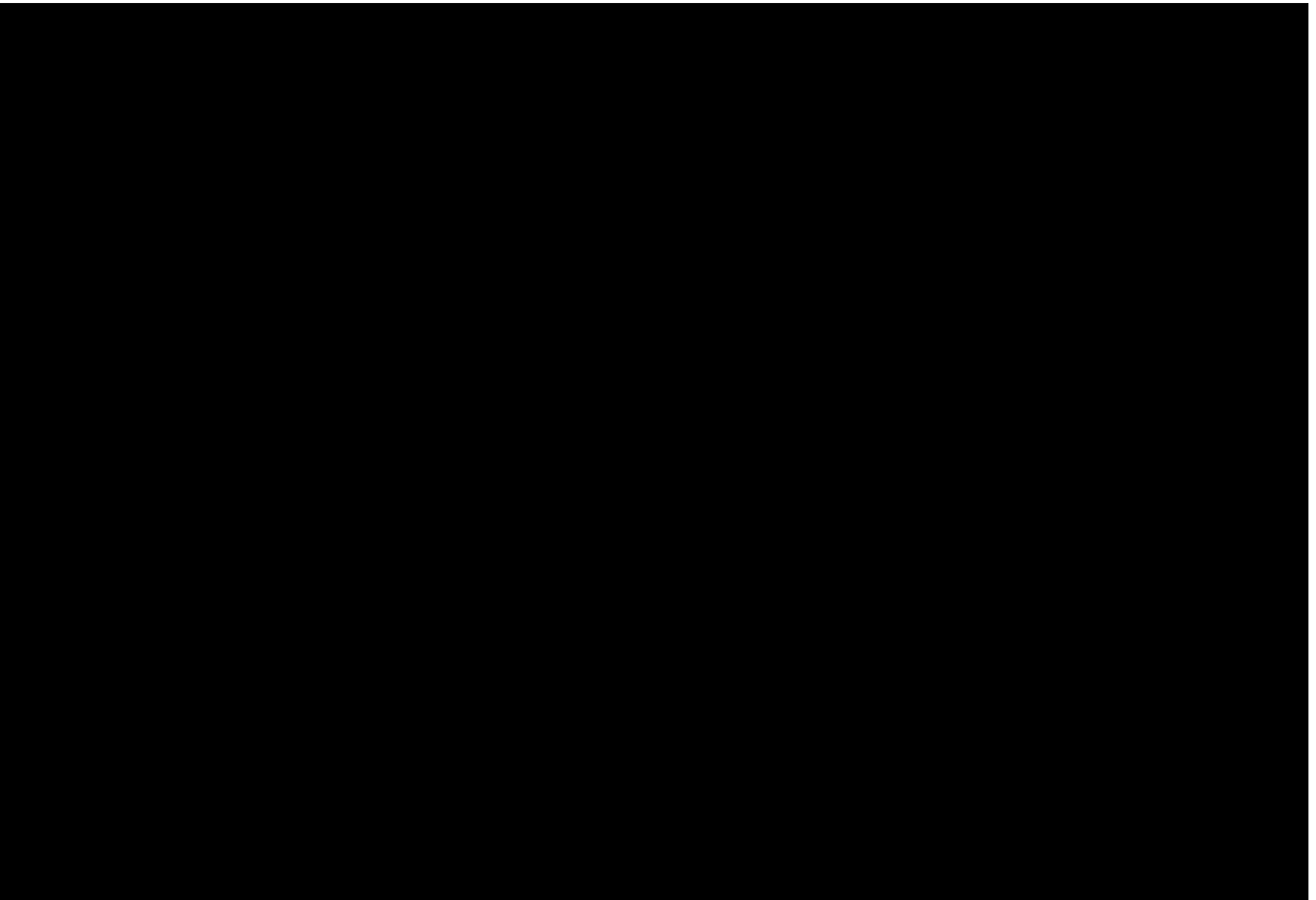


Figure 11. Route D with previous projects and previously recorded sites.

**Table 1. Projects within the 300-ft Buffer of Route 1**

<i><b>Project No.</b></i>	<i><b>Project Name</b></i>	<i><b>Company</b></i>	<i><b>Reference</b></i>
12-50.BLM	Unknown	Unknown	AZSITE
<b>1955-3.ASM</b>	<b>Southern Pacific Pipeline Survey</b>	<b>Southern Pacific</b>	<b>Komerska 1955</b>
1970-9.ASM	Campbell T.I. - 22nd Street	ASM	AZSITE
1984-60.ASM	SR210 Detention Basin Survey	ASM	Strand 1984
<b>1987-141.ASM</b>	<b>Proposed CAP East, Phase I Design Water Pipeline Alignment, Pima County</b>	<b>ASM</b>	<b>Euler 1987</b>
<b>1994-119.ASM</b>	<b>Kino Parkway Land Survey</b>	<b>Cultural &amp; Environmental Systems, Inc.</b>	<b>Boatwright 1994</b>
1994-323.ASM	Campbell-3rd St. Reclaimed Water Main Survey	Desert Archaeology, Inc.	Eppley 1994
1997-105.ASM	Tucson Boulevard-Elm Street Main Replacement Project Survey	Desert Archaeology, Inc.	Eppley 1997e
<b>1997-28.ASM</b>	<b>Kino Community Center Reclaimed Water Main Project</b>	<b>Desert Archaeology, Inc.</b>	<b>Eppley 1997a</b>
<b>1997-34.ASM</b>	<b>Broadway-Campbell Main Replacement Project Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Eppley 1997c</b>
<b>1998-265.ASM</b>	<b>Speedway Campbell Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 1998a</b>
<b>1998-37.ASM</b>	<b>Cherry Avenue Main Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Vint 1998a</b>
1998-59.ASM	Traffic Signal Survey: Campbell/Adams	Desert Archaeology, Inc.	Eppley 1998
<b>1999-348.ASM</b>	<b>CAP Main Manhole Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 1999b</b>
1999-355.ASM	Well Site B003b Survey	Desert Archaeology, Inc.	Diehl 1999c
<b>1999-587.ASM</b>	<b>PBNS Level 3 Fiber Optic Line</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Multiple</b>
2000-284.ASM	Moratorium Streets Survey	Desert Archaeology, Inc.	Diehl 2000
2001-243.ASM	36th Street Housing Survey	Desert Archaeology, Inc.	Diehl 2001a
<b>2002-372.ASM</b>	<b>18th Street/10th Ave Main Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2002d</b>
<b>2003-398.ASM</b>	<b>Bus Pullouts, Phase I Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2003a</b>
<b>2004-1035.ASM</b>	<b>Sidewalk Program Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Hall 2004</b>
2005-363.ASM	Broadway / Campbell Parcels Survey	Desert Archaeology, Inc.	Diehl 2005c
<b>2006-767.ASM</b>	<b>Modern Streetcar Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2007</b>
<b>2007-681.ASM</b>	<b>Sinclair Data Recovery</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Jones et al. 2009</b>
<b>2008-546.ASM</b>	<b>Rincon Heights Survey</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Howell 2008</b>
<b>2009-687.ASM</b>	<b>COT 09-22 Broadway Corridor</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Tucker 2009</b>



<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
2009-832.ASM	22nd Street Survey	Tierra Right of Way Services, Ltd.	Jones 2009c
2011-59.ASM	Tuc Alltel and Speedway	URS	Johnson 2010
2013-486.ASM	36th Street Urban Wildlife Park	William Self Associates	Miller 2013
2014-154.ASM	COT 14-03 ADA Sidewalk Upgrades Archaeological Survey	SWCA Environmental Consultants, Inc.	Rawson 2014
2016-425.ASM	COT #16-18 Broadway Blvd Between Euclid Ave. and Country Club Rd.	Westland Resources	King 2016
2020-191.ASM	Pima County Arroyo Chico	Westland Resources	Stone and Bristow 2020

Note: Bold indicates intersection with the route corridor.

**Table 2. Sites within the 300-ft Buffer of Route 1**

<i>Site No.</i>	<i>Affiliation</i>	<i>Site Type</i>	<i>NRHP Eligibility</i>	<i>Reference</i>
AZ BB:13:740(ASM)	Euroamerican	Historic building foundation	Not eligible (recorder)	Doak 2007a

**Table 3. Projects within the 300-ft Buffer of Route 2**

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
12-82.BLM	Unknown	Unknown	AZSITE
1955-3.ASM	Southern Pacific Pipeline Survey	Southern Pacific	Komerska 1955
1970-9.ASM	Campbell T.I. - 22nd Street	ASM	AZSITE
1987-141.ASM	Proposed CAP East, Phase I Design Water Pipeline Alignment, Pima County	ASM	Euler 1987
1990-162.ASM	Archaeological Survey of Speedway/Pima Widening Project	Desert Archaeology, Inc.	DeMaagd 1990
1993-163.ASM	Plumer-22nd Street to Himmel Park Survey	Desert Archaeology, Inc.	Elson 1993
1994-119.ASM	Kino Parkway Land Survey	Cultural & Environmental Systems, Inc.	Boatwright 1994
1994-323.ASM	Campbell-3rd St. Reclaimed Water Main Survey	Desert Archaeology, Inc.	Eppley 1994
1996-111.ASM	Kino and 36th Survey	Desert Archaeology, Inc.	Lindeman 1996
1997-28.ASM	Kino Community Center Reclaimed Water Main Project	Desert Archaeology, Inc.	Eppley 1997a
1997-34.ASM	Broadway-Campbell Main Replacement Project Survey	Desert Archaeology, Inc.	Eppley 1997c
1997-35.ASM	Speedway-Campbell Main Replacement Project Survey	Desert Archaeology, Inc.	Eppley 1997d

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
1998-139.ASM	Overlay and Resurfacing Survey	Desert Archaeology, Inc.	Silva 1998b
1998-265.ASM	Speedway Campbell Survey	Desert Archaeology, Inc.	Diehl 1998a
1998-37.ASM	Cherry Avenue Main Survey	Desert Archaeology, Inc.	Vint 1998a
1999-348.ASM	CAP Main Manhole Survey	Desert Archaeology, Inc.	Diehl 1999b
1999-587.ASM	PBNS Level 3 Fiber Optic Line	SWCA Environmental Consultants, Inc.	Multiple
2000-284.ASM	Moratorium Streets Survey	Desert Archaeology, Inc.	Diehl 2000
2001-243.ASM	36th Street Housing Survey	Desert Archaeology, Inc.	Diehl 2001a
2002-372.ASM	18th Street/10th Ave Main Survey	Desert Archaeology, Inc.	Diehl 2002d
2002-52.ASM	Plumer Broadway Water Main Replacement Cultural Resources Survey	Old Pueblo Archaeology Center	Jones and Dart 2002
2005-315.ASM	Sam Hughes 202 Survey	Desert Archaeology, Inc.	Diehl 2005b
2006-767.ASM	Modern Streetcar Survey	Desert Archaeology, Inc.	Diehl 2007
2007-681.ASM	Sinclair Data Recovery	Tierra Right of Way Services, Ltd.	Jones et al. 2009
2008-574.ASM	08-36 COT Due Diligance for Fire Stations 3 and 9	SWCA Environmental Consultants, Inc.	Griset 2008
2009-832.ASM	22nd Street Survey	Tierra Right of Way Services, Ltd.	Jones 2009c
2011-322.ASM	2225 E. Broadway Survey	Tierra Right of Way Services, Ltd.	Doak 2010c
2011-59.ASM	Tuc Alltel and Speedway	URS	Johnson 2010
2013-486.ASM	36th Street Urban Wildlife Park	William Self Associates	Miller 2013
2014-154.ASM	COT 14-03 ADA Sidewalk Upgrades Archaeological Survey	SWCA Environmental Consultants, Inc.	Rawson 2014
2016-425.ASM	COT #16-18 Broadway Blvd Between Euclid Ave. and Country Club Rd.	Westland Resources	King 2016
2020-191.ASM	Pima County Arroyo Chico	Westland Resources	Stone and Bristow 2020

Note: Bold indicates intersection with the route corridor.

**Table 4. Sites within the 300-ft Buffer of Route 2**

<i>Site No.</i>	<i>Affiliation</i>	<i>Site Type</i>	<i>NRHP Eligibility</i>	<i>Reference</i>
AZ BB:13:740(ASM)	Euroamerican	Historic building foundation	Not eligible (recorder)	Doak 2007a

**Table 5. Projects within the 300-ft Buffer of Route 3**

<i><b>Project No.</b></i>	<i><b>Project Name</b></i>	<i><b>Company</b></i>	<i><b>Reference</b></i>
1955-3.ASM	Southern Pacific Pipeline Survey	Southern Pacific	Komerska 1955
1970-9.ASM	Campbell T.I. - 22nd Street	ASM	AZSITE
1984-60.ASM	SR210 Detention Basin Survey	ASM	Strand 1984
1987-141.ASM	Proposed CAP East, Phase I Design Water Pipeline Alignment, Pima County	ASM	Euler 1987
1994-90.ASM	U.A. MAIN GATE CENTER SURVEY	Statistical Research, Inc.	Fedor Ziady 1994
1996-111.ASM	KINO AND 36TH SURVEY	Desert Archaeology, Inc.	Lindeman 1996
1997-116.ASM	Archaeological Survey for Tucson Mission Industries	Archaeological Consulting Services	AZSITE
1997-28.ASM	Kino Community Center Reclaimed Water Main Project	Desert Archaeology, Inc.	Eppley 1997a
1997-322.ASM	22nd Street/ Santa Rita Main Survey	Desert Archaeology, Inc.	Thiel 1998
1997-33.ASM	Kino-Silverlake Main Replacement Project Survey	Desert Archaeology, Inc.	Eppley 1997b
1997-34.ASM	Broadway-Campbell Main Replacement Project Survey	Desert Archaeology, Inc.	Eppley 1997c
1997-35.ASM	Speedway-Campbell Main Replacement Project Survey	Desert Archaeology, Inc.	Eppley 1997d
1998-265.ASM	Speedway Campbell Survey	Desert Archaeology, Inc.	Diehl 1998a
1998-273.ASM	1409 East Broadway Assessment	Desert Archaeology, Inc.	Diehl 1998c
1998-37.ASM	Cherry Avenue Main Survey	Desert Archaeology, Inc.	Vint 1998a
1998-92.ASM	Park Avenue Detention Survey	Desert Archaeology, Inc.	Silva 1998a
1999-348.ASM	CAP Main Manhole Survey	Desert Archaeology, Inc.	Diehl 1999b
1999-587.ASM	PBNS Level 3 Fiber Optic Line	SWCA Environmental Consultants	Multiple
1999-99.ASM	University Blvd./6th Ave. Main Survey	Desert Archaeology, Inc.	Diehl 1999a
2000-284.ASM	Moratorium Streets Survey	Desert Archaeology, Inc.	Diehl 2000
2001-243.ASM	36th Street Housing Survey	Desert Archaeology, Inc.	Diehl 2001a
2002-325.ASM	Euclid and Speedway Improvements Survey	Desert Archaeology, Inc.	Diehl 2002b
2002-372.ASM	18th Street/10th Ave Main Survey	Desert Archaeology, Inc.	Diehl 2002d
2003-1318.ASM	Highland Avenue Survey	Harris Environmental Group, Inc.	Fahrni 2004
2006-158.ASM	1443 East Broadway Survey	Desert Archaeology, Inc.	Hall 2006a
2006-734.ASM	Feldman's Neighborhood Survey	Desert Archaeology, Inc.	Diehl 2006b

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
2006-767.ASM	Modern Streetcar Survey	Desert Archaeology, Inc.	Diehl 2007
2007-681.ASM	Sinclair Data Recovery	Tierra Right of Way Services, Ltd.	Jones et al. 2009
2008-546.ASM	Rincon Heights Survey	Tierra Right of Way Services, Ltd.	Howell 2008
2009-204.ASM	Euclid Ave Survey	Tierra Right of Way Services, Ltd.	Jones 2009a
2009-832.ASM	22nd Street Survey	Tierra Right of Way Services, Ltd.	Jones 2009c
2010-57.ASM	COT 09-53 San Antonio Neighborhood Reinvestment	SWCA Environmental Consultants	Tucker 2010b
2011-383.ASM	Park Avenue-Speedway to Fort Lowell Survey	Desert Archaeology, Inc.	Diehl 2012
2013-486.ASM	36th Street Urban Wildlife Park	William Self Associates	Miller 2013
2014-154.ASM	COT 14-03 ADA Sidewalk Upgrades Archaeological Survey	SWCA Environmental Consultants	Rawson 2014
2015-633.ASM	TUC_Tyndal-1	Terracon Consulting, Inc.	Boley et al. 2016
2016-425.ASM	COT #16-18 Broadway Blvd Between Euclid Ave. and Country Club Rd.	Westland Resources	King 2016

Note: Bold indicates intersection with the route corridor.

**Table 6. Sites within the 300-ft Buffer of Route 3**

<i>Site No.</i>	<i>Affiliation</i>	<i>Site Type</i>	<i>NRHP Eligibility</i>	<i>Reference</i>
AZ BB:13:445(ASM)	Euroamerican	Historic house foundation with artifacts	Not evaluated	Sterner et al. 1997
AZ BB:13:648(ASM)	Euroamerican	Historic house foundation with artifacts	Not eligible (recorder)	O'Mack 2000
AZ BB:13:740(ASM)	Euroamerican	Historic building foundation	Not eligible (recorder)	Doak 2007a

Note: Bold indicates intersection with the route corridor.

**Table 7. Projects within the 300-ft Buffer of Route 4**

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
1955-3.ASM	Southern Pacific Pipeline Survey	Southern Pacific	Komerska 1955
1970-9.ASM	Campbell T.I. - 22nd Street	ASM	AZSITE
1980-155.ASM	Santa Cruz/SW Interceptor Project	ASM	AZSITE
1983-6.ASM	Las Brisas Condominiums, 3rd Avenue and 16th Street	ASM	AZSITE

<i><b>Project No.</b></i>	<i><b>Project Name</b></i>	<i><b>Company</b></i>	<i><b>Reference</b></i>
<b>1987-141.ASM</b>	<b>Proposed CAP East, Phase I Design Water Pipeline Alignment, Pima County</b>	<b>ASM</b>	<b>Euler 1987</b>
1994-90.ASM	U.A. Main Gate Center Survey	Statistical Research, Inc.	Fedor Ziady 1994
1996-111.ASM	Kino and 36th Survey	Desert Archaeology, Inc.	Lindeman 1996
<b>1996-286.ASM</b>	<b>Water Main Alignments in the Vicinity of Park Avenue and 33rd Street, Tucson</b>	<b>Desert Archaeology, Inc.</b>	<b>Silva 1996b</b>
<b>1997-28.ASM</b>	<b>Kino Community Center Reclaimed Water Main Project</b>	<b>Desert Archaeology, Inc.</b>	<b>Eppley 1997a</b>
<b>1997-322.ASM</b>	<b>22nd Street/ Santa Rita Main Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Thiel 1998</b>
<b>1997-35.ASM</b>	<b>Speedway-Campbell Main Replacement Project Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Eppley 1997d</b>
<b>1998-265.ASM</b>	<b>Speedway Campbell Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 1998a</b>
<b>1998-37.ASM</b>	<b>Cherry Avenue Main Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Vint 1998a</b>
1998-44.ASM	S. Park (19th to 36th) Survey	Desert Archaeology, Inc.	Vint 1998c
<b>1999-587.ASM</b>	<b>PBNS Level 3 Fiber Optic Line</b>	<b>SWCA Environmental Consultants</b>	<b>Multiple</b>
<b>1999-99.ASM</b>	<b>University Blvd./6th Ave. Main Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 1999a</b>
<b>2000-116.ASM</b>	<b>Jct. I-19 - Craycroft Rd.</b>	<b>Entranco</b>	<b>Walsh and Montero 2000</b>
<b>2000-284.ASM</b>	<b>Moratorium Streets Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2000</b>
2001-243.ASM	36th Street Housing Survey	Desert Archaeology, Inc.	Diehl 2001a
<b>2001-399.ASM</b>	<b>South Park Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2001b</b>
<b>2001-41.ASM</b>	<b>Clearwell Transmission Main Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Brack 2001</b>
<b>2001-715.ASM</b>	<b>Survey of Proposed South of Tucson Reroute, AT&amp;T NexGen/Core Project Link 2</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>Smith and Wheeler 2001</b>
<b>2002-316.ASM</b>	<b>South Park Back to Basics Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2002c</b>
<b>2002-325.ASM</b>	<b>Euclid and Speedway Improvements Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2002b</b>
2003-1217.ASM	Hope VI 35th Street Purchase Survey	Desert Archaeology, Inc.	Diehl 2003e
2003-1218.ASM	Habitat - 36th and Mountain Survey	Desert Archaeology, Inc.	Diehl 2003d
2004-1748.ASM	902 East 35th Street Survey	Desert Archaeology, Inc.	Diehl 2004b
<b>2004-324.ASM</b>	<b>Corrosion Prevention Project Assessment and Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2004c</b>

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
2006-396.ASM	B2B 16th Street Sidewalk Survey	Desert Archaeology, Inc.	Hall 2006b
2006-734.ASM	Feldman's Neighborhood Survey	Desert Archaeology, Inc.	Diehl 2006b
2006-767.ASM	Modern Streetcar Survey	Desert Archaeology, Inc.	Diehl 2007
2007-681.ASM	Sinclair Data Recovery	Tierra Right of Way Services, Ltd.	Jones et al. 2009
2009-204.ASM	Euclid Ave Survey	Tierra Right of Way Services, Ltd.	Jones 2009a
2011-383.ASM	Park Avenue-Speedway to Fort Lowell Survey	Desert Archaeology, Inc.	Diehl 2012
2012-146.ASM	Sinclair Survey	Tierra Right of Way Services, Ltd.	Doak 2007a
2012-73.ASM	Proposed Fiber Optic Corridor-Cultural Resource Survey	Lone Mountain Archaeological Services	Knoblock 2001
2013-486.ASM	36th Street Urban Wildlife Park	William Self Associates	Miller 2013
2014-154.ASM	<b>COT 14-03 ADA Sidewalk Upgrades Archaeological Survey</b>	<b>SWCA Environmental Consultants</b>	<b>Rawson 2014</b>
2014-388.ASM	COT14-06 Fourth Ave, Congress, Toole Safety Improvements Cultural Resources	SWCA Environmental Consultants	Hesse 2014
2015-633.ASM	TUC_Tyndal-1	Terracon Consulting, Inc.	Boley et al. 2016
2016-425.ASM	<b>COT #16-18 Broadway Blvd Between Euclid Ave. and Country Club Rd.</b>	<b>Westland Resources</b>	<b>King 2016</b>

Note: Bold indicates intersection with the route corridor.

**Table 8. Sites within the 300-ft Buffer of Route 4**

<i>Site No.</i>	<i>Affiliation</i>	<i>Site Type</i>	<i>NRHP Eligibility</i>	<i>Reference</i>
AZ BB:13:125(ASM)	Euroamerican	Historic well and artifacts	Not eligible (SHPO)	AZSITE
<b>AZ BB:13:445(ASM)</b>	<b>Euroamerican</b>	<b>Historic house foundation with artifacts</b>	<b>Not evaluated</b>	<b>Sterner et al. 1997</b>
AZ BB:13:648(ASM)	Euroamerican	Historic house foundation with artifacts	Not eligible (recorder)	O'Mack 2000
<b>AZ BB:13:679(ASM)</b>	<b>Euroamerican</b>	<b>Tucson &amp; Nogales Railroad</b>	<b>Eligible (SHPO)</b>	<b>Multiple</b>
AZ BB:13:740(ASM)	Euroamerican	Historic building foundation	Not eligible (recorder)	Doak 2007a
<b>AZ BB:13:748(ASM)</b>	<b>Euroamerican</b>	<b>Historic airport structure foundations with artifacts</b>	<b>Not eligible (SHPO)</b>	<b>Jones et al. 2009; Doak 2007a</b>

<i>Site No.</i>	<i>Affiliation</i>	<i>Site Type</i>	<i>NRHP Eligibility</i>	<i>Reference</i>
AZ BB:13:763(ASM)	Euroamerican	Historic artifact scatter	Eligible (SHPO)	Jones et al. 2009; Doak 2007a
AZ EE:1:300(ASM)	Euroamerican	Twin Buttes Railroad	Eligible (SHPO)	Multiple

Note: Bold indicates intersection with the route corridor.

**Table 9. Projects within the 300-ft Buffer of Route 5**

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
1955-3.ASM	Southern Pacific Pipeline Survey	Southern Pacific	Komerska 1955
1970-9.ASM	Campbell T.I. - 22nd Street	ASM	AZSITE
1980-155.ASM	Santa Cruz/SW Interceptor Project	ASM	AZSITE
1983-6.ASM	Las Brisas Condominiums, 3rd Avenue and 16th Street	ASM	AZSITE
1987-141.ASM	Proposed CAP East, Phase I Design Water Pipeline Alignment, Pima County	ASM	Euler 1987
1992-213.ASM	3rd Avenue 'A' Zone Transmission Main	Desert Archaeology, Inc.	Levi 1992
1993-158.ASM	Broadway, Toole, and 4th Avenue Survey	Desert Archaeology, Inc.	Thiel 1993
1996-111.ASM	Kino and 36th Survey	Desert Archaeology, Inc.	Lindeman 1996
1996-286.ASM	Water Main Alignments in the Vicinity of Park Avenue and 33rd Street, Tucson	Desert Archaeology, Inc.	Silva 1996b
1996-480.ASM	Micellaneous Monitoring for Southwest Gas	Desert Archaeology, Inc.	Lindeman 1997
1996-76.ASM	Toole & Congress Monitoring	Tierra Archaeological & Environmental Consultants	Lenhart 1996
1997-28.ASM	Kino Community Center Reclaimed Water Main Project	Desert Archaeology, Inc.	Eppley 1997a
1997-322.ASM	22nd Street/ Santa Rita Main Survey	Desert Archaeology, Inc.	Thiel 1998
1997-35.ASM	Speedway-Campbell Main Replacement Project Survey	Desert Archaeology, Inc.	Eppley 1997d
1998-265.ASM	Speedway Campbell Survey	Desert Archaeology, Inc.	Diehl 1998a
1998-37.ASM	Cherry Avenue Main Survey	Desert Archaeology, Inc.	Vint 1998a
1998-38.ASM	Broadway Boulevard/6th Avenue Water Main Survey	Desert Archaeology, Inc.	Vint 1998b
1998-44.ASM	S. Park (19th to 36th) Survey	Desert Archaeology, Inc.	Vint 1998c

<i><b>Project No.</b></i>	<i><b>Project Name</b></i>	<i><b>Company</b></i>	<i><b>Reference</b></i>
1998-568.ASM	174 E. Toole	Tierra Archaeological & Environmental Consultants	Zaglauer 2001a
1999-427.ASM	Tucson 4th Avenue Underpass	Archaeological Research Services, Inc.	Stone 1999
1999-565.ASM	Water Service Monitoring	Desert Archaeology, Inc.	Dutt 1999
1999-587.ASM	PBNS Level 3 Fiber Optic Line	SWCA Environmental Consultants, Inc.	Multiple
1999-99.ASM	University Blvd./6th Ave. Main Survey	Desert Archaeology, Inc.	Diehl 1999a
2000-116.ASM	Jct. I-19 - Craycroft Rd.	Entranco	Walsh and Montero 2000
2000-284.ASM	Moratorium Streets Survey	Desert Archaeology, Inc.	Diehl 2000
2000-723.ASM	AT&T NexGen/Core Project Link 3 Class 3 Survey	Western Cultural Resource Management, Inc.	Kearns et al. 2001
2001-399.ASM	South Park Survey	Desert Archaeology, Inc.	Diehl 2001b
2001-41.ASM	Clearwell Transmission Main Survey	Desert Archaeology, Inc.	Brack 2001
2001-715.ASM	Survey of Proposed South of Tucson Reroute, AT&T NexGen/Core Project Link 2	Western Cultural Resource Management, Inc.	Smith and Wheeler 2001
2001-740.ASM	6th and Toole Monitoring	Tierra Archaeological & Environmental Consultants	Zaglauer 2002b
2001-757.ASM	Railroad Monitor	Tierra Archaeological & Environmental Consultants	Zaglauer 2002a
2002-316.ASM	South Park Back to Basics Survey	Desert Archaeology, Inc.	Diehl 2002c
2002-320.ASM	Stone and Speedway Survey	Desert Archaeology, Inc.	Diehl 2002a
2002-325.ASM	Euclid and Speedway Improvements Survey	Desert Archaeology, Inc.	Diehl 2002b
2003-1218.ASM	Habitat - 36th and Mountain Survey	Desert Archaeology, Inc.	Diehl 2003d
2003-1482.ASM	400 East Toole	Tierra Right of Way Services, Ltd.	DeJongh 2003
2003-1490.ASM	Aviation/3rd Manhole Survey	Desert Archaeology, Inc.	Diehl 2003e
2003-506.ASM	Stone Ave - 6th to 1st Assessment	Desert Archaeology, Inc.	Diehl 2003b
2004-1387.ASM	National Cemetery Monitoring	Desert Archaeology, Inc.	Diehl 2005f
2004-1748.ASM	902 East 35th Street Survey	Desert Archaeology, Inc.	Diehl 2004b
2004-1864.ASM	Alameda Street Survey	Harris Environmental Group, Inc.	Fahrni and Twilling 2004



<i><b>Project No.</b></i>	<i><b>Project Name</b></i>	<i><b>Company</b></i>	<i><b>Reference</b></i>
<b>2004-324.ASM</b>	<b>Corrosion Prevention Project Assessment and Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2004c</b>
2004-463.ASM	Trolley Maintenance Sites Survey	Desert Archaeology, Inc.	Diehl 2004a
<b>2004-679.ASM</b>	<b>AT&amp;T NexGen/Core Project</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>Baker 2004</b>
2005-1243.ASM	Nimbus Brewery Survey	Desert Archaeology, Inc.	Diehl 2005h
2005-313.ASM	Ronsdadt Fiber Optic Monitoring	Desert Archaeology, Inc.	Diehl 2005a
<b>2005-669.ASM</b>	<b>4th Avenue Underpass Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2005e</b>
2005-918.ASM	6th and Toole Survey	Tierra Right of Way Services, Ltd.	Levstik and Jones 2005
2006-17.ASM	6th & Toole Testing and Data Recovery	Tierra Right of Way Services, Ltd.	Hushour et al. 2010
<b>2006-396.ASM</b>	<b>B2B 16th Street Sidewalk Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Hall 2006b</b>
2006-505.ASM	Herbert Avenue at 8th Street Survey	Desert Archaeology, Inc.	Cook 2006
2006-619.ASM	296 N. Stone Monitor	Tierra Right of Way Services, Ltd.	Klune and Hushour 2006
<b>2006-734.ASM</b>	<b>Feldman's Neighborhood Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2006b</b>
<b>2006-767.ASM</b>	<b>Modern Streetcar Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2007</b>
<b>2007-681.ASM</b>	<b>Sinclair Data Recovery</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Jones et al. 2009</b>
<b>2008-60.ASM</b>	<b>RTA Bus Pullout #2</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Doak 2008</b>
<b>2009-107.ASM</b>	<b>COT 08-03 4 Bus Pullouts</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Griset 2009</b>
2009-699.ASM	Plaza Centro Archaeology	Desert Archaeology, Inc.	Thiel 2010
2009-848.ASM	COT 09-44 Downtown Links	SWCA Environmental Consultants, Inc.	Tucker 2010a
<b>2010-208.ASM</b>	<b>COT 10-14 4th Avenue/Fontana Avenue Bike Boulevard</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Tucker 2010c</b>
<b>2010-366.ASM</b>	<b>Stone Avenue Improvements Survey</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Doak 2010b</b>
<b>2010-416.ASM</b>	<b>COT 10-20 Downtown Links</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Steely et al. 2012</b>
<b>2011-383.ASM</b>	<b>Park Avenue-Speedway to Fort Lowell Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2012</b>
<b>2012-146.ASM</b>	<b>Sinclair Survey</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Doak 2007</b>
2012-163.ASM	Downtown Blocks Testing	Desert Archaeology, Inc.	Thiel 2012
<b>2012-469.ASM</b>	<b>6th Avenue Tucson</b>	<b>Northland Research, Inc.</b>	<b>Cox 2012</b>
2012-621.ASM	Toole Traffic Switch	William Self Associates	O'Mack 2012

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
2012-73.ASM	Proposed Fiber Optic Corridor-Cultural Resource Survey	Lone Mountain Archaeological Services	Knoblock 2001
2013-486.ASM	36th Street Urban Wildlife Park	William Self Associates	Miller 2013
2014-154.ASM	COT 14-03 ADA Sidewalk Upgrades Archaeological Survey	SWCA Environmental Consultants, Inc.	Rawson 2014
2014-388.ASM	COT14-06 Fourth Ave, Congress, Toole Safety Improvements Cultural Resources	SWCA Environmental Consultants, Inc.	Hesse 2014

Note: Bold indicates intersection with the route corridor.

**Table 10. Sites within the 300-ft Buffer of Route 5**

<i>Site No.</i>	<i>Affiliation</i>	<i>Site Type</i>	<i>NRHP Eligibility</i>	<i>Reference</i>
AZ BB:13:125(ASM)	Euroamerican	Historic well and artifacts	Not eligible (SHPO)	AZSITE
AZ BB:13:149(ASM)	Euroamerican	Coronado Hotel	NRHP Listed	AZSITE
AZ BB:13:156(ASM)	Euroamerican	Court Street Cemetery	Not eligible (SHPO)	Multiple
AZ BB:13:405(ASM)	Euroamerican	Historic structure with artifacts	Not evaluated	Multiple
<b>AZ BB:13:679(ASM)</b>	<b>Euroamerican</b>	<b>Tucson &amp; Nogales Railroad</b>	<b>Eligible (SHPO)</b>	<b>Multiple</b>
AZ BB:13:700(ASM)	Euroamerican	Southern Pacific Railroad Depot Complex	Recommended eligible (recorder)	Multiple
AZ BB:13:740(ASM)	Euroamerican	Historic building foundation	Not eligible (recorder)	Doak 2007a
<b>AZ BB:13:748(ASM)</b>	<b>Euroamerican</b>	<b>Historic airport structure foundations with artifacts</b>	<b>Not eligible (SHPO)</b>	<b>Jones et al. 2009; Doak 2007a</b>
AZ BB:13:76(ASM)	Euroamerican	Historic settlement	NRHP Listed	Multiple
<b>AZ BB:13:763(ASM)</b>	<b>Euroamerican</b>	<b>Historic artifact scatter</b>	<b>Eligible (SHPO)</b>	<b>Jones et al. 2009; Doak 2007a</b>
AZ BB:13:809(ASM)	Euroamerican	Historic structures and features	Recommended eligible (recorder)	Thiel 2014; Thiel et al. 2010
AZ BB:13:820(ASM)	Euroamerican	Historic structure with features and artifacts	Recommended eligible (recorder)	Thiel 2014; Thiel et al. 2010
<b>AZ EE:1:300(ASM)</b>	<b>Euroamerican</b>	<b>Twin Buttes Railroad</b>	<b>Eligible (SHPO)</b>	<b>Multiple</b>
<b>AZ FF:9:17(ASM)</b>	<b>Euroamerican</b>	<b>State Route 80</b>	<b>Eligible (SHPO)</b>	<b>Multiple</b>

Note: Bold indicates intersection with the route corridor.

Table 11. Projects within the 300-ft Buffer of Route 6

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
1955-3.ASM	Southern Pacific Pipeline Survey	Southern Pacific	Komerska 1955
1970-9.ASM	Campbell T.I. - 22nd Street	ASM	AZSITE
1980-155.ASM	Santa Cruz/SW Interceptor Project	ASM	AZSITE
1983-6.ASM	Las Brisas Condominiums, 3rd Avenue and 16th Street	ASM	AZSITE
1987-141.ASM	Proposed CAP East, Phase I Design Water Pipeline Alignment, Pima County	ASM	Euler 1987
1993-158.ASM	Broadway, Toole, and 4th Avenue Survey	Desert Archaeology, Inc.	Thiel 1993
1994-47.ASM	Grant Road and Campbell Avenue Survey	Desert Archaeology, Inc.	Thiel 1994
1995-323.ASM	Mountain/Grant-Fort Lowell	Desert Archaeology, Inc.	Swartz 1995
1996-102.ASM	Grant-First Survey	Desert Archaeology, Inc.	Swartz 1996
1996-109.ASM	City Wide Overlay Survey Various Locations	Desert Archaeology, Inc.	Eppley 1996
1996-111.ASM	KINO AND 36TH SURVEY Kino and 36th Survey	Desert Archaeology, Inc.	Lindeman 1996
1996-282.ASM	Archaeological Survey of Water Main Alignments in the Vicinity of Glenn and Mountain, Tucson	Desert Archaeology, Inc.	Silva 1996a
1996-286.ASM	Water Main Alignments in the Vicinity of Park Avenue and 33rd Street, Tucson	Desert Archaeology, Inc.	Silva 1996b
1996-480.ASM	Miscellaneous Monitoring for Southwest Gas	Desert Archaeology, Inc.	Lindeman 1997
1996-76.ASM	Toole & Congress Monitoring	Tierra Archaeological & Environmental Consultants	Lenhart 1996
1997-105.ASM	Tucson Boulevard-Elm Street Main Replacement Project Survey	Desert Archaeology, Inc.	Eppley 1997e
1997-230.ASM	Campbell/Ft. Lowell Water Main Survey	Desert Archaeology, Inc.	Eppley 1997f
1997-28.ASM	Kino Community Center Reclaimed Water Main Project	Desert Archaeology, Inc.	Eppley 1997a
1997-322.ASM	22nd Street/ Santa Rita Main Survey	Desert Archaeology, Inc.	Thiel 1998
1998-37.ASM	Cherry Avenue Main Survey	Desert Archaeology, Inc.	Vint 1998a
1998-38.ASM	Broadway Boulevard/6th Avenue Water Main Survey	Desert Archaeology, Inc.	Vint 1998b
1998-44.ASM	S. Park (19th to 36th) Survey	Desert Archaeology, Inc.	Vint 1998c
1998-568.ASM	174 E. Toole	Tierra Archaeological & Environmental Consultants	Zaglauer 2001

<i><b>Project No.</b></i>	<i><b>Project Name</b></i>	<i><b>Company</b></i>	<i><b>Reference</b></i>
1998-59.ASM	Traffic Signal Survey: Campbell/Adams	Desert Archaeology, Inc.	Eppley 1998
<b>1999-427.ASM</b>	<b>Tucson 4th Avenue Underpass</b>	<b>Archaeological Research Services, Inc.</b>	<b>Stone 1999</b>
1999-565.ASM	Water Service Monitoring	Desert Archaeology, Inc.	Dutt 1999
<b>1999-587.ASM</b>	<b>PBNS Level 3 Fiber Optic Line</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Multiple</b>
1999-99.ASM	University Blvd./6th Ave. Main Survey	Desert Archaeology, Inc.	Diehl 1999a
<b>2000-116.ASM</b>	<b>Jct. I-19 - Craycroft Rd.</b>	<b>Entranco</b>	<b>Walsh and Montero 2000</b>
<b>2000-284.ASM</b>	<b>Moratorium Streets Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2000</b>
2000-719.ASM	Franklin/Church Monitoring	Tierra Archaeological & Environmental Consultants	Zaglauer 2001b
<b>2000-723.ASM</b>	<b>AT&amp;T NexGen/Core Project Link 3 Class 3 Survey</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>Kearns et al. 2001</b>
2001-399.ASM	South Park Survey	Desert Archaeology, Inc.	Diehl 2001b
<b>2001-41.ASM</b>	<b>Clearwell Transmission Main Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Brack 2001</b>
2001-715.ASM	Survey of Proposed South of Tucson Reroute, AT&T NexGen/Core Project Link 2	Western Cultural Resource Management, Inc.	Smith and Wheeler 2001
2001-740.ASM	6th and Toole Monitoring	Tierra Archaeological & Environmental Consultants	Zaglauer 2002b
2001-757.ASM	Railroad Monitor	Tierra Archaeological & Environmental Consultants	Zaglauer 2002a
<b>2002-316.ASM</b>	<b>South Park Back to Basics Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2002c</b>
<b>2002-320.ASM</b>	<b>Stone and Speedway Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2002a</b>
2003-1217.ASM	Hope VI 35th Street Purchase Survey	Desert Archaeology, Inc.	Diehl 2003e
2003-1218.ASM	Habitat - 36th and Mountain Survey	Desert Archaeology, Inc.	Diehl 2003d
2003-1482.ASM	400 East Toole	Tierra Right of Way Services, Ltd.	DeJongh 2003
<b>2003-1490.ASM</b>	<b>Aviation/3rd Manhole Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2003f</b>
<b>2003-506.ASM</b>	<b>Stone Ave - 6th to 1st Assessment</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2003b</b>
<b>2004-1035.ASM</b>	<b>Sidewalk Program Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Hall 2004</b>
2004-1387.ASM	National Cemetery Monitoring	Desert Archaeology, Inc.	Diehl 2005e

<i><b>Project No.</b></i>	<i><b>Project Name</b></i>	<i><b>Company</b></i>	<i><b>Reference</b></i>
2004-1748.ASM	902 East 35th Street Survey	Desert Archaeology, Inc.	Diehl 2004b
<b>2004-1864.ASM</b>	<b>Alameda Street Survey</b>	<b>Harris Environmental Group, Inc.</b>	<b>Fahrni and Twilling 2004</b>
<b>2004-297.ASM</b>	<b>Sunwest Cell Tower Project</b>	<b>EcoPlan Associates</b>	<b>Giacobbe 2003</b>
<b>2004-324.ASM</b>	<b>Corrosion Prevention Project Assessment and Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2004c</b>
2004-463.ASM	Trolley Maintenance Sites Survey	Desert Archaeology, Inc.	Diehl 2004a
<b>2004-679.ASM</b>	<b>AT&amp;T NexGen/Core Project</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>Baker 2004</b>
2005-1243.ASM	Nimbus Brewery Survey	Desert Archaeology, Inc.	Diehl 2005g
2005-313.ASM	Ronsdadt Fiber Optic Monitoring	Desert Archaeology, Inc.	Diehl 2005a
2005-528.ASM	Pennington / Toole Acquisition Survey	Desert Archaeology, Inc.	Diehl 2005d
<b>2005-669.ASM</b>	<b>4th Avenue Underpass Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2005e</b>
2005-720.ASM	2353 N. First Avenue Survey	Desert Archaeology, Inc.	Diehl 2005f
2005-918.ASM	6th and Toole Survey	Tierra Right of Way Services, Ltd.	Levstik and Jones 2005
2006-17.ASM	6th & Toole Testing and Data Recovery	Tierra Right of Way Services, Ltd.	Hushour et al. 2010
<b>2006-396.ASM</b>	<b>B2B 16th Street Sidewalk Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Hall 2006b</b>
2006-505.ASM	Herbert Avenue at 8th Street Survey	Desert Archaeology, Inc.	Cook 2006
2006-618.ASM	Samos Main Replacement Survey	Desert Archaeology, Inc.	Diehl 2006a
2006-619.ASM	296 N. Stone Monitor	Tierra Right of Way Services, Ltd.	Klune and Hushour 2006
<b>2006-767.ASM</b>	<b>Modern Streetcar Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2007</b>
<b>2007-681.ASM</b>	<b>Sinclair Data Recovery</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Jones et al. 2009</b>
2009-636.ASM	Grant Road Survey	Tierra Right of Way Services, Ltd.	Jones 2009b
2009-699.ASM	Plaza Centro Archaeology	Desert Archaeology, Inc.	Thiel 2010
<b>2009-848.ASM</b>	<b>COT 09-44 Downtown Links</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Tucker 2010a</b>
2010-180.ASM	COT 10-08 Grant Road and Oracle Intersection	SWCA Environmental Consultants, Inc.	Tucker 2010d
<b>2010-208.ASM</b>	<b>COT 10-14 4th Avenue/Fontana Avenue Bike Boulevard</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Tucker 2010c</b>
<b>2010-366.ASM</b>	<b>Stone Avenue Improvements Survey</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Doak 2010b</b>
<b>2010-416.ASM</b>	<b>COT 10-20 Downtown Links</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Steely et al. 2012</b>
2010-77.ASM	COT 10-02 Campbell Ave Enhancement	SWCA Environmental Consultants, Inc.	Steely and Tucker 2012

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
2011-341.ASM	Survey in Support of Grant Road Corridor Acquisition	Statistical Research, Inc.	Graves and White 2011
2011-383.ASM	Park Avenue-Speedway to Fort Lowell Survey	Desert Archaeology, Inc.	Diehl 2012
2012-146.ASM	Sinclair Survey	Tierra Right of Way Services, Ltd.	Doak 2007a
2012-163.ASM	Downtown Blocks Testing	Desert Archaeology, Inc.	Thiel 2012
2012-621.ASM	Toole Traffic Switch	William Self Associates	O'Mack 2012
2012-73.ASM	Proposed Fiber Optic Corridor-Cultural Resource Survey	Lone Mountain Archaeological Services	Knoblock 2001
2013-486.ASM	36th Street Urban Wildlife Park	William Self Associates	Miller 2013
2014-154.ASM	COT 14-03 ADA Sidewalk Upgrades Archaeological Survey	SWCA Environmental Consultants, Inc.	Rawson 2014
2014-323.ASM	Grant Road Survey from Oracle to Swan	William Self Associates	Wygant and Boley 2014
2014-388.ASM	COT14-06 Fourth Ave, Congress, Toole Safety Improvements Cultural Resources	SWCA Environmental Consultants, Inc.	Hesse 2014
2014-48.ASM	TEP Toole and Council Arch Monitor	Western Cultural Resource Management, Inc.	Jerla 2014

Note: Bold indicates intersection with the route corridor.

**Table 12. Sites within the 300-ft Buffer of Route 6**

<i>Site No.</i>	<i>Affiliation</i>	<i>Site Type</i>	<i>NRHP Eligibility</i>	<i>Reference</i>
AZ BB:13:125(ASM)	Euroamerican	Historic well and artifacts	Not eligible (SHPO)	AZSITE
AZ BB:13:149(ASM)	Euroamerican	Coronado Hotel	NRHP Listed	AZSITE
AZ BB:13:156(ASM)	Euroamerican	Court Street Cemetery	Not eligible (SHPO)	Multiple
AZ BB:13:405(ASM)	Euroamerican	Historic structure with artifacts	Not evaluated	Multiple
<b>AZ BB:13:679(ASM)</b>	<b>Euroamerican</b>	<b>Tucson &amp; Nogales Railroad</b>	<b>Eligible (SHPO)</b>	<b>Multiple</b>
AZ BB:13:700(ASM)	Euroamerican	Southern Pacific Railroad Depot Complex	Recommended eligible (recorder)	Multiple
AZ BB:13:740(ASM)	Euroamerican	Historic building foundation	Not eligible (recorder)	Doak 2007a
<b>AZ BB:13:748(ASM)</b>	<b>Euroamerican</b>	<b>Historic airport structure foundations with artifacts</b>	<b>Not eligible (SHPO)</b>	<b>Jones et al. 2009; Doak 2007a</b>
AZ BB:13:76(ASM)	Euroamerican	Historic settlement	NRHP Listed	Multiple

Site No.	<i>Affiliation</i>	<i>Site Type</i>	<i>NRHP Eligibility</i>	<i>Reference</i>
<b>AZ BB:13:763(ASM)</b>	<b>Euroamerican</b>	<b>Historic artifact scatter</b>	<b>Eligible (SHPO)</b>	<b>Jones et al. 2009; Doak 2007a</b>
AZ BB:13:809(ASM)	Euroamerican	Historic structures and features	Recommended eligible (recorder)	Thiel 2014; Thiel et al. 2010
AZ BB:13:820(ASM)	Euroamerican	Historic structure with features and artifacts	Recommended eligible (recorder)	Thiel 2014; Thiel et al. 2010
<b>AZ EE:1:300(ASM)</b>	<b>Euroamerican</b>	<b>Twin Buttes Railroad</b>	<b>Eligible (SHPO)</b>	<b>Multiple</b>
<b>AZ FF:9:17(ASM)</b>	<b>Euroamerican</b>	<b>State Route 80</b>	<b>Eligible (SHPO)</b>	<b>Multiple</b>

Note: Bold indicates intersection with the route corridor.

**Table 13. Projects within the 300-ft Buffer of Route A**

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
1955-3.ASM	Southern Pacific Pipeline Survey	Southern Pacific	Komerska 1955
1979-38.ASM	Santa Cruz River Park Survey	ASM	Betancourt 1978
<b>1980-155.ASM</b>	<b>Santa Cruz/SW Interceptor Project</b>	<b>ASM</b>	<b>AZSITE</b>
<b>1982-207.ASM</b>	<b>Tucson-Apache 115 kV Transmission Line</b>	<b>Complete Archaeological Services Associates</b>	<b>Hammack 1983</b>
<b>1991-88.ASM</b>	<b>Archaeological Survey of Glenn-Fairview Main Replacement</b>	<b>Desert Archaeology, Inc.</b>	<b>Eppley 1991b</b>
1991-91.ASM	Archaeological Survey of Fairview Avenue - Grant Road to 15th Avenue Widening	Desert Archaeology, Inc.	Eppley 1991a
<b>1995-323.ASM</b>	<b>Mountain/Grant-Fort Lowell</b>	<b>Desert Archaeology, Inc.</b>	<b>Swartz 1995</b>
1996-102.ASM	Grant-First Survey	Desert Archaeology, Inc.	Swartz 1996
1996-109.ASM	City Wide Overlay Survey Various Locations	Desert Archaeology, Inc.	Eppley 1996
1996-282.ASM	Archaeological Survey of Water Main Alignments in the Vicinity of Glenn and Mountain, Tucson	Desert Archaeology, Inc.	Silva 1996a
<b>1998-267.ASM</b>	<b>Miracle Manor Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 1998b</b>
1999-587.ASM	PBNS Level 3 Fiber Optic Line	SWCA Environmental Consultants, Inc.	Multiple
2000-284.ASM	Moratorium Streets Survey	Desert Archaeology, Inc.	Diehl 2000
<b>2000-723.ASM</b>	<b>AT&amp;T NexGen/Core Project Link 3 Class 3 Survey</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>Kearns et al. 2001</b>

<i><b>Project No.</b></i>	<i><b>Project Name</b></i>	<i><b>Company</b></i>	<i><b>Reference</b></i>
2003-896.ASM	Old Pascua Neighborhood Survey	Desert Archaeology, Inc.	Diehl 2003c
<b>2004-1035.ASM</b>	<b>Sidewalk Program Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Hall 2004</b>
2004-297.ASM	Sunwest Cell Tower Project	EcoPlan Associates	Giacobbe 2003
<b>2004-679.ASM</b>	<b>AT&amp;T NexGen/Core Project</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>Baker 2004</b>
<b>2005-446.ASM</b>	<b>Tucson-Apache 115-kV Transmission Line Project</b>	<b>Transcon Infrastructure, Inc.</b>	<b>Goldstein 2008</b>
2005-720.ASM	2353 N. First Avenue Survey	Desert Archaeology, Inc.	Diehl 2005f
2007-62.ASM	ICM	Desert Archaeology, Inc.	Wöcherl 2011
2008-60.ASM	RTA Bus Pullout #2	Tierra Right of Way Services, Ltd.	Doak 2008
2009-107.ASM	COT 08-03 4 Bus Pullouts	SWCA Environmental Consultants, Inc.	Griset 2009
2009-636.ASM	Grant Road Survey	Tierra Right of Way Services, Ltd.	Jones 2009b
<b>2010-180.ASM</b>	<b>COT 10-08 Grant Road and Oracle Intersection</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Tucker 2010d</b>
<b>2010-208.ASM</b>	<b>COT 10-14 4th Avenue/Fontana Avenue Bike Boulevard</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Tucker 2010c</b>
<b>2010-56.ASM</b>	<b>Grant/Flowing Wells Survey</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Doak 2010a</b>
<b>2011-341.ASM</b>	<b>Survey in Support of Grant Road Corridor Acquisition</b>	<b>Statistical Research, Inc.</b>	<b>Graves and White 2011</b>
<b>2011-383.ASM</b>	<b>Park Avenue-Speedway to Fort Lowell Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2012</b>
<b>2013-171.ASM</b>	<b>TEP DMP-Tucson 138/46-KV Transmission Line</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>White and Benaron</b>
<b>2014-154.ASM</b>	<b>COT 14-03 ADA Sidewalk Upgrades Archaeological Survey</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Rawson 2014</b>
<b>2014-323.ASM</b>	<b>Grant Road Survey from Oracle to Swan</b>	<b>William Self Associates</b>	<b>Wygant and Boley 2014</b>
<b>2016-392.ASM</b>	<b>Grant Road UPRR Feasibility Study</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Rawson and Hesse 2016</b>

Note: Bold indicates intersection with the route corridor.



Table 14. Sites within the 300-ft Buffer of Route A

<i>Site No.</i>	<i>Affiliation</i>	<i>Site Type</i>	<i>NRHP Eligibility</i>	<i>Reference</i>
AZ BB:9:439(ASM)	Hohokam	Rock pile with artifacts	Eligible (recorder)	White and Benaron 2013
<b>AZ BB:9:440(ASM)</b>	Euroamerican	Historic structure foundation	Not eligible (recorder)	White and Benaron 2013
<b>AZ FF:9:17(ASM)</b>	<b>Euroamerican</b>	<b>State Route 80</b>	<b>Eligible (SHPO)</b>	<b>Multiple</b>

Note: Bold indicates intersection with the route corridor.

Table 15. Projects within the 300-ft Buffer of Route B

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
1955-3.ASM	Southern Pacific Pipeline Survey	Southern Pacific	Komerska 1955
<b>1980-155.ASM</b>	<b>Santa Cruz/SW Interceptor Project</b>	<b>ASM</b>	<b>AZSITE</b>
<b>1982-207.ASM</b>	<b>Tucson-Apache 115 kV Transmission Line</b>	<b>Complete Archaeological Services Associates</b>	<b>Hammack 1983</b>
<b>1983-77.ASM</b>	<b>Medi-Villas, 2001 North Park</b>	<b>ASM</b>	<b>AZSITE</b>
<b>1991-88.ASM</b>	<b>Archaeological Survey of Glenn-Fairview Main Replacement</b>	<b>Desert Archaeology, Inc.</b>	<b>Eppley 1991b</b>
1991-91.ASM	Archaeological Survey of Fairview Avenue - Grant Road to 15th Avenue Widening	Desert Archaeology, Inc.	Eppley 1991a
<b>1996-102.ASM</b>	<b>Grant-First Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Swartz 1996</b>
1996-109.ASM	City Wide Overlay Survey Various Locations	Desert Archaeology, Inc.	Eppley 1996
<b>1997-35.ASM</b>	<b>Speedway-Campbell Main Replacement Project Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Eppley 1997d</b>
1998-265.ASM	Speedway Campbell Survey	Desert Archaeology, Inc.	Diehl 1998a
<b>1998-267.ASM</b>	<b>Miracle Manor Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 1998b</b>
1999-587.ASM	PBNS Level 3 Fiber Optic Line	SWCA Environmental Consultants, Inc.	Multiple
<b>2000-284.ASM</b>	<b>Moratorium Streets Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2000</b>
<b>2000-723.ASM</b>	<b>AT&amp;T NexGen/Core Project Link 3 Class 3 Survey</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>Kearns et al. 2001</b>
2003-896.ASM	Old Pascua Neighborhood Survey	Desert Archaeology, Inc.	Diehl 2003c
<b>2004-1035.ASM</b>	<b>Sidewalk Program Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Hall 2004</b>
2004-297.ASM	Sunwest Cell Tower Project	EcoPlan Associates	Giacobbe 2003

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
2004-679.ASM	AT&T NexGen/Core Project	Western Cultural Resource Management, Inc.	Baker 2004
2005-446.ASM	Tucson-Apache 115-kV Transmission Line Project	Transcon Infrastructure, Inc.	Goldstein 2008
2005-720.ASM	2353 N. First Avenue Survey	Desert Archaeology, Inc.	Diehl 2005f
2006-734.ASM	Feldman's Neighborhood Survey	Desert Archaeology, Inc.	Diehl 2006b
2007-62.ASM	ICM	Desert Archaeology, Inc.	Wöcherl 2011
2007-774.ASM	Jefferson Park Sidewalks Survey	Tierra Right of Way Services, Ltd.	Doak 2007b
2008-60.ASM	RTA Bus Pullout #2	Tierra Right of Way Services, Ltd.	Doak 2008
2009-107.ASM	COT 08-03 4 Bus Pullouts	SWCA Environmental Consultants, Inc.	Griset 2009
2009-636.ASM	Grant Road Survey	Tierra Right of Way Services, Ltd.	Jones 2009b
2010-180.ASM	COT 10-08 Grant Road and Oracle Intersection	SWCA Environmental Consultants, Inc.	Tucker 2010d
2010-208.ASM	COT 10-14 4th Avenue/Fontana Avenue Bike Boulevard	SWCA Environmental Consultants, Inc.	Tucker 2010c
2010-56.ASM	Grant/Flowing Wells Survey	Tierra Right of Way Services, Ltd.	Doak 2010a
2011-341.ASM	Survey in Support of Grant Road Corridor Acquisition	Statistical Research, Inc.	Graves and White 2011
2011-383.ASM	Park Avenue-Speedway to Fort Lowell Survey	Desert Archaeology, Inc.	Diehl 2012
2013-171.ASM	TEP DMP-Tucson 138/46-KV Transmission Line	Western Cultural Resource Management, Inc.	White and Benaron
2014-154.ASM	COT 14-03 ADA Sidewalk Upgrades Archaeological Survey	SWCA Environmental Consultants, Inc.	Rawson 2014
2014-323.ASM	Grant Road Survey from Oracle to Swan	William Self Associates	Wygant and Boley 2014
2016-392.ASM	Grant Road UPRR Feasibility Study	SWCA Environmental Consultants, Inc.	Rawson and Hesse 2016

Note: Bold indicates intersection with the route corridor.

**Table 16. Sites within the 300-ft Buffer of Route B**

<i>Site No.</i>	<i>Affiliation</i>	<i>Site Type</i>	<i>NRHP Eligibility</i>	<i>Reference</i>
AZ BB:9:439(ASM)	Hohokam	Rock pile with artifacts	Eligible (recorder)	White and Benaron 2013
<b>AZ BB:9:440(ASM)</b>	Euroamerican	Historic structure foundation	Not eligible (recorder)	White and Benaron 2013
<b>AZ FF:9:17(ASM)</b>	<b>Euroamerican</b>	<b>State Route 80</b>	<b>Eligible (SHPO)</b>	<b>Multiple</b>

Note: Bold indicates intersection with the route corridor.

**Table 17. Projects within the 300-ft Buffer of Route C**

<i><b>Project No.</b></i>	<i><b>Project Name</b></i>	<i><b>Company</b></i>	<i><b>Reference</b></i>
1955-3.ASM	Southern Pacific Pipeline Survey	Southern Pacific	Komerska 1955
1979-38.ASM	Santa Cruz River Park Survey	ASM	Betancourt 1978
<b>1980-155.ASM</b>	<b>Santa Cruz/SW Interceptor Project</b>	<b>ASM</b>	<b>AZSITE</b>
<b>1982-207.ASM</b>	<b>Tucson-Apache 115 kV Transmission Line</b>	<b>Complete Archaeological Services Associates</b>	<b>Hammack 1983</b>
<b>1991-88.ASM</b>	<b>Archaeological Survey of Glenn-Fairview Main Replacement</b>	<b>Desert Archaeology, Inc.</b>	<b>Eppley 1991b</b>
1991-91.ASM	Archaeological Survey of Fairview Avenue - Grant Road to 15th Avenue Widening	Desert Archaeology, Inc.	Eppley 1991a
<b>1992-213.ASM</b>	<b>3rd Avenue 'A' Zone Transmission Main</b>	<b>Desert Archaeology, Inc.</b>	<b>Levi 1992</b>
<b>1997-35.ASM</b>	<b>Speedway-Campbell Main Replacement Project Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Eppley 1997d</b>
<b>1998-265.ASM</b>	<b>Speedway Campbell Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 1998a</b>
<b>1998-267.ASM</b>	<b>Miracle Manor Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 1998b</b>
1999-587.ASM	PBNS Level 3 Fiber Optic Line	SWCA Environmental Consultants, Inc.	Multiple
<b>1999-99.ASM</b>	<b>University Blvd./6th Ave. Main Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 1999a</b>
<b>2000-284.ASM</b>	<b>Moratorium Streets Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2000</b>
<b>2000-723.ASM</b>	<b>AT&amp;T NexGen/Core Project Link 3 Class 3 Survey</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>Kearns et al. 2001</b>
2002-320.ASM	Stone and Speedway Survey	Desert Archaeology, Inc.	Diehl 2002a
<b>2002-325.ASM</b>	<b>Euclid and Speedway Improvements Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2002b</b>
<b>2003-1490.ASM</b>	<b>Aviation/3rd Manhole Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2003f</b>
2003-896.ASM	Old Pascua Neighborhood Survey	Desert Archaeology, Inc.	Diehl 2003c
<b>2004-1035.ASM</b>	<b>Sidewalk Program Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Hall 2004</b>
<b>2004-297.ASM</b>	<b>Sunwest Cell Tower Project</b>	<b>EcoPlan Associates</b>	<b>Giacobbe 2003</b>
<b>2004-324.ASM</b>	<b>Corrosion Prevention Project Assessment and Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2004c</b>
<b>2004-679.ASM</b>	<b>AT&amp;T NexGen/Core Project</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>Baker 2004</b>
<b>2005-446.ASM</b>	<b>Tucson-Apache 115-kV Transmission Line Project</b>	<b>Transcon Infrastructure, Inc.</b>	<b>Goldstein 2008</b>
2006-734.ASM	Feldman's Neighborhood Survey	Desert Archaeology, Inc.	Diehl 2006b

<i><b>Project No.</b></i>	<i><b>Project Name</b></i>	<i><b>Company</b></i>	<i><b>Reference</b></i>
2007-62.ASM	ICM	Desert Archaeology, Inc.	Wöcherl 2011
<b>2008-60.ASM</b>	<b>RTA Bus Pullout #2</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Doak 2008</b>
2009-107.ASM	COT 08-03 4 Bus Pullouts	SWCA Environmental Consultants, Inc.	Griset 2009
<b>2010-180.ASM</b>	<b>COT 10-08 Grant Road and Oracle Intersection</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Tucker 2010d</b>
<b>2010-208.ASM</b>	<b>COT 10-14 4th Avenue/Fontana Avenue Bike Boulevard</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Tucker 2010c</b>
<b>2010-366.ASM</b>	<b>Stone Avenue Improvements Survey</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Doak 2010b</b>
<b>2010-56.ASM</b>	<b>Grant/Flowing Wells Survey</b>	<b>Tierra Right of Way Services, Ltd.</b>	<b>Doak 2010a</b>
<b>2011-383.ASM</b>	<b>Park Avenue-Speedway to Fort Lowell Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 2012</b>
<b>2012-469.ASM</b>	<b>6th Avenue Tucson</b>	<b>Northland Research, Inc.</b>	<b>Cox 2012</b>
<b>2013-171.ASM</b>	<b>TEP DMP-Tucson 138/46-KV Transmission Line</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>White and Benaron</b>
<b>2014-154.ASM</b>	<b>COT 14-03 ADA Sidewalk Upgrades Archaeological Survey</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Rawson 2014</b>
<b>2014-323.ASM</b>	<b>Grant Road Survey from Oracle to Swan</b>	<b>William Self Associates</b>	<b>Wygant and Boley 2014</b>
<b>2016-392.ASM</b>	<b>Grant Road UPRR Feasibility Study</b>	<b>SWCA Environmental Consultants, Inc.</b>	<b>Rawson and Hesse 2016</b>

Note: Bold indicates intersection with the route corridor.

**Table 18. Sites within the 300-ft Buffer of Route C**

<i><b>Site No.</b></i>	<i><b>Affiliation</b></i>	<i><b>Site Type</b></i>	<i><b>NRHP Eligibility</b></i>	<i><b>Reference</b></i>
AZ BB:13:156(ASM)	Euroamerican	Court Street Cemetery	Not eligible (SHPO)	Multiple
AZ BB:9:439(ASM)	Hohokam	Rock pile with artifacts	Eligible (recorder)	White and Benaron 2013
<b>AZ BB:9:440(ASM)</b>	<b>Euroamerican</b>	<b>Historic structure foundation</b>	<b>Not eligible (recorder)</b>	<b>White and Benaron 2013</b>
<b>AZ FF:9:17(ASM)</b>	<b>Euroamerican</b>	<b>State Route 80</b>	<b>Eligible (SHPO)</b>	<b>Multiple</b>

Note: Bold indicates intersection with the route corridor.

**Table 19. Projects within the 300-ft Buffer of Route D**

<i><b>Project No.</b></i>	<i><b>Project Name</b></i>	<i><b>Company</b></i>	<i><b>Reference</b></i>
1955-3.ASM	Southern Pacific Pipeline Survey	Southern Pacific	Komerska 1955
1979-38.ASM	Santa Cruz River Park Survey	ASM	Betancourt 1978
<b>1980-155.ASM</b>	<b>Santa Cruz/SW Interceptor Project</b>	<b>ASM</b>	<b>AZSITE</b>
<b>1982-207.ASM</b>	<b>Tucson-Apache 115 kV Transmission Line</b>	<b>Complete Archaeological Services Associates</b>	<b>Hammack 1983</b>
<b>1991-88.ASM</b>	<b>Archaeological Survey of Glenn-Fairview Main Replacement</b>	<b>Desert Archaeology, Inc.</b>	<b>Eppley 1991b</b>
1991-91.ASM	Archaeological Survey of Fairview Avenue - Grant Road to 15th Avenue Widening	Desert Archaeology, Inc.	Eppley 1991a
1994-47.ASM	Grant Road and Campbell Avenue Survey	Desert Archaeology, Inc.	Thiel 1994
<b>1995-323.ASM</b>	<b>Mountain/Grant-Fort Lowell</b>	<b>Desert Archaeology, Inc.</b>	<b>Swartz 1995</b>
1996-102.ASM	Grant-First Survey	Desert Archaeology, Inc.	Swartz 1996
1997-105.ASM	Tucson Boulevard-Elm Street Main Replacement Project Survey	Desert Archaeology, Inc.	Eppley 1997e
<b>1998-267.ASM</b>	<b>Miracle Manor Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Diehl 1998b</b>
1999-587.ASM	PBNS Level 3 Fiber Optic Line	SWCA Environmental Consultants, Inc.	Multiple
2000-284.ASM	Moratorium Streets Survey	Desert Archaeology, Inc.	Diehl 2000
<b>2000-723.ASM</b>	<b>AT&amp;T NexGen/Core Project Link 3 Class 3 Survey</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>Kearns et al. 2001</b>
2003-896.ASM	Old Pascua Neighborhood Survey	Desert Archaeology, Inc.	Diehl 2003c
<b>2004-1035.ASM</b>	<b>Sidewalk Program Survey</b>	<b>Desert Archaeology, Inc.</b>	<b>Hall 2004</b>
2004-297.ASM	Sunwest Cell Tower Project	EcoPlan Associates	Giacobbe 2003
<b>2004-679.ASM</b>	<b>AT&amp;T NexGen/Core Project</b>	<b>Western Cultural Resource Management, Inc.</b>	<b>Baker 2004</b>
<b>2005-446.ASM</b>	<b>Tucson-Apache 115-kV Transmission Line Project</b>	<b>Transcon Infrastructure, Inc.</b>	<b>Goldstein 2008</b>
2005-720.ASM	2353 N. First Avenue Survey	Desert Archaeology, Inc.	Diehl 2005f
2006-618.ASM	Samos Main Replacement Survey	Desert Archaeology, Inc.	Diehl 2006a
2007-62.ASM	ICM	Desert Archaeology, Inc.	Wöcherl 2011
2008-60.ASM	RTA Bus Pullout #2	Tierra Right of Way Services, Ltd.	Doak 2008
2009-107.ASM	COT 08-03 4 Bus Pullouts	SWCA Environmental Consultants, Inc.	Griset 2009
2009-636.ASM	Grant Road Survey	Tierra Right of Way Services, Ltd.	Jones 2009b

<i>Project No.</i>	<i>Project Name</i>	<i>Company</i>	<i>Reference</i>
2010-180.ASM	COT 10-08 Grant Road and Oracle Intersection	SWCA Environmental Consultants, Inc.	Tucker 2010d
2010-208.ASM	COT 10-14 4th Avenue/Fontana Avenue Bike Boulevard	SWCA Environmental Consultants, Inc.	Tucker 2010c
2010-56.ASM	Grant/Flowing Wells Survey	Tierra Right of Way Services, Ltd.	Doak 2010a
2011-341.ASM	Survey in Support of Grant Road Corridor Acquisition	Statistical Research, Inc.	Graves and White 2011
2013-171.ASM	TEP DMP-Tucson 138/46-KV Transmission Line	Western Cultural Resource Management, Inc.	White and Benaron
2014-154.ASM	COT 14-03 ADA Sidewalk Upgrades Archaeological Survey	SWCA Environmental Consultants, Inc.	Rawson 2014
2014-323.ASM	Grant Road Survey from Oracle to Swan	William Self Associates	Wygant and Boley 2014
2016-392.ASM	Grant Road UPRR Feasibility Study	SWCA Environmental Consultants, Inc.	Rawson and Hesse 2016

Note: Bold indicates intersection with the route corridor.

**Table 20. Sites within the 300-ft Buffer of Route D**

<i>Site No.</i>	<i>Affiliation</i>	<i>Site Type</i>	<i>NRHP Eligibility</i>	<i>Reference</i>
AZ BB:9:439(ASM)	Hohokam	Rock pile with artifacts	Eligible (recorder)	White and Benaron 2013
<b>AZ BB:9:440(ASM)</b>	Euroamerican	Historic structure foundation	Not eligible (recorder)	White and Benaron 2013
<b>AZ FF:9:17(ASM)</b>	<b>Euroamerican</b>	<b>State Route 80</b>	<b>Eligible (SHPO)</b>	<b>Multiple</b>

Note: Bold indicates intersection with the route corridor.

**Table 21. Sites Warranting Monitoring**

<i>Site No.</i>	<i>Associated Routes</i>
AZ BB:13:156(ASM)	5, 6, C
AZ BB:13:445(ASM)	3, 4
AZ BB:13:763(ASM)	4, 5, 6
AZ BB:9:440(ASM)	A, B, C, D

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2005c	<i>Cultural Resources Survey of Two Parcels near the Intersection of Campbell Avenue and Broadway Boulevard, Tucson, Pima County, Arizona.</i> Project Report No. 05-134. Desert Archaeology, Inc., Tucson.
2005d	<i>Cultural Resources Survey of a Parking Lot in Historic Block 84, Tucson, Pima County, Arizona.</i> Project Report No. 05-152. Desert Archaeology, Inc., Tucson.
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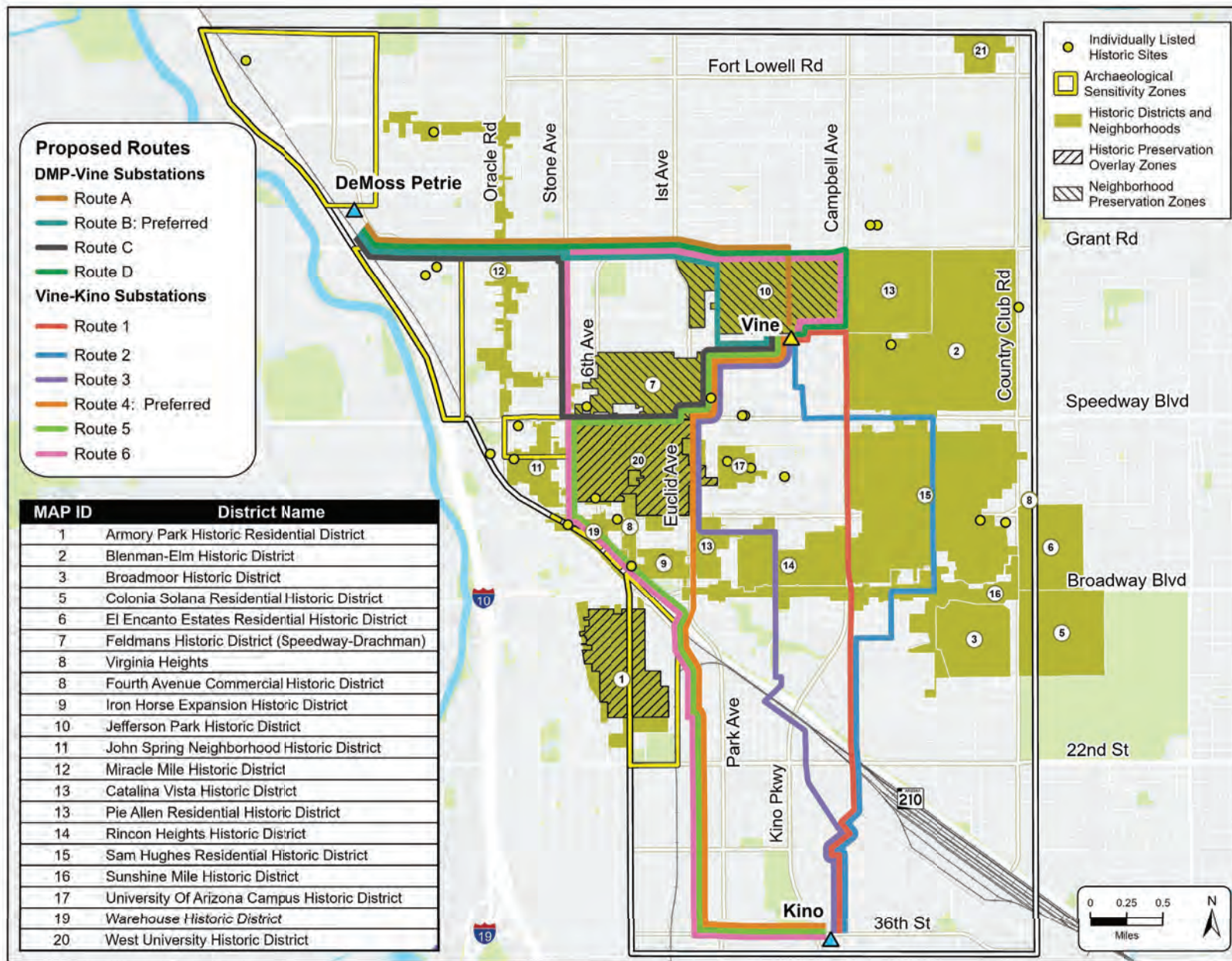
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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit E-3**

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## Exhibit E-3

### Midtown Reliability Project

#### Historic Preservation

- In-Service 138kV Substation
- Proposed 138kV Substation
- Study Area

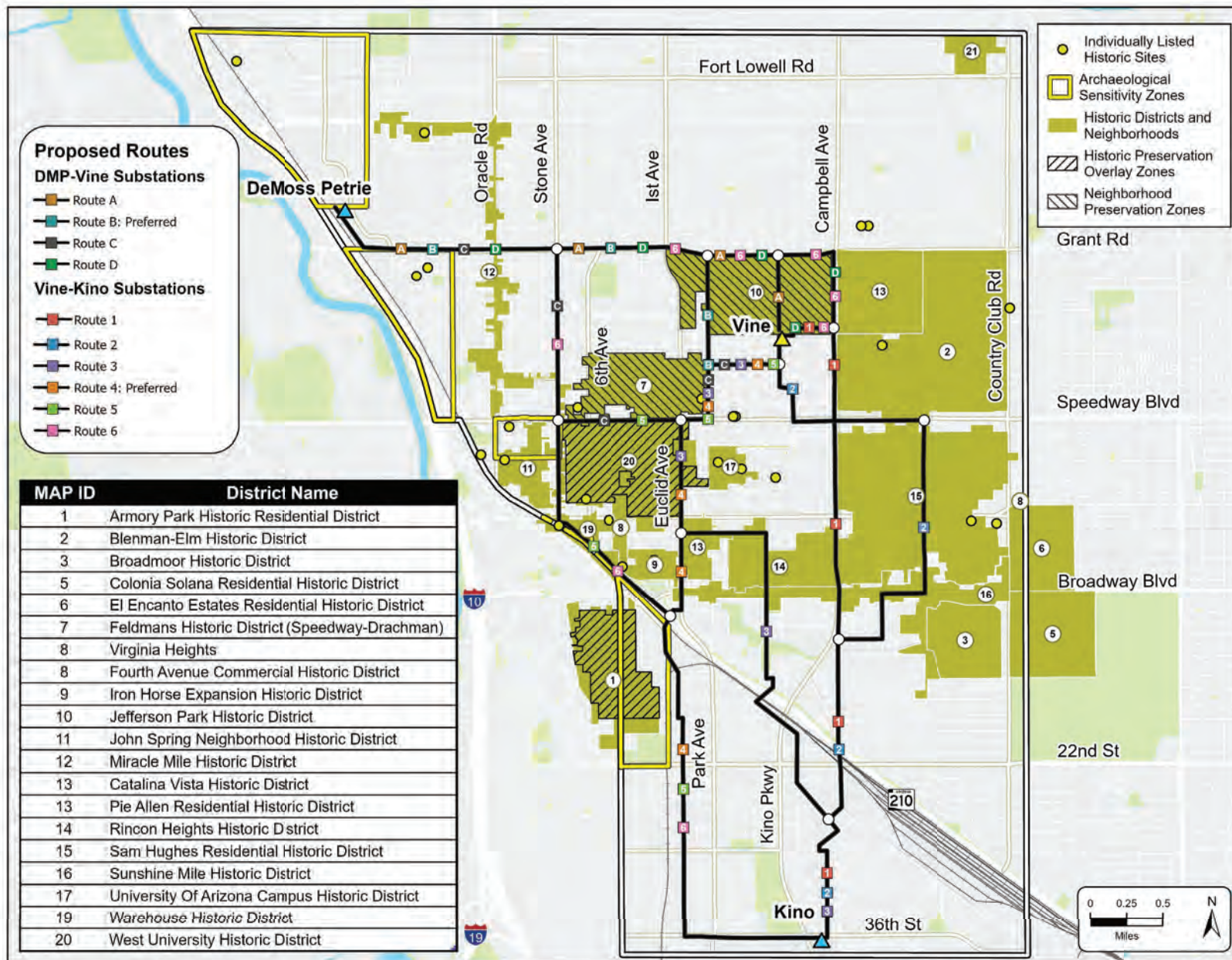
Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: TEP/ESRI Custom Basemap 2024

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## Exhibit E-3

### Midtown Reliability Project

#### Historic Preservation

- In-Service 138kV Substation
- Proposed 138kV Substation
- Route Alternative Nodes
- Study Area

Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: TEP/ESRI Custom Basemap 2024

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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit E-4**

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# Midtown Reliability Project Historic District Analysis

for Tucson Electric Power Company

May 17, 2024

the architecture company



# TEP Midtown Reliability Project: Historic District Analysis

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# Executive Summary

## Purpose of Report:

As part of Tucson Electric Power's (TEP) planning process for the transmission line associated with the Midtown Reliability Project, a project designed to strengthen electric reliability and satisfy growing energy needs into central Tucson, Tierra Right of Way (TROW) and The Architecture Company (TAC) were commissioned by TEP to review TEP's proposed alternative transmission line routes. The objective was to analyze and determine which of the proposed ten (10) route options from the existing Kino Substation to the proposed Vine Substation (Routes 1 through 6) and the existing DeMoss-Petrie (DMP) substation to the proposed Vine Substation (Routes A through D) will yield the least impact to the historic districts and other architectural historic features. TEP provided a total of ten routes for TAC to analyze for historic architectural factors. TAC did not look at alternate streets or alleys outside the proposed TEP routes, but focused on the ten routes and an 800' buffer around the proposed routes.

## Methodology:

To determine the best route, the study area included an 800' buffer zone from the proposed transmission lines for each route. Only those portions of the routes that have historic districts or individually listed historic properties located within the 800' buffer were included in this study. This includes 18 historic districts and 13 individually listed structures.

The study was comprised of collecting and analyzing a combination of GIS data and observations from a windshield survey of the neighborhoods. GIS data was provided by Tucson Electric Power (TEP), City of Tucson (COT) and Pima County (PC). Tierra Right of Way (TROW) developed the maps and measurements from these resources. GIS data was not verified, it was assumed the data provided was up to date and correct.

A list of measurable criteria, described in Section IV. *Measurable Criteria Analysis and Results*, was developed to rank the different districts to determine which routes would have the least impact to the surrounding historic districts and historic properties as a result of the proposed transmission line. To develop the Historic Architectural Analysis, a windshield survey was performed following each proposed transmission line route and 800' buffers on each side of the routes. General observations on each district are presented in Section V. *Historic Architectural Analysis*, followed by specific comments and observations relevant to the potential impact of the transmission line and power poles. These observations include current architectural, landscape and historic features of the historic district and how the power poles may affect the district as a whole and their effect on the sense of place.

## Results:

Once the Measurable Analysis and Historic Architectural Analysis were complete, each route option was ranked to determine which route was the most impacted to the least impacted. The results are as follows:

1. Kino Substation to Vine Substation, Routes 1 through 6
  - a. Ranking of the Kino Routes from the least impacted to the most impacted: Route 1, Route 4, Route 3, Route 5, Route 2 and Route 6.
2. DMP Substation to Vine Substation, Routes A through D
  - a. Ranking of the DMP Routes from the least impacted to the most impacted: Route B, Route A, Route D and Route C.

## Recommendations:

The typical 75' - 85' power poles will have a visual impact on any of the routes chosen, however our objective is to offer recommendations and ideas that could help decrease the visual impact to the residents of the historic neighborhoods and its visitors. Recommendations of historic structures by SHPO, COT and specific neighborhood design guidelines do not address how utilities need to respond to historic districts or historic structures. The recommendations we have developed are based on our historic architectural experience and through our visual analysis of the routes.

For all of the routes we recommend the following:

- a. Locate power poles away from contributing commercial buildings that help create the street fabric.
- b. Locate power poles away from residences that directly face the route.
- c. Locate power poles so they are not directly in front of any contributing structure.
- d. Locate power poles away from locations with historic light fixtures or historic signs.
- e. Locate poles around existing landscape where possible to allow the pole base to be less visible.
- f. Provide additional landscaping and accessible sidewalks along the route and into the historic districts to help hide the visibility of the power poles directly from the route to minimize the impact at the pedestrian scale.
- g. Space poles as far apart from each other as possible and locate to minimize impact to critical historic structures.
- h. Work with the arts and culture community groups to develop art projects around the transmission poles. Perhaps develop artwork that shares stories about the historic districts.
- i. Possibly paint the poles to create less contrast with the space around them to help reduce the visibility of the poles. The rust colored power poles on Grant Road tend to have greater visibility than power poles that are painted tan or grey. We also recommend using galvanized steel poles where historic districts occur.
- j. Once the proposed power poles and transmission lines are installed, if as many as possible of the old existing power poles located directly on the route in historic districts could be removed, this would clean up the route and reduce the impact of having so many power poles directly on the route. While it is recognized that other utilities such as cable and phone are using TEP's existing power poles, it is recommended that TEP coordinate with the other utility companies and possibly with the help of City of Tucson and Mayor and Council, these non-TEP utilities can be relocated.

#### **Conclusion & Historic Architectural Impact:**

Although all routes will have a negative visual impact to the surrounding historic districts, structures that are located directly adjacent or in front of a proposed power pole will have the greatest impact. It has been confirmed with the City of Tucson Historic Preservation Officer that no historic contributing property, individually listed property or historic district will be removed or delisted as a result of any power pole location or transmission line. The historic significance of any contributing property, landmark or district identified as historically significant by the City of Tucson, Pima County, the State Historic Preservation Office and/or the National Register of Historic Places will not be diminished.

# I. Introduction

As part of Tucson Electric Power's (TEP) planning process for the Midtown Reliability Project, a project designed to strengthen electric reliability and satisfy growing energy needs into central Tucson, Tierra Right of Way (TROW) and The Architecture Company (TAC) were commissioned by TEP to review TEP's proposed transmission line routes to determine which routes would have the least negative impact on the historic districts directly affected by the proposed transmission lines.

It has been confirmed with the City of Tucson Historic Preservation Officer that no historic contributing property, individually listed property or historic district will be removed or delisted as a result of any power pole location.

The proposed electrical poles would typically be 75' - 85' high and spaced approximately 750 +/- lineal feet apart. Depending on structural requirements, some poles will be mounted to a concrete foundation and have a 2' +/- diameter base and taper to a 9" diameter top, while other poles will be mounted to a larger concrete foundation with metal bolts and have a 3' +/- diameter and taper to a 9" diameter top. Recommending specific power pole locations are not part of this analysis.

TEP provided TAC and TROW six (6) different route options, Routes 1 through 6, to connect the existing Kino Substation to the proposed Vine Substation, and four (4) different route options, Routes A through D to connect the existing DeMoss-Petrie (DMP) substation to the proposed Vine Substation. Listed below are the historic districts and the individually listed historic sites that are part of the National Register of Historic Places to which the proposed alternative routes will bisect, are adjacent to or are within the 800' buffer of the centerline of the road:

## **Route 1**

- a. Historic Districts: Blenman Elm, Catalina Vista, Jefferson Park, Rincon Heights, Sam Hughes and Sunshine Mile
- b. Individually Listed Sites: None

## **Route 2:**

- a. Historic Districts: Blenman Elm, Broadmoor, Jefferson Park, Sam Hughes and Sunshine Mile
- b. Individually Listed Sites: None

## **Route 3:**

- a. Historic Districts: Feldman's, Iron Horse, Jefferson Park, Pie Allen, Rincon Heights, Sunshine Mile and West University.
- b. Individually Listed Sites: Cannon, Dr. William Austin, House; and University Heights Elementary School

## **Route 4:**

- a. Historic Districts: Armory Park, Feldman's, Iron Horse, Jefferson Park, Pie Allen, Sunshine Mile and West University
- b. Individually Listed Sites: Cannon, Dr. William Austin, House; Don Martin Apts; and University Heights Elementary School

## **Route 5:**

- a. Historic Districts: Armory Park, Downtown Tucson, El Presidio, Feldman's, Fourth Avenue, Iron Horse, Jefferson Park, John Spring Neighborhood, Miracle Mile, Sunshine Mile, Warehouse and West University
- b. Individually Listed Sites: ASARCO Headquarters; Cannon, Dr. William Austin, House; Coronado Hotel; Hotel Congress; Rialto Theatre; Ronstadt House; 6th Ave Underpass; South Pacific RR Locomotive No. 73; Stone Ave. Underpass; and University Heights Elementary School

## **Route 6:**

- a. Historic Districts: Armory Park, Downtown Tucson, El Presidio, Feldman's, Fourth Avenue, Iron Horse, Jefferson Park, John Spring Neighborhood, Miracle Mile, Sunshine Mile, Warehouse and West University.
- b. Individually Listed Sites: ASARCO Headquarters; Coronado Hotel; Hotel Congress; Rialto Theatre; Ronstadt House; 6th Ave Underpass; South Pacific RR Locomotive No. 73; and Stone Ave. Underpass

## **Route A:**

- a. Historic Districts: Jefferson Park and Miracle Mile.
- b. Individually Listed Sites: Matus, Antonio, House and Property; Pascua Cultural Plaza



**Route B:**

- a. Historic Districts: Feldman's, Jefferson Park and Miracle Mile
- b. Individually Listed Sites: Matus, Antonio, House and Property; Pascua Cultural Plaza

**Route C:**

- a. Historic Districts: Feldman's, Jefferson Park, John Spring Neighborhood, Miracle Mile and West University
- b. Individually Listed Sites: ASARCO Headquarters; Cannon, Dr. William Austin, House; Matus, Antonio, House and Property; Pascua Cultural Plaza; and University Heights Elementary School

**Route D:**

- a. Historic Districts: Blenman Elm, Catalina Vista, Jefferson Park and Miracle Mile
- b. Individually Listed Sites: Matus, Antonio, House and Property; Pascua Cultural Plaza

Refer to the Appendix for definitions of historic architectural terminology and the resource section to find additional historic information on these historic districts.

TAC has over 35 years of providing historic architectural services on the local and national level, performed over a dozen historic architectural surveys on thousands of structures, developed neighborhood design guidelines for historic neighborhoods, assisted in major street expansion configuration along major streets affecting historic districts and commercial businesses and currently provides consultation to City of Tucson as a historic design professional for the review of Neighborhood Preservation Zone (NPZ), Historic Preservation Zone (HPZ), Infill Incentive District (IID) and Rio Nuevo Area projects.

TROW has nearly 30 years of experience creating maps and utilizing geospatial data for archaeological and environmental projects. Tierra's GIS team regularly develops and maintains GIS databases for archaeological and environmental projects, creates cartographic products for reports, performs analyses of spatial data, creates 3D models for visual simulations, and creates custom GIS and spatial models.

## II. Objective

The objective of this study is to analyze and determine which proposed route from the DMP to Vine and Kino to Vine substations will yield the least impact to the historic districts and other architectural historic features. TEP provided a total of ten routes for TAC to analyze for historic architectural factors. TAC did not look at alternate streets or alleys outside the proposed TEP routes, but focused on the ten routes and an 800' buffer around the proposed routes.

# III. Methodology

The information used to calculate the data in Kino Table 1 / DMP Table A through Kino Table 8 / DMP Table H and the maps in Sections VIII and IX. were based on GIS data from Tucson Electric Power (TEP), City of Tucson (COT) and Pima County (PC). Tierra Right of Way (TROW) developed the maps and measurements from these resources. The data gathered from the GIS information was not visually verified.

To determine the best route options, the study area included an 800' buffer zone from the proposed transmission lines for each route. The 800' buffer zone was based on the centerline of the proposed route. The study was comprised of collecting and analyzing a combination of GIS data and observations from a windshield survey of the neighborhoods. A list of measurable criteria, described below was developed to rank the different districts to determine which routes would have the least impact to the surrounding historic districts and historic properties as a result of the proposed transmission line. Refer to Section IV. *Measurable Criteria Analysis and Results*, for a more detailed description of the measurable criteria process and results. The data from this analysis is in Section X. and XI. The study maps, shown in Sections VIII. and IX. depict the routes and were used to develop a visual analysis along with a historic architectural analysis of the ten different routes.

## 1. Measurable Criteria Collection, Process and Analysis

In Section IV. *Measurable Criteria Analysis and Results*, each measurable criteria using GIS and Google Earth was reviewed, analyzed and ranked. The measurable criteria include:

**Kino Table 1 / DMP Table A:** Bisecting versus Bordering Historic Districts

**Kino Table 2 / DMP Table B:** Street Designation

**Kino Table 3 / DMP Table C:** Historic Districts with 1 versus 2 Sides of the Route

**Kino Table 4 / DMP Table D:** Existing Power Poles Located on Route

**Kino Table 5 / DMP Table E:** Historic Light Fixtures in 800' Route Buffer

**Kino Table 6 / DMP Table F:** Historic Contributing Properties in 800' Route Buffer

**Kino Table 7 / DMP Table G:** Access of Historic Contributing Properties along Route

**Kino Table 8 / DMP Table H:** Historic Landmark Signs in 800' Route Buffer

The routes were ranked on each of the criteria listed above based on a scale from zero to ten (0 to 10). A rank of zero (0) means that the historic district(s) are not impacted by that criteria; a ranking of one (1) represents the least degree of historic impact on the affected historic district(s); and a rank of ten (10) represents the greatest impact on the affected historic district(s). Each measurable criteria was evaluated as an independent criteria to determine the ranking. The Kino routes and DMP routes were evaluated separately using the same measurable criteria and ranking system.

The measurable criteria ranking was subtotalled for each district. The final ranking of the route is the sum total of the affected district's ranking. The routes with the lower sum totals will have the least degree of impact on the historic districts. The routes with the higher sum totals will have more impact on the historic districts based on the criteria developed in this report. These sum totals of the routes from criteria in Kino Table 1 / DMP Table A through Kino Table 8 / DMP Table H are taken into consideration when analyzing the Historic Architectural Criteria in Table 9 / Table I: Historic Architectural Analysis.

Only those portions of the routes that have historic districts or individually listed historic properties located within the 800' buffer were included in this study. The data collected from these criteria were developed into tables and maps shown in Section VIII. *Kino Substation to Vine Substation Maps*, Section IX. *DeMoss-Petrie Substation to Vine Substation Maps*, Section X. *Kino Substation to Vine Substation Tables 1-9* and Section XI. *DeMoss-Petrie Substation to Vine Substation Tables A to I*. TROW and TAC developed maps of each of the ten routes to visually reflect the measurable criteria identified. Developed for each route, is a full route map, as well as enlarged maps when the route is adjacent or passes through historic districts. Data tables were created from the GIS maps to quantify the measurable criteria in Kino Table 1 / DMP Table A through Kino Table 8 / DMP Table H to allow ranking of each individual measurable criteria.

In developing the maps we were able to visually see the location of the historic districts, the density of the contributing properties, the general age of the contributing properties, where individually listed properties occur, type of street classification and location and height of existing power poles.

## 2. Historic Architectural Process and Analysis

To develop the Historic Architectural Analysis, a windshield survey was performed following the proposed transmission line and an 800' buffer on each side of the potential transmission line, for each of the Kino Routes 1 through 6 and the DMP Routes A through D. General observations on each district are presented, followed by specific comments and observations that are relevant due to the potential impact of the transmission line and power poles. These observations include current architectural, landscape and historic features of the historic district and how the power poles might affect the district as a whole and its effect on the sense of place.

The following factors were considered in the ranking of each historic district and further discussion of each of the criteria is presented in Section V. *Historic Architectural Analysis*

- Historic district integrity
- Scale of the street adjacent to a historic district
- Scale of adjacent historic and non-historic structures along the route
- Size of historic district impacted
- Historic Architectural Impression.

These factors were rated based on a scale from zero to ten (0 to 10). A rank of zero (0) means that the historic district(s) are not impacted by that criteria; a ranking of one (1) represents the least degree of historic impact on the affected historic district(s); and a ranking of ten (10) represents the greatest impact on the affected historic district(s).

The results of this analysis are presented in:

**Kino Table 9 / DMP Table I: Historic Architectural Analysis** in Section X.I and XI.I, respectively.

## 3. Summary of Measurable Criteria and Historic Architectural Analysis

A summary of the total ranking by historic district reflects the sum total of each of the eight measurable criteria and the five historic architectural criteria for the Kino Routes 1 through 6 and DMP Routes A through D. The total from Tables 1/A through 9/I are summarized into Kino Table 10 / DMP Table J. This is reflected in:

**Kino Table 10 / DMP Table J: Summary Analysis and Tables by Historic Districts** in Section VI.B

The total ranking by each measurable criteria and architectural analysis for the Kino Routes 1 through 6 and DMP Routes A through D is summarized in this table:

**Kino Table 11 / DMP Table K: Summary Analysis and Tables by Route** in Section VI.C

## IV. Measurable Criteria Analysis

The components of each of the twelve (12) tables for Kino Substation to Vine Substation (Kino Routes 1,2,3,4,5 and 6) and for DMP Substation to Vine Substation (DMP Routes A,B,C, and D) are described below. The same data collection process, method of analysis and ranking were applied to each route. Refer to Sections VI. *Analysis and Summary Tables* for the Summary Tables 10/J and 12/L; and Sections X. *Kino Substation to Vine Substation Tables 1-9*; and XI. *DeMoss-Petrie Substation to Vine Substation Tables A to I* for the tables identified in this section. Refer to Sections VIII. *Kino Substation to Vine Substation Maps* and IX. *DeMoss-Petrie Substation to Vine Substation Maps* for maps of each route.

1. **Objective:** This identifies the purpose of the criteria.
2. **Measurable Data Collection Process:** This section identifies the data source, organization of data into tables and the process of analyzing and ranking the data. The data collected on each of the criteria were organized by district and by route, except for Kino Table 3 / DMP Table C, Historic Districts with 1 vs 2 sides of the Route. For Kino Table 3/DMP Table C the total measurements are per route and not by individual district.
3. **Measurable Criteria Analysis:** This section summarizes the results and rankings of each route. Tables reflecting the data and ranking of each criteria and are organized by the Kino Substation to Vine Substation for Routes 1 through 6, and the DMP Substation to Vine Substation for Routes A through D.

### A. Length of Route Bisecting vs Bordering Historic Districts: (Refer to Kino Table 1 and DMP Table A)

1. **Objective:** To provide an objective comparison by measuring the length of a route as it travels through a historic district based on whether the transmission line 1) bisected a district, 2) bordered the side of a district, or 3) bisected and bordered a historic district.
2. **Measurable Data Collection Process:**
  - i. **Data Source:** The lengths were measured through geospatial maps provided by PC, COT and TEP. A route length was considered "Bisecting" if the same historic district was on both sides of the street of the proposed route for the transmission line. If the historic district was only on one side of the route, the length was considered "Bordering." For example, if a route had historic district "A" on one side and historic district "B" on the other side of the route, it would be considered "Bordering" each historic district. "Bisecting and Bordering" is the total length in feet within a historic district that is both Bisecting and Bordering. Any length of the route without any historic district directly bordering or bisecting the route was not included.
  - ii. **Organization of Data:** The lengths are broken down by each individual historic district by 1) total length of the route bisecting a district, 2) the total length bordering a district and 3) the total length bisecting and bordering the district.
  - iii. **Ranking Process:** A ranking of 10 (ten) is applied to the route with the longest bisecting length, as this places the greatest burden on an individual historic district. More favorable routes would have majority of the route bordering a historic district. In addition to analyzing the total length of bisecting and/ or bordering, a percentage was calculated to understand the degree of impact on each district. When a historic district does not have any portion of their district being bisected or bordered, they will have a ranking of 0. The higher the rank the greater the impact of the proposed power poles to that district.
3. **Measurable Criteria Analysis:**
  - i. **Kino Substation to Vine Substation , Routes 1 through 6**
    - a. Route 3 borders and bisects the most number of historic districts
    - b. Route 6 borders and bisects the most length in historic districts
    - c. Sunshine Mile and Miracle Mile are primarily based on the street, where the district does not go much beyond the street it's based on. For both of these districts, due to the configuration of their districts, they have few contributing properties as a whole district, which makes the impact of bisecting these routes

minimal, especially in comparison to the more residential based historic districts where there is much more density of contributing properties.

- d. Miracle Mile Historic District has the most length bisecting its historic district in Route 6, however as this historic district is based on a street rather than a neighborhood, most of the length being bisected does not have contributing properties in the density that the other historic districts being bisected have.
- e. Routes 1, 2, 4 and 5 bisect only 2 historic districts.
- f. Route 2 has the least number of historic districts that are bordered by a proposed route.

ii. **DMP Substation to Vine Substation, Routes A through D**

- a. Route B bisects only Jefferson Park Historic District and has the shortest total length of bisected and bordered historic districts
- b. Miracle Mile Historic District has the longest length bisecting its historic district in Route D. This is followed by Jefferson Park in Route A. See comments above in Item i.c and i.d. for comments about Miracle Mile.
- c. Route D has the longest length of bordering historic districts and has the most number of historic districts that are bisected and bordered.
- d. Because of the location of the Vine Substation, Jefferson Park Historic District is affected in all routes.

**B. Street Designation:** (Refer to Kino Table 2 and DMP Table B)

1. **Objective:** To provide an objective comparison by measuring the length of a route as it travels through a historic district based on whether the transmission line is located along a 1) Gateway Arterial Street, 2) Arterial Street, 3) Collector Street or 4) Residential Street.

2. **Measurable Data Collection Process:**

- i. **Data Source:** The length of streets along the historic districts were measured through geospatial maps provided by PC, COT and TEP. The Gateway Arterial Streets, Arterial Streets and Collector Streets are as defined by the City of Tucson Major Streets and Routes Map (MS&R). Gateway Arterial Streets are part of the City of Tucson's Gateway Corridor Zone (GCZ) overlay zone identified in the City of Tucson Unified Development Code. In the GCZ overlay new utilities for development are required to be underground unless a special exception is granted. This report assumes the proposed transmission line, regardless of alternative route, would be overhead and focuses on the impact of the resultant proposed utility poles to historic districts.

The definition of these three types of streets can also be found in the City of Tucson Unified Development Code.

- a. A Gateway Arterial Street is defined by the City of Tucson as "A street or parkway that is a heavily traveled entrance to and through the City, and is designated as a Gateway Route on the Major Streets and Routes (MS&R) Plan map. These routes link major employment areas, shopping centers, and recreational areas used regularly by a large number of residents and visitors and present a visual impression of Tucson's character."
- b. An Arterial Street is defined as "A street identified as an arterial or Interstate Route on the Major Streets and Routes (MS&R) Plan."
- c. A Collector Street is defined- as "A street identified as a collector on the Major Streets and Routes (MS&R) Plan"

The maps show additional route types that include Arizona Board of Regents, State Routes and Railroad. All other streets not identified as a Gateway Arterial, Arterial, Collector or Alley, are considered residential streets for the purpose of this study. The residential streets identified in this analysis are all streets that primarily have residences on both sides of the street. Where historic districts are on both sides of the street, the length of street is counted in each historic district. In the summary at the bottom of Kino Table 2 and DMP Table B, the total lengths reflects the total length of the street designation that occurs along each historic district.

- ii. **Organization of Data:** The streets are broken down by 1) Gateway Arterial Street, 2) Arterial Street, 3) Collector Street or 4) Residential Street per each Historic District.



- iii. **Ranking Process:** The route with the longest length along residential streets will have the highest rank of 10 as it will have a greater visual impact on residential homes and the scale would feel much more out of place than with any other type of street. Residential roads typically are narrower and have smaller, 1 or 2 story residential structures along their roads that are accessed directly from that road. A Gateway Arterial Street will have a higher ranking than an Arterial Street as Gateway Arterial Streets reflect a visual impression of Tucson's character. Arterial Streets are wider and have a mixture of residential and commercial structures. Lengths on Arterial Streets are given a ranking of 1. Although commercial roads are wider, more historically significant structures may occur on commercial streets. The scale the proposed transmission poles may have on a residential road in a historic district, can be measured objectively by knowing the length of transmission line by street category. Understanding which roads are Gateway Arterial Streets also help to understand what the City of Tucson has identified as streets that are to provide a visual impression of Tucson's character.

### 3. Measurable Criteria Analysis:

#### i. **Kino Substation to Vine Substation, Routes 1 through 6**

- a. The Gateway Arterial Streets are Campbell Avenue and Broadway Boulevard.
- b. Route 2 has the longest length of residential street that goes through a single historic district. This occurs in the Sam Hughes Historic District on Tucson Boulevard, which goes through the center of Sam Hughes, making this route one of the worst options as it is putting the impact all on a single historic district.
- c. Route 3 also has a long length that occurs on residential streets. This primarily occurs as the route goes on 7th street in Pie Allen and Rincon Heights. There are portions of this residential street that will feel a large, negative visual impact, however with the development of the UA multi-story structures so close, it is not as negative of an impact as the residential streets in Route 2.
- d. Route 1 has the greatest length of Gateway Arterial Street.

#### ii. **DMP Substation to Vine Substation, Routes A through D**

- a. Route B has the most length occurring on a residential route, located in Jefferson Park along Vine Avenue. This is followed by Route D, located on Lester Street.
- b. Route D is the only route with a Gateway Arterial Street, due to being located on Campbell Avenue.

### C. **Historic Districts on 1 versus 2 Sides of the Route:** (Refer to Kino Table 3 and DMP Table C)

1. **Objective:** To provide an objective comparison between the different routes, in regards to the length of each route that has a historic district on one side versus a historic district on both sides of the street.

#### 2. Measurable Data Collection Process:

- i. **Data Source:** The lengths were measured through geospatial maps provided by PC, COT and TEP. A route length was measured as one side having a historic district if the route was directly adjacent to a historic district and there was no other contributing, individually listed property or historic district on the opposite side of the road. If the route had contributing properties and/or historic districts on both sides of the street, this length was measured and noted as 2 sides. If there was no historic district directly adjacent to the route, that length of route was not included.
- ii. **Organization of Data:** The lengths are broken down by 1) Route with Historic District on 1 Side, 2) Route with Historic Districts on 2 sides of the route and 3) the total length with 1 or 2 sides. The lengths are all in feet. Percentages were calculated based on the total length with 1 or 2 sides to understand how much of the total route with historic districts had 1 side versus 2 sides.
- iii. **Ranking Process:** The route with the greatest length with historic districts on 2 sides would be ranked as the least favorable as this would require the power pole to be located within a historic district. A route with a historic district on 1 side would be ranked lower as this allows the power pole to be located outside of a historic district. Each route receives a final ranking that reflects how much of the historic district borders are

affected by the proposed route.

### 3. Measurable Criteria Analysis:

#### i. Kino Substation to Vine Substation, Routes 1 through 6

- a. Route 6 has the longest total length of route as well as the most length with historic districts on two sides.
- b. Route 2 has the least total length of route that has historic districts on one or two sides.

#### ii. Vine Substation to DMP, Routes A through D

- a. Route C has almost as much length as Route D with historic districts on 2 sides
- b. Route B has the least length of route with historic districts on 1 side, historic districts on 2 sides as well as the total length of route with historic districts on 1 or 2 sides.
- c. Route D has the most length of route with historic districts on 1 side, historic districts on 2 sides as well as the total length of route with historic districts on 1 or 2 sides.

### D. Existing Power Poles Located on the Route: ( Refer to Kino Table 4 and DMP Table D)

**1. Objective:** Identifying existing power poles located in historic districts on the route along with their height which shows which neighborhoods are already affected by power poles. While in some cases, the taller electrical poles might help the street appear less cluttered by reducing the number of poles, the proposed poles could make the street feel more out of scale due to the increased height of the proposed electrical poles.

### 2. Measurable Data Collection Process:

- i. **Data Source:** The height of the existing power poles were provided by TEP. Refer to the Power Pole Maps in Sections VIII. and IX for locations of all existing power poles and each pole's approximate height along the route.
- ii. **Organization of Data:** Kino Table 4 / DMP Table D shows the height range of poles and the total number of poles in each historic district along the route. The maps provide a visual of the actual location of the poles so specific pole spacing can be measured from the maps if needed. We did not analyze where existing power poles may be removed if the proposed power line were to be installed along that route.
- iii. **Ranking Process:** The historic districts that have the most existing power poles and poles whose heights are close to 75' tall will have the least impact from the proposed power poles. The historic districts where the majority of the route has fewer existing power poles or poles that are more spread out over the route, will bear a greater impact from the proposed power poles and be ranked higher. The routes that have more power poles that are taller and closer together will have less impact and be ranked lower. The proposed poles will be spaced approximately 750' +/- apart, which may help reduce the visual impact where current, shorter power poles are placed closely together. The routes were ranked based on the total number of existing power poles and the pole height range, therefore the lower the ranking the lower the impact from the proposed lines. When a proposed route went through a street in a district in which there are no existing power poles, a high ranking was applied as that would greatly impact the district.

### 3. Measurable Criteria Analysis:

#### i. Kino Substation to Vine Substation, Routes 1 through 6

- a. Existing power poles occur in all of the Historic Districts that are directly on the route except for the Warehouse Historic District.
- b. Portions of Stone and Speedway on Routes 2, 5 and 6 don't have any existing power poles.
- c. Existing power poles located along Euclid Avenue are mostly 40' tall wood poles and occur more frequently from 6th Street to University on Euclid Avenue. These current power poles detract from the historic fabric in that portion of the route as they are more frequent. If the proposed 75' - 85' tall poles were located here

with their wider base, this could impede more on the visual fabric of the historic district. However with the wider spacing of 750' +/- between poles for the proposed transmission route and if the existing poles are removed, this could improve the visibility of the existing historic structures.

- d. Feldman's Historic District has a minimal number of power poles on the route, however across from the District on the east side of Park Avenue there are 11 power poles that border Feldman's Historic District.

ii. **DMP Substation to Vine Substation, Routes A through D**

- a. Route C has the least amount of power poles, resulting in the greatest impact.
- b. All routes bisect the Miracle Mile Historic District where no power poles are directly in that District on the route, however there are power poles around the District, which reduce the impact to that District.
- c. The power poles directly along Grant Road in the Jefferson Park Historic District are all over 80' tall.
- d. West University in Route C does not have any existing power poles where the route is proposed.

**E. Historic Light Fixtures within 800' Route Buffer:** (Refer to Kino Table 5 and DMP Table E)

1. **Objective:** To identify where and how many historic light fixtures are within the 800' buffer of the route. The historic light fixtures tend to be small. To have a 75' - 85' electrical pole located near a historic light fixture would make the historic light fixture feel out of scale.

2. **Measurable Data Collection Process:**

- i. **Data Source:** The number of historic fixtures on a specific route were counted through geospatial maps provided by COT. Counts of historic light fixtures were not verified in person. It is assumed that the information provided by COT is up to date and reflecting the correct amounts and locations.
- ii. **Organization of Data:** The historic light fixtures are counted within their respective historic districts. Refer to the maps to see the actual locations.
- iii. **Ranking Process:** The number of historic light fixtures were ranked based on the total number of light fixtures, where 1 to 5 light fixtures has a rank of 1; 6 to 10 light fixtures has a rank of 2 and etc.

3. **Measurable Criteria Analysis:**

i. **Kino Substation to Vine Substation, Routes 1 through 6**

- a. Route 5 has the most historic light fixtures, where most are occurring in West University.
- b. Route 2 has the least number of historic light fixtures.
- c. All routes, except for Route 2 and 4, have historic light fixtures located outside of historic districts.

ii. **DMP Substation to Vine Substation, Routes A through D**

- a. No historic light fixtures are located along Routes A, B and D.
- b. Route C has 31 historic light fixtures, where most are occurring in West University Historic District.

**F. Historic Contributing Properties in 800' Route Buffer:** (Refer to Kino Table 6 and DMP Table F)

1. **Objective:** To identify the total number of contributing properties that would be affected and if there are certain routes that have a greater number of contributing and older structures within the 800' buffer.

2. **Measurable Data Collection Process:**

- i. **Data Source:** The number of contributing properties to a national historic district, individually designated historic properties and national historic landmark properties were counted through geospatial maps provided



by PC, COT and TEP. The location, age and general footprint of the contributing structures on the maps, were determined from the geospatial maps and not verified in person. It has been assumed that the information provided by PC and COT reflect the latest information on National historic landmarks, individually designated historic properties, contributing and non-contributing properties as well as the age of the historic structure. This information was not verified in person during the windshield survey or through individual research of each contributing structure within the 800' buffer. However, during our windshield survey, there are structures identified by the City of Tucson as Contributing when they should be identified as Demolished Contributing. We have noted in the analysis section the demolished structures that we noticed during our windshield survey. Our intent was not to verify if structures remained as contributing by the City of Tucson, however we have noted these demolished structures as they were located directly on the route. The National Register of Historic Places defines these different types of historic properties as: a contributing property is a structure that is part of a historic district and is not eligible or has not been nominated to be an individually listed property; an individually listed property is a structure or site that has greater historic significance than a contributing property, Historic Landmark properties are structures or sites that are recognized as being critical to preserve statewide. Historic Landmark properties have a greater historic importance than contributing and individually listed properties. All of the properties within an 800 foot buffer from the centerline of the street at the route's location were included. The general age of the contributing structures were also counted. The years were broken down were: pre-1919, 1920 to 1949, 1950 to 1969 and post 1970.

- ii. **Organization of Data:** The counts for the contributing properties are broken down by each individual historic district by 1) total number of historic contributing properties, 2) number of properties individually listed, 3) number of landmark properties, and 4) number of properties by the year as categorized above. Refer to the maps in Sections VIII. and IX. for the locations and general age of the contributing structures and identification of individually listed structures.
- iii. **Ranking Process:** The route(s) with the greatest number of the above listed attributes are the least favorable as those districts would have a greater impact on more residents and the overall historic district and therefore would be assigned a higher rank. Routes with individual listed or landmark properties would also rank higher as those structures have been identified as having greater historical importance by the NRHP.

**3. Measurable Criteria Analysis:** In all of the Kino and DMP routes there were no National Historic Landmarks on or within the 800' buffer.

**i. Kino Substation to Vine Substation, Routes 1 through 6**

- a. Route 5 has the most contributing structures and the most individually listed properties in the 800' buffer.
- b. Route 2 has the most contributing structures in a single district, Sam Hughes, with 519 contributing structures within the 800' buffer. The total number of contributing structures in this district is 1,293, making 40% of the structures in this district affected by this route. Based on this high number and due to the high architectural integrity of this district, we do not recommend Route 2.
- c. The next district with the highest number of contributing structures is in Route 6 in Jefferson Park with 308 contributing structures. The total number of contributing structures in this route is 609, making 50% of the structures in this district affected by the route. Based on this high number, we do not recommend Route 6.
- d. Route 1 has the least amount of contributing structures with a total of 584.
- e. Route 4 has the second lowest number of contributing structures for a total of 630. Iron Horse and Pie Allen (located within the 800 foot buffer) contain 50% and 76%, respectively, of the contributing structures within their historic districts. While these percentages are high, these are smaller historic districts and the overall number of contributing structures directly on the route are small.
- f. During our windshield survey, we noted that multiple homes on the southeast corner of Speedway Boulevard and Euclid Avenue are boarded and in the process of applying for a demolition permit. The homes currently still show as contributing properties to West University, but once demolished, this will remove the remaining single-story residential contributing structures on the east side of Euclid Avenue. These homes are located directly on Routes 3 and 4.
- g. Located on Routes 3 and 4, the City data is showing four contributing historic structures on the northeast corner of Euclid Avenue and 4th Street, but the windshield survey revealed that they have been demol-

ished and are currently dirt lots.

- h. Three contributing properties have been demolished in the Warehouse Historic District that are currently still showing as contributing to Warehouse Historic District. These are located on Routes 5 and 6.

**ii. DMP Substation to Vine Substation, Routes A through D**

- a. Route C has the highest number of contributing structures at 571, the most number of individually listed properties and the most number of structures built prior to 1919.
- b. Route B has the least number of contributing structures at 302.
- c. Jefferson Park will have contributing properties in the 800' buffer for all of the routes due to the location of the Vine Substation. The number of contributing properties for these routes ranges from 56 to 308.

**G. Access of Historic Contributing Properties Along Route:** (Refer to Kino Table 7 and DMP Table G)

**1. Objective:** To identify how many structures would be directly affected by the transmission line. Directly affected includes those structures that would have direct adjacency and direct visibility of the transmission line and power poles when accessed from the route itself. By understanding how many contributing properties whose main ingress/egress is directly from the route, these properties will have the greatest visual impact from the transmission lines and power poles.

**2. Measurable Data Collection Process:**

- i. **Data Source:** The number of historic contributing properties and individually listed properties were identified through geospatial maps provided by PC, COT and TEP. Once the contributing structures were determined, TAC reviewed in-person, through COT arials and on Google Earth which structures were accessed directly from the street where the route would be located.
- ii. **Organization of Data:** The number of contributing properties are broken down by each individual historic district by 1) the total number of structures facing the street with the primary access to the property from the street, 2) the total number of structures whose sides or back are to the street where the primary access occurs from an adjacent residential street or alley and 3) the total number of contributing structures directly on the route, a sum of items 1 and 2.
- iii. **Ranking Process:** The route with the greatest number of residences facing the street will have the greatest negative impact, therefore assigned a higher ranking. The routes with the greatest total number of structures with direct access on the route are also assigned a higher ranking. The routes that had access to the route, but separated by a wall or landscaped island directly in front of the route received lower rankings for their total contributing properties directly on the route. Routes that have individually listed properties with access directly from the route were ranked higher for their total contributing properties directly on the route.

**3. Measurable Criteria Analysis:**

**i. Kino Substation to Vine Substation, Routes 1 through 6**

- a. Route 6 has the most contributing structures in total along the route. Route 3 and 6 have the most contributing structures facing the street with access to the street.
- b. Route 3 has the highest ranking due to the number of primarily residential structures that are facing the route. The route through West University on Routes 3 and 4 along Euclid Avenue is also ranked high due to how close the residences that face the street are to the street.
- c. Route 1 has the lowest ranking as it has the least number of structures facing and accessed from the route.
- d. Route 2 affects the least number of historic districts that have contributing properties accessed from the route.
- e. Sunshine Mile and Miracle Mile Historic Districts have lower rankings as most of the buildings are larger

commercial structures and are set back from the street to allow for vehicles to park and for people to enter the buildings.

- f. Many of the properties on Route 6 in Catalina Vista that are facing the route along Campbell Avenue have secondary streets with a site wall and landscaping. This feature reduces the visual impact of the transmission line.

## ii. **DMP Substation to Vine Substation, Routes A through D**

- a. Route D has the most total contributing properties, however Route C has the most contributing properties facing the street, which includes the University Heights Elementary School, an individually listed property. Due to having the most contributing properties directly facing with access directly from the route as well as the individually listed property, Route C would bear the greatest impact for this criteria.
- b. In Catalina Vista Historic District along Campbell Avenue, many of the properties in Route D that are facing the route have secondary streets with a site wall and landscaping. This feature reduces the visual impact of the transmission line.
- c. Route B has the least number of contributing properties directly on the route and facing the route.

## H. **Historic Landmark Signs within 800' Route Buffer:** (Refer to Kino Table 8 and DMP Table H)

1. **Objective:** To identify how many City of Tucson Historic Landmark Signs would be directly affected by being located either directly on the transmission line route or within the route buffer.

### 2. **Measurable Data Collection Process:**

- i. **Data Source:** The number of City of Tucson Historic Landmark Signs, also referred to by the COT as City Heritage Landmark Signs were identified through geospatial maps provided by PC, COT and TEP. TAC reviewed these landmark signs in-person, through COT aeriels and on Google Earth. The Historic Landmark Signs are only identified through the COT and is not a National or State designation.
- ii. **Organization of Data:** The historic landmark signs are counted within their respective historic districts.
- iii. **Ranking Process:** This was ranked based on the total number of historic landmark signs, where 1 to 3 historic landmarks has a rank of 1, 4 to 6 historic landmarks has a rank of 2 and etc.

### 3. **Measurable Criteria Analysis:**

#### i. **Kino Substation to Vine Substation, Routes 1 through 6**

- a. Only Routes 5 and 6 have Historic Landmark Signs within the 800' buffer of the route.
- b. The historic sign in both Routes 5 and 6 is the Hotel Congress sign, which is not directly on the route. The transmission line will have a minimal impact to the existing historic sign due to its location and distance from the route.
- c. The signs near Stone Avenue and Drachman Street in Route 6 are mostly located on the south side of the street on Drachman Street. The signs in these locations have been relocated from existing buildings around Tucson. The Sparkle Cleaners sign directly on the route is in the original location.

#### ii. **DMP Substation to Vine Substation, Routes A through D**

- a. Only Route C has Historic Landmark Signs. These are the same signs located near Stone Avenue and Drachman Street discussed in item H.3.i.c above.

# V. Historic Architectural Analysis

## A. Historic Architectural Analysis Criteria: (Refer to Kino Table 9 / DMP Table I in Section X)

1. **Objective:** To analyze the routes based on a historic architectural viewpoint that takes into consideration all of the measurable criteria as well as the historic architect's observation from touring the historic districts. It has been confirmed with the City of Tucson Historic Preservation Officer that no historic contributing property, individually listed property or historic district will be removed or delisted as a result of any power pole location.

### 2. **Historic Architectural Analysis Process:**

i. **Data Source:** The Historic Architectural analysis was collected by 1) a visual survey of the route and historic districts within the 800' buffer of the route by walking, bicycling and driving and 2) research that included reviewing the historic guidelines and neighborhood design guidelines of the different historic neighborhoods where available, reviewing SHPO design requirements, reviewing the Historic District Nomination forms and reviewing individually listed properties. Refer to the Resource Section in the Section *XII. Appendix* to find on-line sources for the information listed above as well as links of maps that identify the locations of the Historic Districts. The placement of transmission lines along federally approved historic districts, individually listed and potentially historical structures will impact those who live, work and visit these structures. All of the contributing structures are a minimum of 50+ years old and many are twice that age, with some built as early as the mid-1870s. The Tucson community has previously identified these neighborhoods to be worthy of special attention by nominating these neighborhoods as historic districts to the National Register of Historic Places and by creating Neighborhood Preservation Zones and Historic Preservation Zones that require any new designs or modifications to existing structures to be reviewed by the City of Tucson. These historic districts contribute more value to our City's history with each passing year. The primary impact from the transmission poles to the historic structures adjacent to the route and within the 800' buffer of the neighborhood, from our observation, is the visual impact due to the height and size of the proposed 75' - 85' power poles. The proposed 75' - 85' tall poles will create a negative impact to the current scale of the historic districts with their surrounding city scape. The proposed 75' - 85' tall power poles will be visible to individuals that live in the structures or visitors walking, bicycling or driving in the neighborhood. However, structures directly along the route and especially residences that face the route will be the most impacted.

ii. **Organization of Data:** In the analysis, each route is organized by historic district. The historic district in each route was ranked by the factors described below.

### iii. **Ranking Process:**

- a. **Historic District Integrity:** This is based on our visual analysis of the route and review of the original historic district nominations to determine if the historic district still maintained the historic fabric, scale and design integrity that was originally described in the district nomination for the area where the route is occurring. The historic district integrity can be affected by new infill, demolition of existing contributing structures, addition of site walls that block the visibility of the contributing structure and additions or modifications to contributing structures that don't follow State Historic Preservation Office (SHPO) guidelines. The visual survey analysis was based on the overall feel of the historic district and not a house-by-house analysis. Contributing homes were not reviewed to determine if their status should be changed. A historic district must maintain a minimum of 51% of contributing structures within the Historic District boundary. This report does not determine the percentage of contributing structures within the historic districts. The historic districts that maintained their historic fabric and original scale would have a large negative impact from the transmission line. Districts ranked as 10 would bear the greatest negative impact from the transmission poles. The historic districts that already have significant impact to their original historic fabric along the route and in the 800' buffer due to the factors such as new infill or changes that deviate from SHPO guidelines, were ranked as 1. A ranking of 1 was also given if the district had a minimal area in the 800' buffer and would have a minimal impact from the proposed transmission line.
- b. **Scale of the Street Adjacent to Historic District:** This is based on our visual analysis of the route. This analyzed if the properties were located close to the road or had large front or side yards facing the route, if the road was narrow or wide at the location of the route, if the structures along the road were primarily resi-



dential or commercial, if there was mature landscape or no landscape and if there were existing utilities in the street or utilities creating a negative affect to the visual aesthetic of the neighborhood . For wide roads with contributing properties that had large front or side yards, mature landscaping, existing power poles along the route and primarily commercial uses, these historic districts were ranked as 1. For narrow roads with minimal landscaping, primarily residential use and minimal to no existing above ground utilities these districts would be greatly impacted and ranked as 10.

- c. **Scale of Adjacent Historic & Non-Historic Structures Along the Route:** This is based on the height and size of both contributing and non-contributing structures along the route. High rise structures along the route are ranked as 1 as these multi-story structures have changed the original district scale. Single story structures are ranked higher as the transmission poles would create a greater impact to the current sense of scale.
- d. **Size of Historic District Impacted:** This is based on the total area of the historic district. For historic districts where the 800' buffer encompasses most or all of the historic district, these districts were ranked as 10. Larger districts where a small percentage of the historic district is affected are ranked as 1.
- e. **Historic Architectural Impression:** This is based on our overall professional impression as historic architects since recommendations of historic structures by SHPO, COT and specific neighborhood design guidelines do not address how public utilities should respond to historic districts or historic structures. A ranking of 1 is where we will feel the historic architectural impression will have a minor impact from the power poles, a ranking of 10 is where we feel there will be a large impact from the power poles.

**3. Historic Architectural Survey Results:** Section B is organized by general information of each historic district along or within the 800' buffer. This is followed by a description of each route's impact to each historic district and individually listed structures along and within the 800' buffer. Refer to Section C. *Kino Substation to Vine Substation Routes 1 to 6 Historic Architectural Analysis* and Section D. *DMP Substation to Vine Substation Routes A to D Historic Architectural Analysis*.

## **B. Historic Districts General Observations:**

Below are general comments and observations on each historic district. Specific comments, observations and individually listed structures that are route specific follows this section. Refer to the Appendix in the Resource Section for how the National Register of Historic Places defines the historic integrity of a property. The aspects identified by the National Register to evaluate individual properties are the same for evaluating a historic district. The period of significance for each neighborhood described below is information from each historic district's SHPO nomination form. Refer to the Resource Section in the Appendix to find web links to each district's nomination form for more information on the architectural, landscape and historic features of each historic district. Comments below also identify which historic districts have City of Tucson Special Districts, including Neighborhood Preservation Zone, Historic Preservation Zone, Infill Incentive Districts, Overlay Districts and Rio Nuevo Area. The Special Districts identified below are those districts with historic preservation requirements. For requirements of these different overlay zones and special districts, refer to the Appendix in the Resource Section.

**1. All Historic Districts, Structures, etc:** All historic districts, contributing properties, historic landmarks, individually listed historic structures, etc, whether bordering, bisecting or just within the 800' buffer will have varying levels of visual impact from the proposed transmission line. Structures that are directly adjacent to a proposed power pole will have the largest impact. Although there will be a visual impact from the location of the proposed transmission lines, the historic significance of the neighborhoods will not be diminished and any contributing property, landmark sign or district identified as historically significant by the City of Tucson, Pima County, the National Register of Historic Places or the State Historic Preservation Office will not lose its historic designation.

**2. Armory Park Historic Residential District:** This historic district is not adjacent to a route option, but falls within the 800' buffer along the east portion of this historic district as the routes go down Euclid Avenue. Most of the Armory Park Historic Residential District is part of a Historic Preservation Zone, including the portion that is in the 800' buffer. The neighborhood has homes from the late 1800s to early 1900s with some commercial areas. The major architectural styles in this district include Spanish Colonial/Sonoran Tradition, Queen Anne, Craftsman Bungalow and Mission revival, Minimal Traditional and Ranch house. The size of this district is one of the larger districts in the downtown area. The neighborhood retains its historic integrity as a whole, where there is still a sense of historic environment that remains visible.

**3. Blenman-Elm Historic District:** This historic district is located on the east side of Campbell Avenue, a Gateway Arterial Street, between Speedway Boulevard and Elm Street and along Speedway Boulevard, an Arterial Street, from Campbell Avenue to Country Club Road. The historic district that is located along Campbell Avenue falls under the GCZ Overlay Zone. The period of significance for this district is 1903 to 1952 and holds Tucson's earliest ranch style residential neighborhoods, with many houses designed by Josias Joesler, a prominent and well-known architect in Tucson. The historic district's integrity and scale are very much intact. The contributing homes are well maintained and have kept many of the original historic features of the homes. The residences are primarily single story with well kept landscaping that helps to block some of the UA's Arizona Health Sciences Center buildings. The UA's campus to the west of Blenman-Elm has midrises and high rises that has formed a mid-rise scale. Overtime, Blenman-Elm has found a balance with the taller structures. Blenman-Elm is one of the larger historic districts in Tucson.

**4. Broadmoor Historic District:** This historic district is not adjacent to a route option, but a small portion of the historic district falls within the 800' buffer near the Tucson Boulevard and Broadway Boulevard intersection. The Broadmoor Historic District's period of significance is between 1944 and 1964 where most buildings are constructed of brick, masonry, stucco and wood siding. The streets are wide, long curvilinear streets with minimal entrances into the district. Most homes here are well maintained and the landscape is well developed and maintained. With the recent registration of this historic district, the historic integrity remains visible.

**5. Catalina Vista Historic District:** This historic district is located in the block of Campbell Avenue, a Gateway Arterial Street, which falls under the GCZ Overlay Zone, Grant Road, Tucson Boulevard and Elm Street. The east and west sides of this district share their border with the Blenman-Elm Historic District. The period of significance for this district is 1924-1962. As described in this Historic District's nomination form, this was one of the first neighborhood developments to be designed based on the automobile and followed the City Beautiful movement, which is reflected in the small neighborhood parks, large roundabouts and landscaped medians. From Elm Street to Grant Road, the general architectural character is similar to Blenman-Elm with mostly one-story homes, larger homes, mature trees and miniparks. The architectural integrity and scale is very much intact. The view of taller buildings from the UA is farther south and less impactful. The size of this historic districts is on the smaller side.

**6. Downtown Tucson Historic District:** This historic district is not adjacent to any routes, but a portion of this historic district is within the 800' buffer. The boundary of this district is irregular and not all buildings along Toole Avenue are part of this historic district. The district is part of the Rio Nuevo and Downtown Zone as well as the Infill Incentive Core District. Most buildings in this district are mid to high rise buildings built up to the public sidewalks with narrow streets. The period of significance spans from 1900 to 1968. Architectural characteristics include Period Revival, Art Deco and Modernism. The historic integrity for this district is intact and holds the most individually listed properties within its district.

**7. El Presidio Historic District:** A small portion of this historic district is within the 800' buffer. This district includes buildings from the 18th century with the earliest habitation of the district being prehistoric. Many of the current buildings are of Spanish Mexican vernacular utilizing adobe construction with very narrow streets and small scale buildings built up to the sidewalks. The historic integrity is still very much intact and visible. Most of this district is within a Historic Preservation Zone, however the portion that is in the 800' buffer is located outside of this zone. The portion in the 800' buffer is in the Rio Nuevo and Downtown Zone as well as the Infill Incentive District Downtown Links Subdistrict Toole Avenue Sub-Area.

**8. Feldman's Historic District:** This historic district is located north of Speedway Boulevard and west of Park Avenue. Most of Feldman's is in a Neighborhood Preservation Zone. The period of significance for this district is from 1901 to 1962. One of the key features of this district is the consistency in the size and setbacks of the residences. The contributing properties in the 800' buffer don't have as dense of vegetation as other historic districts reviewed for this report. The character of this neighborhood contains smaller homes on smaller lots with wide streets. There are a few mature trees, but not enough to help block the view of some of the higher buildings surrounding Feldman's. The architectural integrity of the design period is intact however some of the homes are only in fair condition and need general maintenance. Infill structures, known as mini-dorms have also been located within this district and have changed the historic fabric, reducing the original historic district's integrity in portions of this district. Most of the original minidorms did not take into consideration the scale, materials, siting and design features, such as the entrance to homes within the historic contributing properties of Feldman's. The development of these minidorms prompted the neighborhood to develop guidelines and become a Neighborhood Preservation Zone.

**9. Fourth Avenue Commercial Historic District:** This historic district primarily runs along 4th Avenue from 4th Street to 9th Street with mostly commercial structures, making this one of the smaller historic districts in Tucson. The period of significance is from 1903-1967 where the street car begin operation in 1906. 4th Avenue is a Collec-

tor Street and is a narrow street for the number of commercial structures along the street. Many of the structures in this district are small scale with an eclectic design located directly off of the sidewalk. The contributing structures still maintain their architectural integrity for the district's period of significance, however high rise construction has begun to be located in and around this historic district, changing the original scale of this district. The route does not pass adjacent to this district, but is within the 800' buffer. The historic district is also in the Infill Incentive District Downtown Links Subdistrict 4th Avenue Sub-Area.

**10. Iron Horse Historic District:** This is a very small historic district located on Euclid Avenue between 10th Street to 8th Street. This historic district is also in the Infill Incentive District Downtown Links Subdistrict Iron Horse Area. The period of significance for this district is from 1880 to 1935. The neighborhood started with the arrival of the Southern Pacific Railroad. Many of the structures in the Iron Horse Historic District were built pre-1925 and has some of the oldest structures in comparison to the other historic districts that the proposed route borders or bisects. The neighborhood consists of small homes built for the railroad workers. The mixed use neighborhood consists of homes, commercial use and multi-family housing. The mixed use has a nice scale within the historic district. New high rise buildings to the west of the neighborhood are impacting the scale of this neighborhood. The streets are narrower in this district compared to some of the adjacent historic districts.

**11. Jefferson Park Historic District:** This historic district is located south of Grant Road to north of Chauncey Lane with Campbell Avenue on the east and Park Avenue on the west. Campbell Ave which is a Gateway Arterial Street, which falls under the GCZ Overlay Zone. Jefferson Park is a Neighborhood Preservation Zone. A portion of Jefferson Park at Grant and Euclid is in the Urban Overlay District Grant Road Investment District. However all contributing properties in Jefferson Park in this Overlay District have been demolished. The period of significance for this district is from 1905 to 1945. Jefferson Park Historic District is notable as an independent rural subdivision that was built out, one lot at a time. This type of development is reflected in the surrounding arterial streets that curve to incorporate the neighborhood. The historic homes that are still visible from the street have maintained their integrity. Many of the homes in the 800' buffer of this route are modest, single story residences. Much of Jefferson Park has been impacted along the edges of the district by the widening of Grant and the expansion of the UA Arizona Health Sciences Center Buildings. Several contributing structures in Jefferson Park were demolished due to the Grant Road widening. Additional contributing structures were demolished along Ring Road due to UA development. There are also a number of minidorms that are typically 2-story, larger buildings. Most of the original minidorms did not take into consideration the scale, materials, siting and design features, such as the entrance to homes within the historic contributing properties of Jefferson Park. The development of these minidorms prompted the neighborhood to develop guidelines and become a Neighborhood Preservation Zone. New developments are now required to be reviewed by the Tucson Pima County Historic Commission and the City of Tucson Design Review Board. In our visual analysis of Jefferson Park, much of the historic fabric has been impacted by these minidorms and the site walls built by adjacent properties to create additional privacy from the minidorms. The walls in front of the residences in Jefferson Park have started to limit the visibility of the historic structures in this neighborhood, which is starting to impact the overall historic fabric and representation of Jefferson Park. The residents of Jefferson Park and the City of Tucson should be cautious how new buildings are located and how existing contributing properties are modified due to the stress that Jefferson Park has experienced in recent years due to many of their contributing properties being demolished or delisted. Although the location of the Vine Substation will be outside of this historic district, the station will have a visual impact to this historic district due to its location. All route options will affect this historic district. It is important to help this historic district retain its historic integrity of a district that shows independent rural subdivisions, slowly built over a span of 60 years.

**12. John Spring Neighborhood Historic District:** The period of significance for this district is from 1896 to 1940. This small neighborhood has modest, 1-story homes with narrow streets and mature trees that help block the views of some of the downtown high rises. Many of the structures date pre-1920 and are of adobe construction. Many of the original uses of the structures besides residential homes, included grocery stores, churches and commercial uses. Today, most of the structures are residential. The contributing properties still have many of their historic features intact however some of the homes are in fair condition and need general maintenance. A small portion, mostly along the east and west edges of this historic district are in the Greater Infill Incentive Subdistrict as well as the Downtown Links Subdistrict.

**13. Miracle Mile Historic District:** The period of significance for this district is from 1920 to 1963. Most of the contributing properties are comprised of commercial, industrial and motels that face the street. This historic district is based along specific roads rather than neighborhoods. The roads it follows are wide Arterial Streets with primarily commercial uses on both sides of the street. Recent development in the Miracle Mile District includes taller more modern structures. Many buildings, both contributing and non-contributing are currently fenced to prepare for future



construction. Portions of this route are part of the Downtown Links Subdistrict, the Greater Infill Incentive Subdistricts and the Urban Overlay District Grant Road Investment District. The historic integrity of this historic district is still intact and visible. Oracle Road is a Gateway Arterial street and in the GCZ Overlay Zone.

**14. Pie Allen Historic District:** This small historic district is located along Euclid Avenue from 10th Street to 6th Street. A small portion of this district is part of the Urban Overlay Sunshine Mile District. The period of significance for this historic district is 1874 to 1945. Similar to the Iron Horse Historic District, this neighborhood was mostly developed to serve the railroad workers of the Southern Pacific Railroad. Most of the homes are 1-story. Streets are wide neighborhood streets with narrow alleys that have been paved. Many of the structures are older, with most built pre-1925. Many structures are still visible from the neighborhood and reflect their original design features allowing this district to maintain its integrity and visibility. The contributing properties are mostly single story bungalow style residences however some of the homes are only in fair condition and need general maintenance. Many of the residences appear to be student housing. Most houses appear to have mature vegetation. Rincon Heights and Pie Allen Historic Districts are currently in the process of applying for a rezoning to be a Neighborhood Preservation Zone and have developed a Neighborhood Preservation Design Manual.

**15. Rincon Heights Historic District:** The period of significance for this historic district is 1881-1962. This historic district is located along Campbell Avenue from Broadway Boulevard to 6th Street south of the UA campus. Part of this historic district is located along Campbell Avenue and Broadway Boulevard which are Gateway Arterial Streets and in the GCZ Overlay Zone. A portion of this district along Broadway Boulevard is part of the Urban Overlay Sunshine Mile District. The character of this neighborhood is comprised of 1-story residences and some commercial and apartment buildings. Most of the structures are in good condition, with some needing general maintenance and upkeep. The historic integrity is still visible for this historic district. This historic district is one of Tucson's earliest subdivisions that were developed without deed restrictions which allowed for a diverse group of middle class ethnic and social minorities. Rincon Heights and Pie Allen Historic Districts are currently in the process of applying for a rezoning to be a Neighborhood Preservation Zone and have developed a Neighborhood Preservation Design Manual.

**16. Sam Hughes Historic District:** This large historic neighborhood is located on Campbell Avenue from Broadway Boulevard to Speedway Boulevard. Both Campbell Avenue and Broadway Boulevard are Gateway Arterial Streets, which falls under the GCZ Overlay Zone. A portion of this district along Broadway Boulevard is part of the Urban Overlay Sunshine Mile District. The period of significance for this historic district is 1918 to 1953. The architectural integrity is very good in this district. The scale, historic fabric, landscape and the properties have been well maintained in the neighborhood. The mature trees are well kept and will help to block the visibility of the proposed power poles, just as many of the current poles are blocked or partially blocked. The neighborhood has a good visual of the UA mid-rises and high rises, including stadium lights that impact the neighborhood when in use. The size of this historic district is one of the largest historic districts in Tucson with mostly wider streets and consistent block sizes.

**17. Sunshine Mile Historic District:** The period of significance for this district is 1920 to 1973. The district is located primarily along Broadway Boulevard from Euclid Avenue to Country Club Road and is comprised mostly of commercial structures with some residential structures that now appear to have commercial uses. Part of this historic district is located along Campbell Ave and Broadway Blvd which are Gateway Arterial Streets, which falls under the GCZ Overlay Zone. Most of this district is part of the Urban Overlay Sunshine Mile District. Several of the contributing existing residential structures have been relocated and others are currently under construction. The previous scale and architectural fabric is substantially different with the widening of Broadway Boulevard. Buildings in this district include structures designed by well-known architects including Josias Joesler, Friedman and Jobusch, Anne Rysdale, Roy Place and many others. The district represents a time period where design and planning were based on the car. The Sunshine Mile was one of the first auto-centric shopping districts in Tucson. With the widening of Broadway, existing contributing structures are now located close to the sidewalks along Broadway, however many of the original entrances that were off of Broadway are now closed and the store entries have been moved to the backs of the buildings.

**18. Tucson Warehouse Historic District:** This historic district is a very small and unique district located on the railroad and is triangular in shape. The area was traditionally a warehouse distribution center where wholesale, manufacturing and food processing occurred. The period of significance is from 1900 to 1978 with most buildings constructed of brick, concrete and stucco on narrow streets with minimal landscaping. Architectural styles include Mission/Spanish Colonial Revival, Modernism and Art Deco. New high-rise construction has occurred within this district and existing contributing structures have been demolished. The extension of the Barraza-Aviation Parkway has also demolished existing contributing structures. Due to the recent demolition of these buildings, these contributing structures are not yet showing on the City of Tucson Historic Preservation Maps. This district is in the Downtown Link Infill Incentive District, Downtown Core Infill Incentive District and Rio Nuevo and Downtown Zone. With the addition of taller structures



it has changed the scale of this district, however there are still structures remaining that represent this historic district's period of significance.

**19. West University Historic District:** This historic neighborhood is located on Euclid Avenue from 6th Avenue to Speedway Boulevard and from Stone Avenue to Park Avenue. West University is a Historic Preservation Zone and portions of the district are in the Infill Incentive Downtown Links Subdistrict as well as the Main Gate Overlay District. The period of significance for this historic district is 1890 to 1930 and is one of the larger historic districts. Many of the contributing properties in this district are older than contributing properties in other historic districts that are affected by the proposed transmission line route. Because of the older historic significance of West University and its proximity to the University, this historic district also has many structures designed by prominent architects as well as notable citizens that reside(d) in this district. Many of the homes in this district continue to be well maintained with minimal alterations to their original historic design. There has been new construction located within this historic district, however much of the original historic fabric is still present. Most homes are still visible from the street with mature and well kept landscaping. New student housing high rise construction has occurred outside of West University, which does impede visually on the historic district and the scale creates an uneasy relationship between the high rises and 1-story homes, but does not cause the district to lose its historic significance.

## C. Kino Substation to Vine Substation Routes 1 to 6 Historic Architectural Analysis

### 1. Kino Substation to Vine Substation, Route 1

- i. **General:** Many of the commercial structures on Campbell Avenue from Broadway Boulevard to Elm Street are not part of a historic district. These commercial and institutional structures range in height from small, single story structures to high rises. The route borders the historic districts except for Sunshine Mile Historic District, where this district is bisected as the route passes through Broadway Boulevard.
- ii. **Blenman-Elm Historic District:** Two of the homes directly along Campbell Avenue have built site walls to help block the noise and provide privacy from Campbell Avenue, a highly travelled road, as indicated by being a Gateway Arterial Street. In building the site walls, the historic fabric of that portion of the neighborhood is no longer visible, however this doesn't detract from the overall historic significance of the Blenman-Elm Historic District as there are not many residences directly on Campbell Avenue as shown in Table 7, Access of Historic Contributing Properties along the Route. There are contributing homes between Mabel Street and Drachman Street that are well maintained, still visible from the street and small, single story structures. Saints Peter and Paul Catholic Church and School is located off of Campbell and is a contributing property to Blenman-Elm. The church is a higher structure that has a prominent presence from Campbell Avenue. The power poles are currently located on the east side of Campbell adjacent to many of the contributing properties. Most of the existing power poles are wood and 55' in height, with some shorter poles. Route 1 affects Blenman-Elm only along Campbell Avenue. Because this is already a wide street with mature landscaping, the transmission line would have less of an impact to Blenman-Elm's overall historic district than districts where the route is going through a residential street, collector street or a narrow arterial street.
- iii. **Catalina Vista Historic District:** Route 1 has a minimal impact on Catalina Vista as there are very few homes within the 800' buffer. The existing and mature landscaping within Catalina Vista will help to block the visibility of proposed power poles, especially if the poles are located on the west side of Campbell Avenue.
- iv. **Jefferson Park Historic District:** Many of the homes in the 800' buffer of this route are small, single story residences with generous front yards. The only non-residential structure within the 800' buffer is the Church of Jesus Christ of Latter Day Saints, located near Lester and Cherry Ave, which has a tall bell tower and a taller single story structure. The landscape in the 800' buffer varies with some areas having denser, older vegetation that will help block the visibility of the power poles from existing historic structures. Many of the homes directly adjacent to Lester Street, a narrow residential road, have been demolished. Very few structures still remain between Campbell Avenue and Cherry Avenue and those that remain face Lester Street and feel out of place. Catch basins, landscaping and sidewalks have been constructed in locations where historic contributing structures were previously located. The tall University of Arizona's Arizona Health Science Center Buildings also contrast the scale of the single story homes. The addition of 75' - 85' power poles along this portion of Jefferson Park would not add a great deal more impact to this already affected portion of Jefferson

Park. Within the 800' buffer of the route, there are multiple poles that are 60-69' tall, mostly located in the alley just north of Lester St. There are also several existing power poles adjacent to Jefferson Park on vine avenue that are 70' and taller. Only a small portion of Jefferson Park would be impacted by this route.

- v. **Rincon Heights Historic District:** The contributing homes within the 800' buffer of Route 1 are mostly maintained with some residences used for student housing. Many of the contributing properties are still visible from the streets. The residences are primarily single story, with some two story structures. The High School Wash that bisects the district has dense, natural vegetation, which will help block the visibility of the power poles to some of the contributing properties within the 800' buffer. Many of the residences along Campbell Avenue have built site walls to help block the noise and provide privacy from Campbell Avenue. In building the site walls, the historic fabric of that portion of the neighborhood is no longer visible from Campbell Avenue, however this doesn't detract from the overall historic significance of the Rincon Heights Historic District. There are also several vacant lots that are part of this historic district, located along Campbell Avenue. These vacant lots help provide a buffer between Campbell Avenue and the contributing properties. Most of the existing power poles are adjacent to Rincon Heights Historic District and range from 50' to 60' tall. The landscaping in Rincon Heights will not block as much of the transmission lines as more mature, taller landscaping in Blenman-Elm and Sam Hughes. There are not many tall commercial or institutional structures in or directly adjacent to this district along Campbell Avenue. Because this is already a wide street the transmission line would have less of an impact to Rincon Heights' overall historic district than routes where the transmission line will be located on residential or collector streets within Rincon Heights.
  
- vi. **Sam Hughes Historic District:** The contributing homes within the 800' buffer of Route 1 are well maintained and have kept many of the original historic features of the homes. Many of the contributing properties are still visible from the residential streets. The residences are primarily single story, with some two story structures. The buildings and landscape are well kept and maintained with mature landscaping that helps block some of the higher surrounding buildings and existing power poles. The intersection of 3rd Street and Campbell Avenue, is a critical intersection to maintain the vista from the tree lined 3rd Street into the UA's East Gateway entry, Campus Mall and Old Main. 3rd Street not only adds to the intent of the City of Tucson's definition of a Gateway Arterial Street, it is also a key historic feature of the Sam Hughes Historic District as noted in their SHPO nomination form. This tree lined street starts directly off of Campbell Avenue and is one of the major historic features of Sam Hughes and Tucson. Very few homes along Campbell Avenue have walls, allowing many of the contributing properties to remain visible from Campbell. Many of the homes are also located close to the Campbell Avenue. These homes will have the greatest negative impact within their district. If possible, power poles should be located on the west side of the street to reduce the impact to the residences along Campbell Avenue. From 6th Street to 1st Street, power poles are currently located on the east side of Campbell Avenue, adjacent to contributing properties. Most of the existing power poles are 55' tall wood poles. If the existing power poles could be removed and located on the west side of Campbell Avenue, this might help the visual impact to this historic district. The current power poles are not equally spaced, and some are adjacent to other poles. If poles are able to be spaced farther apart, that will help reduce the visual impact to this district. The University also has tall lights that are used to help light up the practice field at the northwest corner of 6th Street and Campbell Avenue. The lights have a negative impact when they are in use, however their diameter is smaller than the proposed power poles. The A Loft hotel, a 7 story structure, approximately 80' tall can be viewed from many of the homes near the Speedway Boulevard and Campbell Avenue intersection, within the 800' buffer, but not part of a historic district. The Sam Hughes Historic District from 6th Street to Broadway Boulevard has 8 contributing properties along that block and the border of Sam Hughes jogs away from Campbell Avenue, reducing the length of district directly along Campbell Avenue. Because Sam Hughes is not bisected by the route, the impact to Sam Hughes for this route is less than routes where this historic district is bisected.
  
- vii. **Sunshine Mile Historic District:** There are few contributing structures within the 800' buffer and no contributing structures directly along the Route 1. Portions of the Rincon Heights Historic District and the Sunshine Mile Historic District also overlap between Campbell Avenue and Fremont Avenue along Broadway to the alley just north of Broadway. Existing contributing structures have been demolished within the 800' buffer. The route passes through a major intersection, Broadway Boulevard and Campbell Avenue where construction of the Broadway Boulevard street improvements in this area has recently been completed. One of the structures within the 800' buffer is the Pima Plaza by Anne Rysdale, but this is towards the 800' buffer and

not directly along the route. The impact to this district is minimal due to the width of Broadway Boulevard and Campbell Avenue and their larger commercial structures at this intersection.

**viii. University of Arizona:** Although the 800' buffer does not include the University of Arizona (UA) Campus Historic District or any UA individual contributing properties it does include the UA Campus. Refer to the Resources Section for the University of Arizona Preservation Plan that has additional information on their preservation requirements and strategy. Although the UA Mall is not part of the UA's Historic District, the mall has been identified as a character defining feature of the UA. Key features of the UA Mall is the open space and clear vista that visitors have from Campbell Avenue and 3rd Street to Old Main and the mountains beyond looking west. One of the University of Arizona Preservation Plan Goal's is to "Refine the East Gateway at Campbell Avenue" (p. 52). By locating the transmission line directly in front of the mall, the power lines will interrupt the current character-defining vista which looks west from the campus boundary. The location of the 75' - 85' power poles should coordinate with the UA's plan for the refining of the UA's East Gateway.

## 2. Kino Substation to Vine Substation, Route 2

- i. **General:** This route's path and 800' buffer go through the least number of historic districts. Most of the structures directly along Speedway are not part of a historic district or are not contributing properties to the historic district they are in.
- ii. **Blenman-Elm Historic District:** The route borders this historic district as it goes down Speedway Boulevard between Plumer Avenue and Tucson Boulevard. Most of the contributing structures directly along Speedway Boulevard are single story residential homes, which have been converted to commercial use. There is a mixture of contributing and non-contributing structures within the 800' buffer. There are no existing power poles along Speedway Boulevard, which will have a strong visual impact to the Speedway corridor. Although the poles will be visible from this neighborhood, the length along this district is minimal. Most of the landscape within this area is also well developed and maintained, which will help reduce the impact of the power poles. The impact to Blenman-Elm is minimal.
- iii. **Broadmoor Historic District:** The route does not pass directly next to this historic district, but it is located within the 800' buffer for a small portion of this historic district. The impact to this district is minimal compared to all of the other historic districts affected by this route. Because most of the streets in this district do not have direct view corridors to Tucson Boulevard or Broadway Boulevard, the visibility of the poles will not be as visible to the contributing properties.
- iv. **Jefferson Park Historic District:** Because the Vine Substation will be located just outside of Jefferson Park, all routes will be affecting Jefferson Park. This route option has the least impact since the route will not be going through Jefferson Park, however the 800' buffer of the route is within this historic district. The contributing structures that are within the 800' buffer have already been impacted by the development of the UA's Arizona Health Science Center buildings. Routes 3, 4 and 5 follow the same route along Vine Avenue by Jefferson Park. There are two existing substations that are located adjacent to the Vine Substation. The existing open air substation will be removed after the completion of the Vine substation.
- v. **Sam Hughes Historic District:** The route will border this district on Speedway Boulevard from Plumer Avenue to Tucson Boulevard and bisect this historic district through the middle of this district along Tucson Boulevard from Speedway Boulevard to just past 8th Street. Tucson Boulevard is also a Collector street and is a narrower street. Most of the contributing properties along this route and in the 800' buffer are one to two story residential structures. Himmel Park is also located along this route. While the park is not a contributing element, there is a contributing structure in the park and Himmel Park was developed as part of the original neighborhood plan along with Sam Hughes Elementary School, which are both located within the 800' buffer. The tall trees in this park may help block the visibility of the poles to the surrounding homes as well as the developed landscaping and trees throughout Sam Hughes. The intersection at Tucson Boulevard and 6th Street does have single story contributing commercial structures that blend well with the neighborhood and maintain the low scale of most of buildings in this district. Having the large poles in this neighborhood commercial area would have a negative impact to the district. Of all the routes, this has the most negative affect

on any singular historic district. Because the route affects such a large area of this historic district and the historic integrity of this district is still very strong, we do not recommend using this route.

- vi. **Sunshine Mile Historic District:** While the route only passes through this district on Broadway Boulevard from Plumer Avenue to Tucson Boulevard, it does pass by many commercial contributing properties on both sides of the route. The historic structures on the north side of Broadway Boulevard are currently under construction where the city is working on restoring them to open them back to commercial buildings. Buildings along this stretch of route include buildings designed by the following well known Tucson architectural firms: Scholer, Sakellar and Fuller; Friedman & Jobush; and Jaastad and Knipe Architect. Broadway has recently been widened which will help reduce the impact to the historic structures if the transmission line is located on this route. The widening of the street has also impacted many of the existing structures along Broadway where many are no longer accessed from their original front entrances off of Broadway, but will be accessed from the backs. There are no contributing structures directly on Plumer Avenue. Of all the different Kino routes, this route has the most impact to this historic district.

### 3. Kino Substation to Vine Substation, Route 3

- i. **General:** Routes 3 and 4 have matching routes from the Vine Substation until the intersection at Euclid and 7th Street. The impact to Jefferson Park, Feldman's and West University will be the same for both routes. To reduce repetition, the analysis for these 3 neighborhoods will be discussed in this section for both Routes 3 and 4.
- ii. **Feldman's Historic District:** From the 800' buffer of Routes 3 and 4, the mid to high rise structures on and around the UA campus are visible. Many of the houses and apartment complexes appear to be student housing. Landscape and hardscape is not as well kept in this district as in other historic districts that the routes pass through. Most contributing structures are still visible from the street, allowing the historic fabric of the neighborhood to be expressed. The route borders Feldman's along Park Ave from Helen Street to Adams Street. Near Helen Street and Park Avenue is the University Heights Elementary School building, which has been adaptively reused and is now part of the Campus Crossings at University Heights Apartments, and remains an individually listed structure. This individually listed structure is in good condition. There are a few blocks from Mabel Street to Adams Street between Park Avenue and Euclid Avenue that have more non-contributing structures than other portions of the route going through Feldman's, which reduces the quality of the historic district in that area of the district. Along these blocks there is also a parking garage and new mid rise structures that have been built by the UA, which has changed the scale of the street from the previous development. No historic districts are across Feldman's on Park Avenue, which would allow the proposed power poles to be located on the east side of Park Avenue, away from the historic district. The impact of the route to this district is moderate to low. The area affected is a small portion of Feldman's, however due to the location of the individually listed structure, there is a larger impact.
- iii. **Iron Horse Historic District:** A small portion of this historic district is within the 800' buffer. Most of the homes in the buffer are along 8th street and face Tucson High School. Because of the height and density of the buildings on the Tucson High School Campus, the impact to the Iron Horse District is minor.
- iv. **Jefferson Park Historic District:** See comments in Route 2, item C.2.iv. *Jefferson Park Historic District.* Routes 3, 4 and 5 follow the same route at Jefferson Park.
- v. **Pie Allen Historic District:** Many of the structures in this district are older, most built pre-1925, are still visible from the neighborhood and reflect their original design features. Many of the residences appear to be student housing and need general maintenance. The houses on the edge of the district along Euclid Avenue don't appear as well maintained. Some of the homes have located fences or walls to block their visibility from the street. Most houses appear to have mature vegetation. The contributing properties are mostly single story bungalow style residences. The route borders Pie Allen from 6th Street to 7th Street on Euclid Avenue. The route bisects this district on 7th Street from Euclid Avenue to Park Avenue, then borders the district on 7th Street from Park Avenue to just past Fremont Avenue. Where the route bisects the district, every structure except for one are contributing properties that are still visible from the street and are a nice representation of



this district's architectural period. This is also a narrow street, so the visual impact to the contributing properties on this section will be high. If the poles can be located outside of this area, that would help reduce the impact. Where the route borders the district from Park to just past Fremont, the poles can be located on the north side of the street where the UA currently has a parking lot, so that the remaining historic structures aren't as impacted. The impact to this historic district will have a bigger visual impact than the larger historic districts as the 800' buffer includes almost all of the Pie Allen Historic District. The impact to Pie Allen is Moderate to High, however, due to the development of the UA in this area as well as the mid rise Tucson High School, the impact won't feel as great as locations that are primarily single story structures.

- vi. **Rincon Heights Historic District:** This route borders a small portion of this district along 7th Street from Fremont Avenue to Santa Rita Avenue. Where it borders the district there are only three contributing structures directly along the route. The rest of the route through this historic district is bisected. The majority of the line will be along Highland where there are already existing poles, around 50' to 69' tall, with some locations already having poles on both sides of the street. This is a narrow street, but has more usage than the adjacent neighborhood streets. Many of the residences are still visible from this street. Most structures are single story with moderate landscaping. The route also passes by the back of Mansfield Junior High School, a contributing property to this district and a 2-story structure. The route along Mountain Avenue and 8th Street will have a minimal impact to this district as there are few contributing properties directly along that route. The overall impact to this district is low to moderate.
- vii. **Sunshine Mile Historic District:** The proposed route affects a small portion of the Sunshine Mile Historic District. Poles should be able to be placed to reduce any visual impact to the adjacent contributing properties. The largest structure that it will be passing by in this district is Miles Elementary School. The school has large trees and a parking lot to help provide distance between the route and the school. The impact to this district is low.
- viii. **University of Arizona:** Although not a historic district, there is one UA owned property that is in the 800' buffer and one that is just outside of the buffer. We have included them here since they are adjacent to each other and both are individually listed structures identified as City Historic Landmarks, located in a Historic Preservation Zone and a Historic Landmark Zone. The structures are located near the intersection of Park and Speedway. These two structures were originally residences from the early 1900s, known today as the Dr. William A. Cannon/Professor Andrew E Douglass House, which is in the 800' buffer and the George E.P. Smith House, which is just outside of the 800' buffer. Both homes were the first homes constructed in this portion of town and housed primarily University professors. The UA has maintained these structures and there are currently much larger structures around these historically significant residences. The proposed power poles for Routes 3 and 4 do not add any additional visual impact on these historic structures as these buildings are already surrounded by taller structures.
- ix. **West University Historic District:** For Routes 3 and 4, the analysis of West University is the same. New high rise construction has occurred outside of West University, which does impede visually on the historic district, but does not cause the overall district to lose their historic significance. This neighborhood has had to adjust to views of the UA buildings and the student apartment high-rise buildings. Many of the contributing properties directly along the route are accessed from Euclid Avenue and located very close to the street. There is minimal front yards for these contributing structures. The street car lines are visible on University Boulevard and Euclid Avenue, which detracts from the historic district. Although the height of the surrounding buildings could help hide the height of the power poles, the diameter of the poles would impact the contributing structures directly along the route due to the narrow width of the current road and sidewalk. A portion of the route bisects West University from 4th Street to Speedway Boulevard on Euclid Avenue, however many of the contributing structures on the east side of Euclid Avenue have been demolished. Several of the structures between Speedway Boulevard and 1st Street along Euclid Avenue are currently in the process of getting demolished. With the reduction of these multiple historic structures on the east side of Euclid Avenue, it is impacting the integrity of this historic district on the east side of Euclid Avenue. There are also several non-contributing properties on the west side of the street. From 4th Street to University Boulevard, the entire block still has contributing properties where the route bisects the district. From 6th Street to 4th Street on Euclid Avenue, the historic district borders the proposed route. The impact to this district is moderate, however with the continual change to the east side of Euclid Avenue that has occurred over the past several years, the impact may reduce over time.

#### 4. Kino Substation to Vine Substation, Route 4

- i. **General:** See comments under *Route 3, item C.3.i General.*
- ii. **Armory Park Historic Residential District:** The route does not border or bisect this district, but a small portion of this is within the 800' buffer. The buildings are in good condition and the landscape is well developed. The route near this district follows Euclid Avenue, which is near the existing railroad track and in an industrial area. Most of the homes in Armory Park within the 800' buffer are also close to this industrial area and railroad track. Adding the power poles in this location would have a minimal impact to this district due to their current adjacency to this industrial area. Routes 4, 5 and 6 follow the same path along Armory Park Historic Residential District.
- iii. **Feldman's Historic District:** See comments under *Route 3, item C.3.ii Feldman's Historic District.*
- iv. **Iron Horse Historic District:** The High School Wash that passes through this district provides dense vegetation that would help block the visibility of the power poles for certain contributing properties. Most of the structures are single story, with some two story structures. Some residences appear to be student housing, however most of the homes are still visible from the street and are in fair to good condition. The neighborhood has mature vegetation and the homes are densely located. Most of the existing power pole heights are unknown. They do not appear to be very tall, some of the power lines appear lower than the light poles and seem to be carrying cable only. Many of the homes along Euclid Avenue are single story bungalow residences with low volcanic rock walls. Some of the homes have fences or walls that block the homes' visibility from the street. Most have their original designs intact, however some of the homes are only in fair condition and need general maintenance. This historic district spans from Hughes Street to 8th Street, however only a small portion directly borders the route. This is also a small historic district where almost half of the district is within the 800' buffer, resulting in a greater negative impact on the historic district than the larger historic districts. The individually listed Don Martin House, now an apartment complex, is just on the edge of the 800' buffer. The poles may be visible from this structure, but will not detract from the historic significance. The route's impact to this historic district is moderate.
- v. **Jefferson Park Historic District:** See comments in Route 2, item C.2.iv. *Jefferson Park Historic District.* Routes 3, 4 and 5 follow the same route at Jefferson Park.
- vi. **Pie Allen Historic District:** Many of the structures are older, with most built pre-1936. Many structures are still visible from the neighborhood and reflect their original design features. Many of the residences appear to be student housing. Most houses appear to have mature vegetation. The houses on the edge of the district don't appear as well maintained. Some of the homes have located fences or walls to block their visibility from the street. The contributing properties are mostly single story bungalow style residences. The route borders Pie Allen from 10th Street to 6th Street on Euclid Avenue. Although the route only borders Pie Allen, the impact to this historic district will have a bigger visual impact as the 800' buffer includes almost all of the Pie Allen Historic District. A tall power pole is located in front of Tucson High School on the west side of Euclid Avenue. The pole is painted to match the color of Tucson High and is on a portion of the road that has more width between the faces of the buildings facing onto Euclid Avenue. This added width, painted color of the pole and height of the 3 story Tucson High building help detract from the visibility of the pole. Euclid Avenue is a narrow, Arterial street with many of the contributing properties close to the street with minimal room to add landscaping. The impact to this district is high.
- vii. **Sunshine Mile Historic District:** The route will only pass by one contributing structure in this district and only one additional contributing structure will be within the 800' buffer. The impact to this district is negligible.
- viii. **University of Arizona:** See comments in Route 3 item C.3.viii *University of Arizona.*
- ix. **West University Historic District:** See comments under *Route 3, item C.3.ix. West University Historic District.* Routes 3 and 4 follow the same route at West University.

## 5. Kino Substation to Vine Substation, Route 5

- i. **General:** The 800' buffer of Routes 5 and 6 includes more historic districts than the other route options. However, it bisects less historic districts than all other Kino route options. The location of Route 5 is along many streets that don't currently have existing power poles, but most of the route is along main Arterial streets and not Residential or Collector streets. This width will help to reduce the impact, but the poles will bring an element that the current adjacent historic districts are not accustomed to seeing. This route also has the most individually listed structures.
- ii. **Armory Park Historic Residential District:** See comments under *Route 4, item C.4.ii. Armory Park Historic Residential District.*
- iii. **Downtown Tucson Historic District:** This district does not bisect or border the route, but is within the 800' buffer for both Routes 5 and 6. The closest contributing structure to the route is Hotel Congress, followed by the Rialto Theatre. Most of the contributing structures in this district are mid to high-rise structures along narrow streets. Once in the Downtown Historic District, large vistas are not easily visible and views tend to focus more on the buildings and street life. Buildings and landscaping in the Warehouse Historic District will also help to block views of the power lines. Addition of the power poles along State Route 210, Barraza-Aviation Parkway from within the Downtown Historic District will be negligible. The impact to this district is minimal.
- iv. **El Presidio Historic District:** Only six contributing structures on three different parcels are within the 800' buffer for both Routes 5 and 6. The impact to this district is minimal due to the small area that is within the 800' buffer, the high elements surrounding the district, the railroad and the Barraza-Aviation Parkway being located within 800' of this district.
- v. **Feldman's Historic District:** This route is adjacent to Feldman's on its east border along Park Avenue and South border along Speedway Boulevard. See comments under *Route 3, item C.3.ii. Feldman's Historic District* for the analysis of this district along Park Avenue. Where this route is located on Speedway Boulevard, there are low to mid-rise commercial structures. Most of these structures are not part of the Feldman's Historic District. Majority of the residences in the 800' buffer of Feldman's are still contributing to the historic district, but do require general maintenance. The topography also drops as you move from Speedway Boulevard to Mabel Street. This drop in topography and height of the taller commercial structures along Speedway Boulevard will help to reduce the visual impact of the line. Speedway Boulevard is also a wide road, but currently does not have any power lines on the section of road that borders Feldman's. The section of route along Feldman's on Park Avenue and Speedway Boulevard matches for Routes 5 and C. The impact to Feldman's would be moderate as there are no high rise structures and minimal power lines on Speedway.
- vi. **Fourth Avenue Historic District:** A small portion of this district will be within the 800' buffer, from 8th Street to 9th Street. Due to the new extension of the Barraza-Aviation Parkway and the new high rise apartment building occurring just in the Warehouse District between 8th Street and 9th Street along 4th Avenue, the impact of the power poles will be negligible. The high-rise structure will have a larger visual impact on this district than the addition of the transmission line.
- vii. **Iron Horse Historic District:** The route only borders this district where Barraza-Aviation Parkway borders this district. The majority of the area that is impacted is within 800' buffer. Some residences appear to be student housing, however most of the homes are still visible from the street and are in fair to good condition. The neighborhood has mature vegetation and the homes are densely located with narrow streets. Commercial structures, including apartment housing have been built throughout this neighborhood. This is also a small historic district where almost half of the district is within the 800' buffer, however with the Iron Horse Park and the walls that have been constructed for the Barraza-Aviation Parkway, the power poles wouldn't increase the impact that has happened over the years to this historic district. The individually listed Coronado Hotel will be located near the route, however the back of the hotel will be closest to the route. By being a multi-story structure, the power pole shouldn't impede on the structure, however we do recommend locating the pole away from this individually listed structure so it is not directly behind the hotel. The impact to this district is low.

- viii. Jefferson Park Historic District:** See comments in Route 2, item *C.2.iv. Jefferson Park Historic District*. Routes 3, 4 and 5 follow the same route at Jefferson Park.
- ix. John Spring Neighborhood:** Routes 5 and 6 follow the same route along Stone Avenue between Speedway Boulevard and 6th Street. About half of this historic district will be in the 800' buffer. The route does not border this district as the district stops before Stone Avenue. There are several multi-story apartments, some of which are part of the Miracle Mile Historic District that are between the John Spring Historic District and Stone Avenue. Many of the backs of these apartments face the historic neighborhood. The streets are also narrow with lower, smaller single story historic residences, churches and stores. Many of the existing stores and churches have been converted to residences or commercial spaces. Landscaping is fairly dense, but most trees and plants appear to have minimal maintenance done to them. The addition of the route should have a minimal impact due to how this district steps back from Stone Avenue and already has taller structures around them and an existing transmission station located just outside of this district.
- x. Miracle Mile Historic District:** The route follows this district along Stone Avenue between Speedway Boulevard to Toole Avenue. Part of this historic district overlaps with the Warehouse Historic District where the individually listed Stone Underpass occurs. There are currently no power poles on this street allowing a clear view of Downtown Tucson when driving south on Stone Avenue. Because this is a street based historic district, the route does go through the middle of the district. Most of the contributing structures are larger, commercial structures. The impact to this district is low to moderate, however the impact to the view of downtown is high.
- xi. University of Arizona:** See comments in Route 3 item *C.3.viii. University of Arizona*.
- xii. Warehouse Historic District:** The route will bisect this historic district as it follows Barraza-Aviation Parkway. The bisecting of this historic district has a minimal impact due to the existing railroad and the Barraza-Aviation Parkway being recently constructed parallel to the existing railroad. There have also been several new high rise structures that have been built in and around the Warehouse District that are much higher than the power poles. These changes will impact this district more than the proposed power line bisecting this district. Many of the contributing structures that remain are more industrial due to their adjacency to the railroad tracks. The addition of the power lines is minimal. Three of the contributing structures that border the route have also been demolished due to new construction of Barraza-Aviation Parkway and new high-rise apartments. Routes 5 and 6 follow the same route through this historic district. The route also passes by three individually listed structures which include the Stone Avenue Underpass, the 6th Avenue Underpass and the Southern Pacific Railroad Locomotive No 1673. All three structures would have a minimal impact from the proposed transmission line. The impact to this district is low.
- xiii. West University Historic District:** See comments under *Route 6, item C.6.xii. West University Historic District* for the portion of route that goes on Stone Avenue from 5th Street to Speedway Boulevard. Route 5 as well as Route C borders the north edge of West University Historic District on Speedway Boulevard between Stone Avenue and Park Avenue. While many of the contributing structures along Speedway Boulevard face the route, many are being used as offices or other commercial uses and student housing. Most of the homes along Speedway Boulevard remain visible, where the single story bungalow style homes can still be viewed as people walk and drive down Speedway Boulevard. Many of the structures are still well maintained. De Anza Park at the corner of Stone Avenue and Speedway Boulevard is a contributing property and has large trees and a low wall constructed of volcanic rock. If power poles were to be located at this intersection, it would be important to try to allow for this space to remain unincumbered to allow the park to maintain its visually open green space. There are currently no existing power poles located directly on Speedway Boulevard in the West University Historic District. Adding additional power poles to streets that already have visible power poles, would be preferred over adding power poles to streets that currently do not have any power poles. The street is wider and most of the structures face toward Speedway Boulevard. The lack of power poles creates a very clean visual condition that should be maintained if possible. The impact to this historic district is moderate to high. This route impacts more of West University than any other Kino route.



## 6. Kino Substation to Vine Substation, Route 6

- i. **General:** The 800' buffer of Routes 5 and 6 includes more historic districts than the other route options. However, it bisects the least amount of the historic districts. Route 6 has one less individually listed structure than Route 5. The location of this route is along many streets that currently do not have existing power poles, but most of the route is along main arterial streets and not residential or collector streets. A portion of the route is along Campbell Avenue, a Gateway Arterial Street. The wider streets will help to reduce the impact to the historic districts, but the poles will bring an element that the current adjacent historic districts are not accustomed to seeing.
- ii. **Armory Park Historic Residential District:** See comments under *Route 4, C.4.ii Armory Park Historic Residential District.*
- iii. **Downtown Tucson Historic District:** See comments under *Route 5, C.5.iii. Downtown Historic District.*
- iv. **El Presidio Historic District:** See comments under *Route 5, C.5.iv. El Presidio Historic District.*
- v. **Feldman's Historic District:** This district will be in the 800' buffer for a small portion of the route located on Stone Avenue going from Speedway Boulevard to Lee Street. The portion of this historic district that is within the 800' buffer is outside of the Neighborhood Preservation Zone. The original ASARCO Headquarters, located just outside this historic district, but within Feldman's Neighborhood is an individually listed structure that is within the 800' buffer. The multi-story late-modernist building differs in size and style from the surrounding contributing and non-contributing structures. The route located along Stone Avenue will have a minimal impact to this portion of Feldman's within the 800' buffer.
- vi. **Fourth Avenue Historic District:** See comments under *Route 5, C.5.vi. Fourth Avenue Historic District.*
- vii. **Iron Horse Historic District:** See comments under *Route 5, C.5.vii. Iron Horse Historic District.*
- viii. **Jefferson Park Historic District:** The route will border this district along Grant Road from Euclid Avenue to Campbell Avenue and along Campbell Avenue from Grant Road to Lester. The route will bisect this district on Lester from Campbell to Vine. See comments in Route 2, item *C.2.iv. Jefferson Park Historic District* for the impact to this district along Lester Street. The impact to this district due to the proposed 75' - 85' tall power poles will be minimal as Grant Road already has 70'-90' tall power poles there were installed during the new Grant Road expansion. Although many contributing residential structures face Grant Road, the high trafficked road is not a new condition. The neighborhood street directly adjacent to Campbell Avenue helps to reduce the impact of the power lines to this district. The impact to this district is low.
- ix. **John Spring Neighborhood:** See comments under *Route 5, C.5.ix. John Spring Historic District.*
- x. **Miracle Mile Historic District:** The Route bisects this district along Stone Avenue between Adams Street to Toole Avenue. Part of this historic district overlaps with the Warehouse Historic District where the individually listed Stone Underpass occurs. There are currently no power poles on this street. Because this is a street based historic district, the route does go through the middle of the district. Most of the contributing structures are larger, commercial structures. If the route goes down this street, we recommend having it on the west side of the street, to locate the poles outside of most of the historic districts in this area. When the route goes west on Drachman Street, this portion of the route is within the 800' buffer and contains five historic landmark signs of which four have all been relocated to this street. As a district identified for being based on the vehicle, the impact of the power lines will have a minimal visual impact to this district. However, since there are no existing power poles, this will change how the current streetscape appears. The impact to this district is moderate.
- xi. **Warehouse Historic District:** See comments under *Route 5, C.5.xii. Warehouse Historic District.*

- xii. **West University Historic District:** Routes 5 and 6 follow the same route along Stone Avenue between Speedway Boulevard and 6th Street. Portions of this route border this district, but most of the area affected will be within the 800' buffer. The existing homes in the buffer are mostly larger one to two story residential structures that are in good condition. Streets in this neighborhood are wider and most contributing structures are still visible from the street with mostly well-landscaped front yards, allowing for the historic homes to be easily viewed. The power lines on Stone Avenue will have some impact to this district, however there is more distance between most of the contributing structures and this proposed route than Routes 3 and 4 that are directly bordering the east edge of this historic district. The impact to this historic district is low.

## D. **DMP Substation to Vine Substation Routes A to D Historic Architectural Analysis**

### 1. **DMP Substation to Vine Substation, Route A**

- i. **General:** This is the most direct route between the DMP and Vine substation in which this route passes through historic districts, where power poles already exist.
- ii. **Jefferson Park Historic District:** Some of the homes face the route, however once Grant Road is modified, the number of homes facing the route may change. Many of the homes along Vine Avenue have their side to Vine Avenue, which helps reduce the impact to those homes. There are also many site walls constructed along Vine Avenue to provide privacy. Because this route cuts through the center of Jefferson Park, this has the most impact on contributing properties directly on the route in this historic district for routes going from the DMP to Vine substation. There are minimal existing power poles along Grant Road, however once the new road is completed along Jefferson Park, the proposed power poles will be similar to the current poles located in the newly widened portion of Grant Road. There are existing wood power poles around 30' to 40' going down both sides of Vine Avenue. Although the proposed 75' - 85' tall poles could help reduce the frequency of the existing power poles, the size would feel overwhelming to the current scale of the neighborhood. Because of the impact the scale would have to this residential street, with very little sidewalk and structures located close to the road, this would have a negative impact to the surrounding contributing historical residential structures.
- iii. **Miracle Mile Historic District:** There are only three (3) contributing properties, and two (2) of them are currently being remodeled, that are within the 800' buffer. All of the contributing structures are commercial structures, surrounded by commercial buildings. Grant Road already has tall power lines. The proposed transmission line will have no additional impact to this historic district, thus, the impact is negligible. Routes A, B and D follow the same route through this historic district.
- iv. **Pascua Yaqui Village:** Although this is not a registered historic district, the 800' buffer does include two individually listed historic structures that are part of the Pascua Yaqui Village. The Pascua Yaqui village is the oldest established Yaqui community in Tucson, founded in 1921. The individually listed sites are the Pascua Cultural Plaza and the Matus Mesa House. The Pascua Cultural Plaza is an important cultural center for the Pascua Village, serving as a place for cultural celebrations and ceremonies for the Yaqui Community. In addition to the plaza, there are three contributing structures on this site as well. The Matus Mesa House, constructed around 1926, remains one of the best remaining examples of Yaqui architecture from this time period. The power poles should have a minimal impact to both of these historically significant sites as the structures are not directly on the proposed routes and the structures are adjacent to larger commercial structures which will help block the view of the poles. Routes A through D all pass by the Pascua Yaqui Village and the two contributing sites.

### 2. **DMP Substation to Vine Substation, Route B**

- i. **General:** Although this is not the most direct route, it does have the least impact to the historic districts and affects the least amount of area in the historic districts.
- ii. **Jefferson Park Historic District:** Only a short length of the route borders Jefferson Park on Grant Road. Most of the route is on Park Avenue which is a collector street. There is some sidewalk and curb near Grant

Road, but most of Park Avenue has no curb or sidewalks. Park Avenue is a narrow road with mostly residential structures in the historic district along Park Avenue. Some of the homes face the route. Many of the homes along Park Avenue have their side to the street, which helps reduce the impact to those homes. There are also many site privacy walls constructed along Park Avenue. Park Avenue has existing power poles that range in height and spacing and are located on both sides of the street. This route bisects through a portion of this historic district, but it is not as severe as Route A. Of the DMP routes, this route has the least impact to Jefferson Park.

iii. **Miracle Mile Historic District:** See comments under *Route A, D.1.iii Miracle Mile Historic District*.

iv. **Pascua Yaqui Village:** See comments under *Route A, D.1.iv. Pascua Yaqui Village*.

### 3. DMP Substation to Vine Substation, Route C

i. **General:** There are very few existing power poles along this route. Our preference would be to locate the route where there are already existing power poles that could be removed or reduced to help improve the visual impact to the historic districts. This is also the most indirect route and passes through the most historic districts and has the most individually listed properties within the 800' buffer for the DMP to Vine routes.

ii. **Feldman's Historic District:** Refer to Route 5 under item *C.5.v. Feldman's Historic District* for the impact to the District along Speedway and Park. Refer to Route 6 under item *C.6.v. Feldman's Historic District* for the impact to the District along Stone Ave.

iii. **Jefferson Park Historic District:** See comments in Route 2, item *C.2.iv. Jefferson Park Historic District*. Routes 3, 4 and 5 follow the same route at Jefferson Park.

iv. **John Spring Neighborhood Historic District:** The route is within the 800' buffer at the Speedway Boulevard and Stone Avenue intersection. The area of John Spring is a narrow district in the area just adjacent to Speedway Boulevard. The portion that is in the 800' buffer is minimal. Most of the residences are small, single story structures. Many of the structures date pre-1920 and are of adobe construction. The residential streets in the 800' buffer are narrow, with desert landscaping along the sides of the streets. Some of the residence have fences around their homes, but most residence's architectural significance is still visible. There are currently no power poles located on Speedway Boulevard in the area of this district. The impact to this district is minimal.

v. **Miracle Mile Historic District:** See comments under *Route A, D.1.iii. Miracle Mile Historic District* for the portion of route that passes through Grant Road at Oracle Road. For the portion of this route that goes on Stone Avenue from Adams Street to Speedway Boulevard, this portion is bisecting the historic district. Most of the district is on the east side of Stone Avenue with the Pima College parking lot on the west side of Stone Avenue. The landscape in the historic district is minimal along the street. Many of the buildings are also close to the public sidewalks. With the wide streets and primarily commercial structures along the route, adding power poles will have a minor affect to this historic district. Within the 800' buffer there are 5 historic landmark signs, with one directly on the route at the northwest corner of Drachman Street and Stone Avenue. Because these are taller signs on posts, we recommend locating the power poles away from these signs to help preserve and not compete with their visibility. The impact to this district is low to moderate.

vi. **Pascua Yaqui Village:** See comments under *Route A, D.1.iv. Pascua Yaqui Village*.

vii. **University of Arizona:** See comments in Route 3 item *C.3.viii University of Arizona*.

viii. **West University Historic District:** See comments under Route 5, item *C.5.viii. West University Historic District* for the portion that discusses the route that is on Speedway from Stone Ave to Park Ave.

#### 4. DMP Substation to Vine Substation, Route D

- i. **General:** Although this route is located on wide, highly trafficked roads, Campbell Avenue has been identified by the City of Tucson as a Gateway Arterial Street.
- ii. **Blenman-Elm Historic District:** Route D only has a minimal impact to Blenman-Elm. Only a small area of this district is only within the 800' buffer and it is not located directly along the route. For the Routes A through D, this is the only route that includes Blenman-Elm. The impact is minimal.
- iii. **Catalina Vista Historic District:** The existing and mature landscaping within Catalina Vista will help to block the visibility of proposed power poles, especially if the poles are located on the west side of Campbell Avenue. Many of the homes are on larger lots and face away from Campbell Avenue which will help reduce the impact of the power poles if they are located on this route. Although there is a high number of residences that face the route, there is a neighborhood street adjacent to Campbell Avenue that provides mature landscape and a stuccoed CMU site wall that blocks the sound from the traffic and creates privacy. These features allow the impact to this district to be low to moderate.
- iv. **Jefferson Park Historic District:** This route has the most length bordering Jefferson Park, it also has a high number of contributing properties adjacent to the route. Similar to Catalina Vista, the street configuration along Campbell Avenue helps to reduce the impact to Jefferson Park. Although it would be best to leave existing streets that are free of power poles to continue being free of power poles, the overall width of Campbell Avenue allows for the tall poles to be less overpowering to the mostly single story structures in Jefferson Park, especially when compared to locating the poles on Vine Avenue. Lester Street is a residential street, see comments in Jefferson Park under Route 1, item 5.i.d. *Jefferson Park*. Route D has a moderate affect to Jefferson Park.
- v. **Miracle Mile Historic District:** See comments under *Route A, D.1.iii Miracle Mile Historic District*.
- vi. **Pascua Yaqui Village:** See comments under *Route A, D.1.iv. Pascua Yaqui Village*.

# VI. Summary Tables and Analysis

## A. Results of Analysis

The routes below are ranked from the lowest impact to the highest impact:

1. **Kino Substation to Vine Substation:** Route 1, Route 4, Route 3, Route 5, Route 2 and Route 6
2. **DMP Substation to Vine Substation:** Route B, Route A, Route D, Route C

## B. Summary Tables by Historic Districts: (Refer to Kino Table 10 and 11 and DMP Table J and K)

1. **Objective:** To review how each historic district is ranked based on the measurable criteria and the historic architectural analysis.
2. **Measurable Data Collection Process:**
  - i. **Data Source:** The total ranking of each historic district are from Kino Tables 1 to 9 and DMP Tables A to I.
  - ii. **Organization of Data:** Kino and DMP each have a total of nine (9) Tables that are part of this Measurable Criteria Summary Table. Kino Table 10 and DMP Table J are organized to show the eight measurable criteria summarized by historic district with the total of all the rankings from Kino Tables 1, 2, 4, 5, 6, 7, 8 and 9 and DMP Tables A, B, D, E, F, G, H and I. Kino Table 3 and DMP Table C are added in the final total since Kino Table 3 and DMP Table C are not categorized by historic district.
  - iii. **Ranking Process:** The total ranking summary for each district is shown in Kino Table 12 and DMP Table L summary tables. The historic district with the lowest total sum for all of the measurable criteria factors would experience the least impact from the transmission lines.
3. **Analysis by Historic District:**
  - i. **Kino Substation to Vine Substation, Routes 1 through 6**
    - a. Sam Hughes Historic District has the highest rank of all historic districts in Route 2. This is followed by West University Historic District in Route 5 and Jefferson Park in Route 6. Due to these high rankings of individual historic districts, we do not recommend using Route 2, 5, or 6.
    - b. Route 6 has the highest ranking due to having the most historic districts on the route and in the 800' buffer.
    - c. Jefferson Park and Sunshine Mile Historic Districts are impacted by all routes.
    - d. There was no single route that consistently ranked the lowest or the highest for all historic districts.
  - ii. **DMP Substation to Vine Substation, Routes A through D**
    - a. Route B consistently has the lowest ranking for all historic districts.
    - b. Route C has the greatest total negative impact. West University and John Spring Neighborhood are only affected by Route C.
    - c. Jefferson Park Historic District is impacted by all four route options.
    - d. Blenman-Elm and Catalina Vista are only affected by Route D.



KINO Table 10 (1 of 2)		Routes from Kino to Vine					
MEASURABLE CRITERIA SUMMARY BY HISTORIC DISTRICTS TABLES 1 TO 9		1	2	3	4	5	6
		Rank	Rank	Rank	Rank	Rank	Rank
<b>KINO TABLE 1</b>							
<b>Bisecting vs Bordering Historic Districts</b>							
Armory Park Historic District	0	0	0	0	0	0	0
Blenman-Elm Historic District	2	1	0	0	0	0	0
Broadmoor Historic District	0	0	0	0	0	0	0
Catalina Vista Historic District	1	0	0	0	0	0	1
Downtown Tucson Historic District	0	0	0	0	0	0	0
El Presidio Historic District	0	0	0	0	0	0	0
Feldman's Historic District	0	0	2	1	3	0	0
Fourth Avenue Historic District	0	0	0	0	0	0	0
Iron Horse Expansion Historic District	0	0	0	0	0	0	0
Jefferson Park Historic District	2	1	1	1	0	0	6
John Spring Neighborhood Historic District	0	0	0	0	0	0	0
Miracle Mile Historic District	0	0	0	0	3	5	
Pie Allen Residential Historic District	0	0	3	0	0	0	0
Rincon Heights Historic District	1	0	4	0	0	0	0
Sam Hughes Residential Historic District	1	20	0	0	0	0	0
Sunshine Mile Historic District	1	3	2	1	0	0	0
Warehouse Historic District	0	0	0	0	3	3	
West University Historic District	0	0	5	5	2	0	
Route Rank	8	25	17	8	11	15	
<b>KINO TABLE 2</b>							
<b>Street Designation</b>							
Armory Park Historic District	0	0	0	0	0	0	0
Blenman-Elm Historic District	2	2	0	0	0	0	0
Broadmoor Historic District	0	0	0	0	0	0	0
Catalina Vista Historic District	1	0	0	0	0	0	3
Downtown Tucson Historic District	0	0	0	0	0	0	0
El Presidio Historic District	0	0	0	0	0	0	0
Feldman's Historic District	0	0	3	2	4	0	0
Fourth Avenue Historic District	0	0	0	0	0	0	0
Iron Horse Expansion Historic District	0	0	0	1	0	0	0
Jefferson Park Historic District	2	0	0	0	0	0	10
John Spring Neighborhood Historic District	0	0	0	0	0	0	0
Miracle Mile Historic District	0	0	0	0	2	2	
Pie Allen Residential Historic District	0	0	5	1	0	0	0
Rincon Heights Historic District	2	0	0	0	0	0	0
Sam Hughes Residential Historic District	3	12	0	0	0	0	0
Sunshine Mile Historic District	1	5	0	1	0	0	0
Warehouse Historic District	0	0	0	0	0	0	0
West University Historic District	0	0	2	2	3	0	0
Route Rank	11	19	10	7	9	15	
<b>KINO TABLE 3</b>							
<b>Historic Districts with 1 vs 2 sides of the Route</b>							
Route Rank	2	5	10	8	9	13	
<b>KINO TABLE 4</b>							
<b>Existing Power Poles on Route</b>							
Armory Park Historic District	0	0	0	0	0	0	0
Blenman-Elm Historic District	5	10	0	0	0	6	
Broadmoor Historic District	0	0	0	0	0	0	0
Catalina Vista Historic District	3	0	0	0	0	5	
Downtown Tucson Historic District	0	0	0	0	0	0	0
El Presidio Historic District	0	0	0	0	0	0	0
Feldman's Historic District	0	0	7	7	9	0	0
Fourth Avenue Historic District	0	0	0	0	0	0	0
Iron Horse Expansion Historic District	0	0	5	0	0	0	0
Jefferson Park Historic District	3	5	5	5	5	2	
John Spring Neighborhood Historic District	0	0	0	0	0	0	0
Miracle Mile Historic District	0	0	0	0	6	8	
Pie Allen Residential Historic District	0	0	7	5	0	0	0
Rincon Heights Historic District	0	0	2	0	0	0	0
Sam Hughes Residential Historic District	5	3	0	0	0	0	0
Sunshine Mile Historic District	1	1	1	1	0	0	0
Warehouse Historic District	0	0	0	0	5	5	
West University Historic District	0	0	4	4	10	10	
Route Rank	17	19	31	22	35	36	
<b>KINO TABLE 5</b>							
<b>Historic Light fixtures in 800' Route Buffer</b>							
Armory Park Historic District	0	0	0	0	0	0	0
Blenman-Elm Historic District	0	0	0	0	0	0	0
Broadmoor Historic District	0	0	0	0	0	0	0
Catalina Vista Historic District	0	0	0	0	0	0	0
Downtown Tucson Historic District	0	0	0	0	0	0	0
El Presidio Historic District	0	0	0	0	1	1	
Feldman's Historic District	0	0	0	0	0	0	0
Fourth Avenue Historic District	0	0	0	0	0	0	0
Iron Horse Expansion Historic District	0	0	1	1	0	0	0
Jefferson Park Historic District	0	0	0	0	0	0	0
John Spring Neighborhood Historic District	0	0	0	0	1	1	
Miracle Mile Historic District	0	0	0	0	0	1	
Pie Allen Residential Historic District	0	0	1	0	0	0	0
Rincon Heights Historic District	0	0	0	0	0	0	0
Sam Hughes Residential Historic District	2	2	0	0	0	0	0
Sunshine Mile Historic District	0	0	0	0	0	0	0
Warehouse Historic District	0	0	0	0	1	1	
West University Historic District	0	0	2	3	3	1	
Outside of Historic District	1	0	1	0	2	2	
Route Rank	3	2	5	4	8	7	

KINO Table 10 (2 of 2)		Routes from Kino to Vine					
MEASURABLE CRITERIA SUMMARY BY HISTORIC DISTRICTS TABLES 1 TO 9		1	2	3	4	5	6
		Rank	Rank	Rank	Rank	Rank	Rank
<b>KINO TABLE 6</b>							
<b>Historic Contributing Properties in 800' Route Buffer</b>							
Armory Park Historic District	0	0	0	4	5	5	
Blenman-Elm Historic District	8	7	0	0	0	2	
Broadmoor Historic District	0	1	0	0	0	0	
Catalina Vista Historic District	3	0	0	0	0	4	
Downtown Tucson Historic District	0	0	0	0	4	4	
El Presidio Historic District	0	0	0	0	1	1	
Feldman's Historic District	0	0	9	9	10	3	
Fourth Avenue Historic District	0	0	0	0	1	1	
Iron Horse Expansion Historic District	0	0	2	7	7	7	
Jefferson Park Historic District	6	5	5	5	5	9	
John Spring Neighborhood Historic District	0	0	0	0	6	6	
Miracle Mile Historic District	0	0	0	0	1	2	
Pie Allen Residential Historic District	0	0	6	6	0	0	
Rincon Heights Historic District	7	0	12	0	0	0	
Sam Hughes Residential Historic District	10	31	0	0	0	0	
Sunshine Mile Historic District	2	7	2	0	0	0	
Warehouse Historic District	0	0	0	0	7	7	
West University Historic District	0	0	11	10	16	6	
Route Rank	36	51	47	41	63	57	
<b>KINO TABLE 7</b>							
<b>Access of Historic Contributing Properties along Route</b>							
Armory Park Historic District	0	0	0	0	0	0	
Blenman-Elm Historic District	4	4	0	0	0	0	
Broadmoor Historic District	0	0	0	0	0	0	
Catalina Vista Historic District	2	0	0	0	0	3	
Downtown Tucson Historic District	0	0	0	0	0	0	
El Presidio Historic District	0	0	0	0	0	0	
Feldman's Historic District	0	0	3	3	7	0	
Fourth Avenue Historic District	0	0	0	0	0	0	
Iron Horse Expansion Historic District	0	0	0	3	0	0	
Jefferson Park Historic District	5	0	0	0	0	9	
John Spring Neighborhood Historic District	0	0	0	0	0	0	
Miracle Mile Historic District	0	0	0	0	3	3	
Pie Allen Residential Historic District	0	0	8	3	0	0	
Rincon Heights Historic District	2	0	5	0	0	0	
Sam Hughes Residential Historic District	5	22	0	0	0	0	
Sunshine Mile Historic District	0	4	1	1	0	0	
Warehouse Historic District	0	0	0	0	1	1	
West University Historic District	0	0	6	6	6	1	
Route Rank	18	30	23	16	17	17	
<b>KINO TABLE 8</b>							
<b>Historic Landmark Signs in 800' Route Buffer</b>							
Armory Park Historic District	0	0	0	0	0	0	
Blenman-Elm Historic District	0	0	0	0	0	0	
Broadmoor Historic District	0	0	0	0	0	0	
Catalina Vista Historic District	0	0	0	0	0	0	
Downtown Tucson Historic District	0	0	0	0	1	1	
El Presidio Historic District	0	0	0	0	0	0	
Feldman's Historic District	0	0	0	0	0	0	
Fourth Avenue Historic District	0	0	0	0	0	0	
Iron Horse Expansion Historic District	0	0	0	0	0	0	
Jefferson Park Historic District	0	0	0	0	0	0	
John Spring Neighborhood Historic District	0	0	0	0	0	0	
Miracle Mile Historic District	0	0	0	0	0	2	
Pie Allen Residential Historic District	0	0	0	0	0	0	
Rincon Heights Historic District	0	0	0	0	0	0	
Sam Hughes Residential Historic District	0	0	0	0	0	0	
Sunshine Mile Historic District	0	0	0	0	0	0	
Warehouse Historic District	0	0	0	0	0	0	
West University Historic District	0	0	0	0	0	0	
Outside of Historic District	0	0	0	0	0	0	
Route Rank	0	0	0	0	1	3	
<b>KINO TABLE 9</b>							
<b>Historic Architectural Analysis</b>							
Armory Park Historic District	0	0	0	1	1	1	
Blenman-Elm Historic District	16	31	0	0	0	0	
Broadmoor Historic District	0	8	0	0	0	0	
Catalina Vista Historic District	5	0	0	0	0	0	
Downtown Tucson Historic District	0	0	0	0	3	3	
El Presidio Historic District	0	0	0	0	2	2	
Feldman's Historic District	0	0	16	16	23	24	
Fourth Avenue Historic District	0	0	0	0	2	3	
Iron Horse Expansion Historic District	0	0	5	21	5	5	
Jefferson Park Historic District	7	5	5	5	5	28	
John Spring Neighborhood Historic District	0	0	0	0	12	12	
Miracle Mile Historic District	0	0	0	0	6	7	
Pie Allen Residential Historic District	0	0	23	17	0	0	
Rincon Heights Historic District	17	0	20	0	0	0	
Sam Hughes Residential Historic District	23	50	0	0	0	0	
Sunshine Mile Historic District	5	15	5	3	0	0	
Warehouse Historic District	0	0	0	0	11	11	
West University Historic District	0	0	23	23	25	23	
Outside of Historic District	16	0	10	10	10	0	
Route Rank Total	89	109	107	96	105	119	

KINO TABLE 11						
CUMULATIVE SUMMARY BY HISTORIC DISTRICTS FOR KINO ROUTES	Routes from Kino to Vine					
	1	2	3	4	5	6
Armory Park Historic District	0	0	0	5	6	6
Blenman-Elm Historic District	37	55	0	0	0	8
Broadmoor Historic District	0	9	0	0	0	0
Catalina Vista Historic District	15	0	0	0	0	16
Downtown Tucson Historic District	0	0	0	0	8	8
El Presidio Historic District	0	0	0	0	4	4
Feldman's Historic District	0	0	40	38	56	27
Fourth Avenue Historic District	0	0	0	0	3	4
Iron Horse Expansion Historic District	0	0	13	33	12	12
Jefferson Park Historic District	25	16	16	16	15	64
John Spring Neighborhood Historic District	0	0	0	0	19	19
Miracle Mile Historic District	0	0	0	0	21	30
Pie Allen Residential Historic District	0	0	53	32	0	0
Rincon Heights Historic District	29	0	43	0	0	0
Sam Hughes Residential Historic District	49	140	0	0	0	0
Sunshine Mile Historic District	10	35	11	7	0	0
Warehouse Historic District	0	0	0	0	28	28
West University Historic District	0	0	53	53	65	41
Outside of Historic District	17	0	11	10	12	2
Total by District: Tables 1,2,4,5,6,7,8,9	182	255	240	194	249	269
Total including Kino Table 3	184	260	250	202	258	282



## D. DMP SUMMARY TABLES BY HISTORIC DISTRICT (TABLES J AND K)

DMP Table J:		ROUTES FROM DMP TO VINE			
MEASURABLE CRITERIA SUMMARY BY		A	B	C	D
HISTORIC DISTRICTS Tables A to I		Rank	Rank	Rank	Rank
<b>DMP TABLE A</b>					
<b>Bisecting vs Bordering Historic Districts</b>					
Blenman-Elm Historic District	0	0	0	1	
Catalina Vista Historic District	0	0	0	2	
Feldman's Historic District	0	1	3	0	
Jefferson Park Historic District	8	3	0	6	
John Spring Neighborhood Historic District	0	0	0	0	
Miracle Mile Historic District	1	0	5	1	
West University Historic District	0	0	4	0	
Route Rank	9	4	12	10	
<b>DMP TABLE B</b>					
<b>Street Designation</b>					
Blenman-Elm Historic District	0	0	0	1	
Catalina Vista Historic District	0	0	0	3	
Feldman's Historic District	0	1	2	0	
Jefferson Park Historic District	9	2	0	8	
John Spring Neighborhood Historic District	0	0	0	0	
Miracle Mile Historic District	1	1	2	1	
West University Historic District	0	0	2	0	
Route Rank	10	4	6	13	
<b>DMP TABLE C</b>					
<b>Historic Districts with 1 vs 2 sides of the Route</b>					
Route Rank	15	3	7	14	
<b>DMP TABLE D</b>					
<b>Existing Power Poles on Route</b>					
Blenman-Elm Historic District	0	0	0	1	
Catalina Vista Historic District	0	0	0	3	
Feldman's Historic District	0	1	10	0	
Jefferson Park Historic District	3	4	5	2	
John Spring Neighborhood Historic District	0	0	0	0	
Miracle Mile Historic District	1	1	6	1	
West University Historic District	0	0	10	0	
Route Rank	4	6	31	7	
<b>DMP TABLE E</b>					
<b>Historic Light fixtures in 800' Route Buffer</b>					
Blenman-Elm Historic District	0	0	0	0	
Catalina Vista Historic District	0	0	0	0	
Feldman's Historic District	0	0	0	0	
Jefferson Park Historic District	0	0	0	0	
John Spring Neighborhood Historic District	0	0	0	0	
Miracle Mile Historic District	0	0	0	0	
West University Historic District	0	0	2	0	
Outside of Historic District	0	0	1	0	
Route Rank	0	0	3	0	
<b>DMP TABLE F</b>					
<b>Historic Contributing Properties in 800' Route Buffer</b>					
Blenman-Elm Historic District	0	0	0	2	
Catalina Vista Historic District	0	0	0	4	
Feldman's Historic District	0	5	15	0	
Jefferson Park Historic District	22	11	5	14	
John Spring Neighborhood Historic District	0	0	2	0	
Miracle Mile Historic District	2	1	2	2	
West University Historic District	0	0	8	0	
Outside of Historic District	3	3	5	3	
Route Rank	27	20	37	25	
<b>DMP TABLE G</b>					
<b>Access of Historic Contributing Properties along Route</b>					
Blenman-Elm Historic District	0	0	0	0	
Catalina Vista Historic District	0	0	0	3	
Feldman's Historic District	0	0	10	0	
Jefferson Park Historic District	6	3	0	6	
John Spring Neighborhood Historic District	0	0	0	0	
Miracle Mile Historic District	0	0	2	0	
West University Historic District	0	0	7	0	
Route Rank	6	3	19	9	
<b>DMP TABLE H</b>					
<b>Historic Landmark Signs in 800' Route Buffer</b>					
Blenman-Elm Historic District	0	0	0	0	
Catalina Vista Historic District	0	0	0	0	
Feldman's Historic District	0	0	0	0	
Jefferson Park Historic District	0	0	0	0	
John Spring Neighborhood Historic District	0	0	0	0	
Miracle Mile Historic District	0	0	2	0	
West University Historic District	0	0	0	0	
Outside of Historic District	0	0	0	0	
Route Rank	0	0	2	0	
<b>DMP TABLE I</b>					
<b>Historic Architectural Analysis</b>					
Blenman-Elm Historic District	0	0	0	5	
Catalina Vista Historic District	0	0	0	8	
Feldman's Historic District	0	0	20	0	
Jefferson Park Historic District	29	26	2	17	
John Spring Neighborhood Historic District	0	0	17	0	
Miracle Mile Historic District	5	5	9	5	
West University Historic District	0	0	18	0	
Outside of Historic District	19	19	19	19	
Route Rank Total	53	50	85	54	

**DMP TABLE K**

CUMULATIVE SUMMARY BY HISTORIC DISTRICTS FOR DMP	ROUTES FROM DMP TO VINE			
	A	B	C	D
Blenman-Elm Historic District	0	0	0	10
Catalina Vista Historic District	0	0	0	23
Feldman's Historic District	0	8	60	0
Jefferson Park Historic District	77	49	12	53
John Spring Neighborhood Historic District	0	0	19	0
Miracle Mile Historic District	10	8	28	10
West University Historic District	0	0	51	0
Outside of Historic District	22	22	25	22
Total by District: Tables A,B,D,E,F,G,H,I	109	87	195	118
Total including DMP Table C	124	90	202	132

**E. Cumulative Summary of Measurable Criteria Tables for Kino and DMP:** (Refer to Kino Table 12 and DMP Table L)

1. **Objective:** To review the cumulative summary of all the measurable criteria and architectural analysis of the different routes.

2. **Measurable Data Collection Process:**

- i. **Data Source:** The total rankings of each route are derived from Kino Tables 1 to 9 and DMP Tables A to I.
- ii. **Organization of Data:** A single cumulative summary table shows the ranking of the measurable criteria for each of the routes.
- iii. **Ranking Process:** The total ranking for each route is shown in Kino Table 12 and DMP Table L. The route with the lowest total sum would experience the least impact from the transmission lines.

3. **Analysis & Results:**

- i. **Kino Substation to Vine Substation, Routes 1 through 6**
  - a. Route 1 has the lowest ranking for all the criteria.
  - b. There was no route that consistently had the highest or lowest ranking for all of the criteria.
- ii. **DMP Substation to Vine Substation, Routes A through D**
  - a. Route B has the lowest total ranking for all the criteria.
  - b. Route C has the highest ranking for all the criteria.

**F. Kino Summary Table by Measurable Criteria:**

<b>KINO TABLE 12</b>						
<b>CUMULATIVE SUMMARY OF MEASURABLE CRITERIA BY RANKING FOR KINO ROUTES</b>	<b>Routes from Kino to Vine</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Table 1: Bisecting vs Bordering Historic Districts	8	25	17	8	11	15
Table 2: Street Designation	11	19	10	7	9	15
Table 3: Historic Districts with 1 vs 2 sides of the Route	2	5	10	8	9	13
Table 4: Existing Power Poles on Route	17	19	31	22	35	36
Table 5: Historic Light fixtures in 800' Route Buffer	3	2	5	4	8	7
Table 6: Historic Contributing Properties in 800' Route Buffer	36	51	47	41	63	57
Table 7: Access of Historic Contributing Properties along Route	18	30	23	16	17	17
Table 8: Historic Landmark Signage within 800' Route Buffer	0	0	0	0	1	3
Table 9: Historic Architectural Analysis	89	109	107	96	105	119
Total	184	260	250	202	258	282

**G. DMP Summary Table by Measurable Criteria:**

<b>DMP TABLE L</b>		<b>ROUTES FROM DMP TO VINE</b>			
<b>RANKING SUMMARY VINE ROUTES</b>		<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
Table A: Bisecting vs Bordering Historic Districts		9	4	12	10
Table B: Street Designation		10	4	6	13
Table C: Historic Districts with 1 vs 2 sides of the Route		15	3	7	14
Table D: Existing Power Poles on Route		4	6	31	7
Table E: Historic Light fixtures in 800' Route Buffer		0	0	3	0
Table F: Historic Contributing Properties in 800' Route Buffer		27	20	37	25
Table G: Access of Historic Contributing Properties along Route		6	3	19	9
Table H: Historic Landmark Signage in 800' Route Buffer		0	0	2	0
Table I: Historic Architectural Analysis		53	50	85	54
Total		124	90	202	132

# VII. Recommendations & Historic Impact

No route is ideal and without impact. We recommend that TEP locate the proposed transmission lines as follows:

Kino Substation to Vine Substation: Route 1 (least impact of all Kino routes) or Route 4 (second least impact of all Kino Routes)

DMP Substation to Vine Substation: Route B

These recommended routes have the least degree of impact to the existing historic structures along the routes than the other routes suggested. We do recommend Route 1 as a better option than Route 4 for the Kino to Vine Substation. In Section VII. A below, we describe the rationale that determined our recommendation for Route 1 and Route B. Route 2, 3, 5 and 6 are not recommended. However in Section VII. B below, we have provided suggestions that would lessen the visual impact of the poles, should Routes 2,3,5 and 6 be selected. Section VII. B. also addresses the overall Historic Architectural Impact of the proposed transmission line and Section C is our concluding thoughts and our overall historic architectural impact of the transmission line.

## A. Rationale for Recommended Routes

### 1. Rationale for Recommendations of Kino Route 1

#### i. Measurable criteria:

- a. **Per Kino Table 1 Length of Route Bisecting versus Bordering Historic Districts:** Route 1 has the least number of historic districts that are bisected and bordered. This route borders 5 districts and bisects 2 districts. Sunshine Mile and Jefferson Park, the districts that are bisected, are only bisected for very short distances. Of the 5 districts that are bordered, they include Blenman-Elm, Rincon Heights, Sam Hughes and Jefferson Park. The length bordered is also much less than any other Kino Route.
- b. **Per Kino Table 2 Street Designation:** Route 1 is primarily located along Campbell Avenue, a Gateway Arterial Street, which means it is a wide street with additional landscape, hardscape, landscaped medians and other street functions such as bike routes and bus stops. However, the City of Tucson also views this as being a street that should remain free of visual impediments and represent Tucson's beauty. Of the Kino route options, this does have the greatest length of Gateway Arterial Street, but it has only 67 linear feet on residential streets and the lowest total length of street with historic districts as it's the most direct route. Although it is not ideal to have the proposed transmission lines located on a Gateway Arterial Street, from a historic analysis, having wider roads and less length where historic districts and structures are located are better than affecting more historic structures.
- c. **Per Kino Table 3 Length of Route with Historic Districts on 1 Side versus 2 Sides:** Route 1 has the least amount of route length with historic districts on both sides. More than 60% of the route has historic districts on only one side of the route. The total length of the route where historic districts are occurring is the second lowest. By having the route primarily with historic districts on one side, this allows the power poles to have more options on where to locate the poles to reduce the impact to the historic districts.
- d. **Per Kino Table 4 Existing Power Poles in Historic Districts Located Along the Route:** Route 1 has the third most number of poles, with over 70 located along the route. Power poles are located in each historic district that this route borders and bisects.
- e. **Per Kino Table 5 Number of Historic Light Fixtures Located within 800' from the Route:** Route 1 has the second least number of historic light fixtures, with most occurring in Sam Hughes along 3rd Street and 6th Street. The street lights that are located outside of the historic district, are along 6th Street near Campbell Avenue going toward the Sam Hughes Historic District.
- f. **Per Kino Table 6 Historic Contributing Properties in 800 feet from the Route and Age Range:** Route 1 has the least number of contributing properties and no individually listed properties within the 800' buffer. Most of the contributing properties are within Sam Hughes as the route passes by the entire west side of this district.
- g. **Per Kino Table 7 Direct Access of Historic Contributing Properties from the Route:** Route 1 has the least number of contributing properties that face and access directly from the route. Route 1 has the 2nd lowest total contributing properties directly on the route as well.

- h. **Per Kino Table 8 Historic Landmark Signs within 800' Buffer:** There are no historic landmark signs located along this route.

ii. **Historic Architectural Analysis**

- a. Route 1 has the lowest architectural ranking as shown on Kino Table 9 Historic Architectural Analysis.
- b. Campbell Avenue is a wide street with more room to absorb the impact of the 75' - 85' high power poles, especially in comparison to Routes 2 and 3 which pass through more residential streets than Route 1.
- c. Route 1 is adjacent to and has a view of the University of Arizona and nearby high rise structures. Route 1 seems to have more open space to take on the impact of the 75' - 85' tall power poles and would have less impact on the primarily single story historic structures.
- d. The biggest impact of this route will be on Campbell Avenue as it passes the UA Mall, where the viewshed looking towards Old Main will be interrupted by the overhead lines.
- e. Route 1 consists of larger historic districts than the other Kino Routes. From our observations, the smaller historic districts will bear a greater impact from the transmission line due to more area of their district being affected.
- f. Perhaps the most important variable is the fact that Route 1 only bisects Sunshine Mile Historic District and Jefferson Park. In Sunshine Mile Historic District there are no contributing properties directly on the route. Where the route bisects Jefferson Park it is near the south edge of Jefferson Park where the tall UA structures are currently located and where existing contributing structures have already been demolished.

**2. Rationale for a Secondary Recommendations of Kino Route 4**

For the Kino Route Recommendations we have also provided a second recommendation if the importance of keeping the Gateway Arterial Streets clear of Utility lines or other issues outside of the historic analysis takes precedence over the historic impact. After Route 1, we feel that Route 4 is the next best option.

i. **Measurable Criteria:**

- a. **Per Kino Table 1 Length of Route Bisecting versus Bordering Historic Districts:** Route 4 has the second least amount of bordering and bisecting as well as the second lowest amount bisecting historic districts, where Route 1 has the least. This route does have the fourth highest length that is bordering historic districts, however, the historic districts will have less of an impact if the route borders their district versus bisecting it.
- b. **Per Kino Table 2 Street Designation:** Route 4 does not have any route along a Gateway Arterial Street or Residential streets, with most of the route on Arterial streets. The Arterial streets, with their greater width, will help reduce the impact to the historic structures, especially to the smaller, single story historic structures.
- c. **Per Kino Table 3 Length of Route with Historic Districts on 1 Side versus 2 Sides:** This has about the same length of route with historic districts on 1 side as it does on 2 sides. Although this route has the third lowest total length of route, we feel this route is better than Route 2, which has the lowest total length of route because most of Route 2 bisects through the center of Sam Hughes.
- d. **Per Kino Table 4 Existing Power Poles in Historic Districts Located Along the Route:** Route 4 has the third lowest number of power poles, but all districts that are bisected or bordered in this route have power poles.
- e. **Per Kino Table 5 Number of Historic Light Fixtures Located in 800' from the Route:** Route 4 has the third least number of historic light fixtures, with most occurring in West University along 2nd Street, 5th Street and 6th Street. Iron Horse also has quite a few historic light fixtures, however most are reproductions.
- f. **Per Kino Table 6 Historic Contributing Properties in 800' from the Route and Age Range:** Route 4 has the second lowest number of contributing historic structures. It does have three individually listed structures, the University Heights Elementary School, which the route will pass directly in front of, and the Cannon, Dr William Austin House and the Don Martin Apartments, which are located just within the 800' buffer. The only routes that don't have individually listed properties are Routes 1 and 2. Because Route 2 has over 500 contributing properties in a single historic district, we felt that Route 4, with less total contributing properties would be a better option than Route 2.

- g. **Per Kino Table 7 Direct Access of Historic Contributing Properties from the Route:** Route 4 has the least number of contributing properties that are located along the route and the third lowest number that face and access directly off the route.
- h. **Per Kino Table 8 Historic Landmark Signs within 800' Buffer:** There are no historic landmark signs located along this route.

## ii. Historic Architectural Analysis

- a. We feel Route 4 is the second best route option because it is mostly bordering the historic districts and there are existing power poles already located along this route.
- b. There are portions of the route that will feel the impact more, such as the east border of West University, where historic structures are located close to the sidewalk, leaving little room to locate additional power poles. However, this route bisects very little of the historic districts and is located where there are already quite a few high rise structures.
- c. At the intersection of Speedway Boulevard and Euclid Avenue, multiple structures on the southeast corner are in the process of being demolished. Because this portion of West University has changed so much, we feel the impact of the power lines along Euclid Avenue will be less impactful than the routes located on Stone Avenue.

## 3. Rationale for Recommendation of DMP Route B

### i. Measurable criteria:

- a. **Per Table A Length of Route Bisecting versus Bordering Historic Districts:** Route B has the least amount of historic districts being bisected as well as bordered.
- b. **Per Table B Street Designations:** Route B doesn't have any of the route on residential streets or Gateway Arterial Streets. The total length in historic districts is also much less than the other DMP route options.
- c. **Per Table C Length of Route with Historic Districts on 1 Side versus 2 Sides:** Route B has the shortest route length of historic district affected over the historic districts in all routes.
- d. **Per Table D Existing Power Poles in Historic Districts Located Along the Route:** Route B has the same number of poles as Route D and a similar number to Route A. However Route C has the least number of poles, making Route B a better option.
- e. **Per Table E Number of Historic Light Fixtures Located in 800' from the Route:** Route B has no historic light fixtures.
- f. **Per Table F Historic Contributing Properties in 800 feet from the Route and Age Range:** Route B has the least number of contributing properties in the 800' buffer
- g. **Per Table G Direct Access of Historic Contributing Properties from the Route:** Route B has the least number of contributing properties facing or directly on the route as well as the least number of total contributing properties directly on the route.
- h. **Per Table H Historic Landmark Signs in 800' Route:** Route B does not have any Historic Landmark Signs.

### ii. Historic Architectural Analysis

- a. **Per Table H Historic Architectural Analysis:** Route B has the lowest architectural ranking, which means it bears the least impact than all the other routes. Because the route bisects a small amount of Jefferson Park as well as borders less historic districts than the other route options, we feel this will have the least impact to the surrounding historic district than any other route option. There will still be a visual impact to the residential structures along the route, however this route will reduce the visual impact to fewer historic contributing structures and to fewer historic districts.



**B. General Suggestions to Decrease Visual Impact of Poles:**

We understand these proposed 75' - 85' +/- power poles that will be spaced approximately 750' +/- apart will have a visual impact on any of the routes chosen, however our objective is to offer recommendations and ideas that could help decrease the visual impact to the residents of the historic neighborhoods and its visitors. Recommendations of historic structures by SHPO, COT and specific neighborhood design guidelines do not address how utilities need to respond to historic districts or historic structures. Although the ideal solution would be to locate the transmission line underground this is not a technical or economically feasible solution for TEP. The recommendations we have developed are based on looking at other options using our historic architectural experience and through our visual analysis of the routes. For all of the routes we recommend the following:

- a. Locate power poles away from contributing commercial buildings that help create the street fabric.
- b. Locate power poles away from residences that directly face the route.
- c. Locate power poles so they are not directly in front of any contributing structure.
- d. Locate power poles away from locations with historic light fixtures or historic signs.
- e. Locate poles around existing landscape where possible to allow the pole base to be less visible.
- f. Provide additional landscaping and accessible sidewalks along the route and into the historic districts to help hide the visibility of the power poles directly from the route to minimize the impact at the pedestrian scale.
- g. Space poles as far apart from each other as possible and locate to minimize impact to critical historic structures.
- h. Work with the arts and culture community groups to develop art projects around the transmission poles. Perhaps art that shares stories about the historic districts.
- i. Possibly paint the poles to create less contrast with the space around them to help reduce the visibility of the poles. The rust colored power poles on Grant Road tend to have greater visibility than power poles that are painted tan or grey. We also recommend using galvanized steel poles where historic districts occur.
- j. Once the proposed power poles and transmission lines are installed, if as many as possible of the old existing power poles located directly on the route in historic districts could be removed, this would clean up the route and reduce the impact of having so many power poles directly on the route. While it is recognized that other utilities such as cable and phone are using TEP's existing power poles, it is recommended that TEP coordinate with the other utility companies and possibly with the help of City of Tucson and Mayor and Council, these non-TEP utilities can be relocated.

**i. Additional Suggested Recommendations for Route 1:**

- a. If the proposed power poles are located on the west side of Campbell, where there are no historic districts, and the power poles currently located on the east side of Campbell are removed, this would help the historic visibility of the current contributing structures and reduce the negative visual impact.
- b. Locate power poles on the south side of Lester Street where most historic homes have already been demolished. Provide additional landscaping and hardscape features to help reduce the impact to the residential structures on the north side of Lester
- c. Locate the power poles to allow the UA Campus mall and 3rd Street to maintain as much of an open vista to Old Main as possible.
- d. Between Mabel Street and Elm Street on Campbell Avenue, power poles should be located to avoid blocking Saints Peter and Paul Catholic Church, to not compete with the taller structure of the Church and located to minimize the impact to the small residential homes along that portion of street.
- e. Use landscape elements to help reduce the impact and visibility of the pole bases by using walkability elements, such as trees for shade, artwork and landscape to develop islands of respite and help bring interest towards eye level for pedestrians.
- f. Plant large trees that will grow to be tall, in the center median of Campbell Avenue to shield the power poles from Catalina Vista, Blenmen-Elm, Rincon Heights and Sam Hughes.
- g. Possibly locate the power poles in the center of the landscape median to treat the poles more as art rather than as a utility that is typically on the side of the street.

- h. Add additional landscape, site walls, accessible sidewalks and if there is the space, neighborhood side streets on Campbell Avenue from Broadway Boulevard to 6th Street, similar to the neighborhood streets along Campbell Avenue from Grant Road to Elm Street, to help reduce the impact to Rincon Heights Historic District and allow a more walkable path from Broadway Boulevard to Grant Road, as both streets are currently being widened with accessible sidewalks and increased landscape.

**ii. Additional Suggested Recommendations for Route 4:**

- a. Locate the power poles on the east side of the street at Park Avenue and provide additional landscaping on both the east and west sides of Park Avenue
- b. Locate the power poles as far as possible from the individually listed structure, the University Heights Elementary School. Care should be taken in the placement of the proposed power poles to not detract from this individually listed building.
- c. Speedway Boulevard currently is free of power poles in the location where this route is located. We recommend trying to locate as few poles along Speedway Boulevard as possible.
- d. The route along Euclid Avenue from Speedway Boulevard to Broadway Boulevard has contributing structures on both sides of the street. Existing power poles are currently located on the south side of Euclid Avenue, but the proposed poles will be larger and in certain areas there is minimal relief between where a power pole can be located, the existing sidewalk and the existing building. We recommend locating the proposed power poles on the south side of the street if most of the existing power poles can be removed.
- e. Widen and increase the landscape along Euclid Avenue where possible to help reduce the impact of the power poles on the narrow right of way.

**iii. Additional Suggested Recommendations for DMP Route B:**

- a. Locate the power poles on the east side of the street on Park Avenue so that they replace the existing wood power poles currently on the east side of the street.
- b. Install sidewalks, curbs, accessible sidewalks and landscape for shade along Park Avenue to help improve the walkability of the street and to reduce the visual impact to the historic district.

**C. Overall Historic Architectural Impact of Transmission Line**

It has been confirmed with the City of Tucson Historic Preservation Officer that no historic contributing property, individually listed property or historic district will be removed or delisted as a result of any power pole location. This report is not to determine if a property or historic district will be delisted, but to determine which route will have the least impact to the historic features and districts.

All historic districts, contributing properties, historic landmarks, individually listed historic structures, etc, whether bordering, bisecting or just within the 800' buffer will all be affected by varying levels of visual impact from the proposed transmission line. Structures that are directly adjacent to a proposed power pole will have the largest impact. Although there will be a visual impact due to heights of the proposed power poles, the historic significance of the neighborhoods and the history that they represent will not be diminished. Any contributing property, landmark or district identified as historically significant by the City of Tucson, Pima County, The National Register of Historic Places or the State Historic Preservation Office will not lose its historic designation due to the location of a power pole or transmission line.

While the location of the power poles in these historic districts will have a large visual impact, we hope that our recommendations will help reduce some of the impact and help to determine the route that will have the least impact to the many important historic architectural features in our city.



## VIII. Kino Substation to Vine Substation Maps

TROW and TAC developed maps of each route to visually depict the measurable criteria identified in Section III Methodology. Each route has a map of the full route as well as enlarged maps where the route is adjacent or passes through historic districts.

**A. Route 1 Maps: Kino Substation to Vine Substation**

1. Figure VIII.A.1: FULL ROUTE
2. Figure V.III.A.2: VINE SUBSTATION TO CAMPBELL AVE / 1ST ST
3. Figure V.III.A.3: WAVERLY ST / CAMPBELL AVE TO 2ND ST / CAMPBELL AVE
4. Figure V.III.A.4: HAWTHORNE ST / CAMPBELL AVE TO 12TH ST / KINO PKWY
5. Figure V.III.A.5: 12TH ST / KINO PKWY TO 19TH ST / CAMPBELL AVE



**Figure VIII.A.1: ROUTE 1 KINO SUBSTATION TO VINE SUBSTATION  
FULL ROUTE**

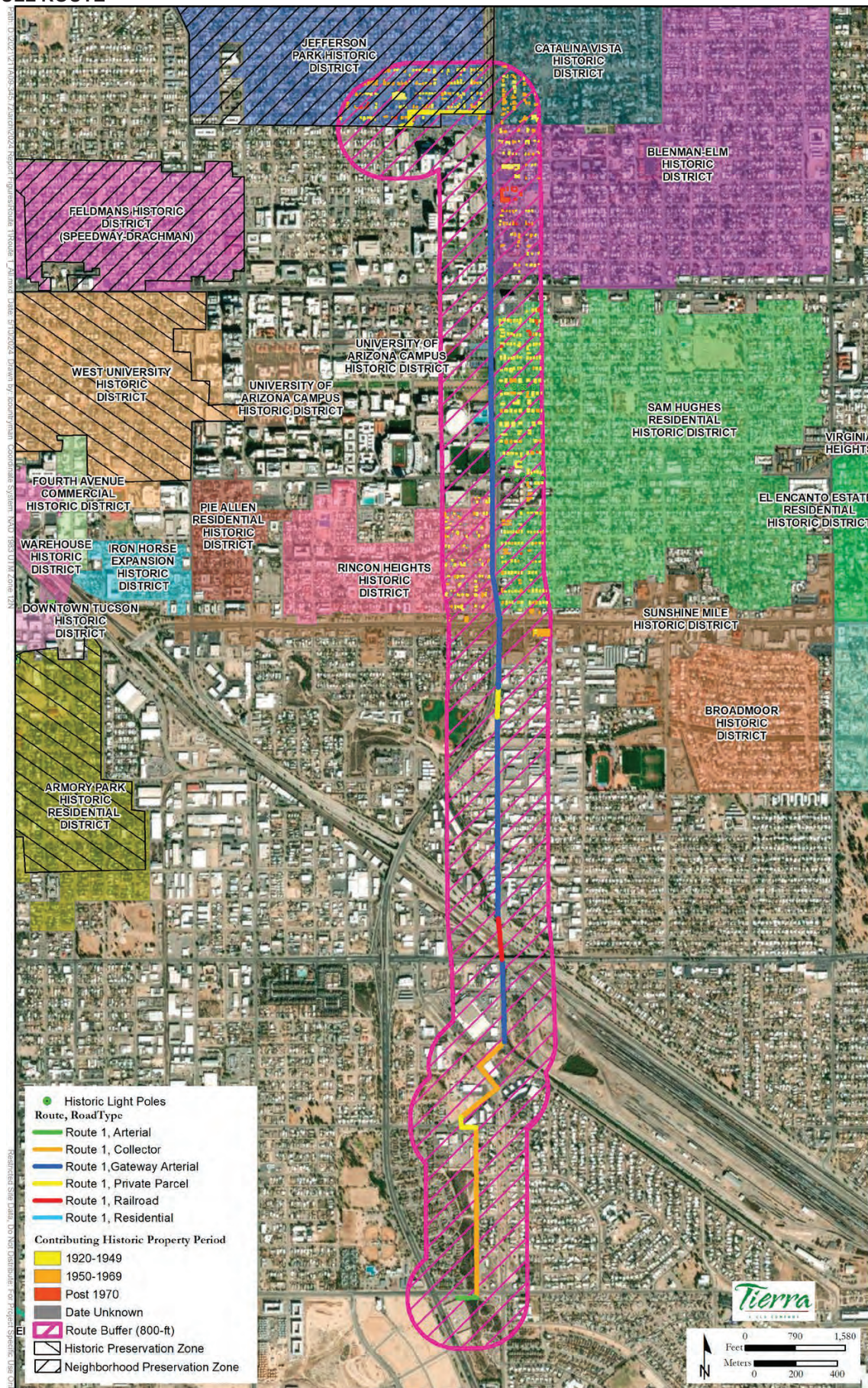
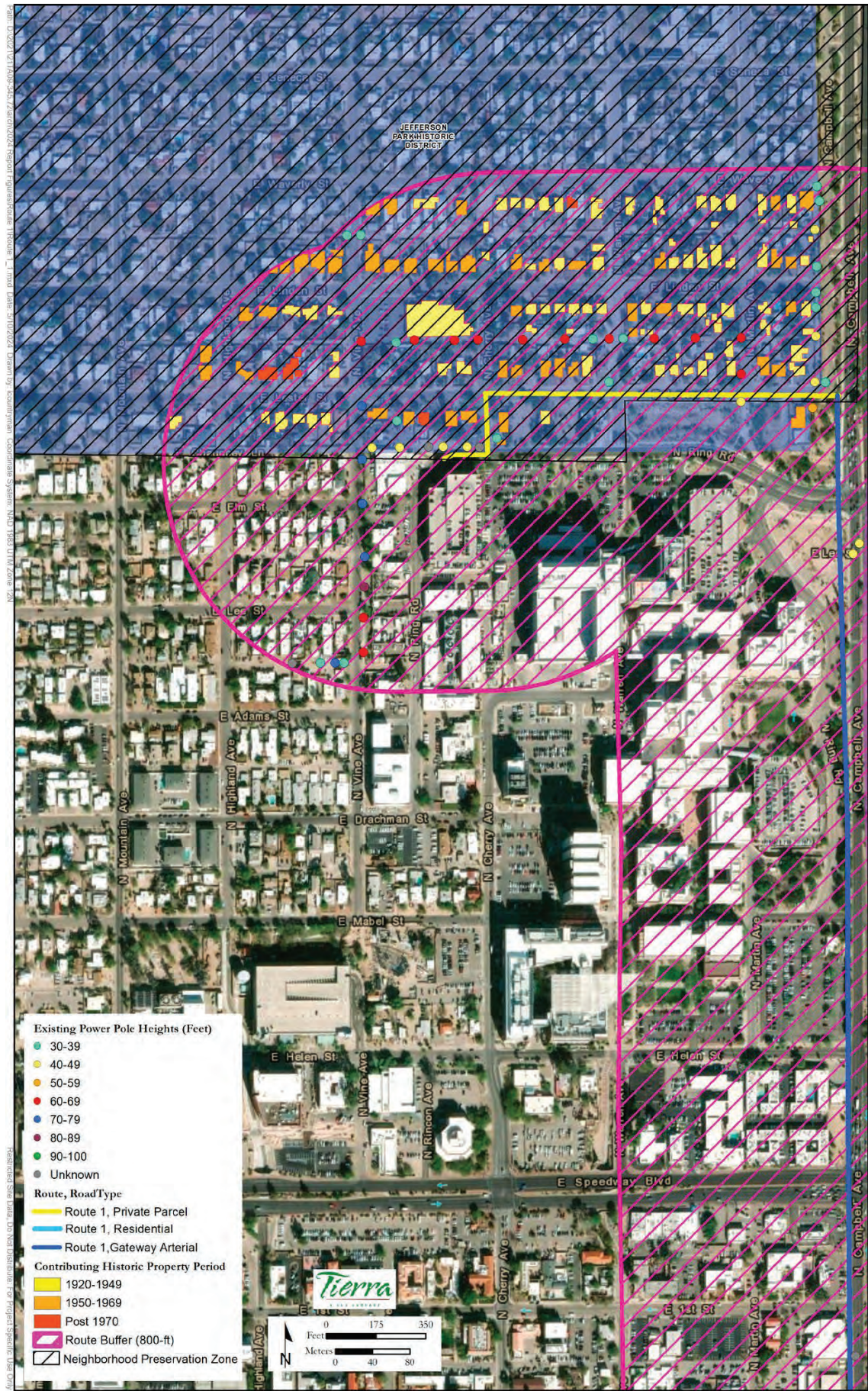




Figure VIII.A.2: ROUTE 1 KINO SUBSTATION TO VINE SUBSTATION  
VINE SUBSTATION TO CAMPBELL AVE / 1ST ST





**Figure VIII.A.3: ROUTE 1 KINO SUBSTATION TO VINE SUBSTATION  
WAVERLY ST / CAMPBELL AVE TO 2ND ST / CAMPBELL AVE**

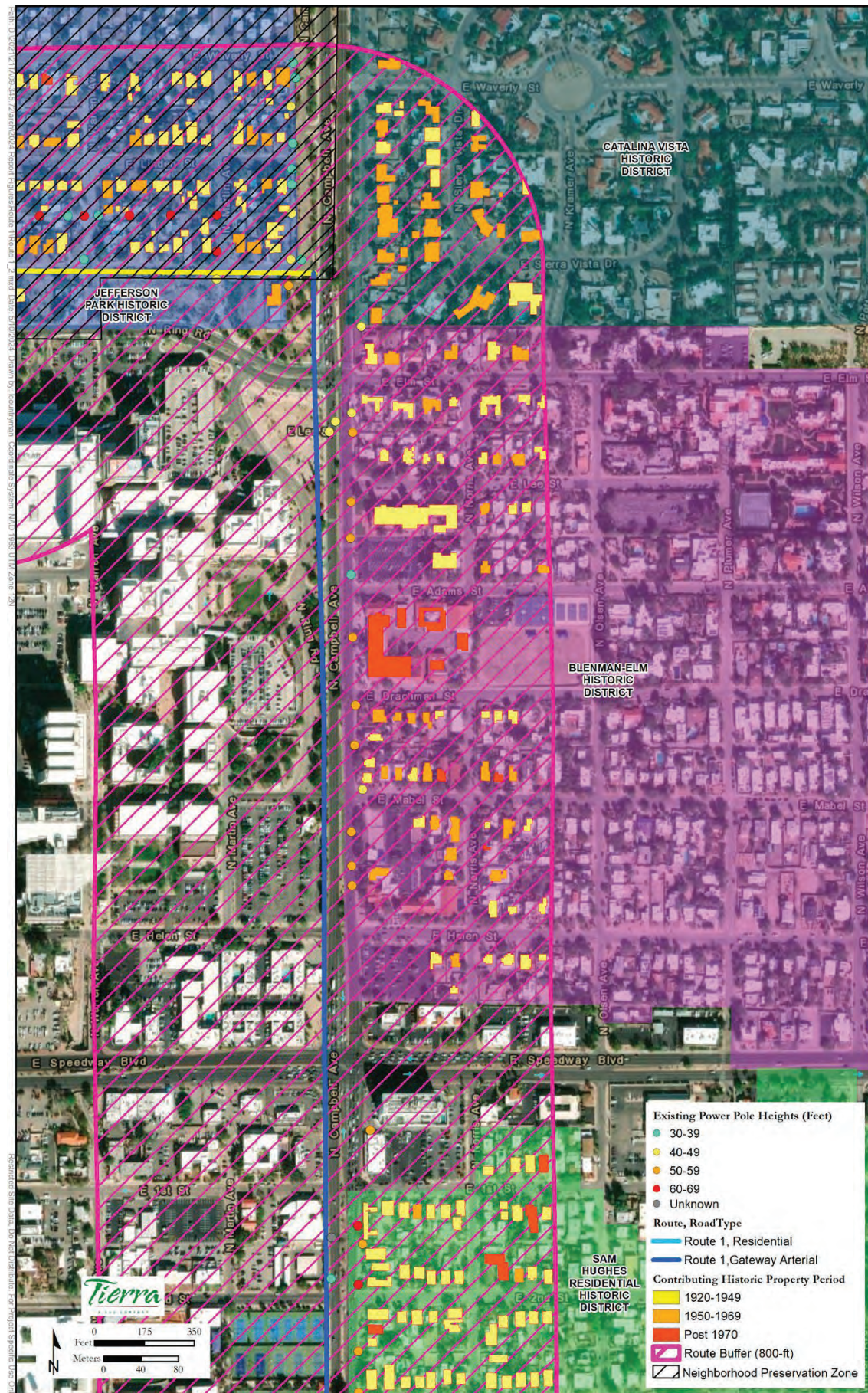
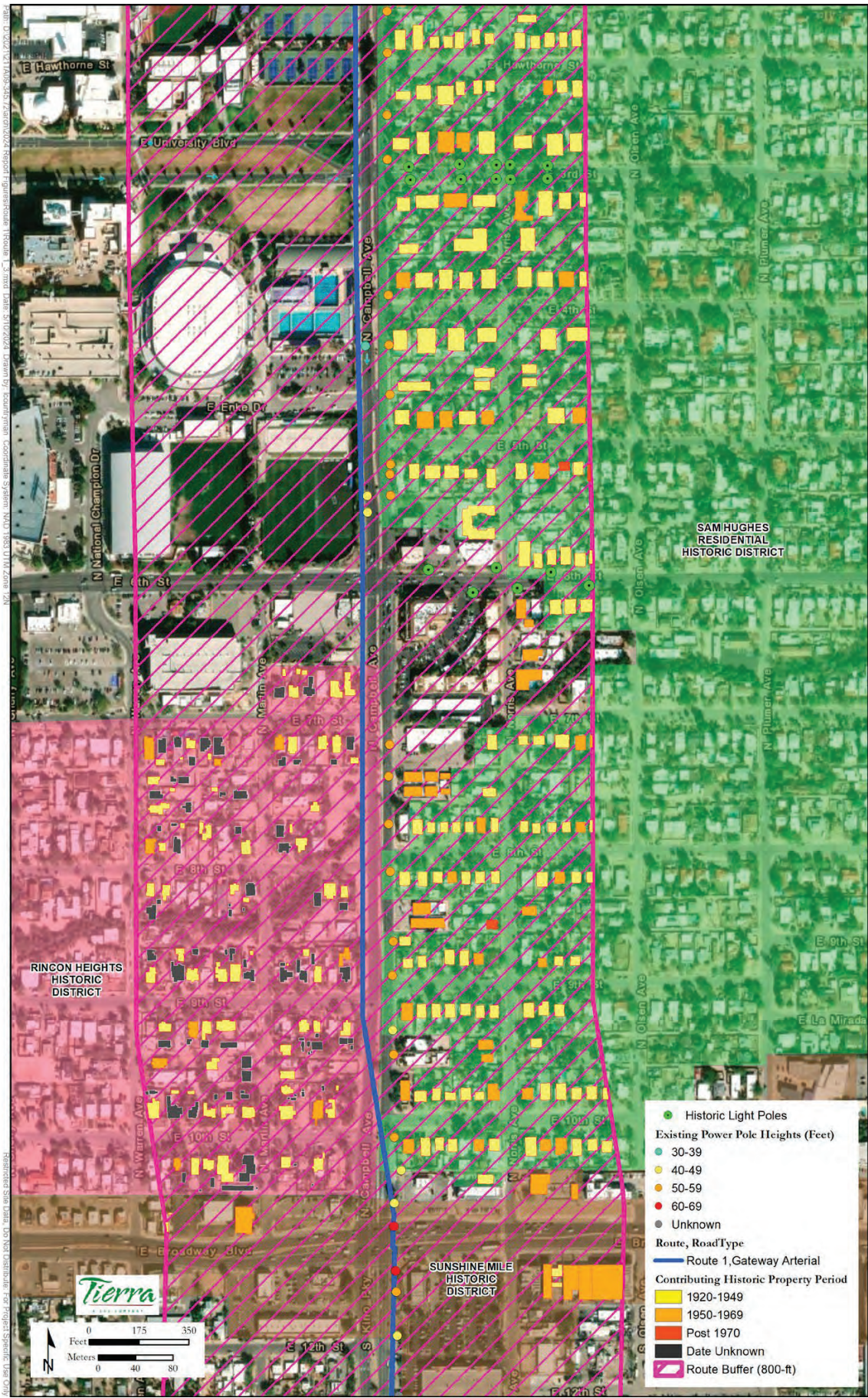


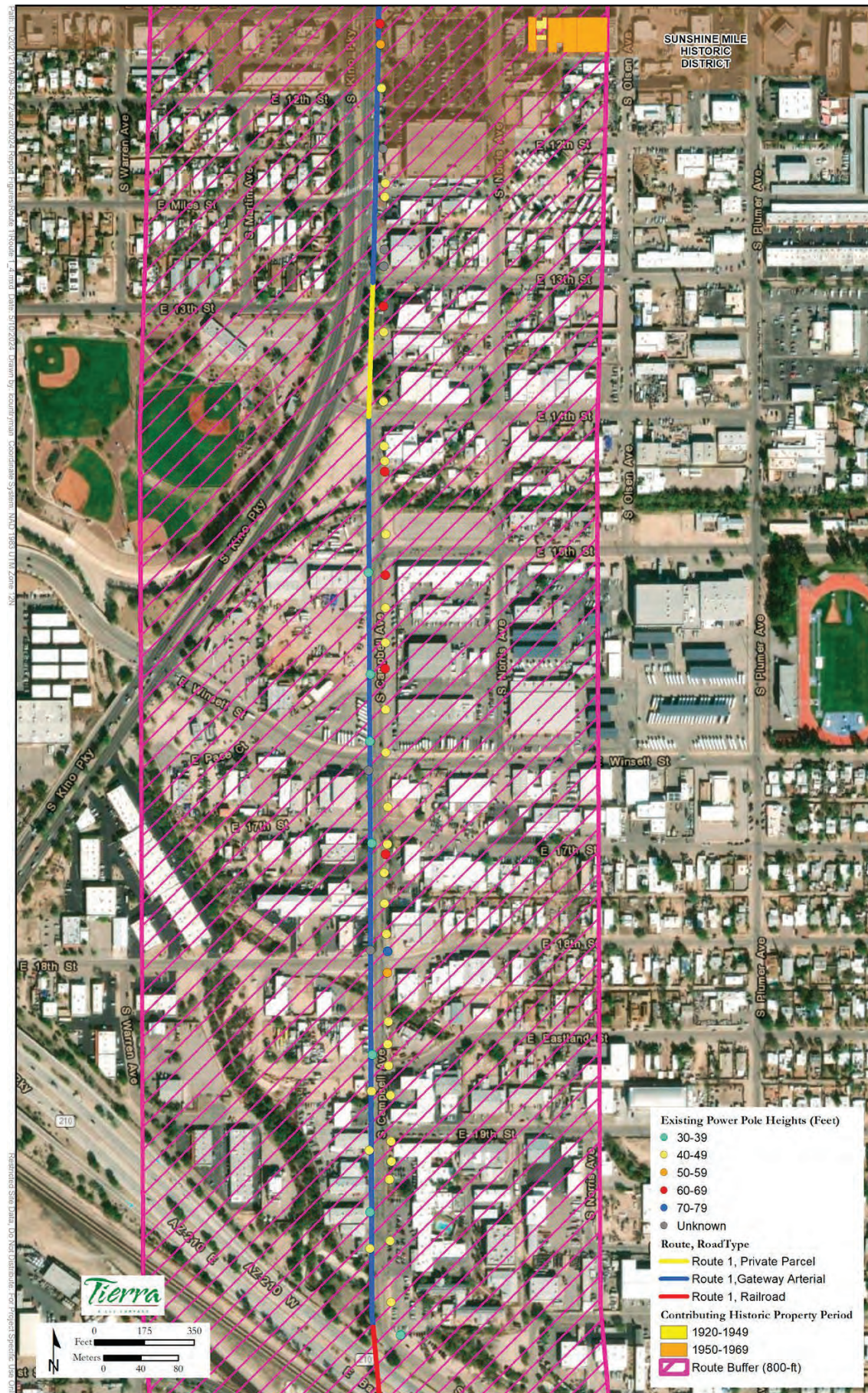


Figure VIII.A.4: ROUTE 1 KINO SUBSTATION TO VINE SUBSTATION  
HAWTHORNE ST / CAMPBELL AVE TO 12TH ST / KINO PKWY





**Figure VIII.A.5: ROUTE 1 KINO SUBSTATION TO VINE SUBSTATION  
12TH ST / KINO PKWY TO 19TH ST / CAMPBELL AVE**



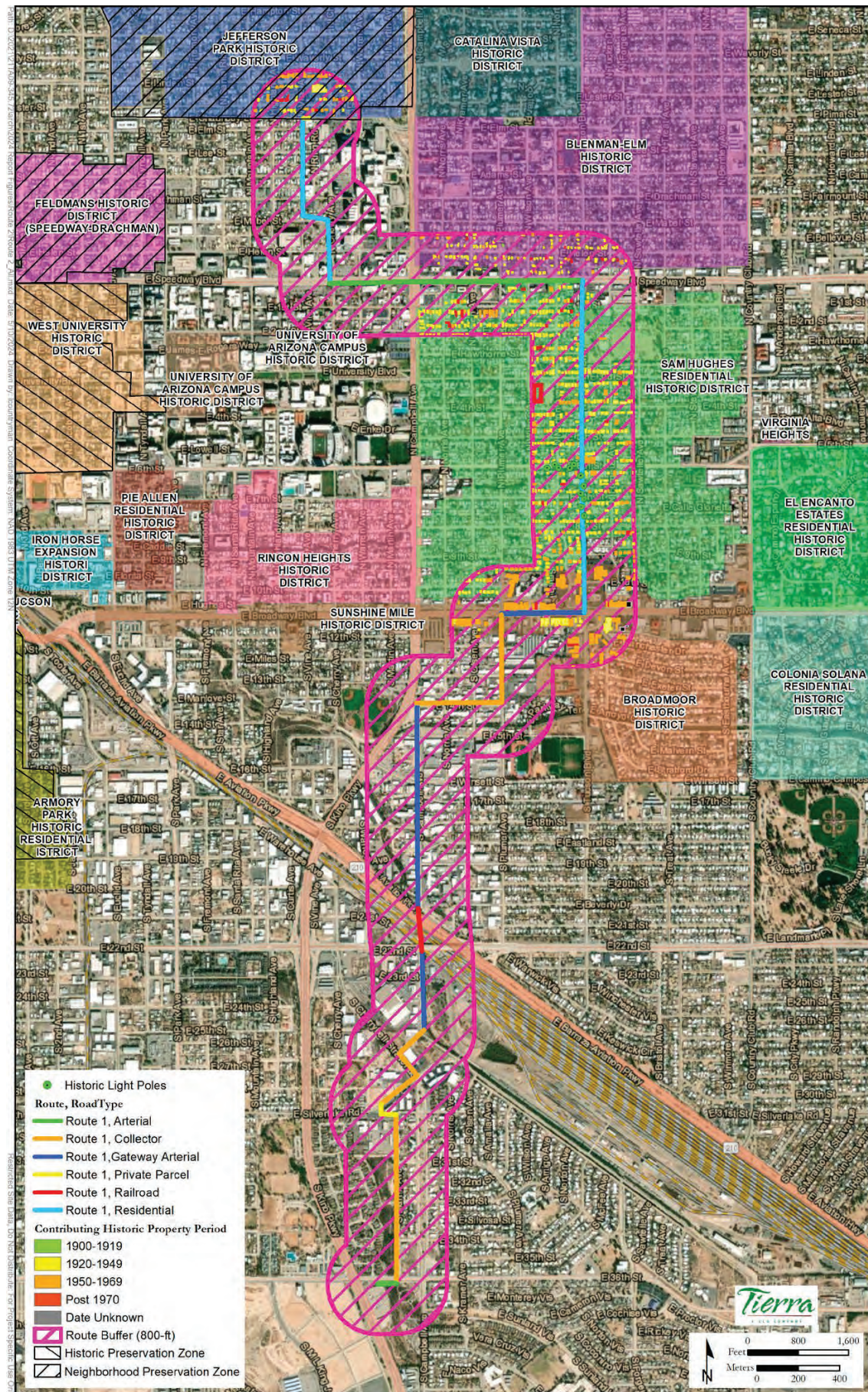


**B. Route 2 Maps: Kino Substation to Vine Substation**

1. Figure VIII.B.1: FULL ROUTE
2. Figure V.III.B.2: VINE SUBSTATION TO SPEEDWAY BLVD / MARTIN AVE
3. Figure V.III.B.3: CAMPBELL AVE / SPEEDWAY BLVD TO SPEEDWAY BLVD / TUCSON BLVD
4. Figure V.III.B.4. TUCSON BLVD / SPEEDWAY BLVD TO 8TH ST / TUCSON BLVD
5. Figure V.III.B.5. 8TH ST / TUCSON BLVD TO PLUMER AVE / BROADWAY BLVD
6. Figure V.III.B.6: PLUMER AVE / BROADWAY BLVD TO CAMPBELL AVE / 19TH ST



**Figure VIII.B.1: ROUTE 2 KINO SUBSTATION TO VINE SUBSTATION  
FULL ROUTE**









**Figure VIII.B.3: ROUTE 2 KINO SUBSTATION TO VINE SUBSTATION  
CAMPBELL AVE / SPEEDWAY BLVD TO SPEEDWAY BLVD / TUCSON BLVD**

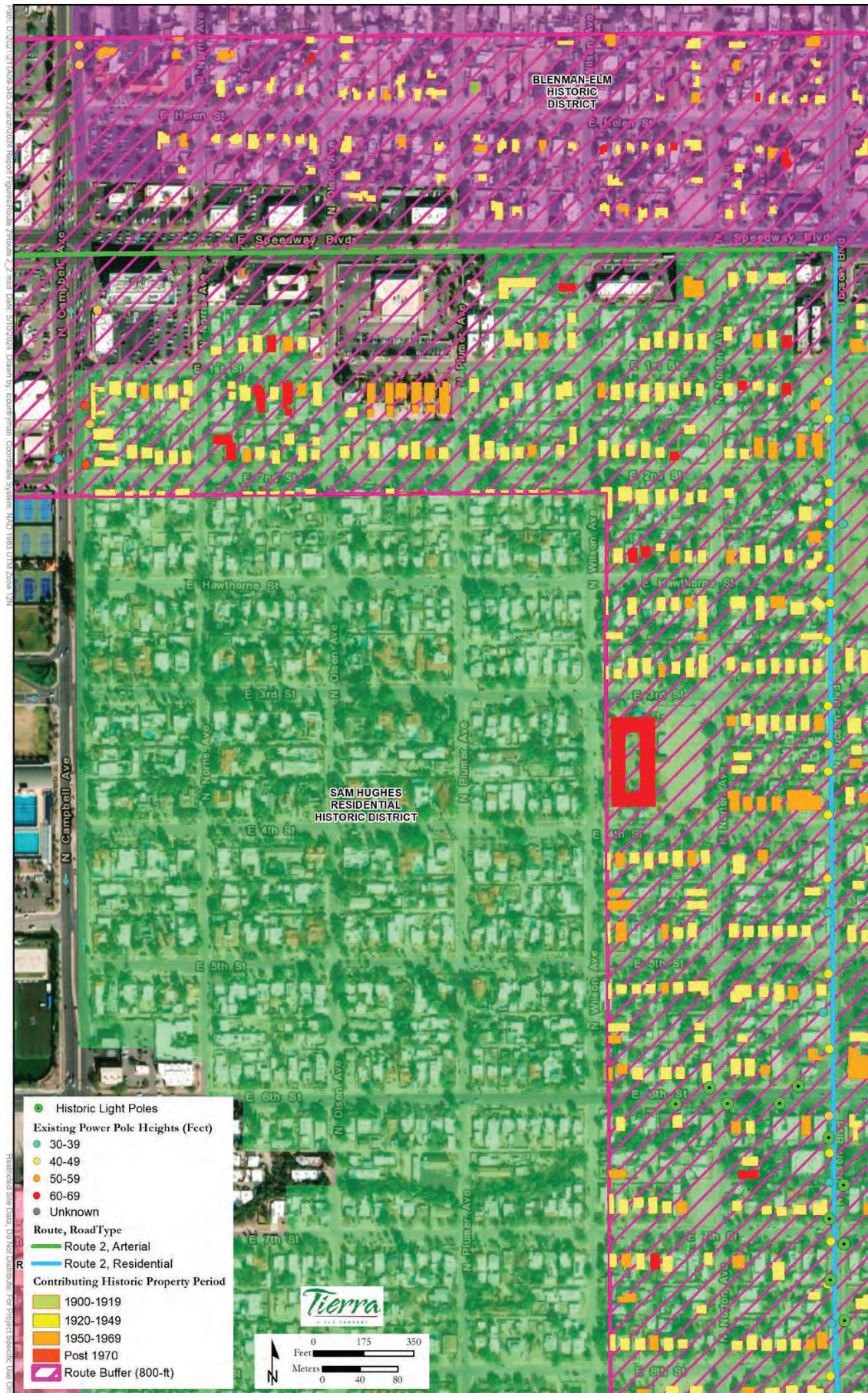
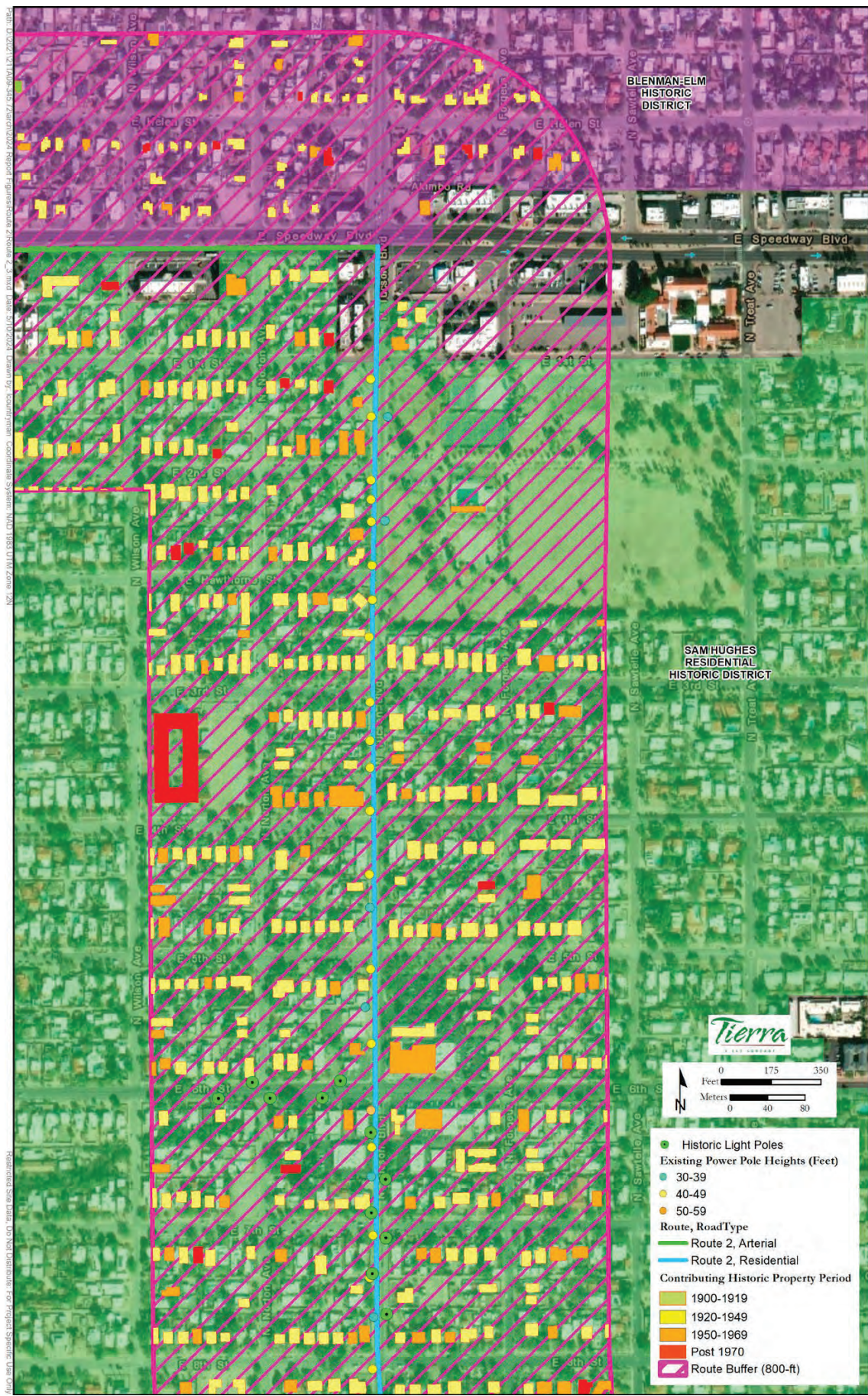




Figure VIII.B.4: ROUTE 2 KINO SUBSTATION TO VINE SUBSTATION  
TUCSON BLVD / SPEEDWAY BLVD TO 8TH ST / TUCSON BLVD





**Figure VIII.B.5: ROUTE 2 KINO SUBSTATION TO VINE SUBSTATION  
8TH ST / TUCSON BLVD TO PLUMER AVE / BROADWAY BLVD**

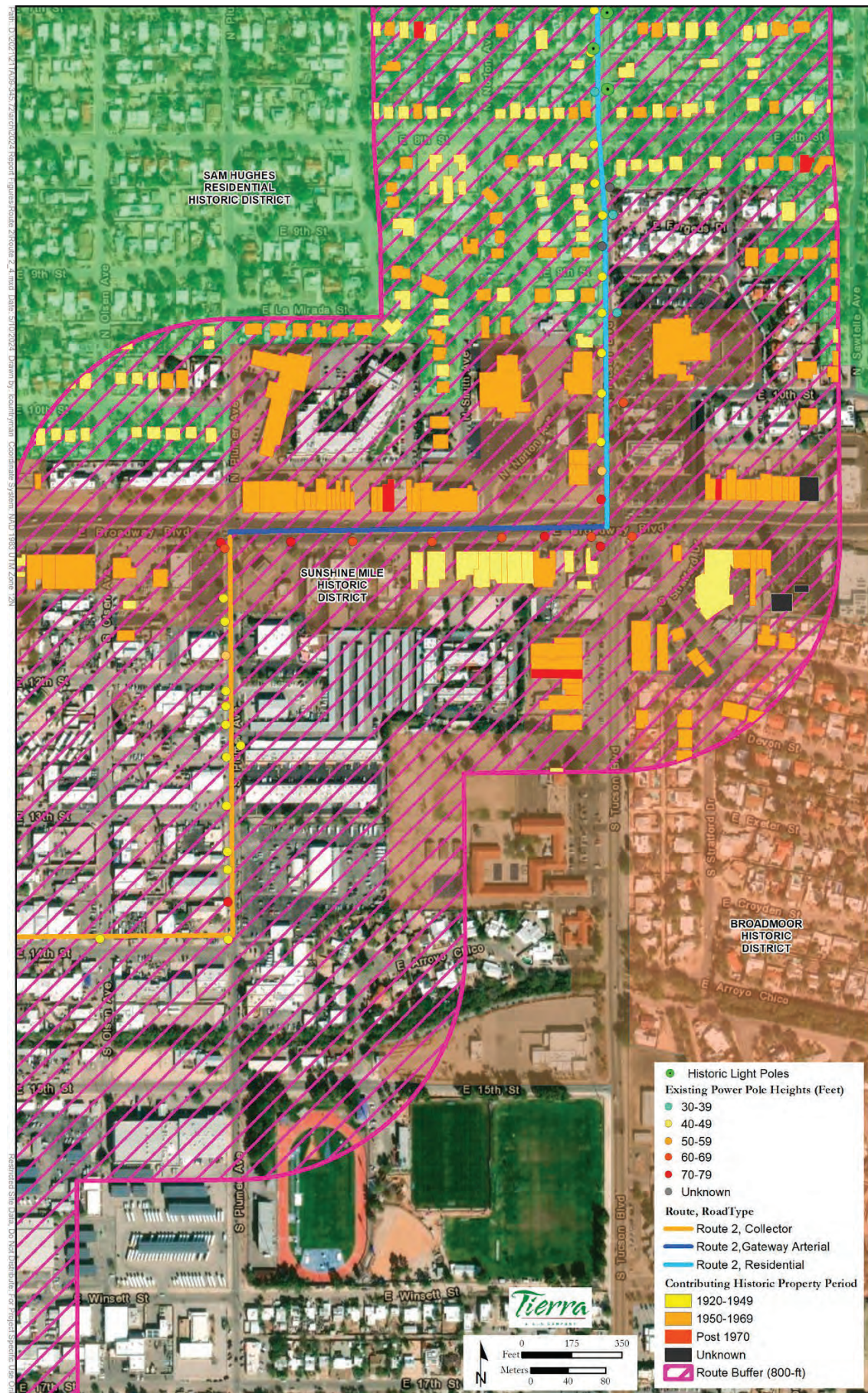
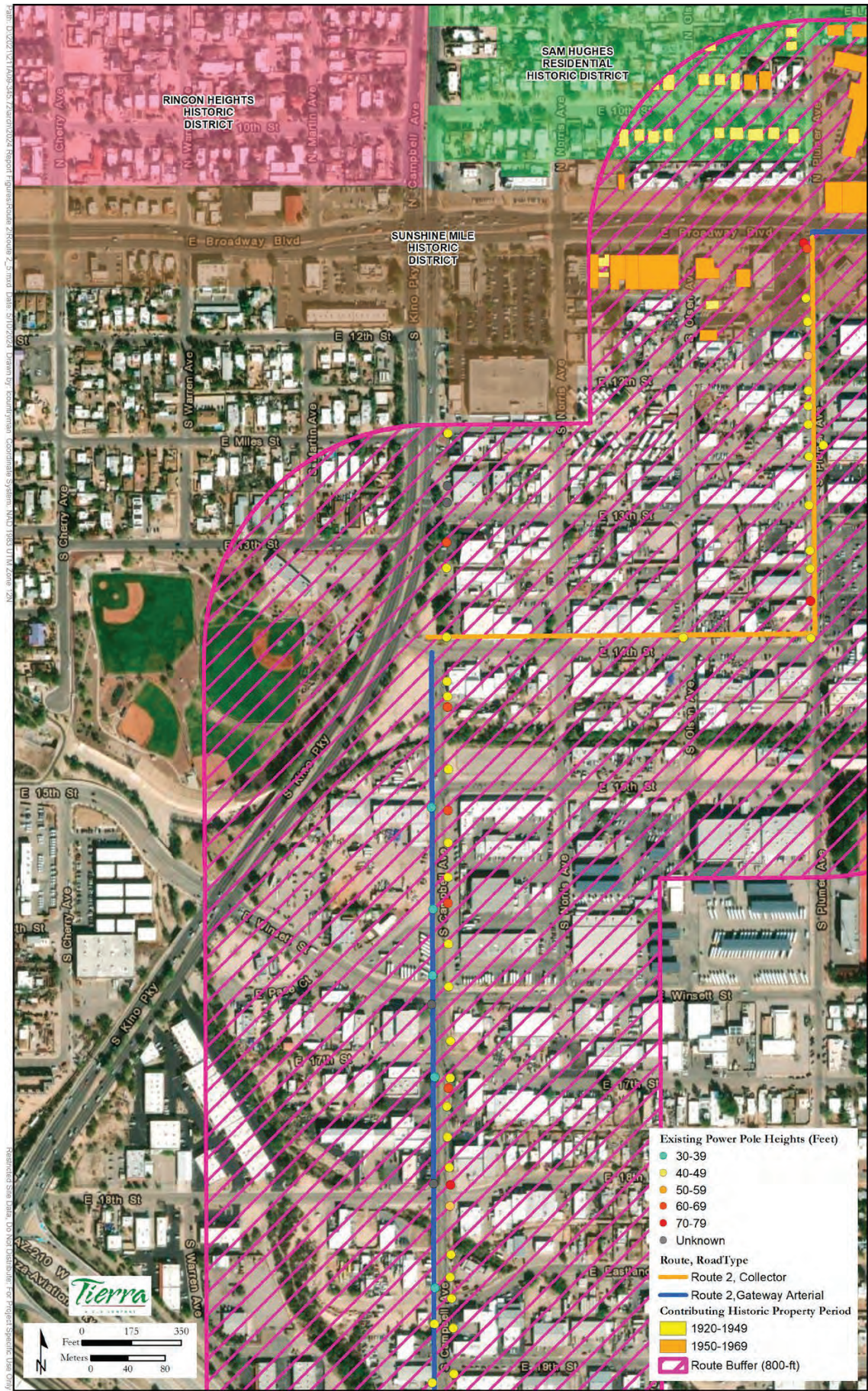




Figure VIII.B.6: ROUTE 2 KINO SUBSTATION TO VINE SUBSTATION  
PLUMER AVE / BROADWAY BLVD TO CAMPBELL AVE / 19TH ST





**C. Route 3 Maps: Kino Substation to Vine**

1. Figure VIII.C.1. FULL ROUTE
2. Figure VII.C.2. VINE SUBSTATION TO ADAMS ST / FREMONT AVE
3. Figure VII.C.3. ADAMS ST / FREMONT AVE TO EUCLID AVE / 4TH ST
4. Figure VII.C.4. EUCLID AVE / 4TH ST TO 7TH ST / SANTA RITA AVE
5. Figure VII.C.5. 7TH ST / SANTA RITA AVE TO HIGHLAND AVE / MANLOVE ST



**Figure VIII.C.1: ROUTE 3 KINO SUBSTATION TO VINE SUBSTATION  
FULL ROUTE**

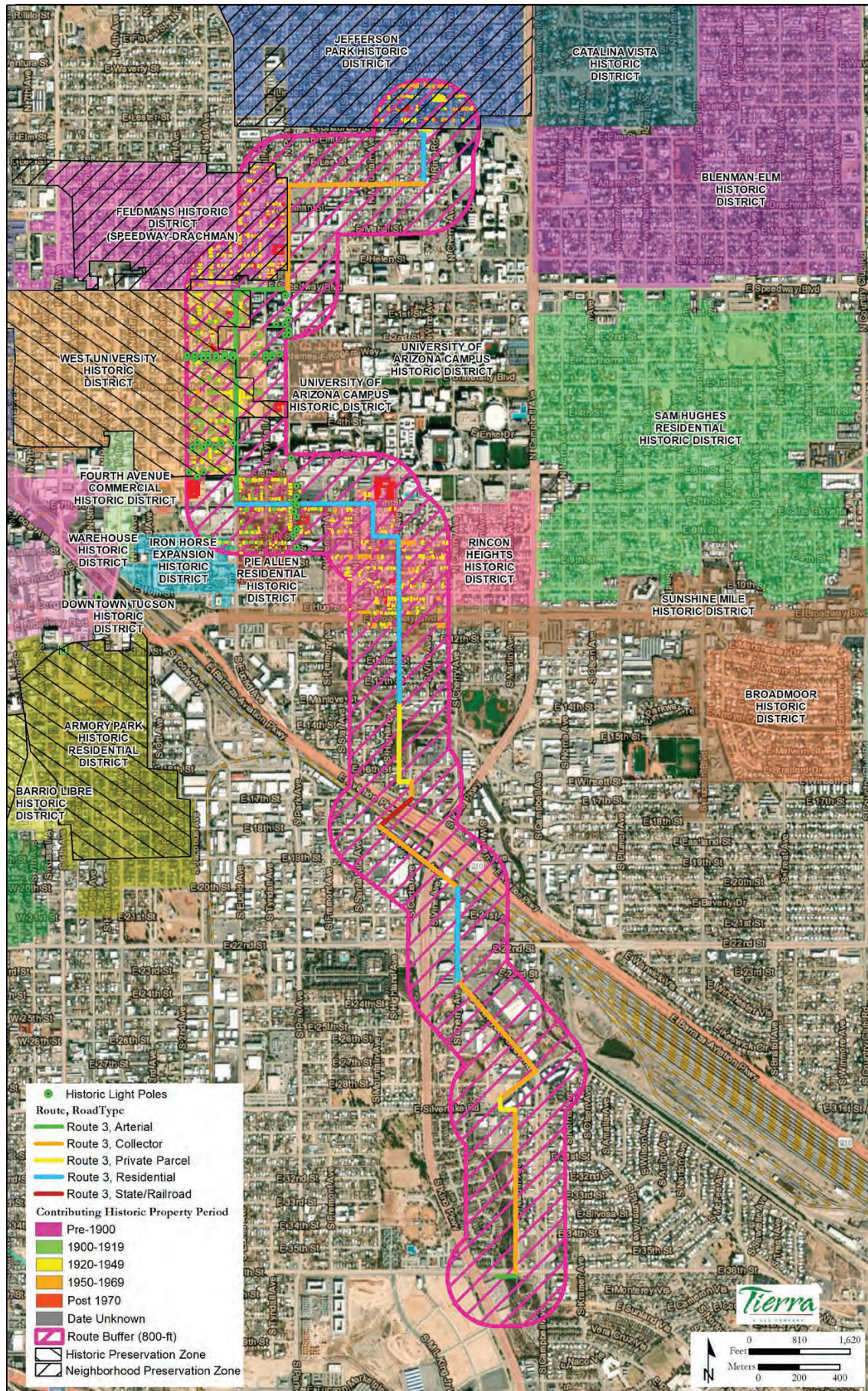
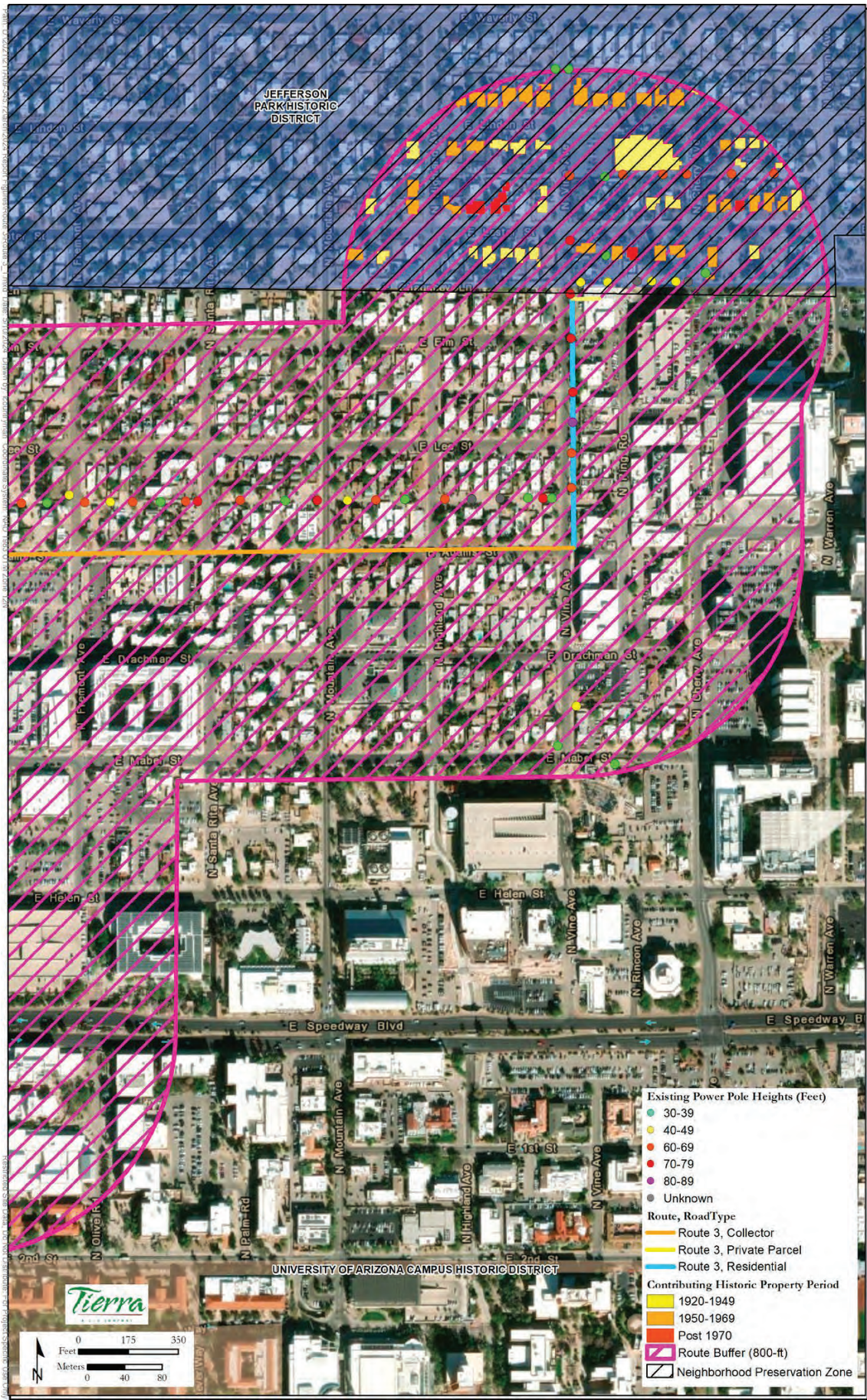


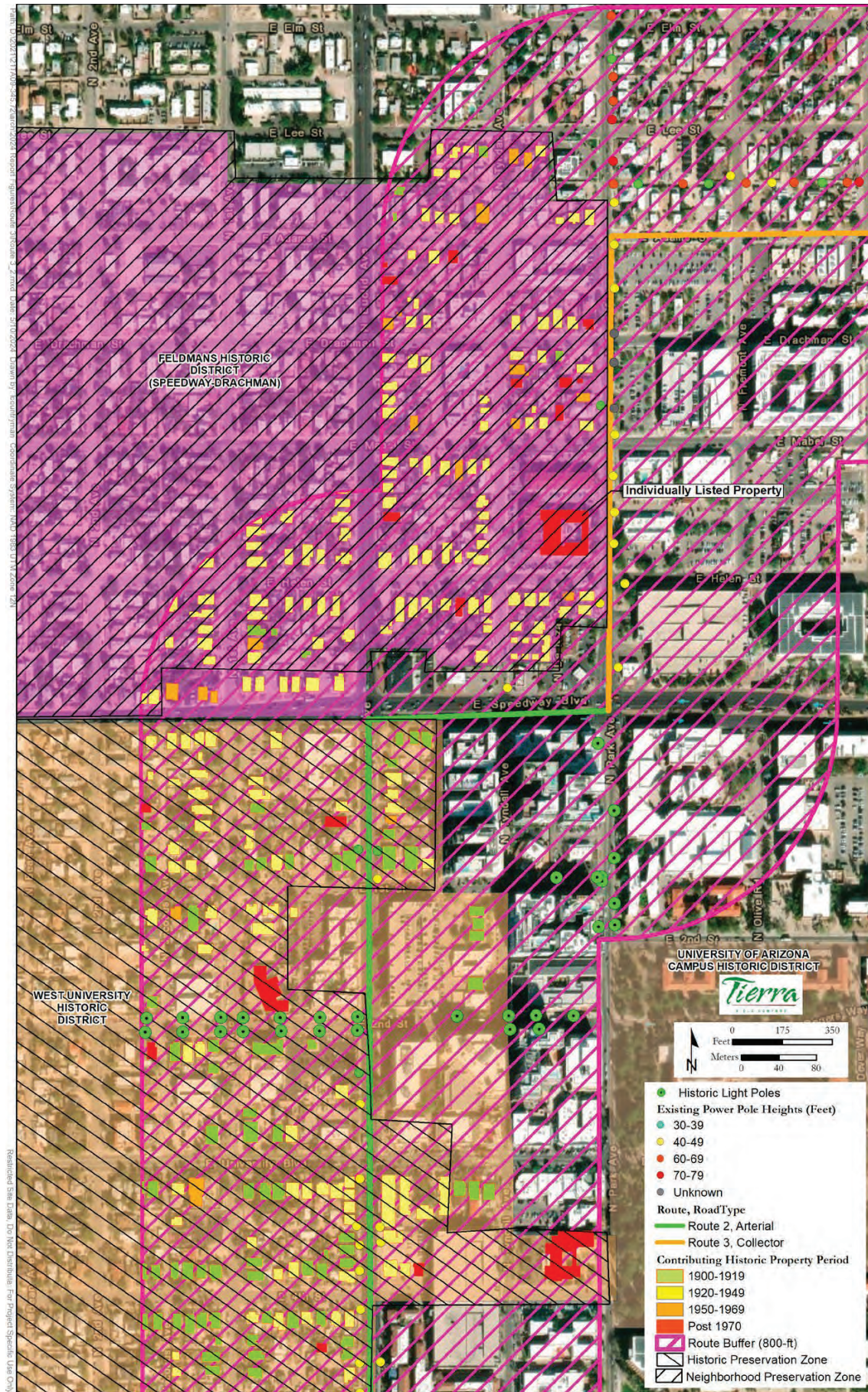


Figure VIII.C.2: ROUTE 3 KINO SUBSTATION TO VINE SUBSTATION  
VINE SUBSTATION TO ADAMS ST / FREMONT AVE



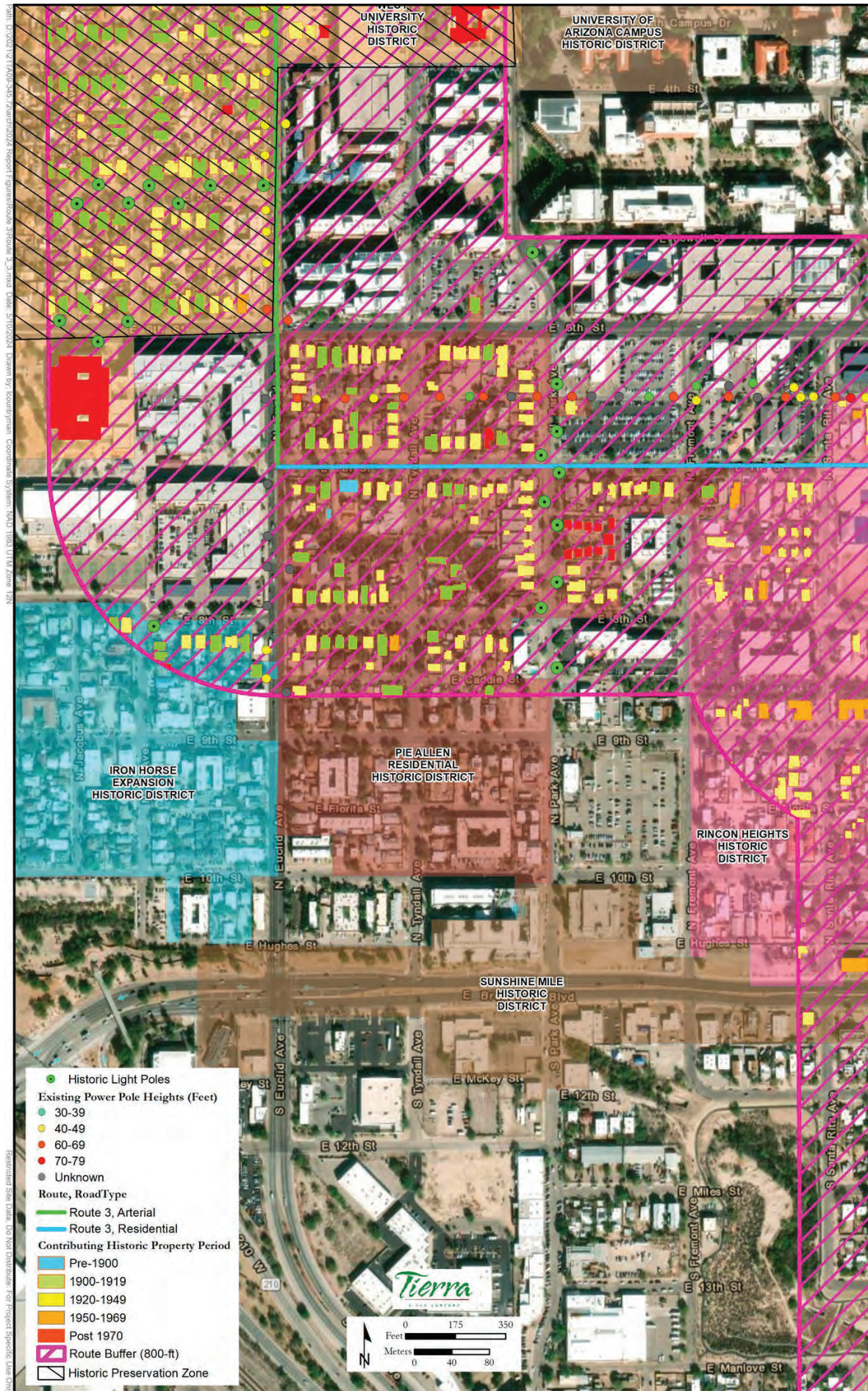


**FIGURE VIII.C.3: ROUTE 3 KINO SUBSTATION TO VINE SUBSTATION  
ADAMS ST / FREMONT AVE TO EUCLID AVE / 4TH ST**



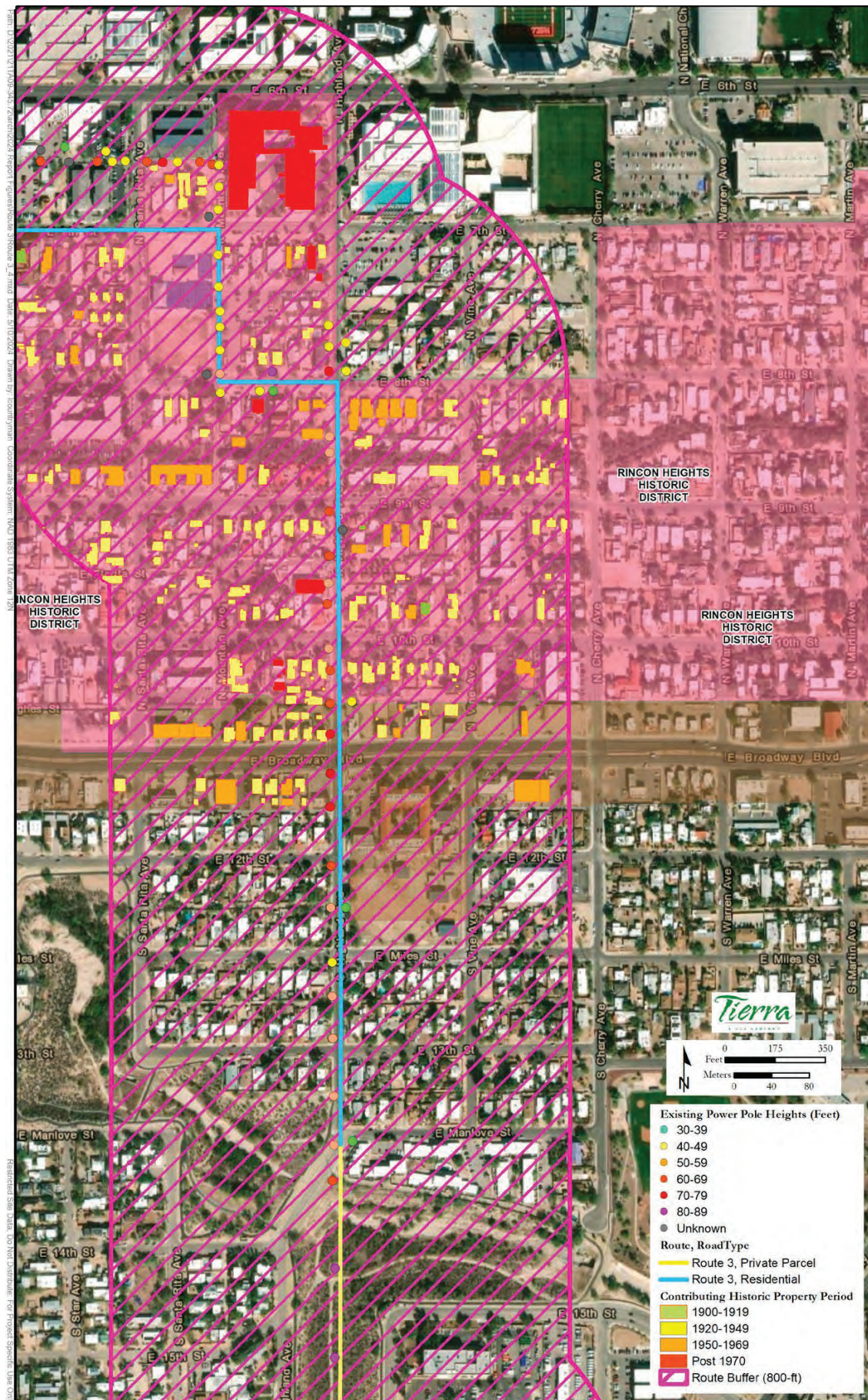


**FIGURE VIII.C.4: ROUTE 3 KINO SUBSTATION TO VINE SUBSTATION  
EUCUID AVE / 4TH ST TO 7TH ST / SANTA RITA AVE**





**FIGURE VIII.C.5: ROUTE 3 KINO SUBSTATION TO VINE SUBSTATION  
7TH ST / SANTA RITA AVE TO HIGHLAND AVE / MANLOVE ST**



## **D. Route 4 Kino Substation to Vine Substation Maps**

1. Figure VIII.D.1: FULL ROUTE
2. Figure VIII..D.2: VINE SUBSTATION TO ADAMS ST / FREMONT AVE
3. Figure VIII.D.3: ADAMS ST / FREMONT AVE TO EUCLID AVE / 4TH ST
4. Figure VIII.D.4: EUCLID AVE / 5TH ST TO TOOLE AVE / LAOS ST
5. Figure VIII.D.5: EUCLID AVE / 18TH ST TO EUCLID AVE / 24TH ST



Figure VIII.D.1: ROUTE 4 KINO SUBSTATION TO VINE SUBSTATION  
FULL ROUTE

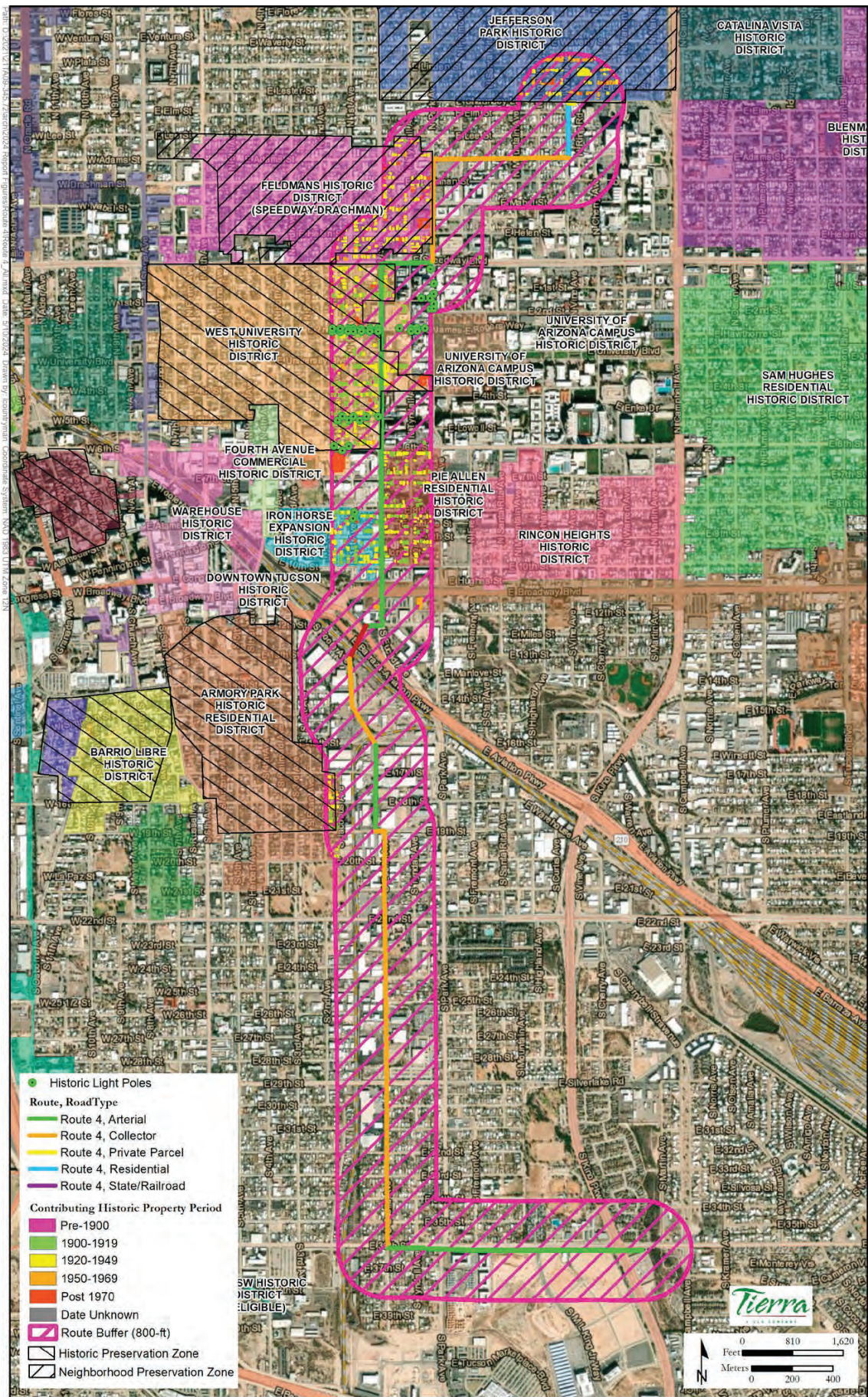




Figure VIII.D.2: ROUTE 4 KINO SUBSTATION TO VINE SUBSTATION  
VINE SUBSTATION TO ADAMS ST / FREMONT AVE

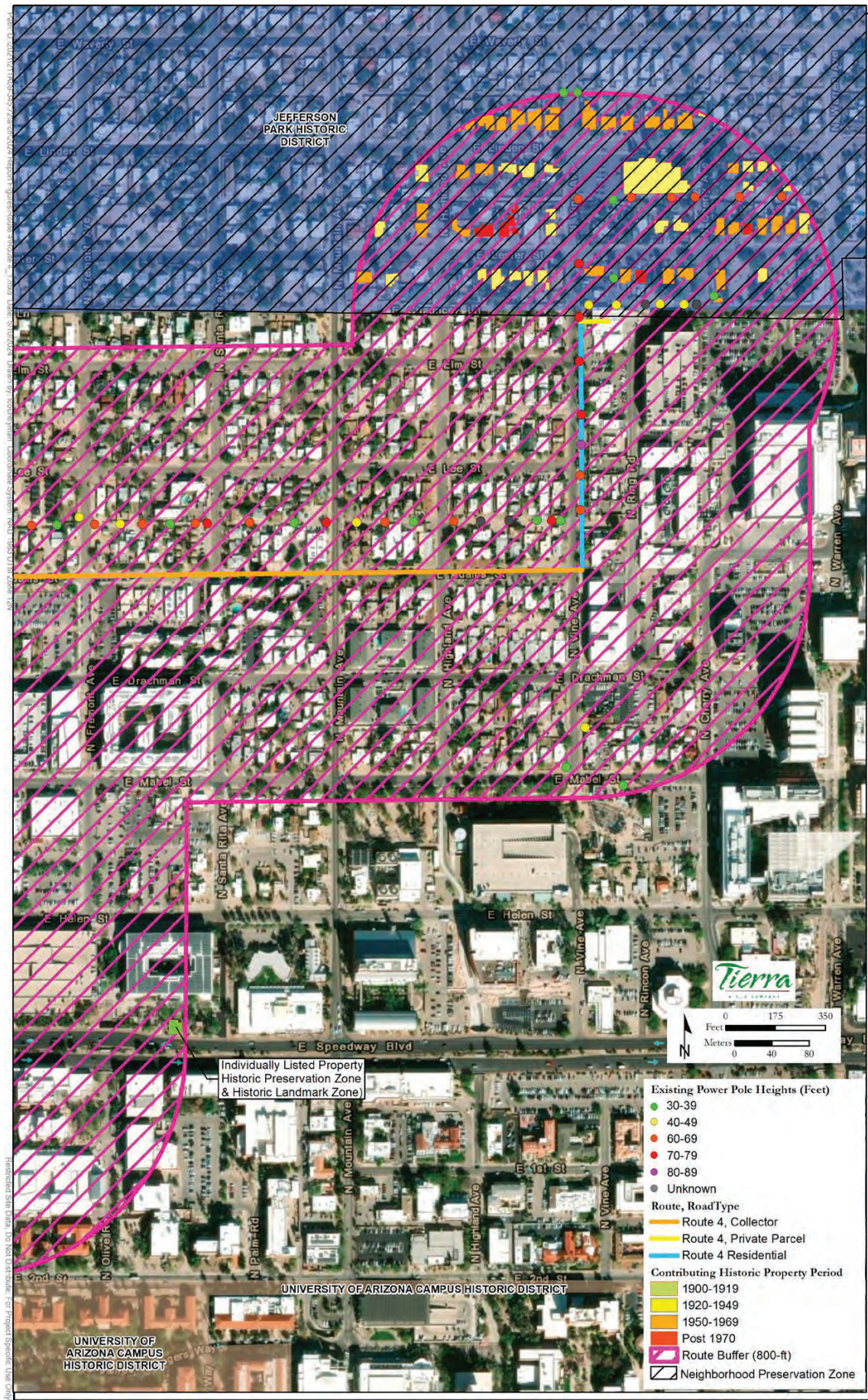
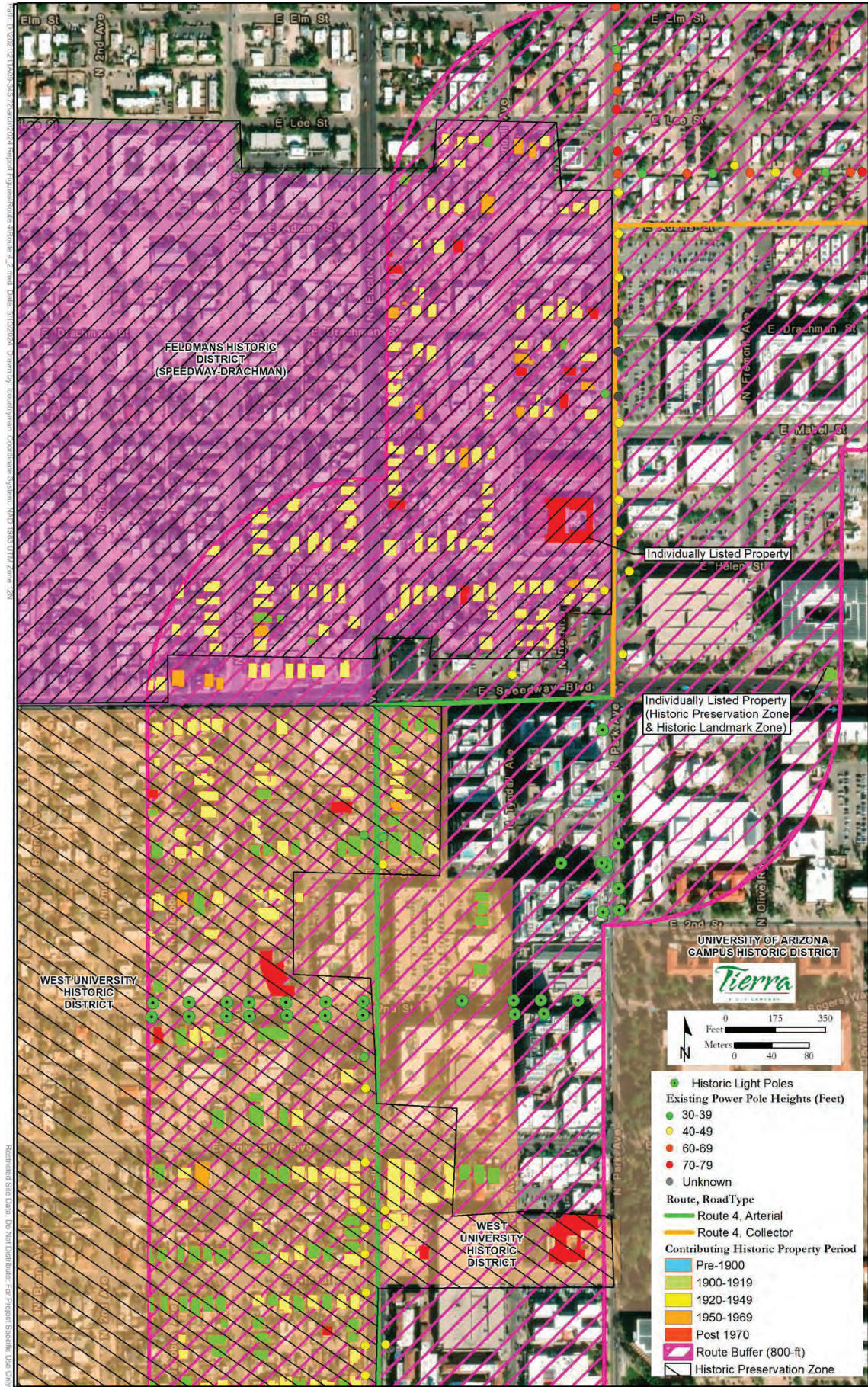
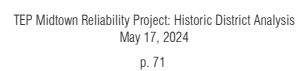




Figure VIII.D.3: ROUTE 4 KINO SUBSTATION TO VINE SUBSTATION  
ADAMS ST / FREMONT AVE TO EUCLID AVE / 4TH ST

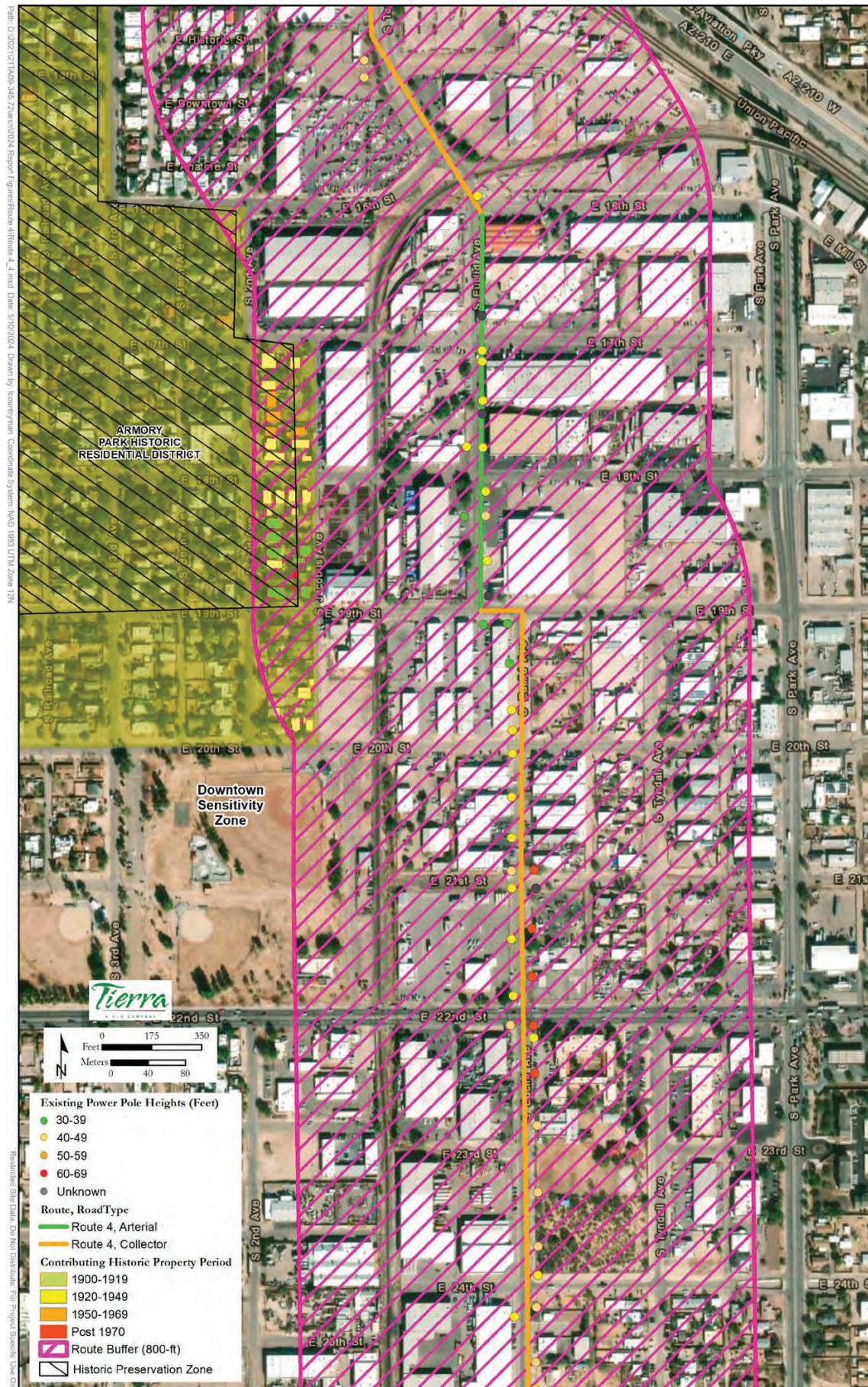








**Figure VIII.D.5: ROUTE 4 KINO SUBSTATION TO VINE SUBSTATION  
EUCLID AVE / 18TH ST TO EUCLID AVE / 24TH ST**



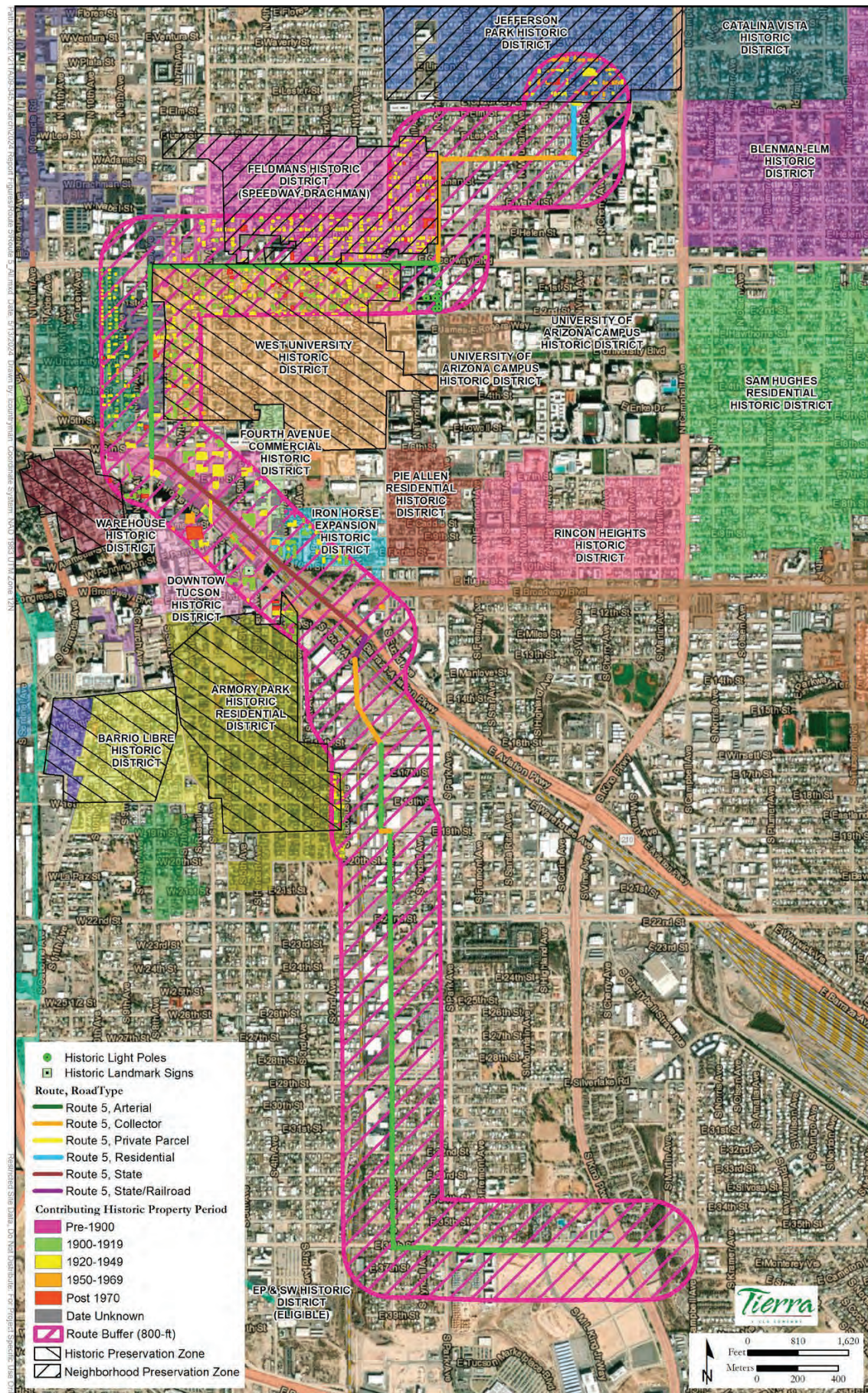


## **E. Route 5 Kino Substation to Vine Substation Maps**

1. Figure VIII.E.1: FULL ROUTE
2. Figure VIII.E.2: VINE SUBSTATION TO ADAMS ST / FREMONT AVE
3. Figure VIII.E.3: ADAMS ST / PARK AVE TO SPEEDWAY BLVD / 3RD AVE
4. Figure VIII.E.4: SPEEDWAY BLVD / 4TH AVE TO STONE AVE / TOOLE AVE
5. Figure VIII.E.5: 6TH AVE / 8TH ST TO TOOLE AVE / LAOS ST
6. Figure VIII.E.6: 18TH ST / TOOLE AVE TO 22ND ST / EUCLID AVE

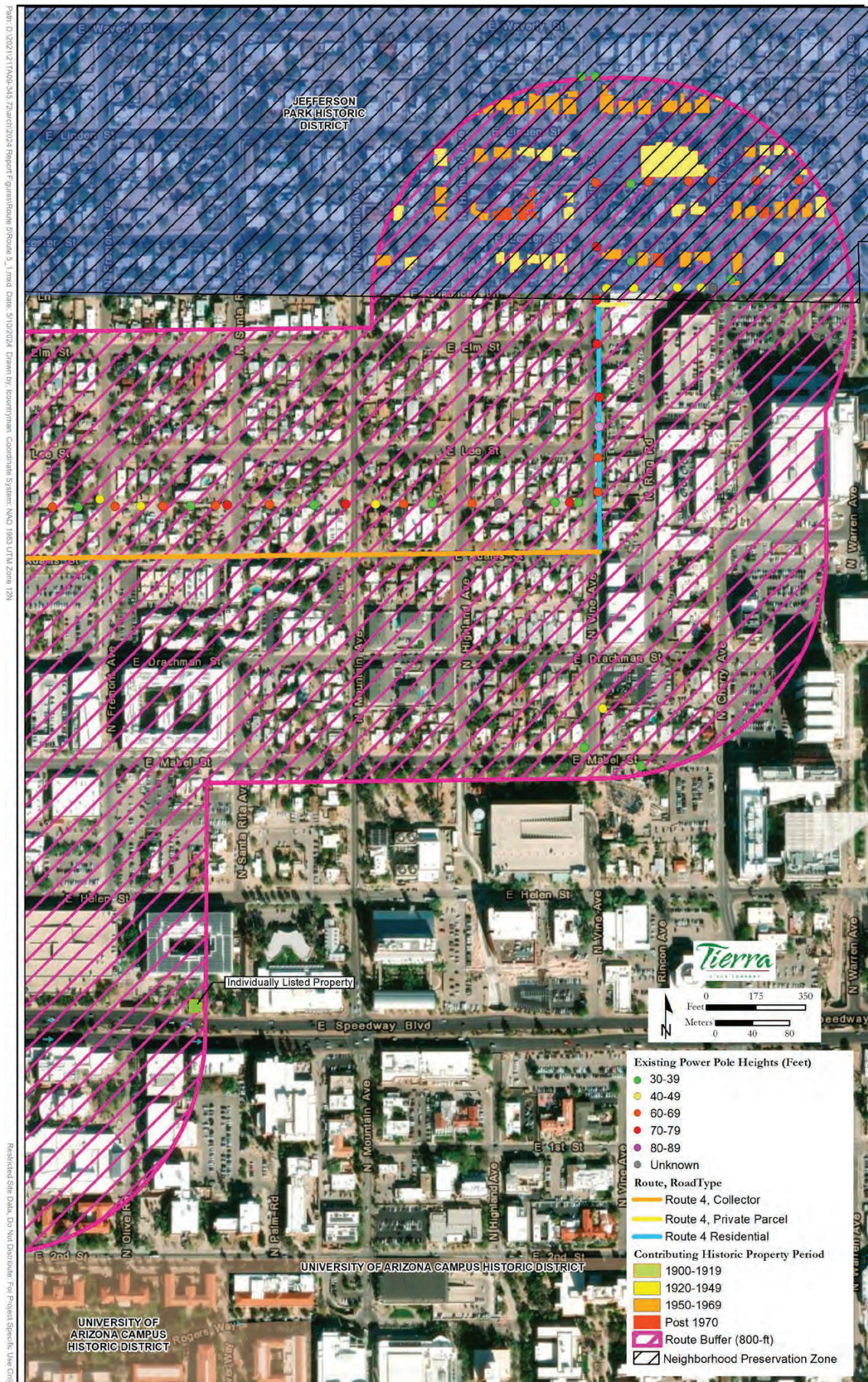


**Figure VIII.E.1: ROUTE 5 KINO SUBSTATION TO VINE SUBSTATION  
FULL ROUTE**





**Figure VIII.E.2: ROUTE 5 KINO SUBSTATION TO VINE SUBSTATION  
VINE SUBSTATION TO ADAMS ST / FREMONT AVE**



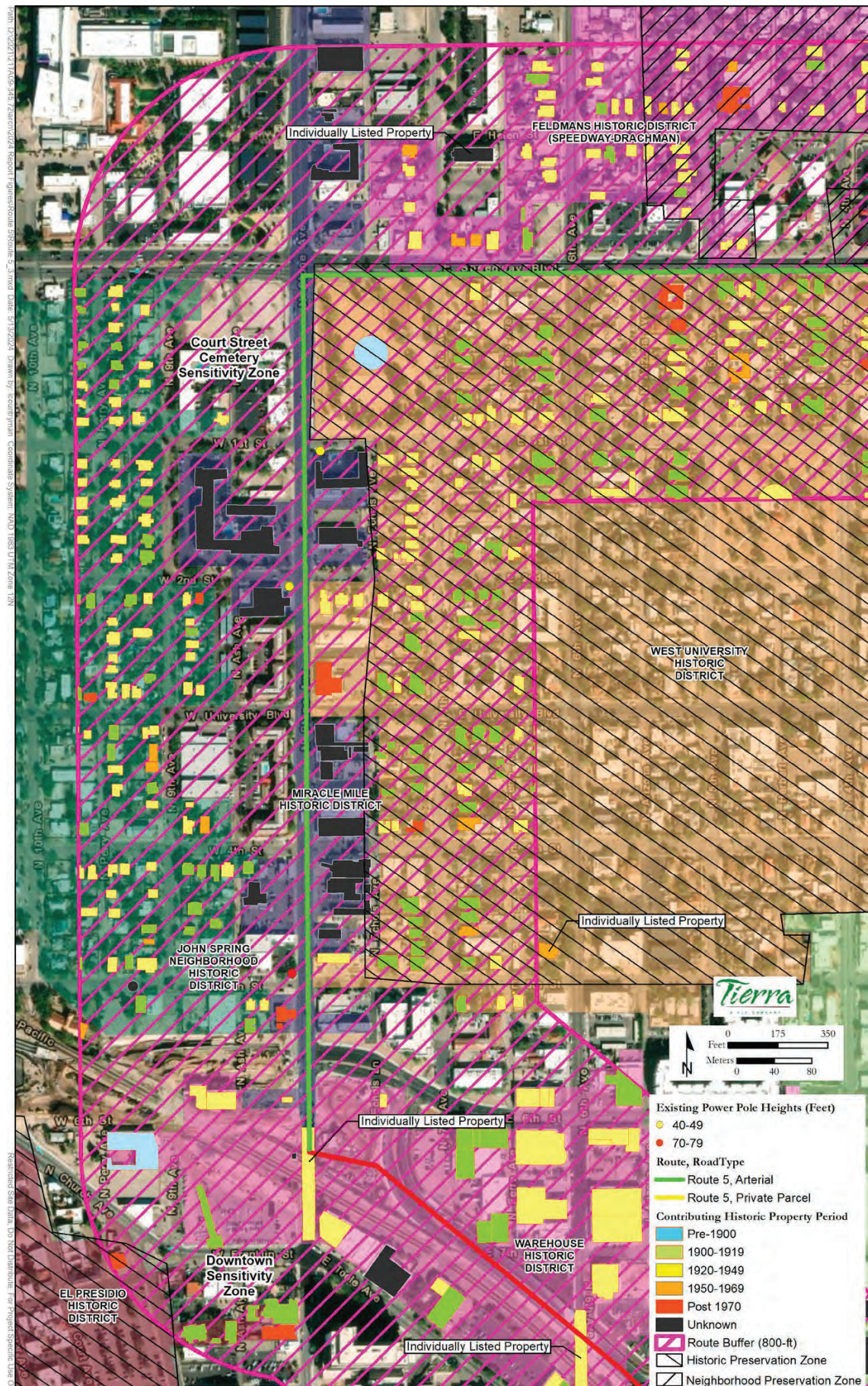


**Figure VIII.E.3: ROUTE 5 KINO SUBSTATION TO VINE SUBSTATION  
ADAMS ST / PARK AVE TO SPEEDWAY BLVD / 3RD AVE**





**Figure VIII.E.4: ROUTE 5 KINO SUBSTATION TO VINE SUBSTATION  
SPEEDWAY BLVD / 4TH AVE TO STONE AVE / TOOLE AVE**





**Figure VIII.E.5: ROUTE 5 KINO SUBSTATION TO VINE SUBSTATION  
6TH AVE / 8TH ST TO TOOLE AVE / LAOS ST**

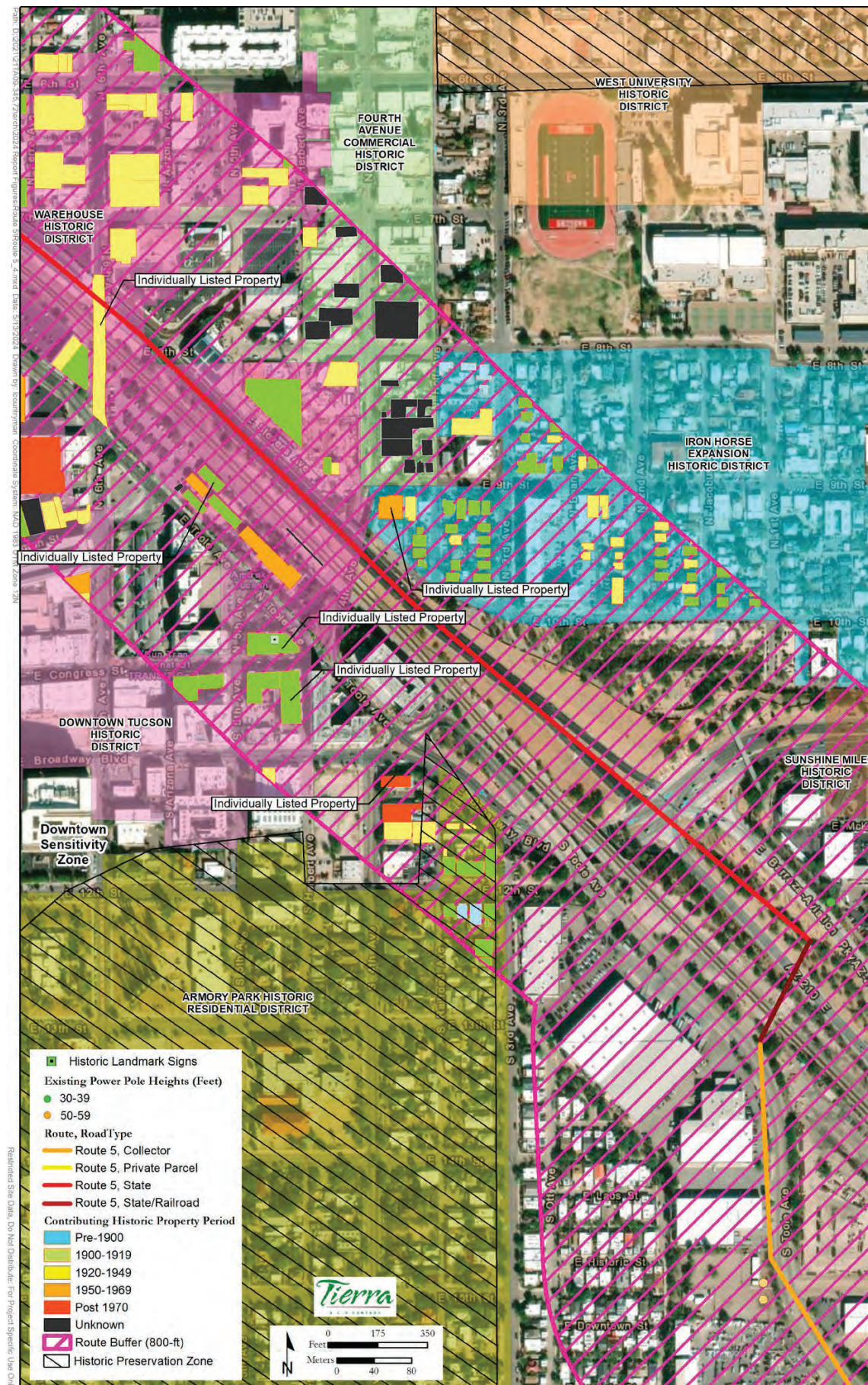
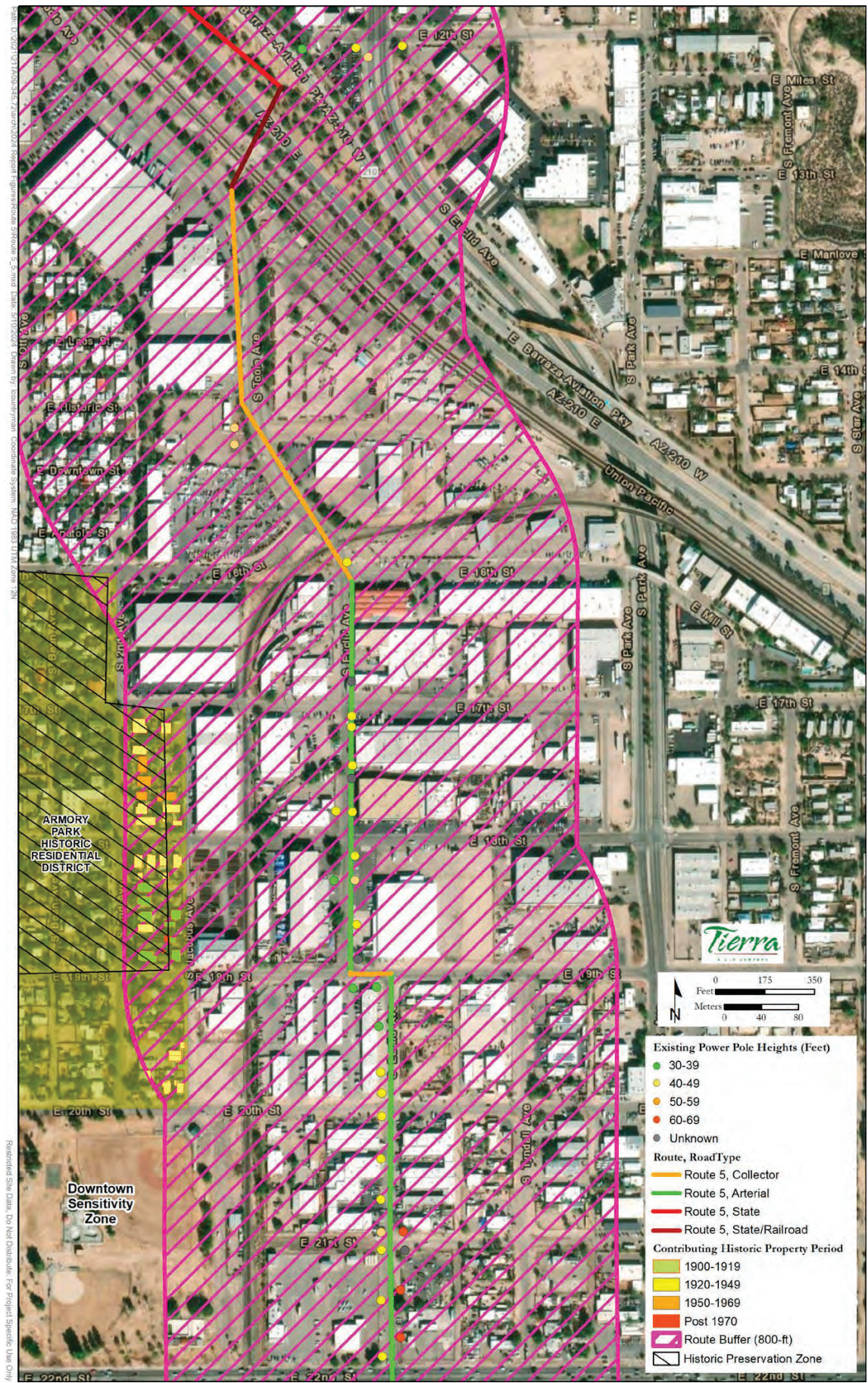




Figure VIII.E.6: ROUTE 5 KINO SUBSTATION TO VINE SUBSTATION  
18TH ST / TOOLE AVE TO 22ND ST / EUCLID AVE



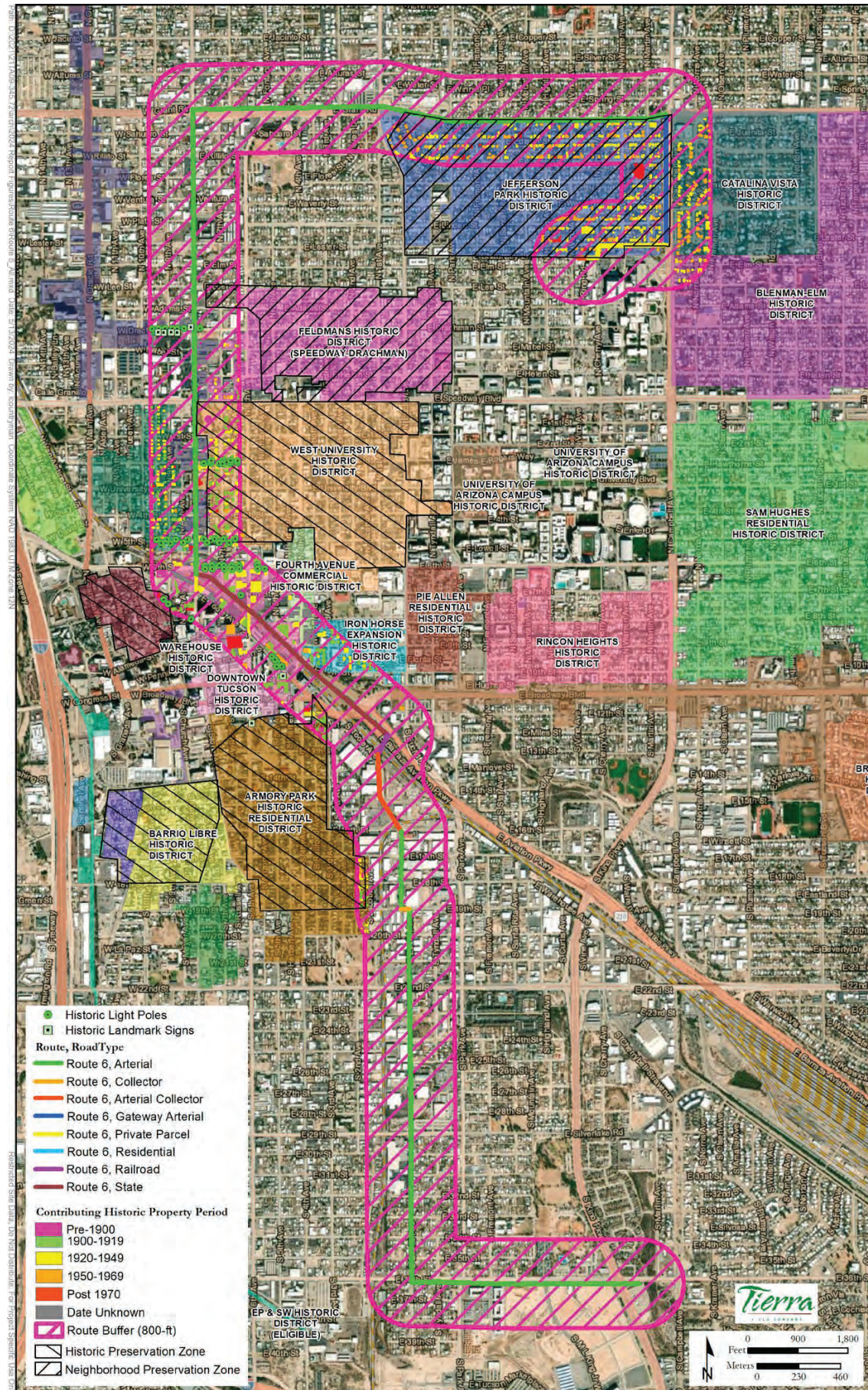


## **F. Route 6 Kino Substation to Vine Substation Maps**

1. Figure VIII.F.1: FULL ROUTE
2. Figure VIII.F.2: VINE SUBSTATION TO GRANT RD / CHERRY AVE
3. Figure VIII.F.3: GRANT RD / VINE AVE TO GRANT RD / PARK AVE
4. Figure VIII.F.4: GRANT RD / PARK AVE TO GRANT RD / 4TH AVE
5. Figure VIII.F.5: GRANT RD / 4TH AVE TO STONE AVE / ADAMS ST
6. Figure VIII.F.6: STONE AVE / DRACHMAN ST TO STONE AVE / 6TH ST
7. Figure VIII.F.7: STONE AVE / 6TH ST TO TOOLE AVE / 4TH AVE
8. Figure VIII.F.8: TOOLE AVE / 4TH AVE TO EUCLID AVE / 19TH ST
9. Figure VIII.F.9: 20TH ST / EUCLID AVE TO 31ST ST / EUCLID AVE



**Figure VIII.F.1: ROUTE 6 KINO SUBSTATION TO VINE SUBSTATION  
FULL ROUTE**





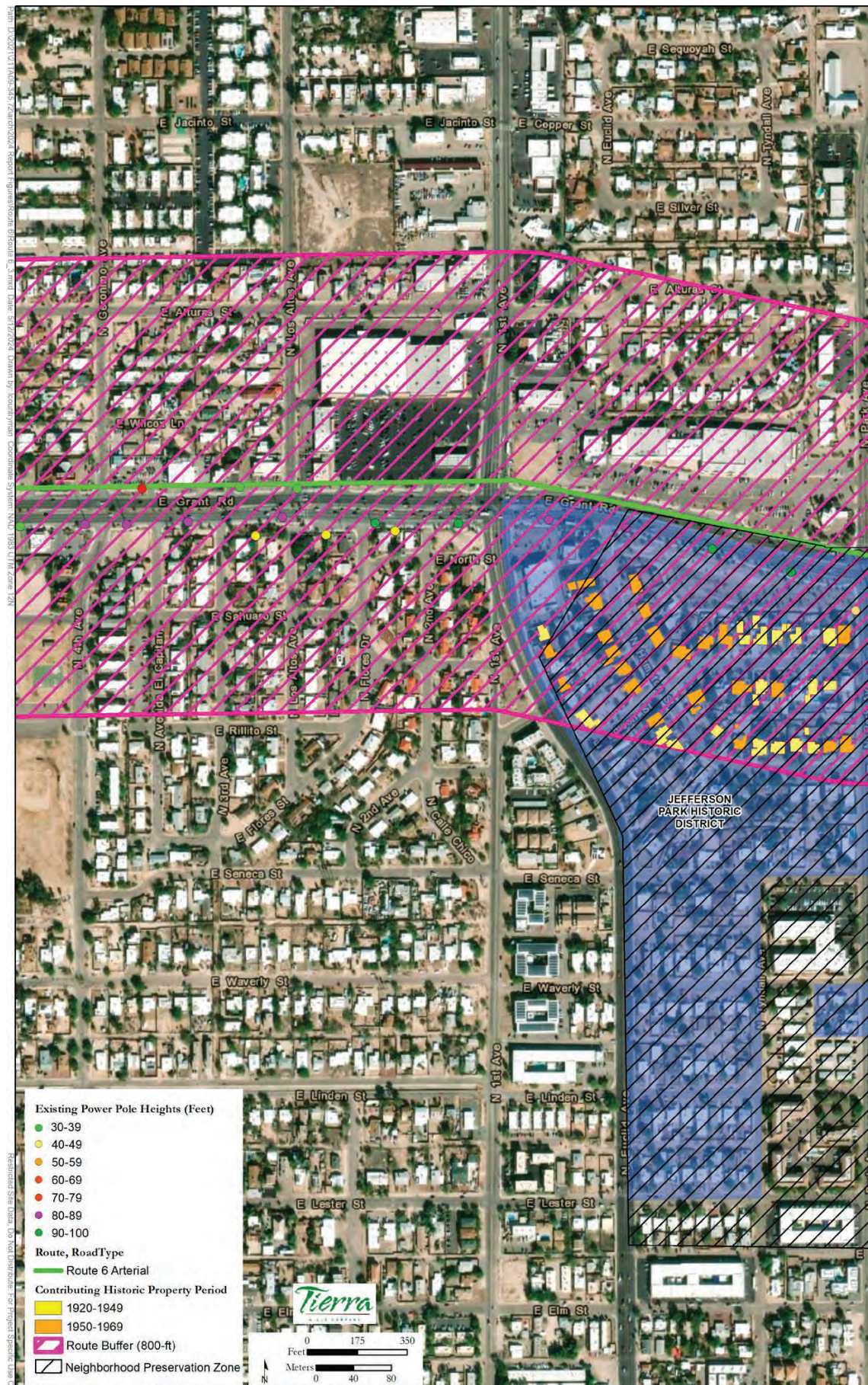




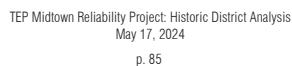




**Figure VIII.F.4: ROUTE 6 KINO SUBSTATION TO VINE SUBSTATION  
GRANT RD / PARK AVE TO GRANT RD / 4TH AVE**

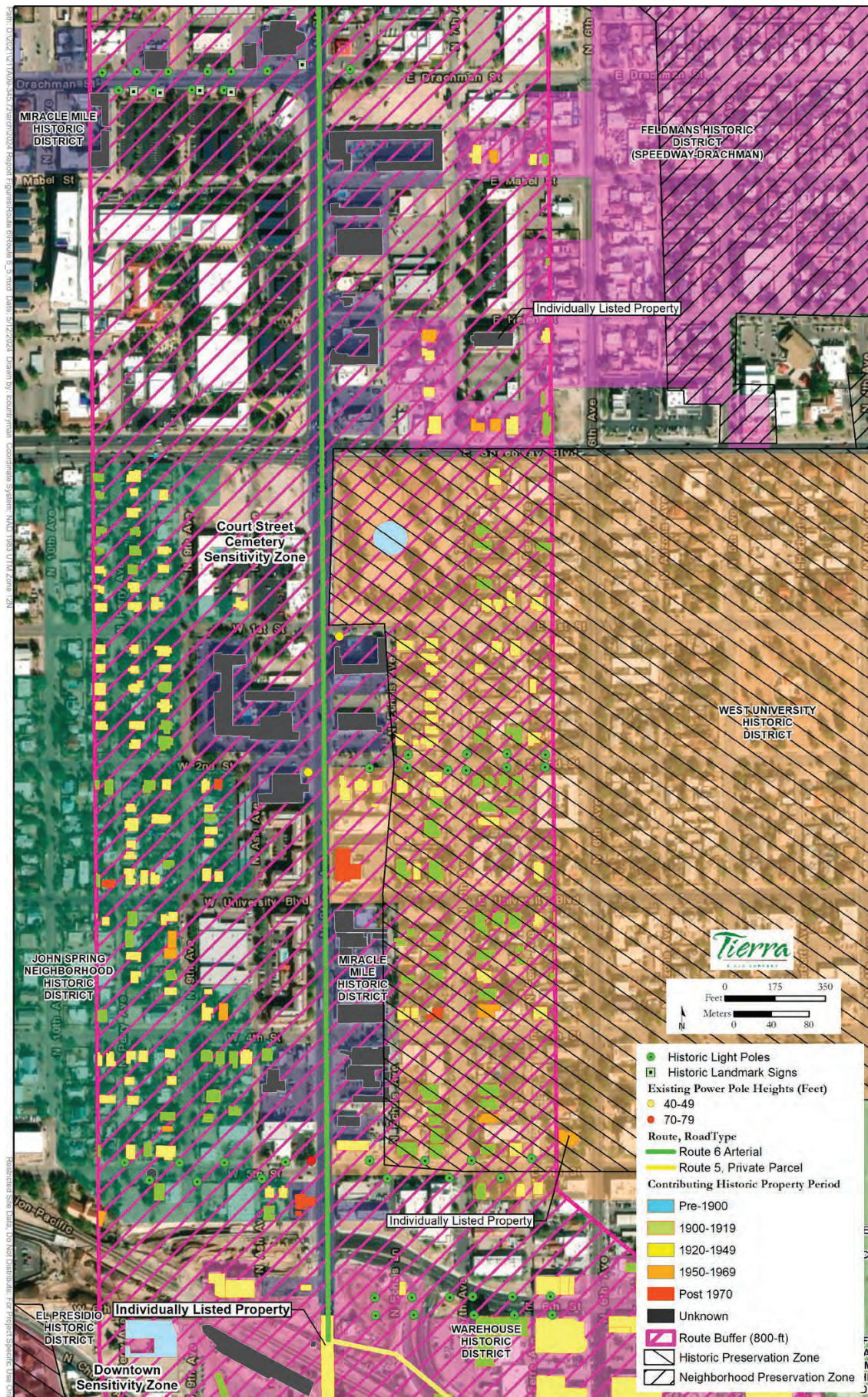






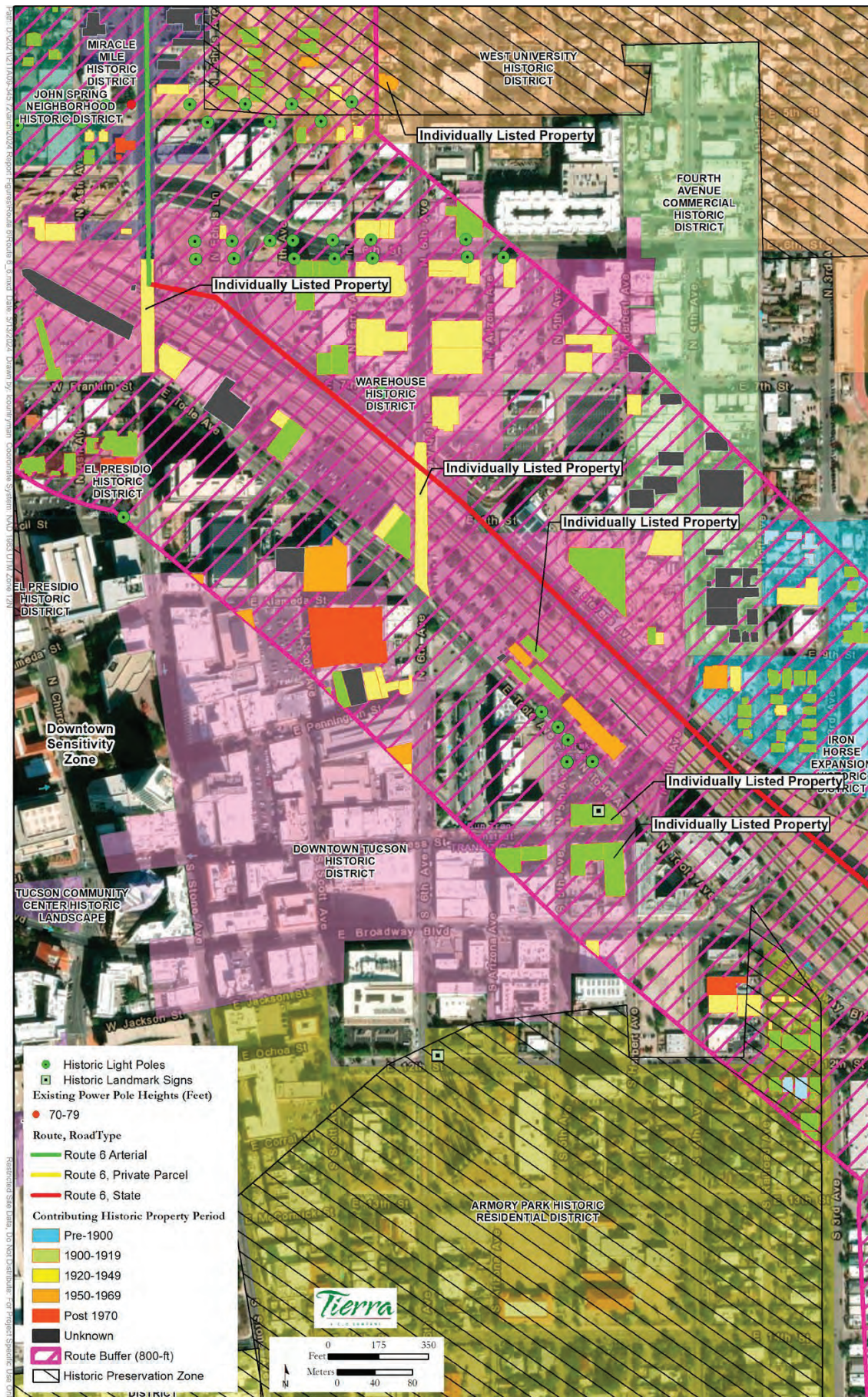


**Figure VIII.F.6: ROUTE 6 KINO SUBSTATION TO VINE SUBSTATION  
STONE AVE / DRACHMAN ST TO STONE AVE / 6TH ST**



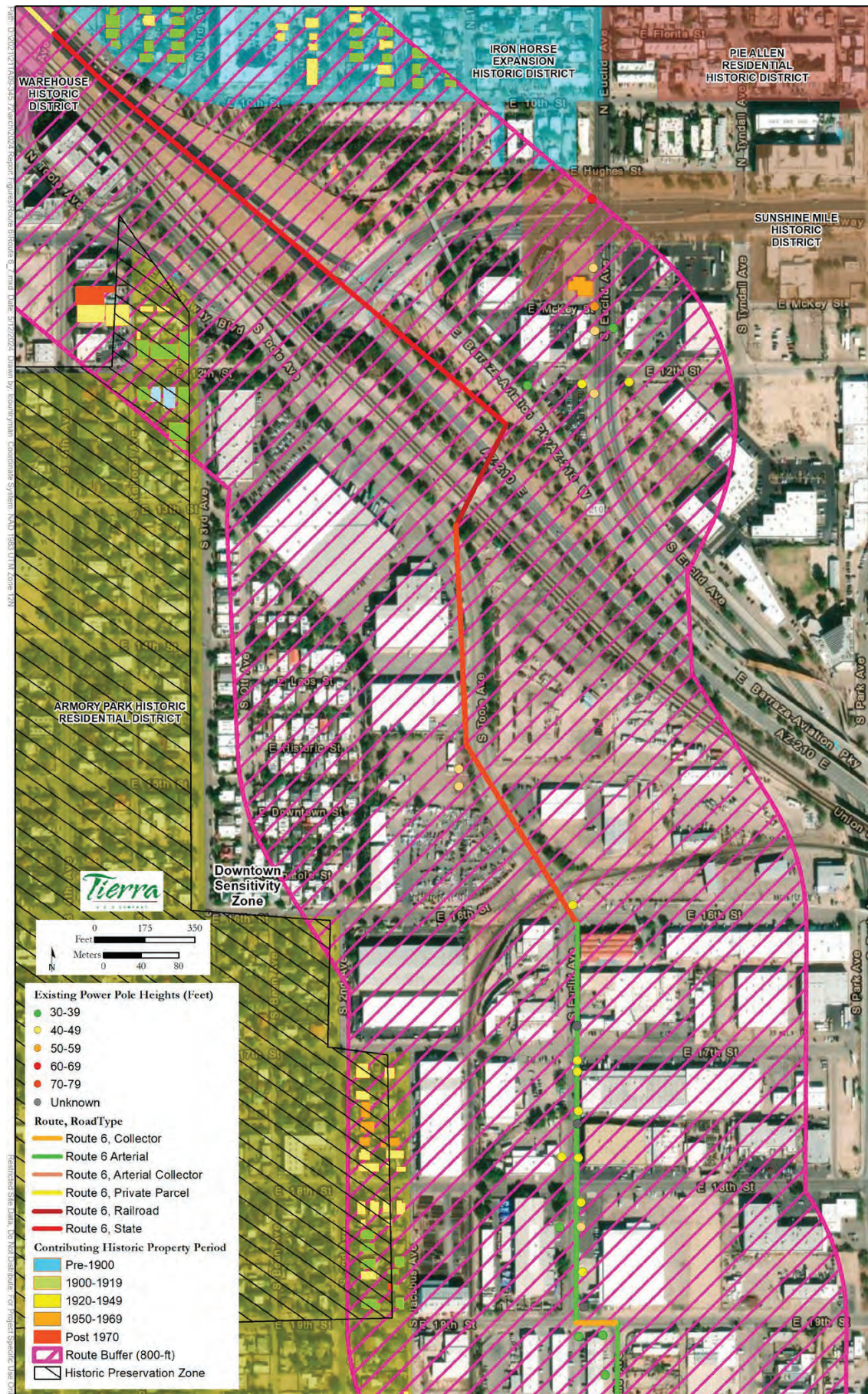


**Figure VIII.F.7: ROUTE 6 KINO SUBSTATION TO VINE SUBSTATION  
STONE AVE / 6TH ST TO TOOLE AVE / 4TH AVE**



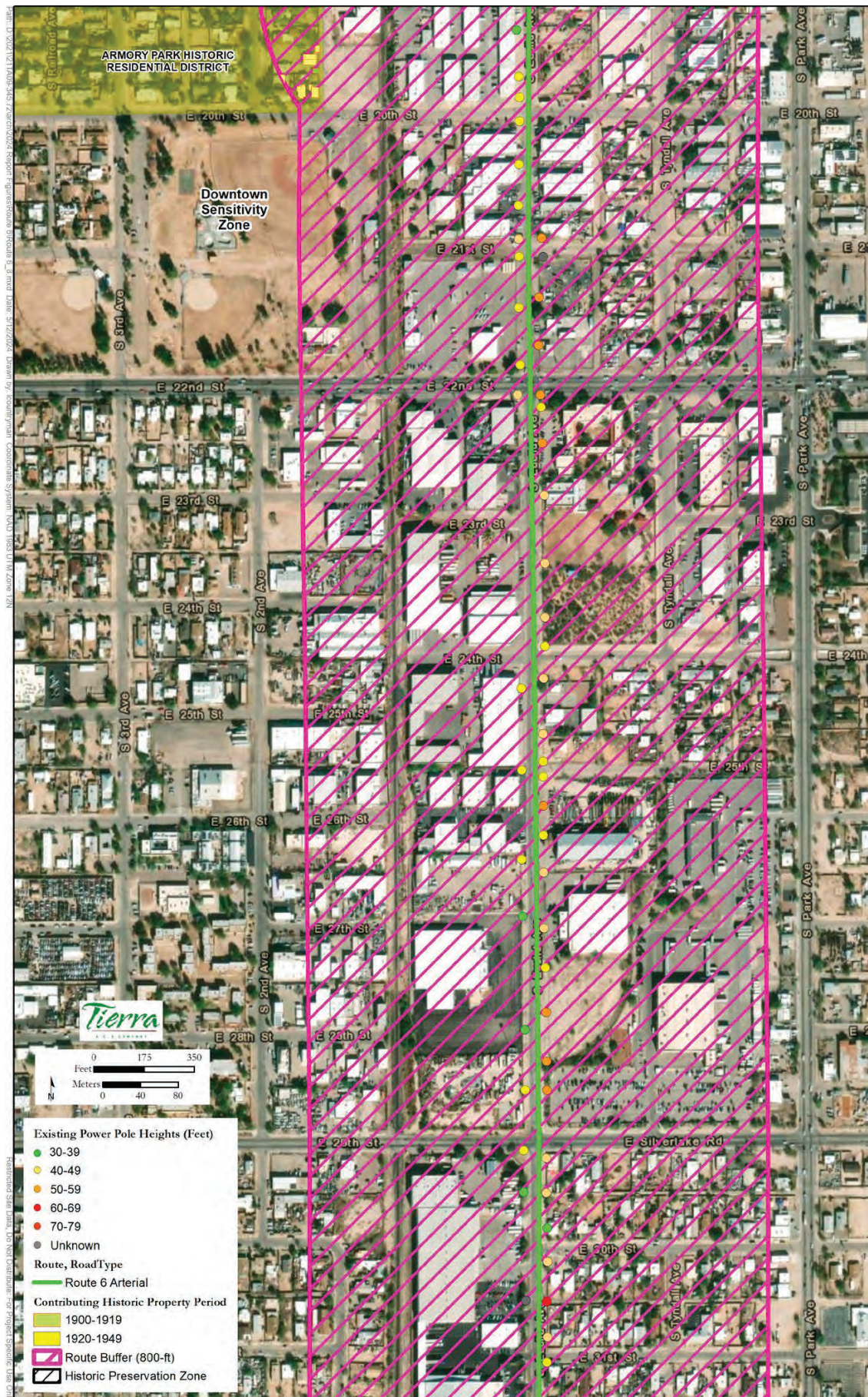


**Figure VIII.F.8: ROUTE 6 KINO SUBSTATION TO VINE SUBSTATION  
TOOLE AVE / 4TH AVE TO EUCLID AVE / 19TH ST**





**Figure VIII.F.9: ROUTE 6 KINO TO VINE SUBSTATION  
20TH ST / EUCLID AVE TO 31ST ST / EUCLID AVE**





## IX. DeMoss-Petrie Substation to Vine Substation Maps

TROW and TAC developed maps of each route to visually show the measurable criteria identified in Section III Methodology. Each route has a map of the full route as well as enlarged maps where the route is adjacent or passes through historic districts.



**A. Route A Maps**

1. Figure IX.A.1: FULL ROUTE
2. Figure IX.A.2: DMP SUBSTATION TO GRANT RD / 15TH AVE
3. Figure IX.A.3: GRANT RD / 15TH AVE TO GRANT RD / FONTANA AVE
4. Figure IX.A.4: GRANT RD / GERONIMO AVE TO GRANT RD / HIGHLAND AVE
5. Figure IX.A.5: GRANT RD / PARK AVE TO VINE AVE / WAVERLY ST
6. Figure IX.A.6: VINE AVE / HAMPTON ST TO VINE SUBSTATION







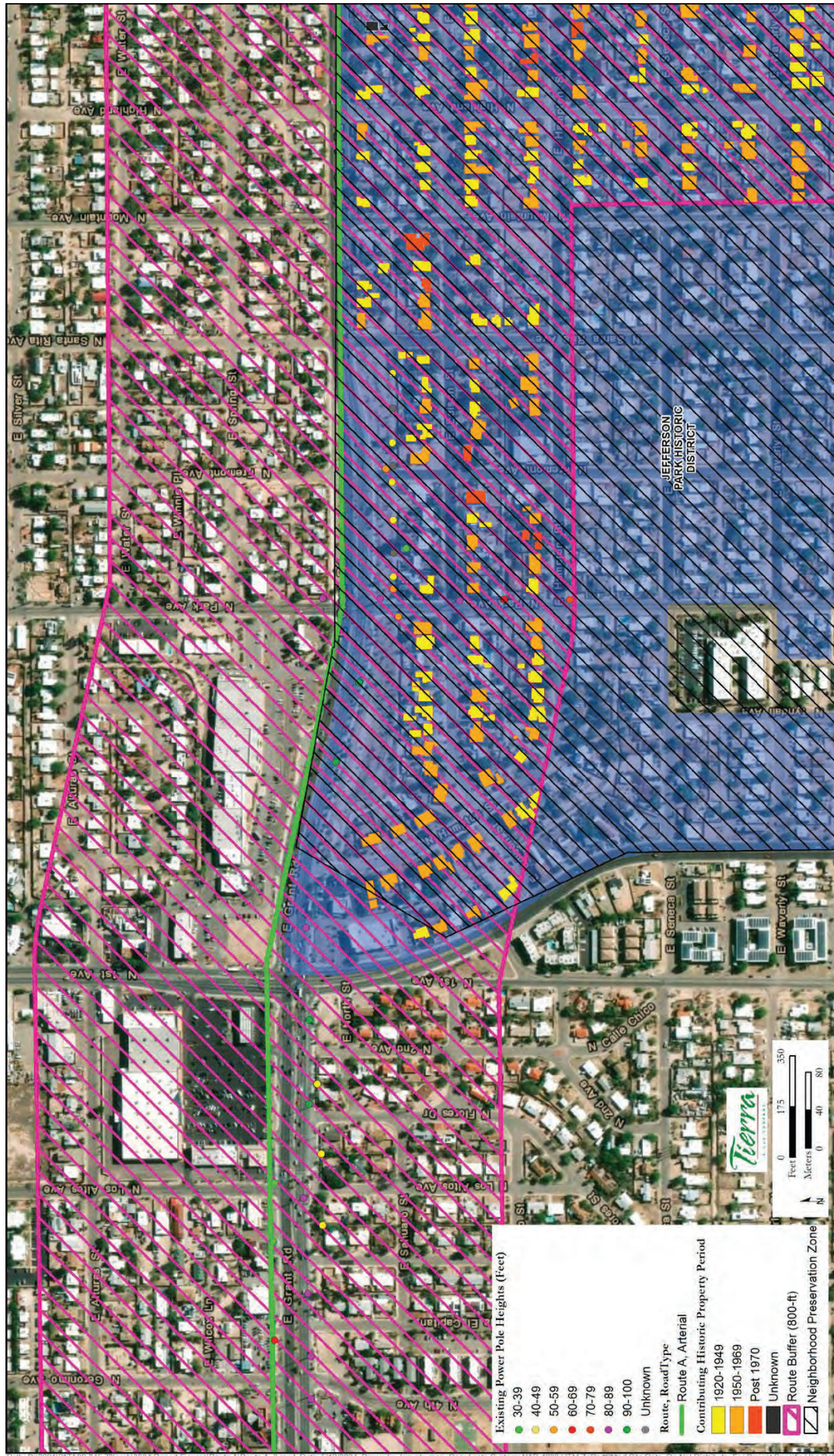








**Figure IX.A.4: ROUTE A DMP SUBSTATION TO VINE SUBSTATION  
GRANT RD / GERONIMO AVE TO GRANT RD / HIGHLAND AVE**



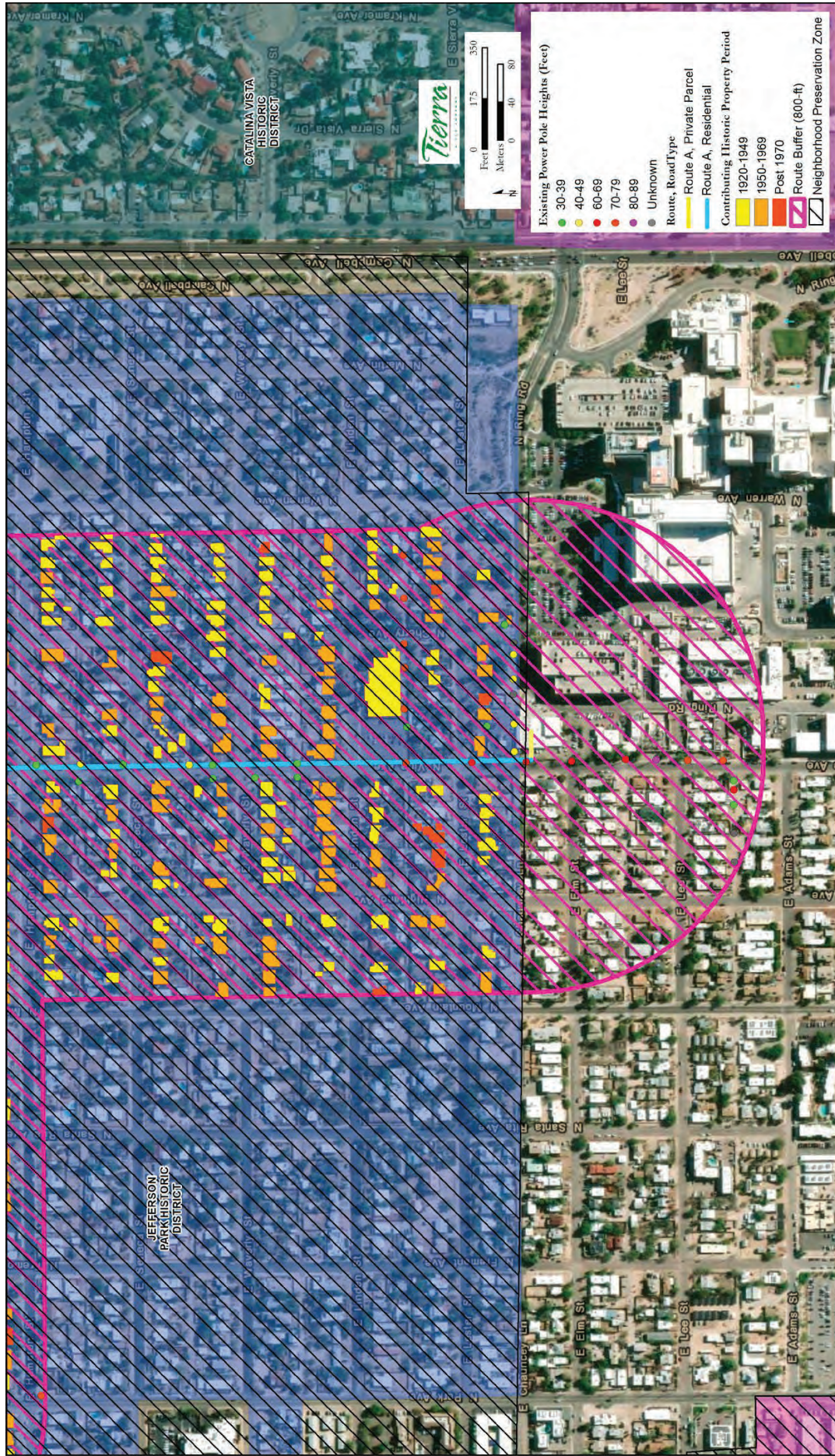


**Figure IX.A.5: ROUTE A DMP SUBSTATION TO VINE SUBSTATION  
GRANT RD / PARK AVE TO VINE AVE / WAVERLY ST**





Figure IX.A.6: ROUTE A DMP SUBSTATION TO VINE SUBSTATION  
VINE AVE / HAMPTON ST TO VINE SUBSTATION



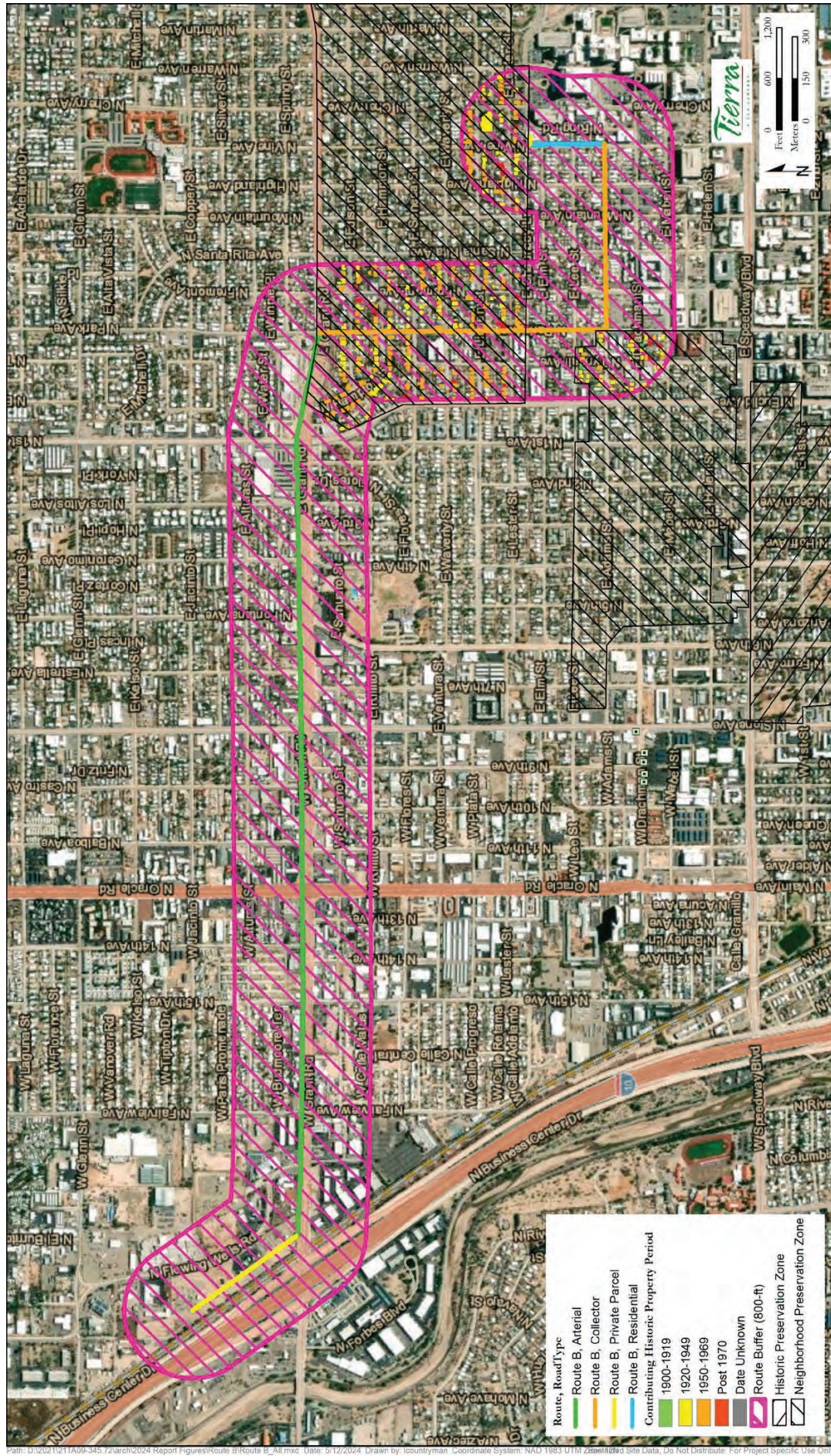


**B. Route B DeMoss-Petrie Substation to Vine Substation Maps**

1. Figure IX.B.1: FULL ROUTE
2. Figure IX.B.2: DMP SUBSTATION TO GRANT RD / FAIRVIEW AVE
3. Figure IX.B.3: GRANT RD / 15TH AVE TO GRANT RD / 6TH AVE
4. Figure IX.B.4: GRANT RD / GERONIMO AVE TO PARK AVE / WAVERLY ST
5. Figure IX.B.5: PARK AVE / WAVERLY ST TO VINE SUBSTATION



Figure IX.B.1: ROUTE B DMP SUBSTATION TO VINE SUBSTATION FULL ROUTE









**Figure IX.B.3: ROUTE B DMP SUBSTATION TO VINE SUBSTATION  
GRANT RD / 15TH AVE TO GRANT RD / 6TH AVE**

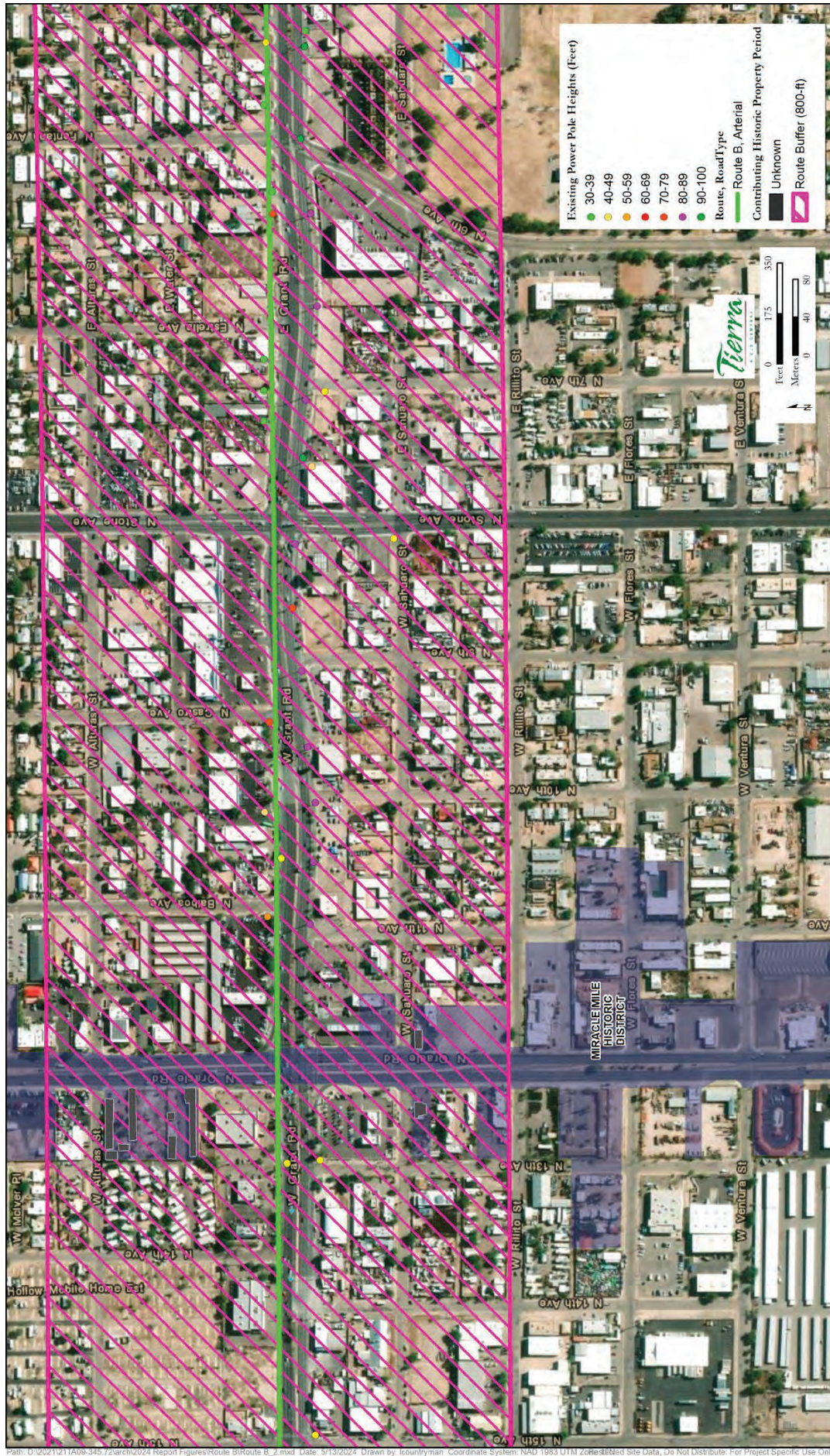
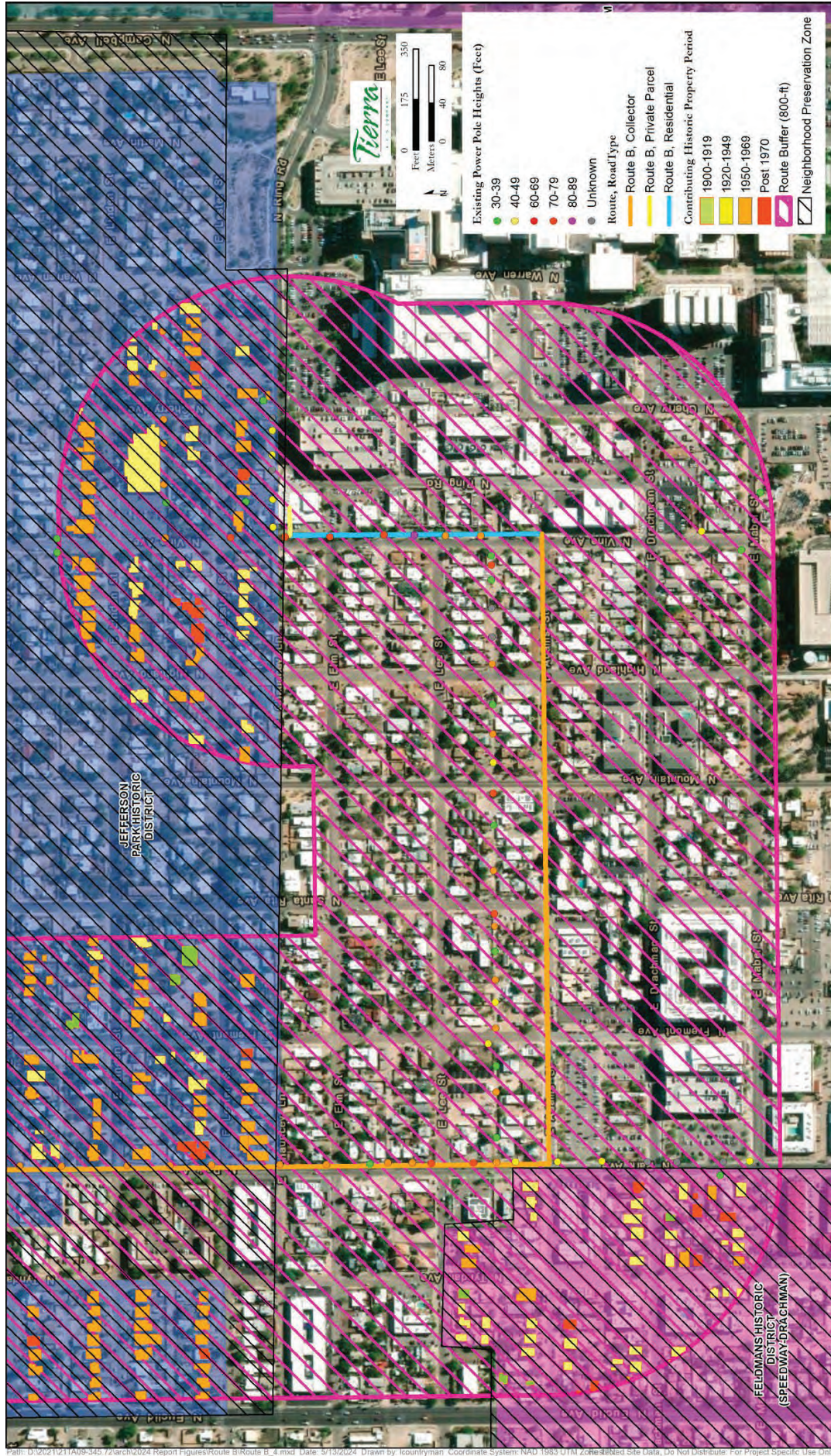








Figure IX.B.5: ROUTE B DMP SUBSTATION TO VINE SUBSTATION  
PARK AVE / WAVERLY ST TO VINE SUBSTATION



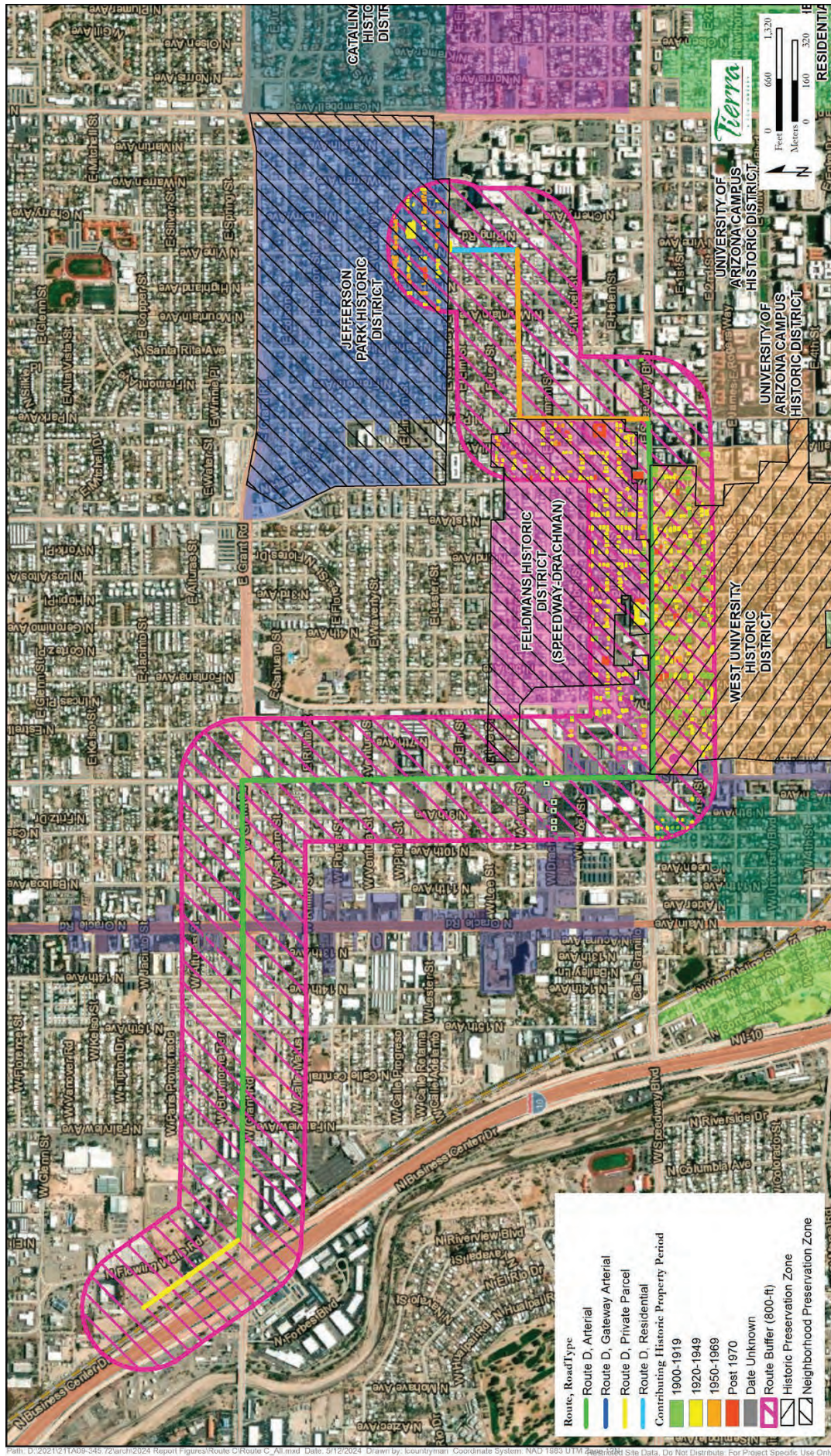


**C. Route C DeMoss-Petrie Substation to Vine Substation Maps**

1. Figure IX.C.1: FULL ROUTE
2. Figure IX.C.2: DMP SUBSTATION TO GRANT RD / FAIRVIEW AVE
3. Figure IX.C.3: GRANT RD / 15TH AVE TO STONE AVE / VENTURA ST.
4. Figure IX.C.4: STONE AVE / DRACHMAN ST TO SPEEDWAY BLVD / 3RD AVE
5. Figure IX.C.5: SPEEDWAY BLVD / 6TH AVE TO SPEEDWAY BLVD / PARK AVE
6. Figure IX.C.6: PARK AVE / MABEL ST TO VINE SUBSTATION



Figure IX.C.1: ROUTE C DMP SUBSTATION TO VINE SUBSTATION FULL ROUTE





**Existing Power Pole Heights (Feet)**

- 30-39
- 40-49
- 50-59
- 60-69
- 70-79
- 80-89
- 90-100
- > 100

**Contributing Historic Property Period**

- 1920-1949
- 1950-1969
- Post 1970

**Route, RoadType**

- Route C, Arterial
- Route C, Private Parcel

**Individually listed Property**

**Stone Pipe Sensitivity Zone**

**Individually listed Property**

**Route Buffer (900 ft)**

**Scale:** 0 200 400 Feet, 0 40 80 Meters

**Legend:** Santa Cruz Band Sensitivity Zone, Route C, Arterial, Route C, Private Parcel, Contributing Historic Property Period, Individually listed Property, Stone Pipe Sensitivity Zone, Route Buffer (900 ft)



Figure IX.C.3: ROUTE C DMP SUBSTATION TO VINE SUBSTATION  
GRANT RD / 15TH AVE TO STONE AVE / VENTURA ST.

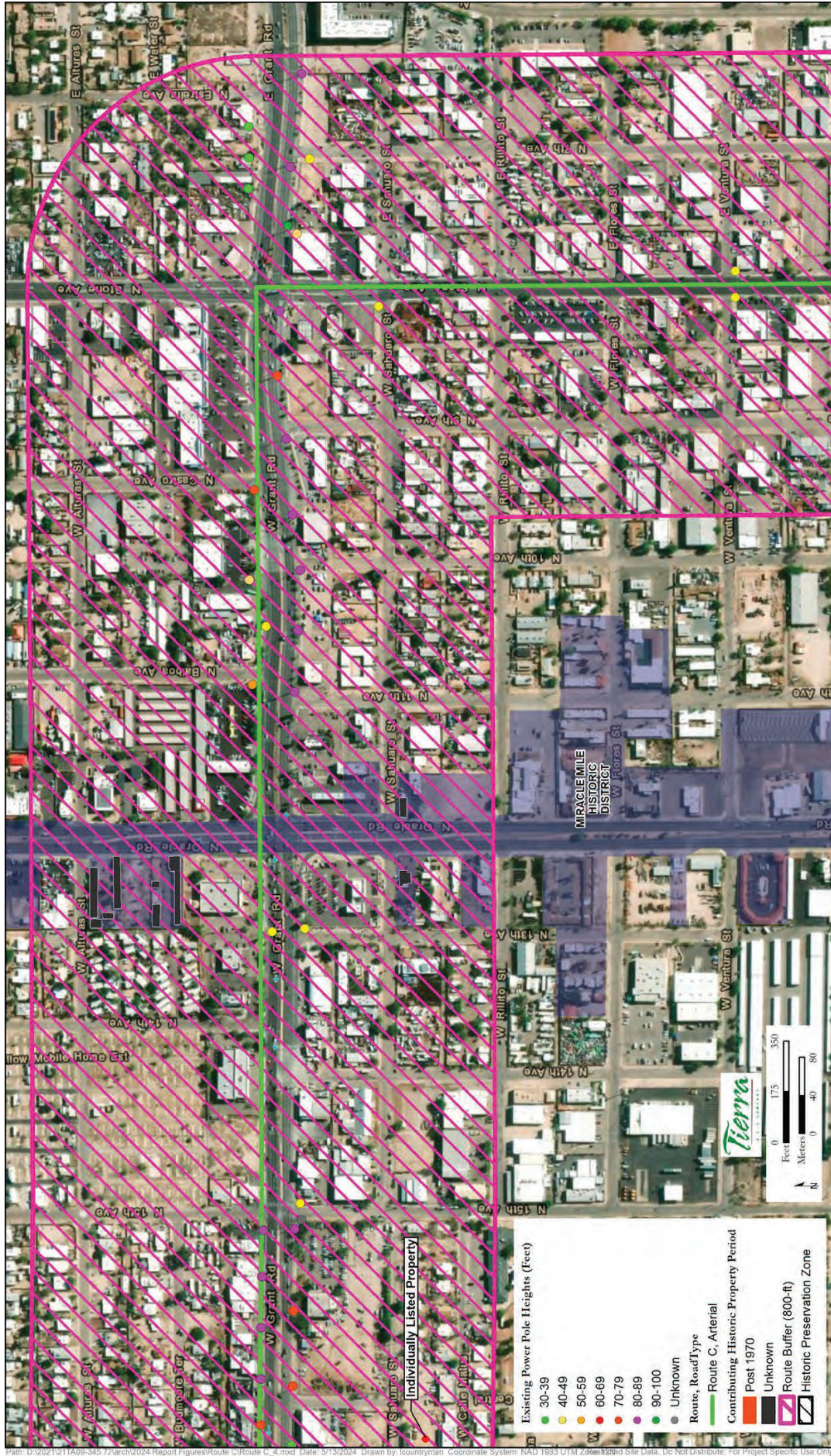
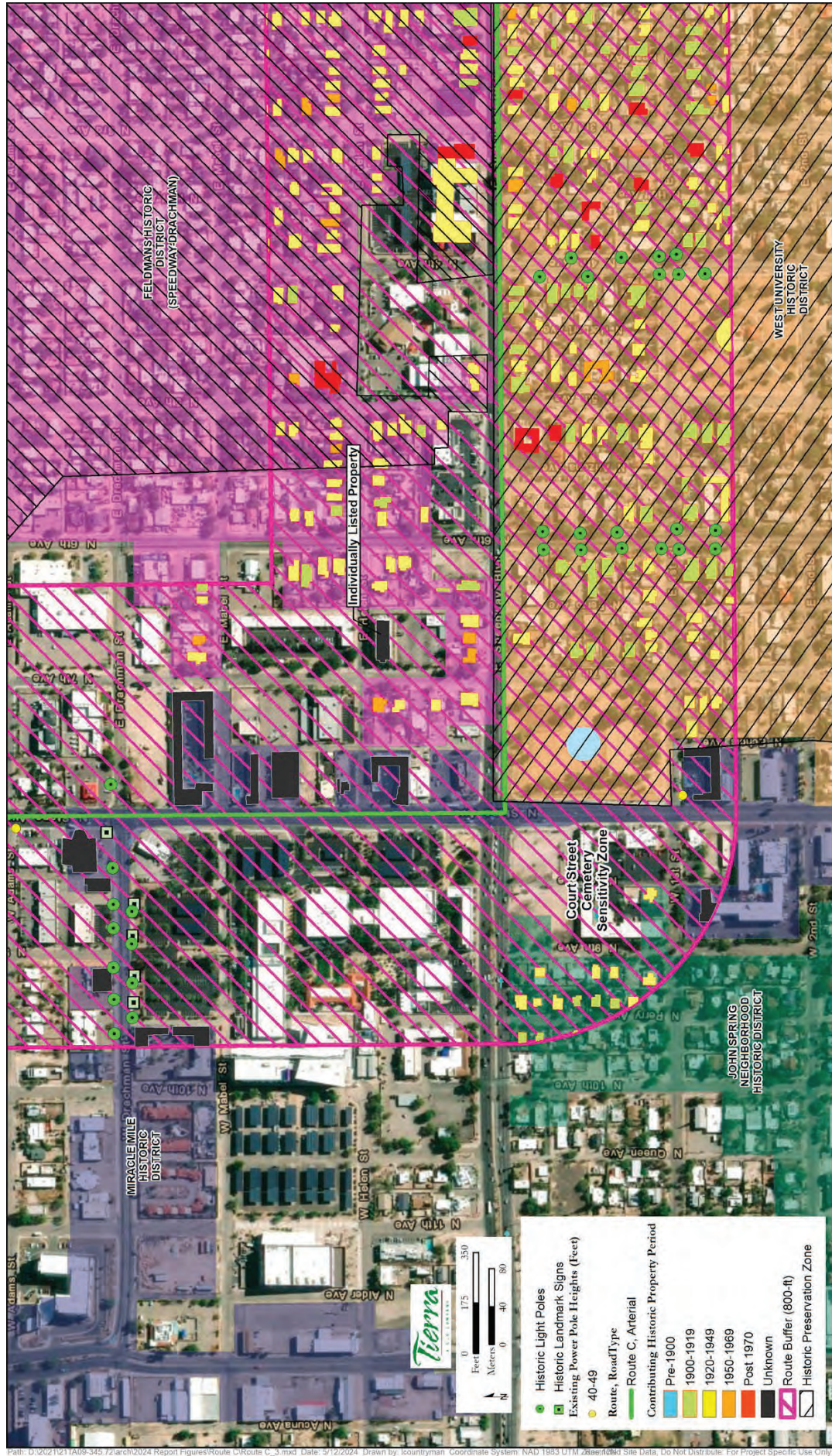


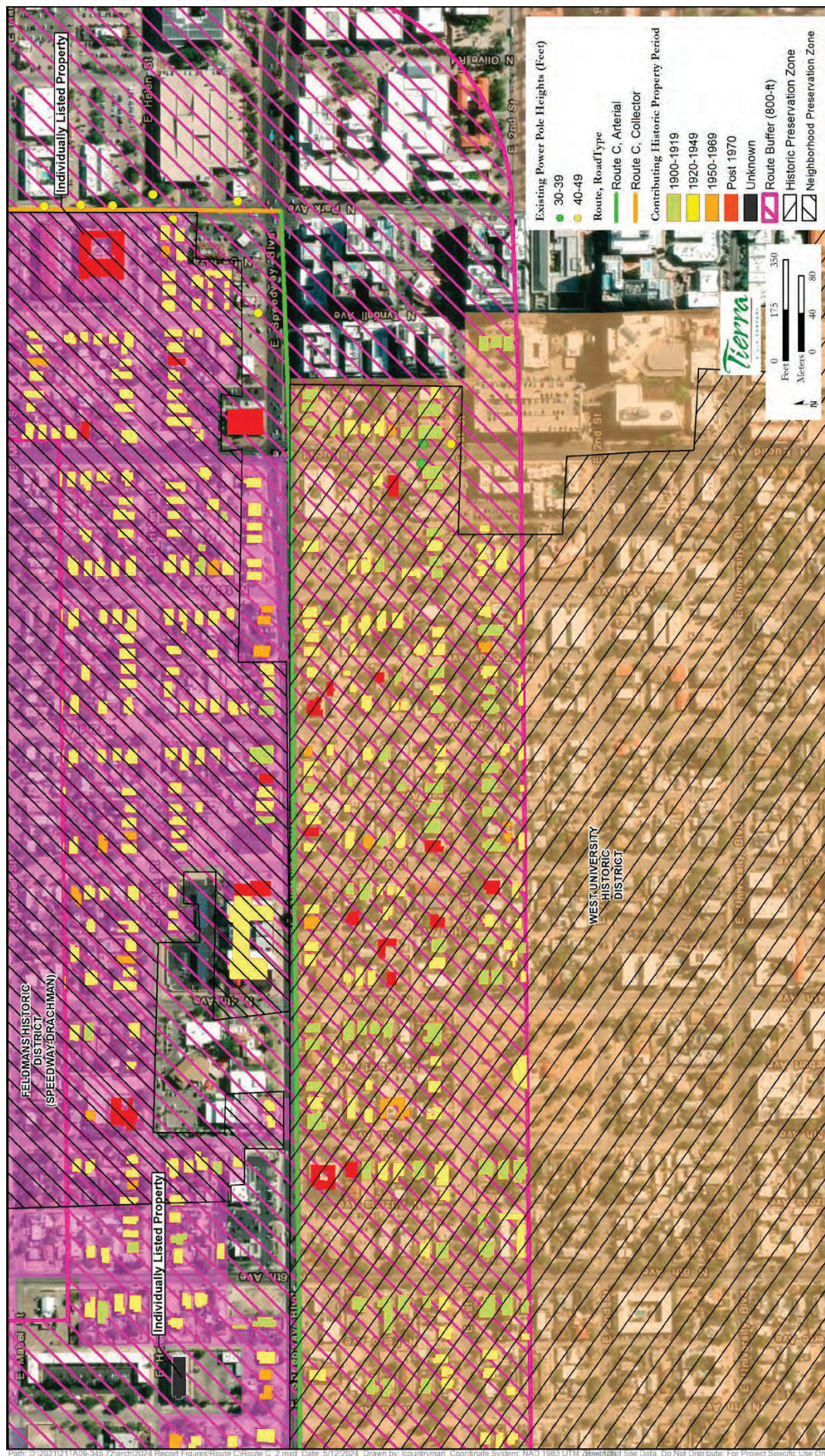


Figure IX.C.4: ROUTE C DMP SUBSTATION TO VINE SUBSTATION  
STONE AVE / DRACHMAN ST TO SPEEDWAY BLVD / 3RD AVE



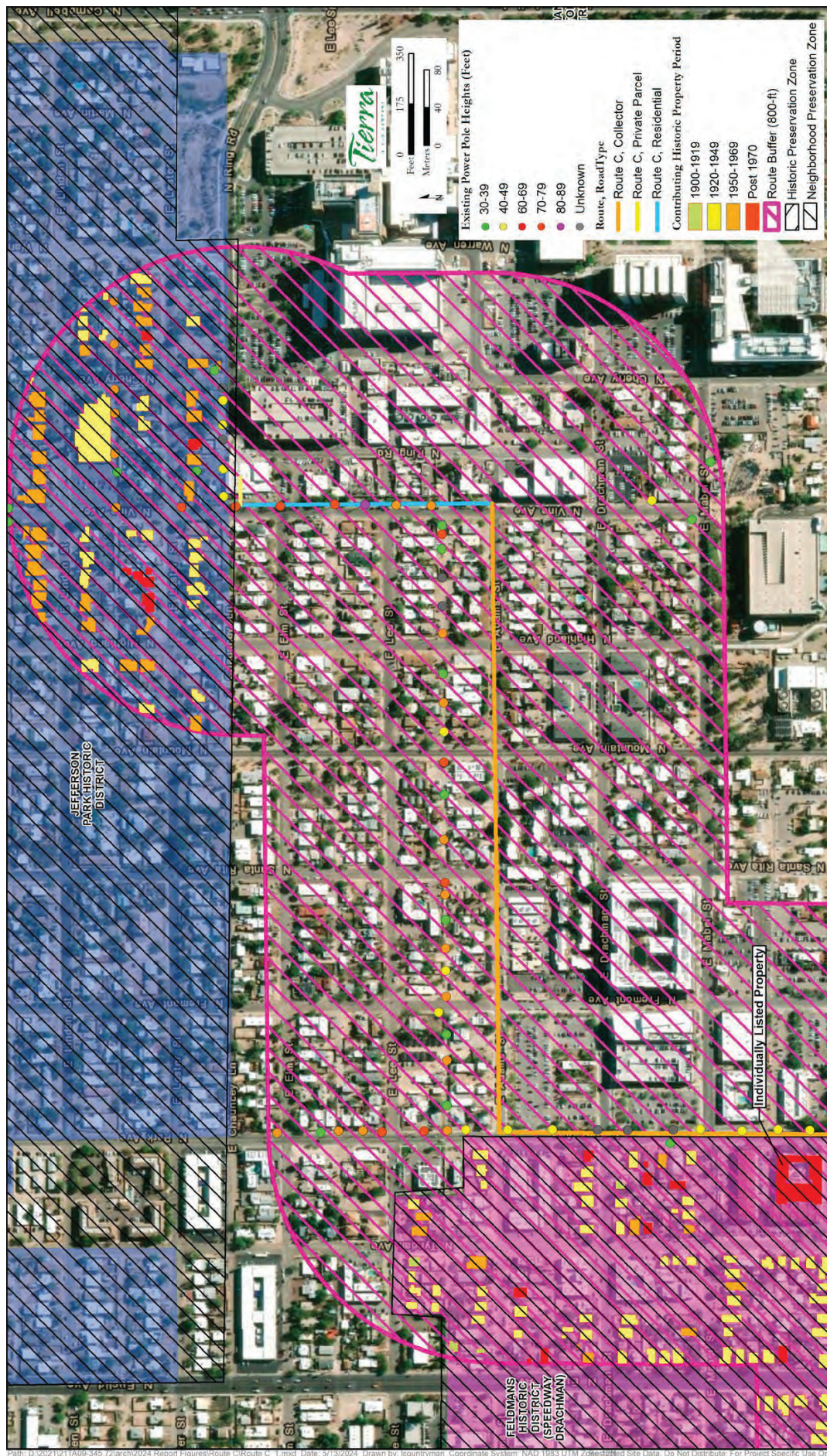


**Figure IX.C.5: ROUTE C DMP SUBSTATION TO VINE SUBSTATION  
SPEEDWAY BLVD / 6TH AVE TO SPEEDWAY BLVD / PARK AVE**





**Figure IX.C.6: ROUTE C DMP SUBSTATION TO VINE SUBSTATION  
PARK AVE / MABEL ST TO VINE SUBSTATION**



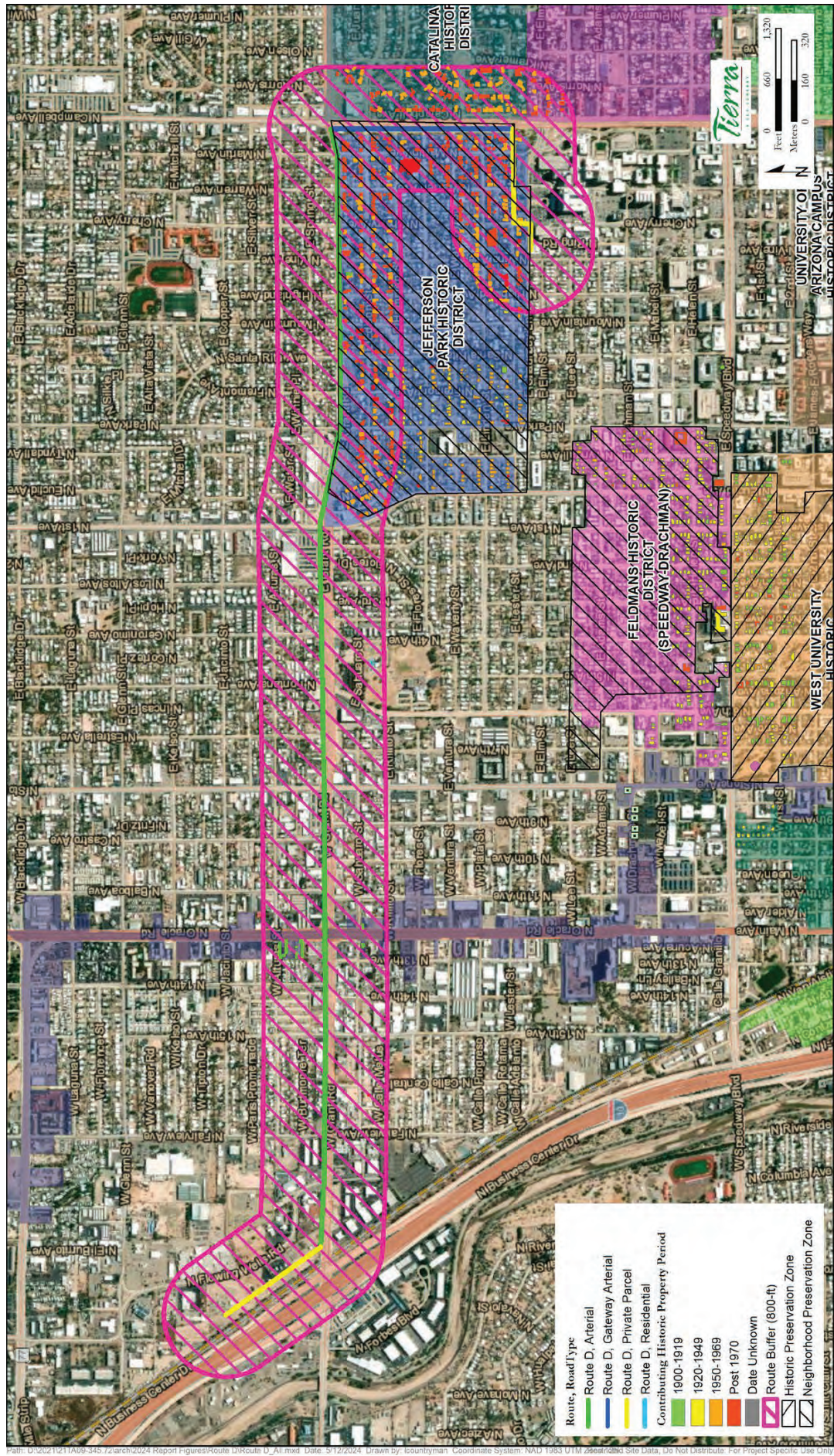


**D. Route D DeMoss-Petrie Substation to Vine Substation Maps**

1. Figure IX.D.1: FULL ROUTE
2. Figure IX.D.2: DMP SUBSTATION TO GRANT RD / FAIRVIEW AVE
3. Figure IX.D.3: GRANT RD / 15TH AVE TO GRANT RD / FONTANA AVE
4. Figure IX.D.4: GRANT RD / GERONIMO AVE TO GRANT RD / HIGHLAND AVE
5. Figure IX.D.5: GRANT RD / HIGHLAND AVE TO GRANT RD / SENECA ST
6. Figure IX.D.6: GRANT RD / SENECA ST TO VINE SUBSTATION



Figure IX.D.1: ROUTE D DMP SUBSTATION TO VINE SUBSTATION FULL ROUTE





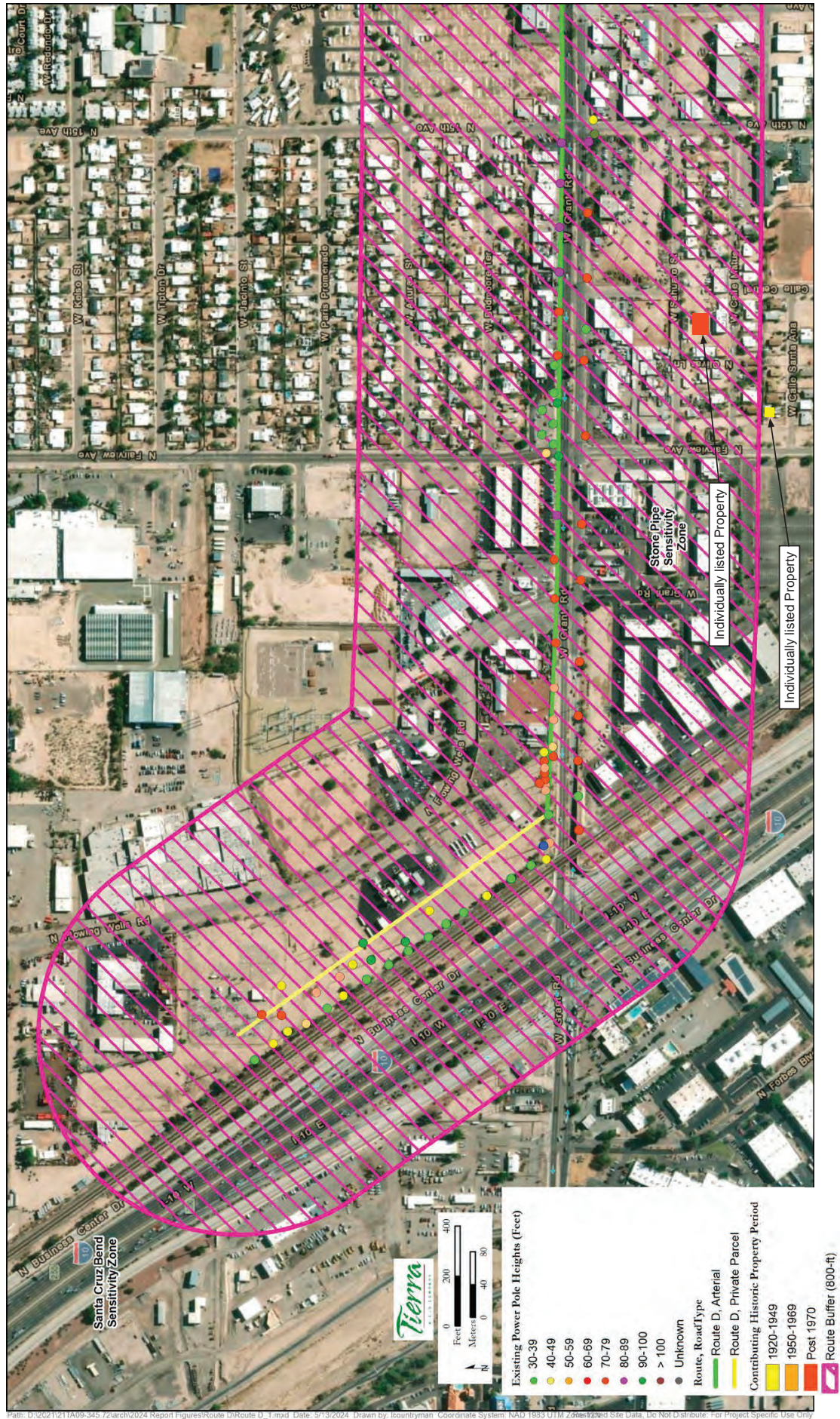
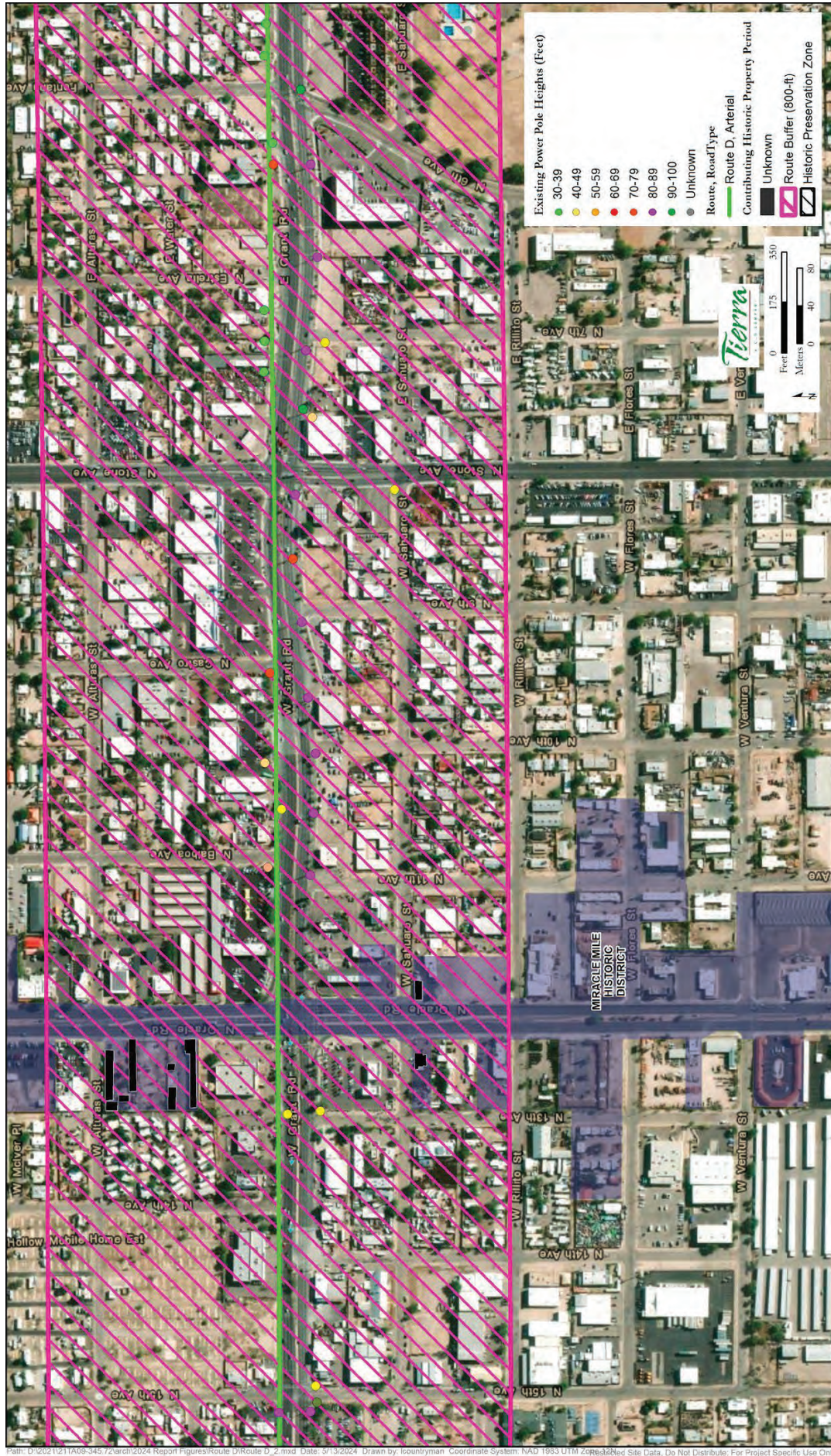




Figure IX.D.3: ROUTE D DMP SUBSTATION TO VINE SUBSTATION  
GRANT RD / 15TH AVE TO GRANT RD / FONTANA AVE





Existing Power Pole Heights (Feet)

- 30-39
- 40-49
- 50-59
- 60-69
- 70-79
- 80-89
- 90-100
- Unknown

Route, Road Type

- Route D, Arterial

Contributing Historic Property Period

- 1920-1949
- 1950-1969
- Post 1970

Route Buffer (800-ft)

Neighborhood Preservation Zone

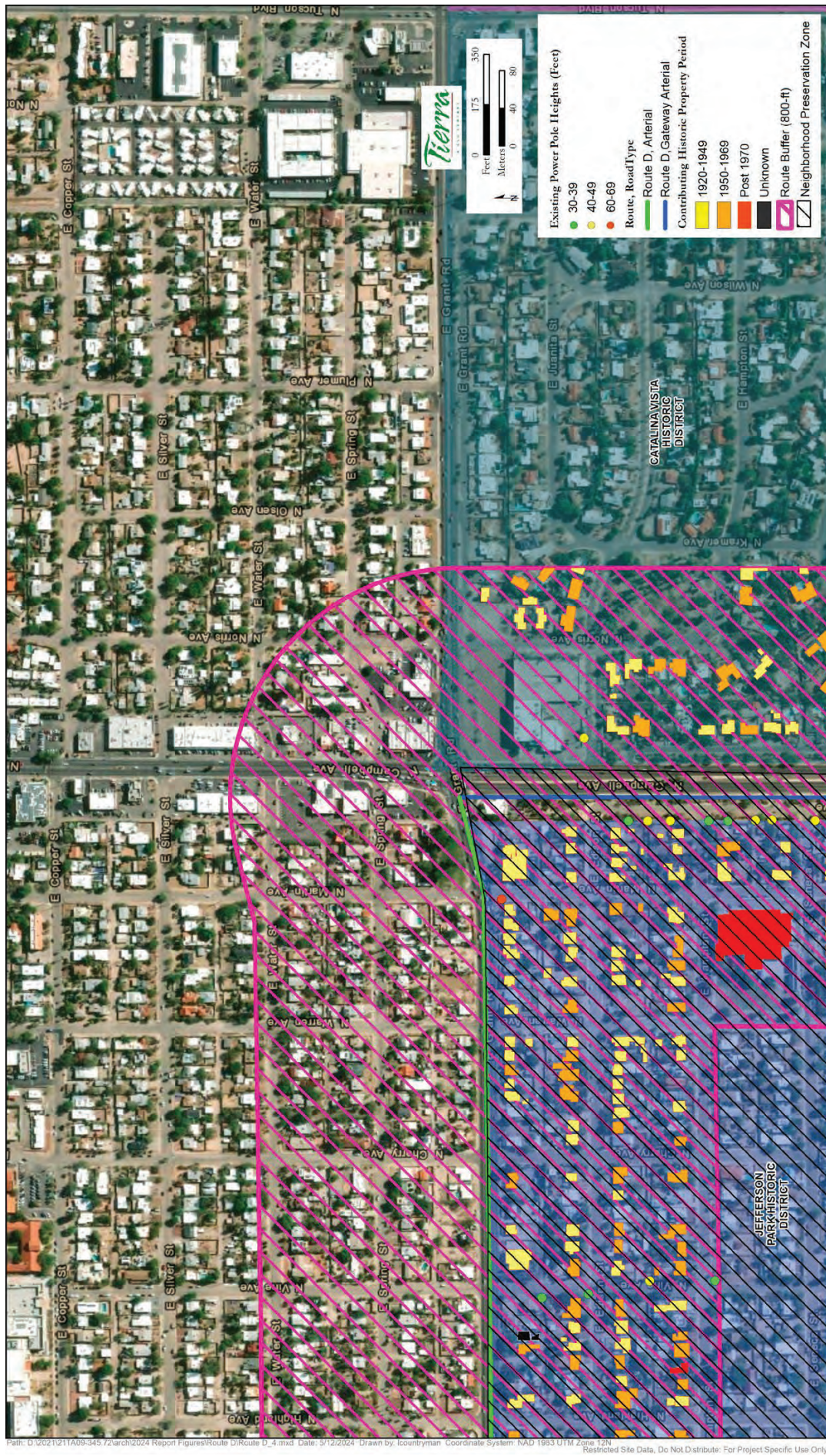
Scale: 0 175 350 Feet / 0 40 80 Meters

North Arrow

Jefferson Park Historic District

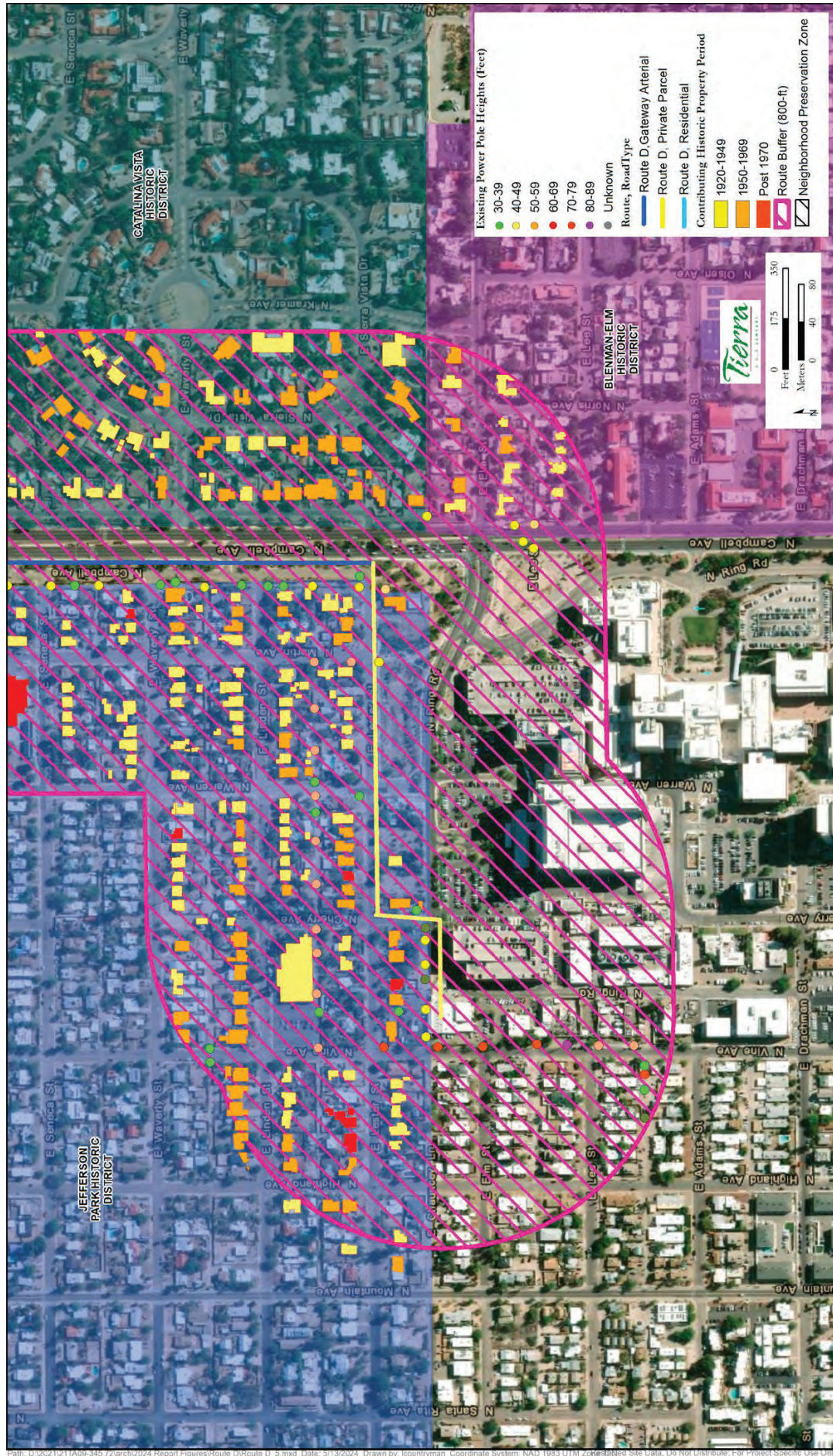


Figure IX.D.5: ROUTE D DMP SUBSTATION TO VINE SUBSTATION  
GRANT RD / HIGHLAND AVE TO GRANT RD / SENECA ST



Path: D:\2021\211A09\345\2\archi\2024 Report Figures\route D\Route D\_4.mxd Date: 5/12/2024 Drawn by: lcountryman Coordinate System: NAD 1983 UTM Zone 12N  
Restricted Site Data, Do Not Distribute For Project Specific Use Only





# X. Kino Substation to Vine Substation Tables

- Kino Table 1:** Bisecting versus Bordering Historic Districts
- Kino Table 2:** Street Designation
- Kino Table 3:** Historic Districts with 1 versus 2 Sides of the Route
- Kino Table 4:** Existing Power Poles Located on Route
- Kino Table 5:** Historic Light Fixtures within 800' Route Buffer
- Kino Table 6:** Historic Contributing Properties within 800' Route Buffer
- Kino Table 7:** Access of Historic Contributing Properties along Route
- Kino Table 8:** Historic Landmarks within 800' Route Buffer
- Kino Table 9:** Historic Architectural Criteria



KINO TABLE 1				Routes from Kino to Vine															
Bisecting vs Bordering Historic Districts																			
		Route 1			Route 2			Route 3			Route 4			Route 5			Route 6		
		Feet	%	Rank	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank
Armory Park Historic District																			
Bisecting Historic District			0%			0%			0%			0%			0%			0%	
Bordering Historic District			0%			0%			0%			0%			0%			0%	
Bisecting + Bordering		0			0			0			0			0			0		
District Rank Subtotal				0			0			0			0			0			0
Blenman-Elm Historic District																			
Bisecting Historic District		0	0%			0%			0%			0%			0%		0	0%	
Bordering Historic District		722	100%	2	1316	100%	1		0%			0%			0%		0	0%	
Bisecting + Bordering		722			1316			0			0			0			0		
District Rank Subtotal				2			1			0			0			0			0
Broadmoor Historic District																			
Bisecting Historic District			0%			0%			0%			0%			0%			0%	
Bordering Historic District			0%			0%			0%			0%			0%			0%	
Bisecting + Bordering		0			0			0			0			0			0		
District Rank Subtotal				0			0			0			0			0			0
Catalina Vista Historic District																			
Bisecting Historic District			0%			0%			0%			0%			0%			0%	
Bordering Historic District		52	100%	1		0%			0%			0%			0%		2355	100%	1
Bisecting + Bordering		52			0			0			0			0			2355		
District Rank Subtotal				1			0			0			0			0			1
Downtown Tucson Historic District																			
Bisecting Historic District			0%			0%			0%			0%			0%		0	0%	
Bordering Historic District			0%			0%			0%			0%			0%		0	0%	
Bisecting + Bordering		0			0			0			0			0			0		
District Rank Subtotal				0			0			0			0			0			0
El Presidio Historic District																			
Bisecting Historic District			0%			0%			0%			0%			0%			0%	
Bordering Historic District			0%			0%			0%			0%			0%			0%	
Bisecting + Bordering		0			0			0			0			0			0		
District Rank Subtotal				0			0			0			0			0			0
Feldman's Historic District																			
Bisecting Historic District			0%			0%			0%			0%			0%			0%	
Bordering Historic District			0%			0%		2179	100%	2	1345	100%	1	4049	100%	3		0%	
Bisecting + Bordering		0			0			2179			1345			4049			0		
District Rank Subtotal				0			0			2			1			3			0
Fourth Avenue Historic District																			
Bisecting Historic District			0%			0%			0%			0%			0%			0%	
Bordering Historic District			0%			0%			0%			0%			0%			0%	
Bisecting + Bordering		0			0			0			0			0			0		
District Rank Subtotal				0			0			0			0			0			0
Iron Horse Expansion Historic District																			
Bisecting Historic District			0%			0%			0%			0%			0%			0%	
Bordering Historic District			0%			0%			0%		1145	100%			0%			0%	
Bisecting + Bordering		0			0			0			1145			0			0		
District Rank Subtotal				0			0			0			0			0			0
Jefferson Park Historic District																			
Bisecting Historic District		67	56%	1		0%			0%			0%			0%		1441	16%	2
Bordering Historic District		52	44%	1	96	100%	1	96	100%	1	96	100%	1		0%		7742	84%	4
Bisecting + Bordering		119			96			96			96			0			9183		
District Rank Subtotal				2			1			1			1			0			6
John Spring Neighborhood Historic District																			
Bisecting Historic District			0%			0%			0%			0%			0%			0%	
Bordering Historic District			0%			0%			0%			0%			0%			0%	
Bisecting + Bordering		0			0			0			0			0			0		
District Rank Subtotal				0			0			0			0			0			0
Miracle Mile Historic District																			
Bisecting Historic District			0%			0%			0%			0%		3059	100%	3	4592	100%	5
Bordering Historic District			0%			0%			0%			0%		0	0%			0%	
Bisecting + Bordering		0			0			0			0			3059			4592		
District Rank Subtotal				0			0			0			0			3			5
Pie Allen Residential Historic District																			
Bisecting Historic District			0%			0%		1574	77%	2		0%		0	0%			0%	
Bordering Historic District			0%			0%		465	23%	1	1999	100%		0	0%			0%	
Bisecting + Bordering		0			0			2039			1999			0			0		
District Rank Subtotal				0			0			3			0			0			0
Rincon Heights Historic District																			
Bisecting Historic District			0%			0%		2347	87%	3		0%			0%			0%	
Bordering Historic District		575	100%	1		0%		340	13%	1		0%			0%			0%	
Bisecting + Bordering		575			0			2687			0			0			0		
District Rank Subtotal				1			0			4			0			0			0
Sam Hughes Residential Historic District																			
Bisecting Historic District			0%		3913	68%	10		0%			0%		0	0%		0	0%	
Bordering Historic District		1301	100%	1	1858	32%	10		0%			0%		0	0%		0	0%	
Bisecting + Bordering		1301			5771			0			0			0			0		
District Rank Subtotal				1			20			0			0			0			0
Sunshine Mile Historic District																			
Bisecting Historic District		189	100%	1	1651	93%	2	372	49%	1	441	100%	1		0%			0%	
Bordering Historic District			0%		125	7%	1	387	51%	1		0%			0%			0%	
Bisecting + Bordering		189			1776			759			441			0			0		
District Rank Subtotal				1			3			2			1			0			0
Warehouse Historic District																			
Bisecting Historic District			0%			0%			0%			0%		2454	100%	3	2454	100%	3
Bordering Historic District			0%			0%			0%			0%			0%			0%	
Bisecting + Bordering		0			0			0			0			2454			2454		
District Rank Subtotal				0			0			0			0			3			3
West University Historic District																			
Bisecting Historic District			0%			0%		2039	68%	4	2040	63%	4		0%			#DIV/0!	
Bordering Historic District			0%			0%		942	32%	1	1196	37%	1	4049	100%	2		#DIV/0!	
Bisecting + Bordering		0			0			2981			3236			4049			0		
District Rank Subtotal				0			0			5			5			2			0
SUMMARY OF BISECTING + BORDERING																			
Bisecting Historic District		256	9%	2	5564	62%	12	6332	59%	10	2481	30%	5	5513	41%	6	8487	46%	10
Bordering Historic District		2702	91%	6	3395	38%	13	4409	41%	7	5781	70%	3	8098	59%	5	10097	54%	5
Bisecting + Bordering		2958		0	8959		0	10741		0	8262		0	13611		0	18584		0
Route Rank Subtotal				8			25			17			8			11			0

KINO TABLE 2		Routes from Kino to Vine																	
Street Designation		Route 1			Route 2			Route 3			Route 4			Route 5			Route 6		
		Feet	%	Rank	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank
Armory Park Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%			0%			0%			0%			0%	
Collector Street			0%			0%			0%			0%			0%			0%	
Residential Street			0%			0%			0%			0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Blenman-Elm Historic District																			
Gateway Arterial Street (length in ft)	2357	100%	2		0%				0%			0%			0%			0%	
Arterial Street	0	0%		1316	100%	2			0%			0%			0%			0%	
Collector Street	0	0%			0%				0%			0%			0%			0%	
Residential Street	0	0%			0%				0%			0%			0%			0%	
District Rank Subtotal	2357		2	1316		2	0		0	0	0	0	0	0	0	0	0	0	0
Broadmoor Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%			0%			0%			0%			0%	
Collector Street			0%			0%			0%			0%			0%			0%	
Residential Street			0%			0%			0%			0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Catalina Vista Historic District																			
Gateway Arterial Street (length in ft)	52	100%	1		0%				0%			0%			0%		2355	100%	3
Arterial Street	0	0%			0%				0%			0%			0%			0%	
Collector Street	0	0%			0%				0%			0%			0%			0%	
Residential Street	0	0%			0%				0%			0%			0%			0%	
District Rank Subtotal	52		1	0		0	0	0	0	0	0	0	0	0	0	0	2355	0%	3
Downtown Tucson Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%			0%			0%			0%			0%	
Collector Street			0%			0%			0%			0%			0%			0%	
Residential Street			0%			0%			0%			0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
El Presidio Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%			0%			0%			0%			0%	
Collector Street			0%			0%			0%			0%			0%			0%	
Residential Street			0%			0%			0%			0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feldman's Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%		836	38%	1		0%		4049	75%	2		0%	
Collector Street			0%			0%		1343	62%	2	1345	100%	2	1374	25%	2		0%	
Residential Street			0%			0%			0%			0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	2179		3	1345		2	5423		4	0		0	0
Fourth Avenue Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%			0%			0%			0%			0%	
Collector Street			0%			0%			0%			0%			0%			0%	
Residential Street			0%			0%			0%			0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Iron Horse Expansion Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%			0%		1145	100%	1		0%			0%	
Collector Street			0%			0%			0%			0%			0%			0%	
Residential Street			0%			0%			0%			0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	0	0	0	1145		1	0		0	0	0	0	0
Jefferson Park Historic District																			
Gateway Arterial Street (length in ft)	52	44%	1		0%				0%			0%			0%		2355	26%	3
Arterial Street	0	0%			0%				0%			0%			0%		5050	55%	3
Collector Street	0	0%			0%				0%			0%			0%		178	2%	0
Residential Street	67	56%	1		0%				0%			0%			0%		1600	17%	4
District Rank Subtotal	119		2	0	0	0	0	0	0	0	0	0	0	0	0	0	9183		10
John Spring Neighborhood Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%			0%			0%			0%			0%	
Collector Street			0%			0%			0%			0%			0%			0%	
Residential Street			0%			0%			0%			0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miracle Mile Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%			0%			0%		3059	100%	2	4592	100%	2
Collector Street			0%			0%			0%			0%			0%			0%	
Residential Street			0%			0%			0%			0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	0	0	0	0	0	0	0	3059		2	4592		2
Pie Allen Residential Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%		465	23%	1	1999	100%	1		0%			0%	
Collector Street			0%			0%			0%			0%			0%			0%	
Residential Street			0%			0%		1574	77%	4		0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	2039		5	1999		1	0		0	0	0	0	0
Rincon Heights Historic District																			
Gateway Arterial Street (length in ft)	1869	100%	2		0%				0%			0%			0%			0%	
Arterial Street	0	0%			0%				0%			0%			0%			0%	
Collector Street	0	0%			0%				0%			0%			0%			0%	
Residential Street	0	0%			0%			2687	100%			0%			0%			0%	
District Rank Subtotal	1869		2	0	0	0	2687		0	0	0	0	0	0	0	0	0	0	0
Sam Hughes Residential Historic District																			
Gateway Arterial Street (length in ft)	3816	100%	3		0%				0%			0%			0%			0%	
Arterial Street	0	0%		1316	23%	2			0%			0%			0%			0%	
Collector Street	0	0%			0%				0%			0%			0%			0%	
Residential Street	0	0%		4455	77%	10			0%			0%			0%			0%	
District Rank Subtotal	3816		3	5771		12	0		0	0	0	0	0	0	0	0	0	0	0
Sunshine Mile Historic District																			
Gateway Arterial Street (length in ft)	189	5%	1	1338	55%	2			0%			0%			0%			0%	
Arterial Street	0	0%		0	313	3%	1	1343	13%		441	100%	1		0%			0%	
Collector Street	0	0%			313	13%	1		0%			0%			0%			0%	
Residential Street	0	0%			763	32%	2	759	100%			0%			0%			0%	
District Rank Subtotal	189		1	2414		5	759		0	441		1	0		0	0	0	0	0
Warehouse Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%			0%			0%			0%			0%	
Collector Street			0%			0%			0%			0%			0%			0%	
Residential Street			0%			0%			0%			0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West University Historic District																			
Gateway Arterial Street (length in ft)			0%			0%			0%			0%			0%			0%	
Arterial Street			0%			0%		2982	100%	2	3236	100%	2	4049	100%	3		0%	
Collector Street			0%			0%			0%			0%			0%			0%	
Residential Street			0%			0%			0%			0%			0%			0%	
District Rank Subtotal	0		0	0	0	0	2982		2	3236		2	4049		3	0		0	0
SUMMARY OF STREET DESIGNATIONS																			
Gateway Arterial Street (length in ft)	8335	99%	10	1338	14%	2	0	0%	0	0	0%	0	0	0%	0	4710	29%	6	5
Arterial Street	0	0%	0	2632	28%	4	4283	40%	4	6821	84%	5	11157	89%	7	9642	60%	5	5
Collector Street	0	0%	0	313	3%	1	1343	13%	2	1345	16%	2	1374	11%	2	178	1%	0	0
Residential Street	67	1%	0	5218	55%	12	5020	47%	4	0	0%	0	0	0%	0	1600	10%	4	0
Route Rank Subtotal	8402		11	9501		19	10646		10	8166		7	12531		9	16130			

KINO TABLE 3		Routes from Kino to Vine																
Historic Districts with 1 vs 2 sides of the Route																		
	Route 1		Route 2		Route 3		Route 4		Route 5		Route 6							
	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank			
All Districts																		
Length of Route with historic district on 1 side	1448	62%	1	513	29%	1	4410	41%	3	3778	52%	3	1374	13%	1	5387	33%	4
Length of Route with historic district on 2 sides	884	38%	1	1273	71%	4	6332	59%	7	3482	48%	5	9572	87%	8	10842	67%	9
Total Length of Route with historic district on 1 or 2 sides	2332			1786			10742			7260			10946			16229		
Route Rank Subtotal			2			5			10			8			9			13



## KINO TABLE 4 (1 of 2)

[illegible]

KINO TABLE 4 (2 of 2)		Routes from Kino to Vine																							
Existing Power Poles on Route	# of Poles	Route 1				Route 2				Route 3				Route 4				Route 5				Route 6			
		30'-39'	40'-49'	50'-59'	60'-69'	70'-79'	80'-89'	90'-100'	unknown height	30'-39'	40'-49'	50'-59'	60'-69'	70'-79'	80'-89'	90'-100'	unknown height	30'-39'	40'-49'	50'-59'	60'-69'	70'-79'	80'-89'	90'-100'	unknown height
Sam Hughes Residential Historic District		0	2	15	2	0	0	0	0	7	23	1	0	0	0	0	2								
	Total # of Poles	19				33				0				0				0				0			
	District Rank	5				3				0				0				0				0			
Sunshine Mile Historic District		0	2	1	2	0	0	0	0	1	5	8	5	0	0	0	0								
	Total # of Poles	5				19				4				2				0				0			
	District Rank	1				1				1				1				0				0			
Warehouse Historic District																									
	Total # of Poles	0				0				0				0				0				0			
	District Rank	0				0				0				0				5				5			
West University Historic District																									
	Total # of Poles	0				0				0				0				0				0			
	District Rank	0				0				0				4				10				10			
SUMMARY																									
	Total # of Poles	52				56				77				42				8				50			
	Rank Summary by Route	17				19				31				22				35				36			

KINO TABLE 5		Routes from Kino to Vine																	
Historic Light fixtures in 800' Route Buffer		Route 1			Route 2			Route 3			Route 4			Route 5			Route 6		
	# of Lights	%	Rank	# of Lights	%	Rank	# of Lights	%	Rank	# of Lights	%	Rank	# of Lights	%	Rank	# of Lights	%	Rank	
Armory Park Historic District		0%			0%			0%			0%			0%			0%		
Blennan-Elm Historic District		0%			0%			0%			0%			0%			0%		
Broadmoor Historic District		0%			0%			0%			0%			0%			0%		
Catalina Vista Historic District		0%			0%			0%			0%			0%			0%		
Downtown Tucson Historic District		0%			0%			0%			0%		1	1%	0		0%		
El Presidio Historic District		0%			0%			0%			0%		2	2%	1	2	3%	1	
Feldman's Historic District		0%			0%			0%			0%			0%			0%		
Fourth Avenue Historic District		0%			0%			0%			0%			0%			0%		
Iron Horse Expansion Historic District		0%			0%			0%		2	4%	1	2	7%	1		0%		
Jefferson Park Historic District		0%			0%			0%			0%			0%			0%		
John Spring Neighborhood Historic District		0%			0%			0%			0%		6	7%	1	6	9%	1	
Miracle Mile Historic District		0%			0%			0%			0%			0%		10	14%	1	
Ple Allen Residential Historic District		0%			0%			12%	1	6				0%			0%		
Rincon Heights Historic District		0%			0%			0%			0%			0%			0%		
Sam Hughes Residential Historic District	12	75%	2	11	100%	2		0%			0%			0%			0%		
Sunshine Mile Historic District		0%			0%			0%			0%			0%			0%		
Warehouse Historic District		0%			0%			0%			0%		14	16%	1	14	20%	1	
West University Historic District		0%			0%			25	49%	2	27	93%	3	37	43%	3	17	24%	1
Outside of Historic District	4	25%	1		0%		18	35%	1	5	29	0%	26	30%	2	21	30%	2	
Total # of Lights	16		3	11		2	51		2	5	29	4	86		8	70		7	
Route Rank Subtotal			3			2			5			4			8			7	

KINO TABLE 6 (1 of 4)

Historic Contributing Properties in 800' Route Buffer

Routes from Kino to Vine

Route 1		Route 2		Route 3		Route 4		Route 5		Route 6	
# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank
Amory Park Historic District											
Number of properties Individually Listed											
Number of landmark properties											
Number of properties built between pre 1919											
Number of properties built between 1920 to 1949											
Number of properties built between 1950 to 1969											
Number of properties post 1970											
Number of properties Date Unknown											
Total of all Contributing properties per District											
District Rank Subtotal											
Blennan-Elm Historic District											
Number of properties Individually Listed											
Number of landmark properties											
Number of properties built between pre 1919											
Number of properties built between 1920 to 1949											
Number of properties built between 1950 to 1969											
Number of properties post 1970											
Number of properties Date Unknown											
Total of all Contributing properties per District											
District Rank Subtotal											
Broadmoor Historic District											
Number of properties Individually Listed											
Number of landmark properties											
Number of properties built between pre 1919											
Number of properties built between 1920 to 1949											
Number of properties built between 1950 to 1969											
Number of properties post 1970											
Number of properties Date Unknown											
Total of all Contributing properties per District											
District Rank Subtotal											
Catalina Vista Historic District											
Number of properties Individually Listed											
Number of landmark properties											
Number of properties built between pre 1919											
Number of properties built between 1920 to 1949											
Number of properties built between 1950 to 1969											
Number of properties post 1970											
Number of properties Date Unknown											
Total of all Contributing properties per District											
District Rank Subtotal											
Downtown Tucson Historic District											
Number of properties Individually Listed											
Number of landmark properties											
Number of properties built between pre 1919											
Number of properties built between 1920 to 1949											
Number of properties built between 1950 to 1969											
Number of properties post 1970											
Number of properties Date Unknown											
Total of all Contributing properties per District											
District Rank Subtotal											

KINO TABLE 6 (2 of 4)				Routes from Kino to Vine										
Historic Contributing Properties in 800' Route Buffer														
Route 1		Route 2		Route 3		Route 4		Route 5		Route 6				
# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	Rank	
EI Presidio Historic District														
Number of properties Individually Listed		0%					0%			0%			0%	
Number of landmark properties		0%					0%			0%			0%	
Number of properties built between pre 1919		0%					0%		2	50%	1	2	0%	
Number of properties built between 1920 to 1949		0%					0%			0%			0%	
Number of properties built between 1950 to 1969		0%					0%			0%			0%	
Number of properties post 1970		0%					0%		2	50%	0	2	50%	
Number of properties Date Unknown		0%					0%			0%			0%	
Total of all Contributing properties per District	0		0		0		0		4		1	4		
District Rank Subtotal		0		0		0		0			1	1	1	
Feldman's Historic District														
Number of properties Individually Listed		0%				1	1%	3	1	0%	3		0%	
Number of landmark properties		0%					0%			0%			0%	
Number of properties built between pre 1919		0%				6	4%	1	6	4%	1	16	6%	
Number of properties built between 1920 to 1949		0%				112	78%	3	112	78%	3	203	80%	
Number of properties built between 1950 to 1969		0%				14	10%	1	14	10%	1	23	9%	
Number of properties post 1970		0%					7%	1	10	7%	1	12	5%	
Number of properties Date Unknown		0%					0%			0%			0%	
Total of all Contributing properties per District	0		0		143		143		255		15		0%	
District Rank Subtotal		0		0		9		9			10		3	
Fourth Avenue Historic District														
Number of properties Individually Listed		0%					0%			0%			0%	
Number of landmark properties		0%					0%			0%			0%	
Number of properties built between pre 1919		0%					0%			0%			0%	
Number of properties built between 1920 to 1949		0%					0%			0%			0%	
Number of properties built between 1950 to 1969		0%					0%			0%			0%	
Number of properties post 1970		0%					0%			0%			0%	
Number of properties Date Unknown		0%					0%		7	100%	1	7	100%	
Total of all Contributing properties per District	0		0		0		0		7		7		1	
District Rank Subtotal		0		0		0		0			1		1	
Iron Horse Expansion Historic District														
Number of properties Individually Listed		0%					0%			2%	2	1	2%	
Number of landmark properties		0%					0%			0%			0%	
Number of properties built between pre 1919		0%				6	55%	1	33	43%	3	40	68%	
Number of properties built between 1920 to 1949		0%				4	36%	1	41	53%	2	18	31%	
Number of properties built between 1950 to 1969		0%					0%		1	1%			0%	
Number of properties post 1970		0%				1	9%	0	2	3%	1		0%	
Number of properties Date Unknown		0%					0%			0%			0%	
Total of all Contributing properties per District	0		0		11		77		59		59		0%	
District Rank Subtotal		0		0		2		7			7		7	
Jefferson Park Historic District														
Number of properties Individually Listed		0%					0%			0%			0%	
Number of landmark properties		0%					0%			0%			0%	
Number of properties built between pre 1919		0%					0%			0%			0%	
Number of properties built between 1920 to 1949	60	56%	3	22	39%	2	22	39%	2	22	39%	2	175	57%
Number of properties built between 1950 to 1969	44	41%	2	30	54%	2	30	54%	2	30	54%	2	119	39%
Number of properties post 1970	4	4%	1	4	7%	1	4	7%	1	4	7%	1	13	4%
Number of properties Date Unknown		0%					0%			0%			0%	
Total of all Contributing properties per District	108			56		56		56		56		308		0
District Rank Subtotal			6		5		5		5		5		9	9



KINO TABLE 6 (3 of 4)													
Routes from Kino to Vine													
Historic Contributing Properties in 800' Route Buffer													
John Spring Neighborhood Historic District													
	Route 1		Route 2		Route 3		Route 4		Route 5		Route 6		
	# of Prop	%	# of Prop	%	# of Prop	%	# of Prop	%	# of Prop	%	# of Prop	%	Rank
Number of properties Individually Listed		0%		0%		0%		0%		0%		0%	
Number of landmark properties		0%		0%		0%		0%		0%		0%	
Number of properties built between pre 1919		0%		0%		0%		0%		0%		0%	
Number of properties built between 1920 to 1949		0%		0%		0%		0%		0%		0%	
Number of properties built between 1950 to 1969		0%		0%		0%		0%		0%		0%	
Number of properties built between 1970 to 1989		0%		0%		0%		0%		0%		0%	
Number of properties post 1990		0%		0%		0%		0%		0%		0%	
Number of properties Date Unknown		0%		0%		0%		0%		0%		0%	
Total of all Contributing properties per District	0		0		0		0		0		0		
District Rank Subtotal													6
Miracle Mile Historic District													
Number of properties Individually Listed		0%		0%		0%		0%		0%		0%	
Number of landmark properties		0%		0%		0%		0%		0%		0%	
Number of properties built between pre 1919		0%		0%		0%		0%		0%		0%	
Number of properties built between 1920 to 1949		0%		0%		0%		0%		0%		0%	
Number of properties built between 1950 to 1969		0%		0%		0%		0%		0%		0%	
Number of properties built between 1970 to 1989		0%		0%		0%		0%		0%		0%	
Number of properties post 1990		0%		0%		0%		0%		0%		0%	
Number of properties Date Unknown		0%		0%		0%		0%		0%		0%	
Total of all Contributing properties per District	0		0		0		0		0		0		
District Rank Subtotal													2
Pie Allen Residential Historic District													
Number of properties Individually Listed		0%		0%		0%		0%		0%		0%	
Number of landmark properties		0%		0%		0%		0%		0%		0%	
Number of properties built between pre 1919		0%		0%		0%		0%		0%		0%	
Number of properties built between 1920 to 1949		0%		0%		0%		0%		0%		0%	
Number of properties built between 1950 to 1969		0%		0%		0%		0%		0%		0%	
Number of properties built between 1970 to 1989		0%		0%		0%		0%		0%		0%	
Number of properties post 1990		0%		0%		0%		0%		0%		0%	
Number of properties Date Unknown		0%		0%		0%		0%		0%		0%	
Total of all Contributing properties per District	0		0		0		0		0		0		
District Rank Subtotal													1
Rincon Heights Historic District													
Number of properties Individually Listed		0%		0%		0%		0%		0%		0%	
Number of landmark properties		0%		0%		0%		0%		0%		0%	
Number of properties built between pre 1919		0%		0%		0%		0%		0%		0%	
Number of properties built between 1920 to 1949		0%		0%		0%		0%		0%		0%	
Number of properties built between 1950 to 1969		0%		0%		0%		0%		0%		0%	
Number of properties built between 1970 to 1989		0%		0%		0%		0%		0%		0%	
Number of properties post 1990		0%		0%		0%		0%		0%		0%	
Number of properties Date Unknown		0%		0%		0%		0%		0%		0%	
Total of all Contributing properties per District	0		0		0		0		0		0		
District Rank Subtotal													0
Sam Hughes Residential Historic District													
Number of properties Individually Listed		0%		0%		0%		0%		0%		0%	
Number of landmark properties		0%		0%		0%		0%		0%		0%	
Number of properties built between pre 1919		0%		0%		0%		0%		0%		0%	
Number of properties built between 1920 to 1949		0%		0%		0%		0%		0%		0%	
Number of properties built between 1950 to 1969		0%		0%		0%		0%		0%		0%	
Number of properties built between 1970 to 1989		0%		0%		0%		0%		0%		0%	
Number of properties post 1990		0%		0%		0%		0%		0%		0%	
Number of properties Date Unknown		0%		0%		0%		0%		0%		0%	
Total of all Contributing properties per District	221		519		10		31		0		0		0
District Rank Subtotal													0

KINO TABLE 6 (4 of 4)													
Routes from Kino to Vine													
Historic Contributing Properties in 800' Route Buffer													
	Route 1		Route 2		Route 3		Route 4		Route 5		Route 6		Rank
	# of Prop	%	# of Prop	%	# of Prop	%	# of Prop	%	# of Prop	%	# of Prop	%	
Sunshine Mile Historic District													
Number of properties Individually Listed		0%		0%		0%		0%		0%			0%
Number of landmark properties		0%		0%		0%		0%		0%			0%
Number of properties built between pre 1919		0%		0%		0%		0%		0%			0%
Number of properties built between 1920 to 1949	1	14%	1	15	18%	1	8	50%	1	100%	0	1	100%
Number of properties built between 1950 to 1969	6	86%	1	64	76%	4	7	44%	1	2	100%	0	1
Number of properties post 1970		0%		3	4%	1		0%		0%			0%
Number of properties Date Unknown		0%		2	2%	1	1	6%	0				0%
Total of all Contributing properties per District	7			84		16		2		1		1	
District Rank Subtotal			2		7		2		0		0		0
Warehouse Historic District													
Number of properties Individually Listed		0%		0%		0%		0%		3		3	6%
Number of landmark properties		0%		0%		0%		0%		0%			0%
Number of properties built between pre 1919		0%		0%		0%		0%		19		19	40%
Number of properties built between 1920 to 1949		0%		0%		0%		0%		23		23	49%
Number of properties built between 1950 to 1969		0%		0%		0%		0%		1		1	2%
Number of properties post 1970		0%		0%		0%		0%		0%			0%
Number of properties Date Unknown		0%		0%		0%		0%		1		1	2%
Total of all Contributing properties per District	0		0		0		0		0	47		47	
District Rank Subtotal			0				0		0		7		7
West University Historic District													
Number of properties Individually Listed		0%		0%		0%		0%					0%
Number of landmark properties		0%		0%		0%		0%					0%
Number of properties built between pre 1919		0%		0%		0%	87	45%	5	111		7	47
Number of properties built between 1920 to 1949		0%		0%		0%	94	48%	4	126		7	40
Number of properties built between 1950 to 1969		0%		0%		0%	4	2%	0	10		4	2%
Number of properties post 1970		0%		0%		0%	9	5%	1	15		1	2
Number of properties Date Unknown		0%		0%		0%		0%					0%
Total of all Contributing properties per District	0		0		0		194		11	262		91	
District Rank Subtotal			0						10		16		6
SUMMARY OF CONTRIBUTING PROPERTIES													
Number of properties Individually Listed	0	0%	0	0%	0	0%	3	1	0%	10	1%	9	8
Number of landmark properties	0	0%	0	0%	0	0%	0	0	0%	0	0%	0	0
Number of properties built between pre 1919		0%	0	1	0%	1	136	16%	10	176	28%	12	245
Number of properties built between 1920 to 1949	340	58%	17	477	62%	16	435	53%	18	369	59%	16	489
Number of properties built between 1950 to 1969	145	25%	10	258	34%	17	84	10%	7	56	9%	5	81
Number of properties post 1970	16	3%	3	32	4%	6	32	4%	5	28	4%	3	39
Number of properties Date Unknown		83	14%	3	2	0%	1	140	17%	4	0	8	1%
Total of all Contributing properties per District	584		3	770		10	828		0	872		0	803
Route Rank Subtotal			36			51		47		41		63	
													57

KINO TABLE 7 (1 of 2)		Routes from Kino to Vine													
Access of Historic Contributing Properties along Route															
	Route 1		Route 2		Route 3		Route 4		Route 5		Route 6				
	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank
Armory Park Historic District															
Contributing properties: face the route & access directly from route		0%			0%			0%			0%			0%	
Contributing properties whose side of the structure face the route		0%			0%			0%			0%			0%	
Total Contributing properties directly on the route	0			0		0	0		0	0		0			
District Rank Subtotal			0			0			0			0			0
Blennan-Elm Historic District															
Contributing properties: face the route & access directly from route	9	82%	1	9	90%	1		0%			0%			0%	
Contributing properties whose side of the structure face the route	2	18%	1	1	10%	1		0%			0%			0%	
Total Contributing properties directly on the route	11		2	10		2	0		0	0		0			0
District Rank Subtotal			4			4			0			0			0
Broadmoor Historic District															
Contributing properties: face the route & access directly from route		0%			0%			0%			0%			0%	
Contributing properties whose side of the structure face the route		0%			0%			0%			0%			0%	
Total Contributing properties directly on the route	0			0		0	0		0	0		0			0
District Rank Subtotal			0			0			0			0			0
Catalina Vista Historic District															
Contributing properties: face the route & access directly from route	2	100%	1		0%			0%			0%		20	95%	2
Contributing properties whose side of the structure face the route	0	0%	0		0%			0%			0%		1	5%	0
Total Contributing properties directly on the route	2		1	0		0	0		0	1		21	1		3
District Rank Subtotal			2			0			0			0			3
Downtown Tucson Historic District															
Contributing properties: face the route & access directly from route		0%			0%			0%			0%			0%	
Contributing properties whose side of the structure face the route		0%			0%			0%			0%			0%	
Total Contributing properties directly on the route	0			0		0	0		0	0		0			0
District Rank Subtotal			0			0			0			0			0
El Presidio Historic District															
Contributing properties: face the route & access directly from route		0%			0%			0%			0%			0%	
Contributing properties whose side of the structure face the route		0%			0%			0%			0%			0%	
Total Contributing properties directly on the route	0			0		0	0		0	0		0			0
District Rank Subtotal			0			0			0			0			0
Feldman's Historic District															
Contributing properties: face the route & access directly from route		0%			0%		1	6	75%	1	31	91%	3		0%
Contributing properties whose side of the structure face the route		0%			0%		2	25%	1	2	3	9%	1		0%
Total Contributing properties directly on the route	0			0		8	1	8		1	34		3	0	
District Rank Subtotal			0			0		3		3		7			0
Fourth Avenue Historic District															
Contributing properties: face the route & access directly from route		0%			0%				0%			0%			0%
Contributing properties whose side of the structure face the route		0%			0%				0%			0%			0%
Total Contributing properties directly on the route	0			0		0	0		0	0		0			0
District Rank Subtotal			0			0			0			0			0
Iron Horse Expansion Historic District															
Contributing properties: face the route & access directly from route		0%			0%		6	86%	1			0%			0%
Contributing properties whose side of the structure face the route		0%			0%		1	14%	1			0%			0%
Total Contributing properties directly on the route	0			0		0	7		1	0		0			0
District Rank Subtotal			0			0		3		0		0			0
Jefferson Park Historic District															
Contributing properties: face the route & access directly from route	19	95%	2		0%			0%			0%		43	72%	4
Contributing properties whose side of the structure face the route	1	5%	1		0%			0%			0%		17	28%	2
Total Contributing properties directly on the route	20		2	0		0	0		0	0		60			3
District Rank Subtotal			5			0			0			0			9

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KINO TABLE 7 (2 of 2)				Routes from Kino to Vine																	
Access of Historic Contributing Properties along Route				Route 1			Route 2			Route 3			Route 4			Route 5			Route 6		
		# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank		
John Spring Neighborhood Historic District																					
Contributing properties: face the route & access directly from route					0%			0%			0%			0%			0%		0%		
Contributing properties whose side of the structure face the route					0%			0%			0%			0%			0%		0%		
Total Contributing properties directly on the route				0			0			0			0			0		0			
District Rank Subtotal							0			0			0			0		0			
Miracle Mile Historic District																					
Contributing properties: face the route & access directly from route					0%			0%			0%			13	87%	1	18	86%	1		
Contributing properties whose side of the structure face the route					0%			0%			0%			2	13%	1	3	14%	1		
Total Contributing properties directly on the route				0			0			0			0		15		1	21			
District Rank Subtotal							0			0			0			3		3			
Pie Allen Residential Historic District																					
Contributing properties: face the route & access directly from route					0%			0%		35	90%	4	12	75%	1				0%		
Contributing properties whose side of the structure face the route					0%			0%		4	10%	1	4	25%	1				0%		
Total Contributing properties directly on the route				0			0			39		3	16		1	0		0			
District Rank Subtotal							0					8		3		0		0			
Rincon Heights Historic District																					
Contributing properties: face the route & access directly from route				0	0%		0	0%		20	71%	2			0%				0%		
Contributing properties whose side of the structure face the route				9	100%	1		0%		8	29%	1		0%			0%		0%		
Total Contributing properties directly on the route				9			1	0		28		2	0		0		0		0		
District Rank Subtotal							2			0		5		0		0		0			
Sam Hughes Residential Historic District																					
Contributing properties: face the route & access directly from route				13	52%	1	20	43%	7		0%				0%				0%		
Contributing properties whose side of the structure face the route				12	48%	1	26	57%	5		0%			0%					0%		
Total Contributing properties directly on the route				25			3	46		10		0		0		0		0			
District Rank Subtotal							5			22			0		0		0		0		
Sunshine Mile Historic District																					
Contributing properties: face the route & access directly from route					0%		0	15	100%	2	0	0%	0	1	100%	1			0%		
Contributing properties whose side of the structure face the route					0%		0	0	0%	0	2	100%	1	0	0%				0%		
Total Contributing properties directly on the route				0			0	15		2	2		0	1		0		0			
District Rank Subtotal							0			4			1		1		0		0		
Warehouse Historic District																					
Contributing properties: face the route & access directly from route					0%				0%					2	40%	1	2	40%	1		
Contributing properties whose side of the structure face the route					0%				0%					3	60%	0	3	60%	0		
Total Contributing properties directly on the route				0			0			0		0		0		5		0			
District Rank Subtotal							0			0			0		1		1		1		
West University Historic District																					
Contributing properties: face the route & access directly from route					0%				0%		24	80%	2	24	80%	2	29	94%	2	1	
Contributing properties whose side of the structure face the route					0%				0%		6	20%	1	6	20%	1	2	6%	1		
Total Contributing properties directly on the route				0			0				30		3	30		3	31		3		
District Rank Subtotal							0			0		6			6		6		1		
SUMMARY OF ACCESS DIRECTLY FROM ROUTE																					
Contributing properties: face the route & access directly from route				43	64%	5	44	62%	10	85	79%	9	49	79%	6	75	88%	7	84	76%	
Contributing properties whose side of the structure face the route				24	36%	4	27	38%	6	22	21%	5	13	21%	4	10	12%	3	26	24%	
Total Contributing properties directly on the route				67		9	71		14	107		9	62		6	85		7	110		
Route Rank Subtotal						18			30			23			16		17		17		

KINO TABLE 8		Routes from Kino to Vine																
Historic Landmark Signs in 800' Route Buffer																		
	Route 1			Route 2			Route 3			Route 4			Route 5			Route 6		
	# of Landmarks	%	Rank	# of Landmarks	%	Rank	# of Landmarks	%	Rank	# of Landmarks	%	Rank	# of Landmark	%	Rank	# of Landmarks	%	Rank
Armory Park Historic District		0%			0%			0%			0%			0%			0%	
Blennan-Elm Historic District		0%			0%			0%			0%			0%			0%	
Broadmoor Historic District		0%			0%			0%			0%			0%			0%	
Catalina Vista Historic District		0%			0%			0%			0%			0%			0%	
Downtown Tucson Historic District		0%			0%			0%			0%		1	100%	1	1	17%	1
El Presidio Historic District		0%			0%			0%			0%			0%			0%	
Feldman's Historic District		0%			0%			0%			0%			0%			0%	
Fourth Avenue Historic District		0%			0%			0%			0%			0%			0%	
Iron Horse Expansion Historic District		0%			0%			0%			0%			0%			0%	
Jefferson Park Historic District		0%			0%			0%			0%			0%			0%	
John Spring Neighborhood Historic District		0%			0%			0%			0%			0%			0%	
Miracle Mile Historic District		0%			0%			0%			0%			0%		5	83%	2
Pie Allen Residential Historic District		0%			0%			0%			0%			0%			0%	
Rincon Heights Historic District		0%			0%			0%			0%			0%			0%	
Sam Hughes Residential Historic District		0%			0%			0%			0%			0%			0%	
Sunshine Mile Historic District		0%			0%			0%			0%			0%			0%	
Warehouse Historic District		0%			0%			0%			0%			0%			0%	
West University Historic District		0%			0%			0%			0%			0%			0%	
Outside of Historic District		0%			0%			0%			0%			0%			0%	
# of Historic Landmark Signs	0		0	0		0	0		0	0		0	1		1	6		3
Route Rank Subtotal			0			0			0			0			1			3



KINO TABLE 9 (1 of 2)		Routes from Kino to Vine					
Historic Architectural Analysis							
	Route 1	Route 2	Route 3	Route 4	Route 5	Route 6	
	Rank	Rank	Rank	Rank	Rank	Rank	
Armory Park Historic District							
Historic district integrity				0	0		0
Scale of the street adjacent to historic district				0	0		0
Scale of adjacent historic & non-historic structures along route				0	0		0
Size of historic district impacted				1	1		1
Historic Architectural Impression				0	0		0
District Rank Subtotal	0	0	0	1	1		1
Blenman-Elm Historic District							
Historic district integrity	8	8					
Scale of the street adjacent to historic district	1	4					
Scale of adjacent historic & non-historic structures along route	2	6					
Size of historic district impacted	2	6					
Historic Architectural Impression	3	7					
District Rank Subtotal	16	31	0	0	0		0
Broadmoor Historic District							
Historic district integrity		1					
Scale of the street adjacent to historic district		2					
Scale of adjacent historic & non-historic structures along route		2					
Size of historic district impacted		1					
Historic Architectural Impression		2					
District Rank Subtotal	0	8	0	0	0		0
Catalina Vista Historic District							
Historic district integrity	1						
Scale of the street adjacent to historic district	1						
Scale of adjacent historic & non-historic structures along route	1						
Size of historic district impacted	1						
Historic Architectural Impression	1						
District Rank Subtotal	5	0	0	0	0		0
Downtown Tucson Historic District							
Historic district integrity					1		1
Scale of the street adjacent to historic district					0		0
Scale of adjacent historic & non-historic structures along route					0		0
Size of historic district impacted					1		1
Historic Architectural Impression					1		1
District Rank Subtotal	0	0	0	0	3		3
El Presidio Historic District							
Historic district integrity					1		1
Scale of the street adjacent to historic district					0		0
Scale of adjacent historic & non-historic structures along route					0		0
Size of historic district impacted					0		0
Historic Architectural Impression					1		1
District Rank Subtotal	0	0	0	0	2		2
Feldman's Historic District							
Historic district integrity			3	3	4		4
Scale of the street adjacent to historic district			4	4	5		5
Scale of adjacent historic & non-historic structures along route			3	3	4		4
Size of historic district impacted			2	2	5		6
Historic Architectural Impression			4	4	5		5
District Rank Subtotal	0	0	16	16	23		24
Fourth Avenue Historic District							
Historic district integrity					1		1
Scale of the street adjacent to historic district					0		0
Scale of adjacent historic & non-historic structures along route					0		0
Size of historic district impacted					0		1
Historic Architectural Impression					1		1
District Rank Subtotal	0	0	0	0	2		3
Iron Horse Expansion Historic District							
Historic district integrity			1	3	1		1
Scale of the street adjacent to historic district			1	4	1		1
Scale of adjacent historic & non-historic structures along route			1	4	1		1
Size of historic district impacted			1	5	1		1
Historic Architectural Impression			1	5	1		1
District Rank Subtotal	0	0	5	21	5		5
Jefferson Park Historic District							
Historic district integrity	1	1	1	1	1		2
Scale of the street adjacent to historic district	2	1	1	1	1		8
Scale of adjacent historic & non-historic structures along route	1	1	1	1	1		6
Size of historic district impacted	1	1	1	1	1		8
Historic Architectural Impression	2	1	1	1	1		4
District Rank Subtotal	7	5	5	5	5		28
John Spring Neighborhood Historic District							
Historic district integrity					3		3
Scale of the street adjacent to historic district					0		0
Scale of adjacent historic & non-historic structures along route					2		2
Size of historic district impacted					4		4
Historic Architectural Impression					3		3
District Rank Subtotal	0	0	0	0	12		12

KINO TABLE 9 (2 of 2)		Routes from Kino to Vine					
Historic Architectural Analysis							
	Route 1	Route 2	Route 3	Route 4	Route 5	Route 6	
	Rank	Rank	Rank	Rank	Rank	Rank	Rank
Miracle Mile Historic District							
Historic district integrity					1		1
Scale of the street adjacent to historic district					1		1
Scale of adjacent historic & non-historic structures along route					2		2
Size of historic district impacted					1		2
Historic Architectural Impression					1		1
District Rank Subtotal	0	0	0	0	6		7
Pie Allen Residential Historic District							
Historic district integrity			4	4			
Scale of the street adjacent to historic district			7	4			
Scale of adjacent historic & non-historic structures along route			5	3			
Size of historic district impacted			3	3			
Historic Architectural Impression			4	3			
District Rank Subtotal	0	0	23	17	0		0
Rincon Heights Historic District							
Historic district integrity	3		5				
Scale of the street adjacent to historic district	1		4				
Scale of adjacent historic & non-historic structures along route	5		4				
Size of historic district impacted	4		4				
Historic Architectural Impression	4		3				
District Rank Subtotal	17	0	20	0	0		0
Sam Hughes Residential Historic District							
Historic district integrity	9	10					
Scale of the street adjacent to historic district	1	10					
Scale of adjacent historic & non-historic structures along route	5	10					
Size of historic district impacted	3	10					
Historic Architectural Impression	5	10					
District Rank Subtotal	23	50	0	0	0		0
Sunshine Mile Historic District							
Historic district integrity	1	3	1	1			
Scale of the street adjacent to historic district	1	3	1	0			
Scale of adjacent historic & non-historic structures along route	1	3	1	0			
Size of historic district impacted	1	3	1	1			
Historic Architectural Impression	1	3	1	1			
District Rank Subtotal	5	15	5	3	0		0
Warehouse Historic District							
Historic district integrity					3		3
Scale of the street adjacent to historic district					1		1
Scale of adjacent historic & non-historic structures along route					1		1
Size of historic district impacted					4		4
Historic Architectural Impression					2		2
District Rank Subtotal	0	0	0	0	11		11
West University Historic District							
Historic district integrity			8	8	8		8
Scale of the street adjacent to historic district			5	5	5		5
Scale of adjacent historic & non-historic structures along route			1	1	1		1
Size of historic district impacted			4	4	6		4
Historic Architectural Impression			5	5	5		5
District Rank Subtotal	0	0	23	23	25		23
Outside of Historic District							
Historic district integrity	5		5	5	5		
Scale of the street adjacent to historic district	3		1	1	1		
Scale of adjacent historic & non-historic structures along route	3		1	1	1		
Size of historic district impacted	0		0	0	0		
Historic Architectural Impression	5		3	3	3		
District Rank Subtotal	16	0	10	10	10		0
SUMMARY OF HISTORIC ARCHITECTURAL RANKING							
Historic district integrity	28	23	28	25	29		25
Scale of the street adjacent to historic district	10	20	24	19	15		21
Scale of adjacent historic & non-historic structures along route	18	22	17	13	13		17
Size of historic district impacted	12	21	16	17	24		32
Historic Architectural Impression	21	23	22	22	24		24
Route Rank Total	89	109	107	96	105		119

# XI. DeMoss-Petrie Substation to Vine Substation Tables

**DMP Table A:** Bisecting versus Bordering Historic Districts

**DMP Table B:** Street Designation

**DMP Table C:** Historic Districts with 1 versus 2 Sides of the Route

**DMP Table D:** Existing Power Poles Located on Route

**DMP Table E:** Historic Light Fixtures within 800' Route Buffer

**DMP Table F:** Historic Contributing Properties in 800' Route Buffer

**DMP Table G:** Access of Historic Contributing Properties along Route

**DMP Table H:** Historic Landmark Signs

**DMP Table I:** Historic Architectural Criteria

DMP TABLE A		Routes from DeMoss-Petrie to Vine											
Bisecting vs Bordering Historic Districts		Route A			Route B			Route C			Route D		
		Feet	%	Rank	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank
<b>Blenman-Elm Historic District</b>													
Bisecting Historic District			0%			0%			0%		0	0%	
Bordering Historic District			0%			0%			0%		190	100%	1
Bisecting + Bordering		0			0			0			190		
District Rank Subtotal				0			0			0			1
<b>Catalina Vista Historic District</b>													
Bisecting Historic District			0%			0%			0%		0	0%	
Bordering Historic District			0%			0%			0%		2355	100%	2
Bisecting + Bordering		0			0			0			2355		
District Rank Subtotal				0			0			0			2
<b>Feldman's Historic District</b>													
Bisecting Historic District			0%			0%			0%			0%	
Bordering Historic District			0%		127	100%	1	3553	100%	3		0%	
Bisecting + Bordering		0			127			3553			0		
District Rank Subtotal				0			1			3			0
<b>Jefferson Park Historic District</b>													
Bisecting Historic District		2489	42%	4	191	7%	1		0%		1442	16%	2
Bordering Historic District		3438	58%	4	2383	93%	2		0%		7744	84%	4
Bisecting + Bordering		5927			2574			0			9186		
District Rank Subtotal				8			3			0			6
<b>Miracle Mile Historic District</b>													
Bisecting Historic District		129	100%	1		0%		4013	100%	5	126	100%	1
Bordering Historic District		0	0%			0%		0	0%		0	0%	
Bisecting + Bordering		129			0			4013			126		
District Rank Subtotal				1			0			5			1
<b>West University Historic District</b>													
Bisecting Historic District			0%			0%			0%			0%	
Bordering Historic District			0%			0%		4012	100%	4		0%	
Bisecting + Bordering		0			0			4012			0		
District Rank Subtotal				0			0			4			0
<b>SUMMARY OF BISECTING &amp; BORDERING</b>													
Bisecting Historic District		2618	43%	5	191	7%	1	4013	35%	5	1568	13%	3
Bordering Historic District		3438	57%	4	2510	93%	3	7565	65%	7	10289	87%	7
Bisecting + Bordering		6056		0	2701		0	11578		0	11857		0
Route Rank Subtotal				9			4			12			10

DMP TABLE B				Routes from DeMoss-Petrie to Vine											
Street Designation															
	Route A			Route B			Route C			Route D					
	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank			
Blenman-Elm Historic District															
Gateway Arterial Street (length in ft)		0%			0%			0%		190	100%		1		
Arterial Street		0%			0%			0%		0	0%				
Collector Street		0%			0%			0%		0	0%				
Residential Street		0%			0%			0%		0	0%				
District Rank Subtotal	0		0	0	0	0	0		0	190			1		
Catalina Vista Historic District															
Gateway Arterial Street (length in ft)		0%			0%			0%		2355	100%		3		
Arterial Street		0%			0%			0%		0	0%				
Collector Street		0%			0%			0%		0	0%				
Residential Street		0%			0%			0%		0	0%				
District Rank Subtotal	0		0	0	0	0	0		0	2355			3		
Feldman's Historic District															
Gateway Arterial Street (length in ft)		0%			0%			0%			0%				
Arterial Street		0%			0%		2210	62%	1		0%				
Collector Street		0%		127	100%	1	1343	38%	1		0%				
Residential Street		0%			0%			0%			0%				
District Rank Subtotal	0		0	127		1	3553		2	0			0		
Jefferson Park Historic District															
Gateway Arterial Street (length in ft)	0	0%			0%			0%		2355	26%		3		
Arterial Street	3438	58%	1	1253	49%	1		0%		5052	56%		1		
Collector Street	0	0%		1321	51%	1		0%		0	0%		0		
Residential Street	2489	42%	8		0%			0%		1609	18%		4		
District Rank Subtotal	5927		9	2574		2	0		0	9016			8		
Miracle Mile Historic District															
Gateway Arterial Street (length in ft)		0%		0	0%			0%			0%				
Arterial Street	128	100%	1	128	100%	1	1693	100%	2	126	100%		1		
Collector Street		0%		0	0%			0%			0%				
Residential Street		0%		0	0%			0%			0%				
District Rank Subtotal	128		1	128		1	1693		2	126			1		
West University Historic District															
Gateway Arterial Street (length in ft)		0%			0%			0%			0%				
Arterial Street		0%			0%		4013	100%	2		0%				
Collector Street		0%			0%			0%			0%				
Residential Street		0%			0%			0%			0%				
District Rank Subtotal	0		0	0	0	0	4013		2	0			0		
SUMMARY OF STREET DESIGNATIONS															
Gateway Arterial Street (length in ft)	0	0%	0	0	0%	0	0	0%	0	4900	42%		7		
Arterial Street	3566	59%	2	1381	49%	2	7916	85%	5	5178	44%		2		
Collector Street	0	0%	0	1448	51%	2	1343	15%	1	0	0%		0		
Residential Street	2489	41%	8	0	0%	0	0	0%	0	1609	14%		4		
Route Rank Subtotal	6055		10	2829		4	9259		6	11687			13		



DMP TABLE C											
Routes from DeMoss-Petrie to Vine											
Historic Districts with 1 vs 2 sides of the Route											
	Route A			Route B			Route C			Route D	
	Feet	%	Rank	Feet	%	Rank	Feet	%	Rank	Feet	Rank
All Districts											
Length of Route with historic district on 1 side	3438	57%	3	2510	89%	2	3241	45%	3	5389	58%
Length of Route with historic district on 2 sides	2618	43%	3	319	11%	1	3903	55%	4	3923	42%
Total Length of Route with historic district on 1 or 2 sides	6056		9	2829			7144			9312	6
Route Rank Subtotal			15			3			7		14



DMP TABLE D		Routes from DeMoss-Petrie to Vine																							
Existing Power Poles on Route		Route A						Route B						Route C						Route D					
POLE HEIGHT		30'-39'	40'-49'	50'-59'	60'-69'	70'-79'	80'-89'	90'-100'	unknown height	30'-39'	40'-49'	50'-59'	60'-69'	70'-79'	80'-89'	90'-100'	unknown height	30'-39'	40'-49'	50'-59'	60'-69'	70'-79'	80'-89'	90'-100'	unknown height
Blennan-Elm Historic District		# of Poles																							
		Total # of Poles						Total # of Poles						Total # of Poles						Total # of Poles					
		District Rank						District Rank						District Rank						District Rank					
		0						0						0						0					
		1						1						1						1					
		2						2						2						2					
		3						3						3						3					
		4						4						4						4					
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DMP TABLE E		Routes from DeMoss-Petrie to Vine											
Historic Light fixtures within 800' Route Buffer													
		Route A			Route B			Route C			Route D		
		# of Lights	%	Rank	# of Lights	%	Rank	# of Lights	%	Rank	# of Lights	%	Rank
Blenman-Elm Historic District			0%			0%			0%			0%	
Catalina Vista Historic District			0%			0%			0%			0%	
Feldman's Historic District			0%			0%			0%			0%	
Iron Horse Expansion Historic District			0%			0%			0%			0%	
Jefferson Park Historic District			0%			0%			0%			0%	
Miracle Mile Historic District			0%			0%			0%			0%	
West University Historic District			0%			0%		20	65%		2	0%	
Outside of Historic District			0%			0%		11	35%		1	0%	
Total # of Lights		0		0	0		0	31		3	0		0
Route Rank Subtotal				0			0			3			0



DMP TABLE F		Routes from DeMoss-Petrie to Vine											
Historic Contributing Properties in 800' Route Buffer		Route A			Route B			Route C			Route D		
		# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank
<b>Blenman-Elm Historic District</b>													
Number of properties Individually Listed			0%			0%			0%			0%	
Number of landmark properties			0%			0%			0%			0%	
Number of properties built between pre 1919			0%			0%			0%			0%	
Number of properties built between 1920 to 1949			0%			0%			0%		10	71%	1
Number of properties built between 1950 to 1969			0%			0%			0%		4	29%	1
Number of properties post 1970			0%			0%			0%			0%	
Total of all Contributing properties per District		0			0			0			14		
District Rank Subtotal				0			0			0			2
<b>Catalina Vista Historic District</b>													
Number of properties Individually Listed			0%			0%			0%			0%	
Number of landmark properties			0%			0%			0%			0%	
Number of properties built between pre 1919			0%			0%			0%			0%	
Number of properties built between 1920 to 1949			0%			0%			0%		30	46%	2
Number of properties built between 1950 to 1969			0%			0%			0%		35	54%	2
Number of properties post 1970			0%			0%			0%			0%	
Total of all Contributing properties per District		0			0			0			65		
District Rank Subtotal				0			0			0			4
<b>Feldman's Historic District</b>													
Number of properties Individually Listed			0%			0%		1	0%	3		0%	
Number of landmark properties			0%			0%			0%			0%	
Number of properties built between pre 1919			0%		4	8%	1	17	7%	1		0%	
Number of properties built between 1920 to 1949			0%		31	63%	2	207	79%	8		0%	
Number of properties built between 1950 to 1969			0%		7	14%	1	24	9%	2		0%	
Number of properties post 1970			0%		7	14%	1	12	5%	1		0%	
Total of all Contributing properties per District		0			49			261			0		
District Rank Subtotal				0			5			15			0
<b>Jefferson Park Historic District</b>													
Number of properties Individually Listed			0%			0%			0%			0%	
Number of landmark properties			0%			0%			0%			0%	
Number of properties built between pre 1919			0%		2	1%	1		0%			0%	
Number of properties built between 1920 to 1949	155	50%	7	80	32%	3	22	39%	2	176	57%	7	
Number of properties built between 1950 to 1969	139	45%	6	152	62%	6	30	54%	2	119	39%	6	
Number of properties post 1970	14	5%	1	13	5%	1	4	7%	1	13	4%	1	
Total of all Contributing properties per District	308		8	247			56			308			
District Rank Subtotal			22			11			5				14
<b>John Spring Neighborhood Historic District</b>													
Number of properties Individually Listed			0%			0%			0%			0%	
Number of landmark properties			0%			0%			0%			0%	
Number of properties built between pre 1919			0%			0%		6	40%	1		0%	
Number of properties built between 1920 to 1949			0%			0%		9	60%	1		0%	
Number of properties built between 1950 to 1969			0%			0%			0%			0%	
Number of properties post 1970			0%			0%			0%			0%	
Total of all Contributing properties per District	0			0			15			0			
District Rank Subtotal			0			0			2				0
<b>Miracle Mile Historic District</b>													
Number of properties Individually Listed			0%			0%			0%			0%	
Number of landmark properties			0%			0%			0%			0%	
Number of properties built between pre 1919			0%			0%			0%			0%	
Number of properties built between 1920 to 1949	3	75%	1	3	75%	1	3	20%	1	3	75%	1	
Number of properties built between 1950 to 1969	1	25%	0	1	25%	0	12	80%	1	1	25%	0	
Number of properties post 1970		0%			0%			0%			0%		
Total of all Contributing properties per District	4		1	4			15			4		1	
District Rank Subtotal			2			1			2				2
<b>West University Historic District</b>													
Number of properties Individually Listed			0%			0%			0%			0%	
Number of landmark properties			0%			0%			0%			0%	
Number of properties built between pre 1919			0%			0%		70	37%	3		0%	
Number of properties built between 1920 to 1949			0%			0%		99	52%	3		0%	
Number of properties built between 1950 to 1969			0%			0%		8	4%	1		0%	
Number of properties post 1970			0%			0%		14	7%	1		0%	
Total of all Contributing properties per District	0			0			191			0			
District Rank Subtotal			0			0			8				0
<b>Outside of Historic District</b>													
Number of properties Individually Listed	1	100%	3	1	100%	3	2	100%	5	1	100%	3	
Number of landmark properties		0%			0%			0%			0%		
Number of properties built between pre 1919		0%			0%			0%			0%		
Number of properties built between 1920 to 1949		0%			0%			0%			0%		
Number of properties built between 1950 to 1969		0%			0%			0%			0%		
Number of properties post 1970		0%			0%			0%			0%		
Total of all Contributing properties per District	1			1			2			1			
District Rank Subtotal			3			3			5				3
<b>SUMMARY OF CONTRIBUTING PROPERTIES ALONG THE ROUTE</b>													
Number of properties Individually Listed	1	0%	3	1	0%	3	3	1%	8	1	0%	3	
Number of landmark properties	0	0%	0	0	0%	0	0	0%	0	0	0%	0	
Number of properties built between pre 1919	0	0%	0	6	2%	2	93	17%	5	0	0%	0	
Number of properties built between 1920 to 1949	158	50%	8	114	38%	6	340	63%	15	219	56%	11	
Number of properties built between 1950 to 1969	140	45%	6	160	53%	7	74	14%	6	159	41%	9	
Number of properties post 1970	14	4%	1	20	7%	2	30	6%	3	13	3%	1	
Total of all Contributing properties per District	313		9	301		0	540		0	392		1	
District Rank Subtotal			27			20			37			25	

DMP TABLE G				Routes from DeMoss-Petrie to Vine									
Access of Historic Contributing Properties along Route													
	Route A			Route B			Route C			Route D			
	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank	# of Prop	%	Rank	
Blenman-Elm Historic District													
Contributing properties: face the route & access directly from route		0%			0%			0%			0%		
Contributing properties whose side of the structure face the route		0%			0%			0%			0%		
Total Contributing properties directly on the route	0			0			0			0			
District Rank Subtotal			0			0			0			0	
Catalina Vista Historic District													
Contributing properties: face the route & access directly from route		0%			0%			0%		20	95%	2	
Contributing properties whose side of the structure face the route		0%			0%			0%		1	5%	0	
Total Contributing properties directly on the route	0			0			0			21		1	
District Rank Subtotal			0			0			0			3	
Feldman's Historic District													
Contributing properties: face the route & access directly from route		0%			0%		31	91%	3		0%		
Contributing properties whose side of the structure face the route		0%			0%		3	9%	1		0%		
Total Contributing properties directly on the route	0			0			34		6	0			
District Rank Subtotal			0			0			10			0	
Jefferson Park Historic District													
Contributing properties: face the route & access directly from route	13	39%	1	7	41%	1		0%		43	72%	4	
Contributing properties whose side of the structure face the route	20	61%	1	10	59%	1		0%		17	28%	1	
Total Contributing properties directly on the route	33		4	17		1	0			60		1	
District Rank Subtotal			6			3			0			6	
John Spring Neighborhood Historic District													
Contributing properties: face the route & access directly from route		0%			0%			0%			0%		
Contributing properties whose side of the structure face the route		0%			0%			0%			0%		
Total Contributing properties directly on the route	0			0			0			0			
District Rank Subtotal			0			0			0			0	
Miracle Mile Historic District													
Contributing properties: face the route & access directly from route	0	0%			0%		6	100%	1		0%		
Contributing properties whose side of the structure face the route	0	0%			0%		0	0%	0		0%		
Total Contributing properties directly on the route	0			0			6		1	0			
District Rank Subtotal			0			0			2			0	
West University Historic District													
Contributing properties: face the route & access directly from route		0%			0%		28	100%	3		0%		
Contributing properties whose side of the structure face the route		0%			0%		0	0%	0		0%		
Total Contributing properties directly on the route	0			0			28		4	0			
District Rank Subtotal			0			0			7			0	
SUMMARY OF ACCESS DIRECTLY FROM ROUTE													
Contributing properties: face the route & access directly from route	13	39%	1	7	41%	1	65	96%	7	63	78%	6	
Contributing properties whose side of the structure face the route	20	61%	1	10	59%	1	3	4%	1	18	22%	1	
Total Contributing properties directly on the route	33		4	17		1	68		11	81		2	
Route Rank Subtotal			6			3			19			9	



DMP TABLE H														Routes from DeMoss-Petrie to Vine									
Historic Landmark Signs in 800' Route Buffer																							
	Route A			Route B			Route C			Route D			Rank										
	# of Landmarks	%	Rank	# of Landmarks	%	Rank	# of Landmarks	%	Rank	# of Landmarks	%	Rank											
Blenman-Elm Historic District		0%			0%			0%			0%		0%	Rank									
Catalina Vista Historic District		0%			0%			0%			0%		0%	Rank									
Feldman's Historic District		0%			0%			0%			0%		0%	Rank									
Iron Horse Expansion Historic District		0%			0%			0%			0%		0%	Rank									
Jefferson Park Historic District		0%			0%			0%			0%		0%	Rank									
Miracle Mile Historic District		0%			0%		5	100%		2	0%		0%	Rank									
West University Historic District		0%			0%			0%			0%		0%	Rank									
Outside of Historic District		0%			0%			0%			0%		0%	Rank									
Total # of Historic Landmark Signs	0		0	0		0	5		2	0			0	Rank									
Route Rank Subtotal			0			0			2				0	Rank									



DMP TABLE I		Routes from DeMoss-Petrie to Vine			
Historic Architectural Analysis					
	Route A	Route B	Route C	Route D	
	Rank	Rank	Rank	Rank	
Blenman-Elm Historic District					
Historic district integrity				1	
Scale of the street adjacent to historic district				1	
Scale of adjacent historic & non-historic structures along route				1	
Size of historic district impacted				1	
Historic Architectural Impression				1	
District Rank Subtotal	0	0	0	5	
Catalina Vista Historic District					
Historic district integrity				2	
Scale of the street adjacent to historic district				1	
Scale of adjacent historic & non-historic structures along route				1	
Size of historic district impacted				2	
Historic Architectural Impression				2	
District Rank Subtotal	0	0	0	8	
Feldman's Historic District					
Historic district integrity			4		
Scale of the street adjacent to historic district			2		
Scale of adjacent historic & non-historic structures along route			4		
Size of historic district impacted			5		
Historic Architectural Impression			5		
District Rank Subtotal	0	0	20	0	
Jefferson Park Historic District					
Historic district integrity	2	2	0	2	
Scale of the street adjacent to historic district	8	8	0	3	
Scale of adjacent historic & non-historic structures along route	8	6	1	3	
Size of historic district impacted	6	5	1	8	
Historic Architectural Impression	5	5	0	1	
District Rank Subtotal	29	26	2	17	
John Spring Neighborhood Historic District					
Historic district integrity			7		
Scale of the street adjacent to historic district			1		
Scale of adjacent historic & non-historic structures along route			3		
Size of historic district impacted			3		
Historic Architectural Impression			3		
District Rank Subtotal	0	0	17	0	
Miracle Mile Historic District					
Historic district integrity	1	1	3	1	
Scale of the street adjacent to historic district	1	1	1	1	
Scale of adjacent historic & non-historic structures along route	1	1	1	1	
Size of historic district impacted	1	1	3	1	
Historic Architectural Impression	1	1	1	1	
District Rank Subtotal	5	5	9	5	
West University Historic District					
Historic district integrity			8		
Scale of the street adjacent to historic district			1		
Scale of adjacent historic & non-historic structures along route			3		
Size of historic district impacted			2		
Historic Architectural Impression			4		
District Rank Subtotal	0	0	18	0	
Outside of Historic District (Pascua Yaqui Village)					
Historic district integrity	3	3	3	3	
Scale of the street adjacent to historic district	3	3	3	3	
Scale of adjacent historic & non-historic structures along route	2	2	2	2	
Size of historic district impacted	5	5	5	5	
Historic Architectural Impression	6	6	6	6	
Rank Subtotal	19	19	19	19	
SUMMARY OF HISTORIC ARCHITECTURAL RANKING					
Historic district integrity	6	6	25	9	
Scale of the street adjacent to historic district	12	12	8	9	
Scale of adjacent historic & non-historic structures along route	11	9	14	8	
Size of historic district impacted	12	11	19	17	
Historic Architectural Impression	12	12	19	11	
Route Rank Total	53	50	85	54	

# IX. Appendix

## A. Definitions

**Arterial Street:** An Arterial street is defined as “A street identified as an arterial or Interstate Route on the Major Streets and Routes (MS&R) Plan.” This definition can be found in the City of Tucson Unified Development Code.

**City of Tucson Historic Landmark:** The City of Tucson has individual properties that the City has defined as locally historically significant that the Mayor and Council must approve. A City Historic Landmark is not necessarily a National Historic Landmark.

**City of Tucson Historic Landmark Sign:** In 2011 the Historic Landmark Sign (HLS) ordinance was approved by Mayor and Council. This ordinance allows for the restoration and reuse of historic signs within Tucson.

**City of Tucson Historic Preservation Office:** The City Historic Preservation Office works with City of Tucson departments and Arizona State Historic Preservation Office (AZSHPO) to determine requirements for structures that have been identified as having historic significance, such as be a contributing property, individually listed, or a historic landmark.

**City of Tucson Historic Preservation Zone:** Per the City of Tucson’s Unified Development Code, section 5.8.1, “The purpose of the Historic Preservation Zone (HPZ) and Historic Landmark (HL) designation is to promote the educational, cultural, economic, and general welfare of the community and to ensure the harmonious growth and development of the municipality by encouraging the preservation and rehabilitation of significant historic districts, neighborhoods, buildings, structures, sites, objects, and archaeological resources. These designations are intended to ensure the preservation of significant historic and archaeological resources, and to keep them in active use or management in their historic appearance, settings, and locations. It is also intended that new or remodeled buildings or structures located within HPZs or HL properties be designed and constructed to harmonize and be compatible with existing buildings and structures within the sites and development zones in order to preserve property values, provide for appropriate future development, and promote an awareness of the heritage of Tucson among both residents and visitors to the community.” The City of Tucson requires that a project within a HPZ, follow additional design standards and additional review processes by the Tucson Pima County Historic Commissions and City of Tucson Historic Preservation Office.

**Collector Street:** A collector street is define as “A street identified as a collector on the Major Streets and Routes (MS&R) Plan” This definition can be found in the City of Tucson Unified Development Code.

**Contributing Property:** The National Register of Historic Places defines a contributing property is a structure that is part of a historic district and is not eligible or has not been nominated to be an individually listed property. The City of Tucson defines contributing property as “A property within a Historic Preservation Zone, Neighborhood Preservation Zone, or National Register Historic District that contributes to the historic significance and visual character of the zone or district, and has sufficient integrity to convey that significance and those visual character defining features in terms of location, design, setting, material, workmanship, character, or association. Contributing Properties are historic sites or non-historic compatible properties.”

**Downtown Infill Incentive District (IID):** Per the City of Tucson’s Unified Development Code, Section 5.12, IIDs are to help encourage sustainable infill and protect historic structures and historic neighborhoods from potential negative impacts of new development.

**Gateway Arterial Street:** defined by the City of Tucson in the City of Tucson Unified Development Code as “A street or parkway that is a heavily traveled entrance to and through the City, and is designated as a Gateway Route on the Major Streets and Routes (MS&R) Plan map. These routes link major employment areas, shopping centers, and recreational areas used regularly by a large number of residents and visitors and present a visual impression of Tucson’s character.”

**Gateway Corridor Zone (GCZ):** Per the City of Tucson’s Unified Development Code, Section 5.5, this overlay zone is to provide a visual improvement of the major streets and routes designated as Gateway Routes by implementing standards for the design of the landscape, streets and adjacent development.

**Historic Districts:** Historic Districts are listed in the National Register of Historic Places and identify a group of structures that represent a period of historic significance at the local, state or national level. The City of Tucson defines our National Register of Historic Districts as, “Tucson’s nationally designated historic districts meet the criteria for, and have been listed in, the National Register of Historic Places (NRHP). A NRHP historic district is

composed of multiple contributing properties that—as a collective whole—convey significance in terms of one or more of the following aspects of American history: (A) Association with historic events or activities, (B) Association with an important person in history, (C) Distinctive design or physical character, or (D) Potential to provide important information about prehistory or history. Each contributing property in a NRHP historic district must maintain enough of its original qualities to visibly convey its significance. These qualities of integrity include: location, design, setting, materials, workmanship, feeling, and association. A National Register Historic District must contain a minimum of 51 percent contributing properties within its boundaries.”

**Historic Landmarks Zone:** Refer to Historic Preservation Zone

**Historic Preservation Zone:** Per the City of Tucson Unified Development Code section 5.8, “The purpose of the HPZ and HL designation is to promote the educational, cultural, economic, and general welfare of the community and to ensure the harmonious growth and development of the municipality by encouraging the preservation and rehabilitation of significant historic districts, neighborhoods, buildings, structures, sites, objects, and archaeological resources. These designations are intended to ensure the preservation of significant historic and archaeological resources, and to keep them in active use or management in their historic appearance, settings, and locations. It is also intended that new or remodeled buildings or structures located within HPZs or HL properties be designed and constructed to harmonize and be compatible with existing buildings and structures within the sites and development zones in order to preserve property values, provide for appropriate future development, and promote an awareness of the heritage of Tucson among both residents and visitors to the community.”

**Historic Site or Historic Structure:** City of Tucson defines this in the Unified Development Code section 11.4.9 as “a building, structure, object, or site, including vegetation or signs located on the premises, that: Dates from a particular significant period in Tucson’s history, i.e., prehistoric, native indigenous, Pre-Colonial (before 1775), Spanish Frontier (Colonial) (1775-1821), Mexican Frontier (1821-1853), Territorial (1854-1912), Post-Territorial (1912-1920), or Post-World War I Development (1920-1945), or relates to events, personages, or architectural styles that are at least 50 years old; however, outstanding examples less than 50 years old should be evaluated on their own merits; Is associated with the lives of outstanding historic personages; Is associated with significant historic events or occurrences; Exemplifies the architectural period in which it was built and has distinguishing characteristics of an architectural style or method of construction or is the notable work of a master builder, designer, or architect whose individual genius influenced his/her age; Contributes information of archaeological, historic, cultural, or social importance relating to the heritage of the community; or, Relates positively to buildings in its immediate vicinity in terms of scale, size, massing, etc., such that its removal would be an irreparable loss to the setting.”

**Individually Listed Property:** The National Register of Historic Places defines an individually listed property as a structure or site that has greater historic significance than a contributing property and can be listed independently of a historic district. The City of Tucson defines this as, “Tucson’s individually designated historic properties meet the criteria for, and have been listed in, the National Register of Historic Places. An individually designated historic property derives its significance from one or more of the following aspects of American history: (A) Association with historic events or activities, (B) Association with an important person in history, (C) Distinctive design or physical character, or (D) Potential to provide important information about prehistory or history. An individually designated historic property also maintains enough of its original qualities that make it significant. These qualities of integrity include: location, design, setting, materials, workmanship, feeling, and association.”

**National Historic Landmark Property:** The National Register of Historic Places defines landmark properties as structures or sites that are recognized as being critical to preserve statewide. Landmark properties have a greater historic importance than contributing and individually listed properties. The City of Tucson defines Historic Landmarks as “A historic site or structure of the highest historic, cultural, architectural, or archaeological importance to Tucson that if demolished or significantly altered would constitute an irreplaceable loss to the quality and character of Tucson. A Historic Landmark is an outstanding or unique example of architectural style; is associated with a major historic event, activity, or person; or has unique visual quality and identification. A Historic Landmark may be located within the boundaries of or outside a historic district.”

**National Register of Historic Places:** The National Register of Historic Places as defined by the National Park Services, “is the official list of the Nation’s historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service’s National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America’s historic and archaeological resources.” The National Park Services, under the US Department of Interior, manages and evaluates the National Register of Historic Places for all of the United States.

**Neighborhood Preservation Zone:** Per the City of Tucson’s Unified Development Code, section 5.10.1, “Preserving and enhancing Tucson’s established neighborhoods is critical to conserving the cultural and historic heritage of the

City. The purposes of the Neighborhood Preservation Zone (NPZ) are: A. To provide a process for the establishment of NPZ districts to preserve, protect and enhance the unique character and historical resources of established City neighborhoods; and, B. To provide for the creation and establishment of a neighborhood-specific design manual for each NPZ district, containing architectural and design standards and guidelines to ensure that development is compatible with the neighborhood character overall, as well as with the character of the applicable Development Zone.” The City of Tucson requires that a project in a NPZ follow specific design requirements for that specific neighborhood and is required to follow additional review processes by the Tucson Pima County Historic Commission and City of Tucson Historic Preservation Office.

**Non-Contributing Property:** A once Contributing Property could be delisted due to alterations of the existing structure that causes a loss of integrity or character-defining features, based on the seven aspects of NRHP integrity, refer to the resource section in the appendix under Historic Architectural Integrity Definition and Explanation. This study did not evaluate whether a Contributing property may have changed sufficiently to be considered Noncontributing or contributing.

**State Historic Preservation Office (SHPO):** The Arizona State Historic Preservation Office is a division of the Arizona State Parks. The purpose of SHPO is to identify and evaluate historic structures and archaeological sites, nominate eligible historic and archaeological properties to the National Register of Historic Places, and to assist in preserving heritage resources for the benefit of Arizonans.

**Urban Overlay Districts (UOD):** Per the City of Tucson’s Unified Development Code, section 5.13, UODs are to assist with site planning and architectural solutions that accommodate both historical and contemporary design. These areas have been established as: Main Gate, Grant Road and Sunshine Mile.

## B. Abbreviations

**AZSHPO:** Arizona State Historic Preservation Office

**COT:** City of Tucson

**DMP:** DeMoss-Petrie

**GCZ:** Gateway Corridor Zone

**GIS:** Geographic Information System

**HL:** Historic Landmark

**IID:** Infill Incentive District

**MS&R:** Major Streets and Routes

**NRHP:** National Register of Historic Places

**NPZ:** Neighborhood Preservation Zone

**HPZ:** Historic Preservation Zone

**PC:** Pima County

**SHPO:** State Historic Preservation Office

**TAC:** The Architecture Company

**TEP:** Tucson Electric Power Company

**TPCHC:** Tucson-Pima County Historical Commission

**TROW:** Tierra Right of Way

**UA:** University of Arizona

**UDC:** Unified Development Code

**UOD:** Urban Overlay District



## C. Resources

### City of Tucson Resources

**City of Tucson Broadway Boulevard Improvement Project:** For information on the Broadway Boulevard Improvements from Euclid to Country Club, including a Historic Buildings Inventory

<http://www.broadwayboulevard.info/planning>

**City of Tucson Grant Road Improvement Project:** For information on the Grant Road Improvements from Oracle Rd To Swan Road, including the Historic Properties Assessment and the Community Character and Vitality Corridor Vision

<http://www.grantroad.info/documents>

**City of Tucson Historic GIS Map:** For an interactive map showing historic properties and districts within the City of Tucson

<https://maps2.tucsonaz.gov/html5viewer/?viewer=historicproperties>

**City of Tucson Historic Landmark Sign Ordinance:** For information on this ordinance

<https://www.tucsonaz.gov/Departments/Planning-Development-Services/Permits/Sign-Permits#section-5>

**City of Tucson Major Street and Route Map:** A PDF of the Major Streets and Routes developed by the City of Tucson. This map was used to determine street designations for Kino Table 2 / DMP Table B: Street Designations.

[https://www.tucsonaz.gov/files/sharedassets/public/v/2/dtm/documents/linked-documents/msr\\_map.pdf](https://www.tucsonaz.gov/files/sharedassets/public/v/2/dtm/documents/linked-documents/msr_map.pdf)

**City of Tucson Historic Preservation Office:** For general information about the City of Tucson Historic Preservation Office

<https://www.tucsonaz.gov/Departments/Planning-Development-Services/Historic-Preservation>

**City of Tucson Special Districts:** For information on special zoning districts the include: Downtown Infill Incentive District, Urban Overlay Districts and Neighborhood Preservation Zones.

<https://www.tucsonaz.gov/Departments/Planning-Development-Services/Planning-Zoning-Applications/Special-Districts>

**City of Tucson Unified Development Code:** For information on overlay zones and historic zoning requirements

[https://codelibrary.amlegal.com/codes/tucson/latest/tucson\\_az\\_udc/0-0-0-16#JD\\_UNIFIEDDEVELOPMENTCODE](https://codelibrary.amlegal.com/codes/tucson/latest/tucson_az_udc/0-0-0-16#JD_UNIFIEDDEVELOPMENTCODE)

### General Historic Resources

**National Register of Historic Places:** For general information about the National Register of Historic Places

<https://www.nps.gov/subjects/nationalregister/index.htm>

**State of Arizona Historic Preservation Office:** For general information about the State of Arizona Historic Preservation Office

<https://azstateparks.com/shpo/>

**City of Tucson Historic GIS Map:** For an interactive map showing historic properties and districts within the City of Tucson

<https://maps2.tucsonaz.gov/html5viewer/?viewer=historicproperties>

**City of Tucson Historic Preservation Office:** For general information about the City of Tucson Historic Preservation Office

<https://www.tucsonaz.gov/Departments/Planning-Development-Services/Historic-Preservation>

### **Historic Architectural Terminology**

**Architectural Styles in Tucson's Historic Neighborhood:** A publication by Drachman Institute with the University of Arizona:

[http://www.downtowntucson.org/wp-content/uploads/2011/05/THS\\_map\\_FP.pdf](http://www.downtowntucson.org/wp-content/uploads/2011/05/THS_map_FP.pdf)

**Historic Architectural Integrity Definition and Explanation:** Refer to page 44. This pdf report also explains how criteria is evaluated by the National Park Services to be included on the National Register of Historic Places:

[https://www.nps.gov/subjects/nationalregister/upload/NRB-15\\_web508.pdf](https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf)

### **Historic District Nominations and SHPO Forms**

**City of Tucson National Register Historic Districts Nomination Applications:** This website lists Tucson's nationally designated historic districts that meet the criteria for, and have been listed in, the National Register of Historic Places (NRHP). This lists the Map, Nomination Form which includes a brief description, detailed description of significance, inventory of contributing properties and photos.

<https://www.tucsonaz.gov/Departments/Planning-Development-Services/Historic-Preservation/National-Register-of-Historic-Places-Designations/National-Register-Historic-Districts>

Here you can find the information for the following historic districts in this study:

- Armory Park
- Blenman-Elm Historic District
- Broadmoor Historic District
- Catalina Vista Historic District
- Feldman's Historic District
- Iron Horse Historic District
- Jefferson Park Historic District
- John Spring Neighborhood Historic District
- Miracle Mile Historic District
- Pie Allen Residential Historic District
- Rincon Heights Historic District
- Sam Hughes Residential Historic District
- Sunshine Mile Historic District
- West University Historic District

**City of Tucson Map of National Register Historic Districts and Historic Zoning:** A link to a PDF map showing all of the Nationally Registered Historic Districts in the City of Tucson as well as City of Tucson Historic Zoning

[https://www.tucsonaz.gov/files/sharedassets/public/v/1/city-services/planning-development-services/historic-preservation/documents/22x34\\_nrhds\\_zones\\_index\\_022024.pdf](https://www.tucsonaz.gov/files/sharedassets/public/v/1/city-services/planning-development-services/historic-preservation/documents/22x34_nrhds_zones_index_022024.pdf)

**Individually designated historic properties:** This website links to the SHPO form for the individually designated historic properties in this study area.

<https://www.tucsonaz.gov/Departments/Planning-Development-Services/Historic-Preservation/Individually-Designated-Historic-Properties>

- Feldman's Historic District: University Heights Elementary School
- Feldman's Neighborhood: ASARCO Headquarters
- John Spring Neighborhood: Sabedra-Huerta House
- Near Grant Rd and Fair View Ave: Matus, Antonio, House and Property, 856 W. Calle Santa Ana; Pascua Cultural Plaza, 785 W. Sahuaro St.
- University of Arizona: Cannon, Dr. William Austin, House
- Iron Horse Historic District: Coronado Hotel
- Downtown Tucson Historic District: Hotel Congress, Rialto Theatre
- West University Historic District: Ronstadt House
- Warehouse Historic District: 6th Ave Underpass, Stone Ave. Underpass, South Pacific RR Locomotive No. 73

**National Archives:** This website provides the instructions on how to search on the National Archives where the National Register of Historic Places has started to digitize their data.

<https://www.nps.gov/subjects/nationalregister/database-research.htm>

### **Design Guidelines**

**Neighborhood Design Guidelines:** The following websites are links to the historic district's design guidelines or design manual, should they exist.

Armory Park Historic Residential District: <https://www.tucsonaz.gov/files/sharedassets/public/v/1/city-services/planning-development-services/historic-preservation/documents/armorypark.pdf> and [https://codelibrary.amlegal.com/codes/tucson/latest/tucson\\_az\\_udc/0-0-0-11991](https://codelibrary.amlegal.com/codes/tucson/latest/tucson_az_udc/0-0-0-11991)

Blenman-Elm Historic District: <https://blenmanelm.wordpress.com/neighborhood/neighborhood-plan/>

Broadmoor Historic District: No Design Guidelines or Manuals identified

Catalina Vista Historic District: <https://blenmanelm.wordpress.com/neighborhood/neighborhood-plan/>

Downtown Tucson Historic District: No Design Guidelines or Manuals identified

El Presidio Historic District: <https://www.tucsonaz.gov/files/sharedassets/public/v/1/city-services/planning-development-services/historic-preservation/documents/elpresidio.pdf> and [https://codelibrary.amlegal.com/codes/tucson/latest/tucson\\_az\\_udc/0-0-0-12026](https://codelibrary.amlegal.com/codes/tucson/latest/tucson_az_udc/0-0-0-12026)

Feldman's Historic District: [https://www.tucsonaz.gov/files/sharedassets/public/v/1/pdsd/documents/planning-amp-zoning/feldmans\\_neighborhood\\_preservation\\_zone\\_design\\_manual.pdf](https://www.tucsonaz.gov/files/sharedassets/public/v/1/pdsd/documents/planning-amp-zoning/feldmans_neighborhood_preservation_zone_design_manual.pdf)

Iron Horse Historic District: No Design Guidelines or Manuals identified

Jefferson Park Historic District: <http://www.jeffersonpark.info/neighborhood-manuals.html>

John Spring Neighborhood Historic District: <http://dunbarspring.org/documents/dunbarspring-community-development-plan-1995>

Miracle Mile Historic District: No Design Guidelines or Manuals identified

Pie Allen Residential Historic District: [https://www.rinconheights.com/uploads/1/5/5/7/15579966/rincon\\_heights\\_and\\_pie\\_allen\\_npz\\_design\\_manual\\_-\\_final\\_3-3-23.pdf](https://www.rinconheights.com/uploads/1/5/5/7/15579966/rincon_heights_and_pie_allen_npz_design_manual_-_final_3-3-23.pdf)

Rincon Heights Historic District: [https://www.rinconheights.com/uploads/1/5/5/7/15579966/rincon\\_heights\\_and\\_pie\\_allen\\_npz\\_design\\_manual\\_-\\_final\\_3-3-23.pdf](https://www.rinconheights.com/uploads/1/5/5/7/15579966/rincon_heights_and_pie_allen_npz_design_manual_-_final_3-3-23.pdf)

Sam Hughes Residential Historic District: No Design Guidelines or Manuals identified, only a Neighborhood Plan: [https://www.tucsonaz.gov/files/sharedassets/public/v/1/pdsd/documents/areaneighborhood-plans/shnp\\_final\\_adopted\\_.pdf](https://www.tucsonaz.gov/files/sharedassets/public/v/1/pdsd/documents/areaneighborhood-plans/shnp_final_adopted_.pdf)

Sunshine Mile Historic District: [https://www.tucsonaz.gov/files/sharedassets/public/v/1/city-services/planning-development-services/documents/smd\\_document\\_final\\_9-14-21.pdf](https://www.tucsonaz.gov/files/sharedassets/public/v/1/city-services/planning-development-services/documents/smd_document_final_9-14-21.pdf)

Warehouse Historic District: No Design Guidelines or Manuals identified. Specific City of Tucson Zoning requirements: [https://codelibrary.amlegal.com/codes/tucson/latest/tucson\\_az\\_udc/0-0-0-23421](https://codelibrary.amlegal.com/codes/tucson/latest/tucson_az_udc/0-0-0-23421)

West University Historic District: <https://www.tucsonaz.gov/files/sharedassets/public/v/1/city-services/planning-development-services/historic-preservation/documents/wuhzabguides7.22.15final.pdf> and [https://codelibrary.amlegal.com/codes/tucson/latest/tucson\\_az\\_udc/0-0-0-12101](https://codelibrary.amlegal.com/codes/tucson/latest/tucson_az_udc/0-0-0-12101)

**SHPO Design Guidelines:** All Contributing properties in historic districts and individually listed properties are required to follow SHPO design guidelines in order to maintain their contributing status. SHPO design guidelines can be found here:

<https://www.nps.gov/tps/standards.htm>

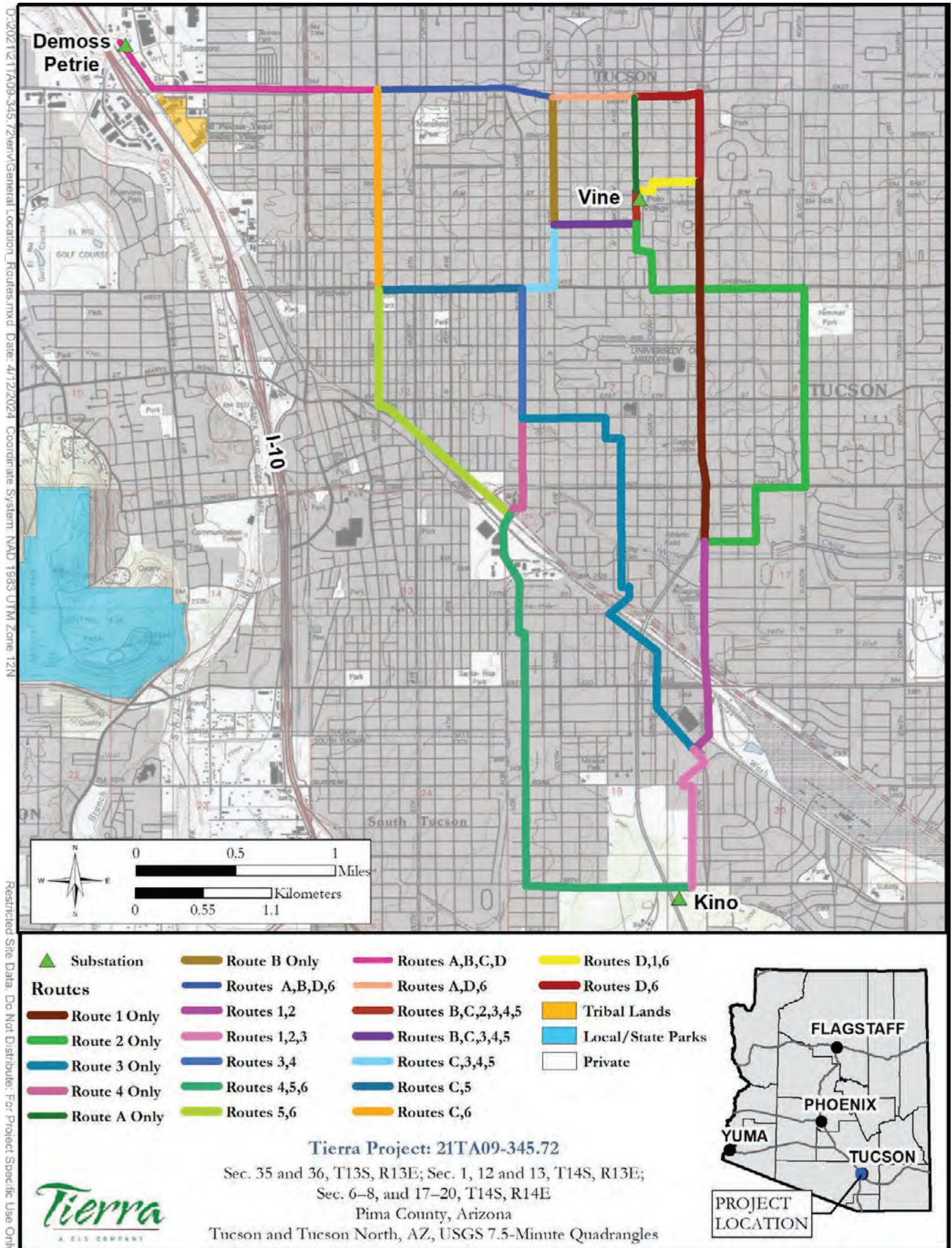
**University of Arizona Preservation Plan:** For a PDF of the UA Preservation Plan

[https://pdc.arizona.edu/file/UA\\_Preservation\\_Plan\\_June\\_2006\\_final\\_0.pdf](https://pdc.arizona.edu/file/UA_Preservation_Plan_June_2006_final_0.pdf)



# D. TEP ROUTE COMBINATION MAP

Project location detail with 10 proposed routes





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## **EXHIBIT F**

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## EXHIBIT F: RECREATIONAL PURPOSES AND ASPECTS

As stated in Arizona Administrative Code R14-3-219 of the Rules of Practice and Procedure Before Power Plant and Transmission Line Siting Committee, Exhibits to Application, Exhibit F:

*State the extent, if any, the proposed site or route will be available to the public for recreational purposes, consistent with safety considerations and regulations and attach any plans the applicant may have concerning the development of the recreational aspects of the proposed site or route.*

F.1 Introduction .....	F-1
F.2 Affected Environment .....	F-1
F.3 Potential Effects .....	F-7
F.4 Conclusion .....	F-8

### F.1 Introduction

The following analysis describes recreational settings and features, and potential impacts to them from the Project, within the Recreation Study Area, defined as a 1,000-foot buffer centered on the route alternatives. The entire Recreation Study Area is within the COT, Pima County, Arizona.

### F.2 Affected Environment

Recreational opportunities in the Recreation Study Area are primarily associated with park facilities located adjacent to or in proximity to the alternative routes. These facilities include municipal parks that provide sport fields, playgrounds, walking paths, and other recreational opportunities to the public (Table 13, Exhibit F-1). Although these facilities are located in proximity to the alternative routes, the Project is not anticipated to preclude recreational uses or public enjoyment because the location of the facilities would not result in closure of any recreational facilities.

**Table 13. Recreation Facilities Adjacent to Alternative Routes**

Map ID	Recreation Facility	Jurisdiction	Location	Location Compared to Alternative Route
1	Arroyo Chico Greenway – Pima County Multi-Use Project Segment	City of Tucson	Kino Parkway to Fremont Avenue	Spanned by 3

Map ID	Recreation Facility	Jurisdiction	Location	Location Compared to Alternative Route
2	Arroyo Chico Greenway – Sabbar Shrine Segment	City of Tucson	Tucson Boulevard to 15 <sup>th</sup> Street	500 ft southeast of 2
3	Aviation Bikeway	City of Tucson	Parallel	Parallel to 5, 6 Spanned by 1, 2, 3, 4
4	Balboa Heights Park	City of Tucson	North of Grant Avenue, west of North Stone Avenue	900 ft north of A, B, C, D
5	Catalina Park	City of Tucson	Between North 4th and North 5th Avenues and East 1st and East 2nd Streets	550 ft south of 5, C
6	Cherry Field baseball complex	City of Tucson	Between South Kino Parkway and S Cherry Avenue, and between East 13 <sup>th</sup> Street and East 15 <sup>th</sup> Street	450 ft west of 1, 2 900 ft east of 3
7	De Anza Park	City of Tucson	Southeast corner of North Stone Avenue and East Speedway Boulevard	Adjacent to 5, 6, C
8	Desert Haven Natural Resource Park	Pima County	Southeast corner of East 36th Street and South Kino Parkway	Adjacent to 1, 2, 3, 4, 5, 6
	Downtown Links Multi-Use Path	City of Tucson	Parallel to Barraza Parkway between Broadway Boulevard and Sixth Street	Adjacent to 5, 6
9	Grant & Campbell Park	City of Tucson	Northwest corner of East Grant Road and North Campbell Avenue	Adjacent to 6, D
10	Himmel Park	City of Tucson	Southeast corner of East 1st Street and North Tucson Boulevard	Adjacent to 2
11	Ironhorse Park	City of Tucson	Northeast corner of East Broadway Boulevard and Aviation Parkway	Adjacent to 4, 5, 6



Map ID	Recreation Facility	Jurisdiction	Location	Location Compared to Alternative Route
13	Jefferson Park Health and Heritage Trail	City of Tucson	South side of East Grant Road	Adjacent to 6, A, B, D
14	Mansfield Park	City of Tucson	South of East Grant Road, East of North 6 <sup>th</sup> Avenue	400 ft south of A, B, C, D 900 ft east of 6, C
16	North Sixth Avenue Dog Park	City of Tucson	West side of North 6th Avenue, across from Mansfield Park	750 ft east of 6, C
17	Pascua Park	Pascua Yaqui	South of West Grant Road, west of North 15th Avenue, between West Sahuaro Street and West Calle Matus	400 ft south of A, B, C, D
19	Ray P. Drachman Stadium	University of Arizona	West of South Tucson Boulevard	550 ft south of 2
22	San Antonio Park	City of Tucson	East 14 <sup>th</sup> Street and South Santa Rita Avenue	550 ft west of 3
23	Santa Rita Park	City of Tucson	Between East 20th Street and East 22nd Street west side of South 4th Avenue	450 ft west of 4, 5, 6
18, 24	Silverlake Park and Quincie Douglas Recreation Center and Pool	City of Tucson	Northwest of the intersection of South Kino Parkway and East 36th Street	Adjacent to 4, 5, 6
21	South Campbell Avenue Median Landscape	City of Tucson	South Campbell Avenue, between E 36 <sup>th</sup> to Cherrybell Stravenue	300 ft east of 1, 2, 3
25	Stevens Plaza	City of Tucson	Northeast corner of Barraza Parkway and North 4 <sup>th</sup> Avenue	Adjacent to 5, 6
26	Tahoe Park	City of Tucson	East of Campbell Avenue	500 ft east of 6, D

Map ID	Recreation Facility	Jurisdiction	Location	Location Compared to Alternative Route
27	University of Arizona recreational facilities including McKale Memorial Center	University of Arizona	Between East 2 <sup>nd</sup> Street and East 6 <sup>th</sup> Street	Adjacent to 1
28	Waverly Circle Park	City of Tucson	East of Campbell at East Waverly Street	500 ft east of 6, D

### Arroyo Chico Greenway

Arroyo Chico Greenway is multi-segment trail. The Pima County Multi-Use Project 2.9-mile asphalt trail segment is located between South Santa Rita Ave., East 12<sup>th</sup> St., and Kino Parkway. The Sabbar Shrine Segment is from Tucson Boulevard to 15<sup>th</sup> Street. The project is a COT, Pima County Flood Control District, and USACE project. Alternative Route 3 would span the greenway with no construction within the Greenway, and Route 2 is 500 feet northwest of the Sabbar Shrine segment.

### Aviation Bikeway

Aviation Bikeway is a paved greenway bike path that is approximately 9 miles long. The bike path is located parallel to East Aviation Parkway. Routes 5 and 6 would be parallel to and south of the Bikeway, and Routes 1, 2, 3, and 4 would span it.

### Balboa Heights Park

Balboa Heights Park is a 1.7-acre park that offers playground facilities as well as half-court basketball, multipurpose field, picnic tables with grills, and ramadas. This park is a block and a half north of Grant Road, and approximately 900 feet north of Routes A, B, C, and D.

### Catalina Park

Catalina Park is a 3.7-acre park that offers playground facilities as well as benches, fitness stations, picnic tables, and restrooms. The park is 500 feet south of Routes 5 and C.

### Cherry Field

Cherry field is a 20-acre parcel with four softball/baseball fields. This facility is owned by the Tucson Unified School District. The ball complex is 450 feet west of Routes 1 and 2, and 900 east of Route 3.

### De Anza Park

De Anza Park is a 4.4-acre park with playground facilities, picnic tables, sand volleyball courts, and fitness equipment. The park is located at the intersection of North Stone Avenue and East Speedway Boulevard.

Routes 5 and 6 would be adjacent to the west side of the park along North Stone Avenue, and Routes 5 and C would be along East Speedway Boulevard, adjacent to the north side of the park.

#### **Desert Haven Natural Resource Park**

Desert Haven Natural Resource Park is a Pima County owned 15-acre natural resource park with ramadas, barbecues, picnic tables, and paved walkways. Kino Substation occupies the northwest corner of the parcel. Routes 1, 2, and 3 originate at Kino Substation and go east along East 36<sup>th</sup> Street before turning north on South Martin Avenue. These routes would be adjacent to the park for approximately 300 feet.

#### **Downtown Links Multi-Use Path**

The Downtown Links Multi-Use Path will be constructed by the COT along Maclovio Barraza Parkway between Broadway Boulevard and Sixth Street, connecting the Aviation Bikeway to downtown. Routes 5 and 6 would parallel the path from Broadway Boulevard to the north.

#### **Grant & Campbell Park**

Grant & Campbell Park is a 0.5-acre mini park operated by the COT Parks and Recreation Department. This park is located on the northwest corner of Grant Road and Campbell Avenue. The park has limited amenities including a picnic table and bench. Alternative Routes 6 and D turn from northerly routing on North Campbell Avenue to head west on East Grant Road near this park. The routes would be adjacent to the park along East Grant Road.

#### **Himmel Park**

Himmel Park is a 25.4-acre park with half-court basketball, benches, fitness area and equipment, grills, a multi-purpose field, a multi-use court, pickleball courts, picnic tables, a playground, ramada, shuffleboard and tennis courts. Route 2 would be adjacent to this park along North Tucson Boulevard.

#### **Ironhorse Park**

Ironhorse Park is a 2.7-acre park with half-court basketball, benches, community garden, dog park, picnic tables, playground, ramada, and walking path. Routes 5 and 6 would parallel this park along Barraza Parkway. Route 4 would span the portion of the park that extends east past North Euclid Avenue.

#### **Jefferson Park Health and Heritage Trail**

Jefferson Park Health and Heritage Trail is a 3.8-acre park surrounding a walking path on the south side of East Grant Road. Routes 6, A, and D would parallel this park along East Grant Road. Route B would cross the park where North Park Avenue bisects it.

#### **Mansfield Park**

Mansfield Park is a 20.8-acre Community Park operated by the COT Parks and Recreation Department. This park, located on North 4<sup>th</sup> Avenue, includes a number of amenities such as playgrounds, a baseball field, basketball courts, a swimming pool, multi-purpose fields, a soccer field, sand volleyball courts, picnic tables, grills, and benches. Mansfield Park is south of Alternative Routes A, B, and D that run east to west along East Grant Road; there are several rows of houses north of Mansfield Park, between the park and

the transmission line alternatives. Routes A, B, C, and D would be located 400 feet north of the park, and Routes 6 and C would be 900 west of the park.

#### **North Sixth Avenue Dog Park**

North Sixth Avenue Dog Park is a 1.3-acre dog park with picnic tables, ramada, and a dog wash area. Routes 6 and C would be located 750 feet west of this park.

#### **Pascua Park**

Pascua Park is a small park located within the Pascua Yaqui Indian Village, adjacent to the Pascua Neighborhood Center. This park is located 400 feet south of Routes A, B, C, and D.

#### **Ray P. Drachman Stadium**

Ray P. Drachman Stadium is an outdoor track and field facility for the University of Arizona. This facility is 550 feet south of Route 2.

#### **San Antonio Park**

San Antonio Park is a 0.7-acre Mini Park operated by the COT. Amenities include a playground, stage/amphitheater, picnic tables, and benches. Route 3 would be located 500 feet east of this park.

#### **Santa Rita Park**

Santa Rita Park is a 22.2-acre park operated by the COT. Amenities include a baseball field, basketball court, playground, picnic tables, ramada, skate park, and softball field. This park is located 450 feet west of Routes 4, 5, and 6.

#### **Silverlake Park/Quincie Douglas Recreation Center**

Silverlake Park is a Tucson Parks and Recreation facility that includes the Quincie Douglas Recreation Center and swimming pool. This park is approximately 50 acres, and includes amenities such as Multi-Purpose Fields, baseball and softball fields, soccer fields, walking trails, benches, grills, and picnic tables. Routes 4, 5, and 6 are adjacent to the south side of this recreation center, along East 36<sup>th</sup> Street.

#### **South Campbell Avenue Median Landscape**

This median landscape was developed in partnership with COT Department of Transportation and the Pueblo Gardens Neighborhood to improve open space available to residents and promote neighborhood walkability. The planned landscape includes specific native vegetation features such as a Saguaro Sundial, and other native vegetation with irrigation features. Routes 1, 2, and 3 would parallel this median landscape for approximately 3,000 feet, 300 feet to the west. The routes would turn to the northeast at the northern termination of the median landscape.

#### **Stevens Plaza**

Stevens Plaza is located along the Aviation Bikeway adjacent to the SunLink terminal. Routes 5 and 6 are adjacent to the Plaza.

### **Tahoe Park**

Tahoe Park is a 2.5-acre COT Park located west of Campbell Avenue. The park provides playgrounds, picnic tables, ramadas, and benches. This park is 500 feet east of Routes 6 and D.

### **University of Arizona recreational facilities including McKale Memorial Center**

The University of Arizona maintains multiple recreation facilities, primarily for students, including the Robson Tennis Center, the Hillenbrand Aquatic Center, as well as various fields for a variety of recreational sports and activities. Route 1 would be located on the east side of the University of Arizona campus, along North Campbell Avenue, and would not span or otherwise impact these facilities.

### **Waverly Circle Park**

Waverly Circle Park is a small open space in the median of East Waverly Street, 680 feet east of North Campbell Avenue. There are no amenities at this park. Routes 6 and D are 800 feet west of this park.

## **F.3 Potential Effects**

### **Construction**

Construction activities would create minor impacts to recreational area users in locations where the transmission line intersects those areas. Construction of the Project will not permanently impact the use of or access to any existing recreation opportunities or activities. Short-term impacts to these resources will occur during the construction phases of the Project. Dispersed recreation activities such as walking, biking, and bird watching may be temporarily affected by construction noises, visual disturbances, and/or the presence of equipment and construction personnel. Temporary, short-term closure of a lane of traffic and/or road shoulders or sidewalks may be required for safety during construction. Detours or alternate routes will be established as necessary to maintain access for public use and recreation.

Impacts to recreation areas and users during construction would be minor since the activities would be short-term in nature.

Potential indirect impacts from construction to the natural, historic, cultural, or visual character of parks and recreation areas are discussed in Exhibits B, C, D, E, and G.

Currently, TEP does not have any plans to make the ROW available to the public for recreational purposes. Closure of a lane of traffic to accommodate portions of the transmission line, together with the installation of a multi-use path and landscaping, has been discussed as a possibility with COT. This is dependent on the route selected and if traffic patterns would accommodate a lane closure. TEP would not be opposed to compatible recreational development within the ROW, but this is not proposed as part of this project at this time. As discussed, further details and agreements with COT and other landowners would be needed prior to pursuing this type of development.

### **Operation and Maintenance**

Operation and maintenance activities are short-term, temporary in duration, and occur infrequently. Closures to areas required for maintenance would be short-term and temporary while the activity is



conducted. Recreation opportunities and activities can continue as before construction, with only infrequent minor impacts during maintenance tasks.

#### **F.4 Conclusion**

The alternative routes for the Project are informed by TEP's design principle to first use established infrastructure corridors that meet the Project objectives. This approach locates routes within public road ROW to the greatest extent practical and maintains public use consistent with existing use. This strategic approach minimizes impacts to recreational facilities and parks and maintains public use and recreation along existing ROWs.

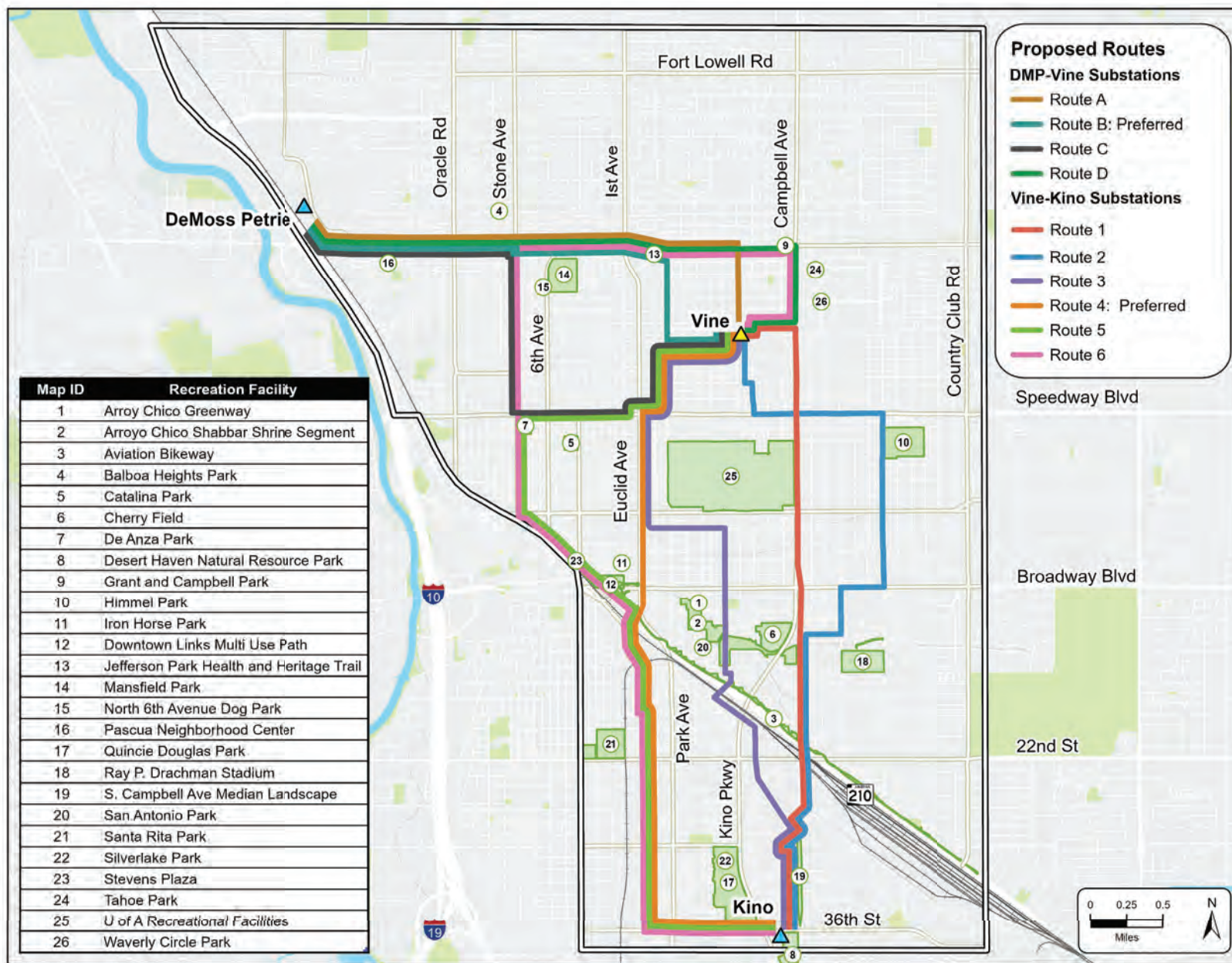
Following construction, all existing recreation facilities will remain available. Where the Project crosses existing roads or trails, permanent access to and along these features for recreation use will not be affected.

# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit F-1**

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## Exhibit F-1

### Midtown Reliability Project

#### Recreation Facilities

- In-Service 138kV Substation
- Proposed 138kV Substation
- Recreation Facilities within 1000 Feet of Proposed Routes
- Study Area

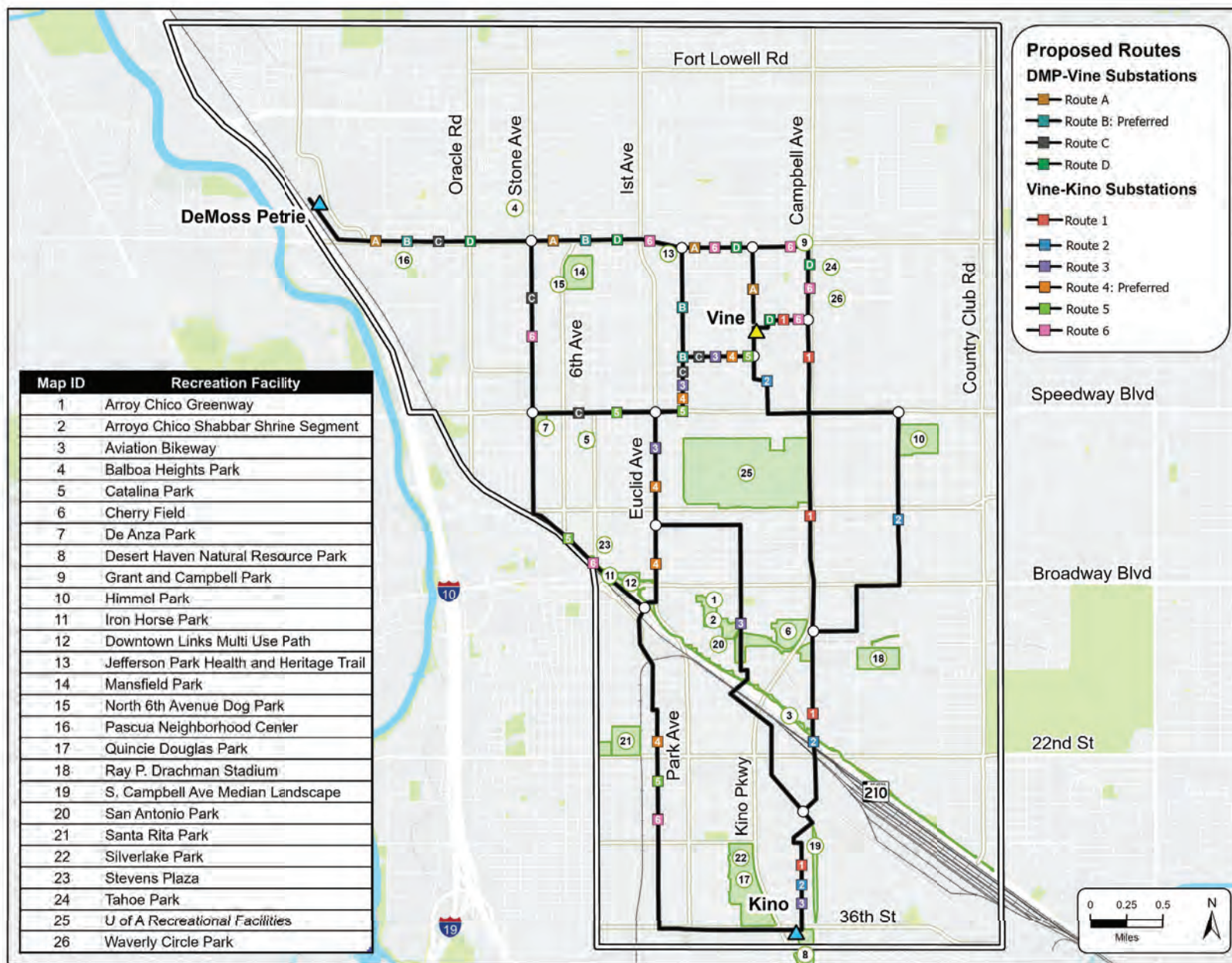
Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: TEP/ESRI Custom Basemap 2024

This map is for planning purposes only.  
TEP makes no warranty of its accuracy.



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## Exhibit F-1

### Midtown Reliability Project

#### Recreation Facilities

- In-Service 138kV Substation
- Proposed 138kV Substation
- Route Alternative Nodes
- Study Area
- Recreation Facilities within 1000 Feet of Proposed Routes

Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: TEP/ESRI Custom Basemap 2024

This map is for planning purposes only.  
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## **EXHIBIT G**

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## EXHIBIT G: CONCEPTS OF PROPOSED FACILITIES

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AAC R14-3-219:

*Attach any artist's or architect's conception of the proposed plant or transmission line structures and switchyards, which applicant believes may be informative to the Committee.*

EXHIBIT	CONTENTS
G-1.1	Single Circuit 138 kV Tangent Typical Configuration
G-1.2	Double Circuit Tangent w/o Distribution
G-1.3	Tangent I-string on arms, single circuit
G-1.4	Tangent I-string on arms, double circuit
G-1.5	Single Circuit w/o Distribution 46/69/138
G-1.6	Single Circuit Deadend w/o Distribution
G-1.7	Double Circuit Deadend w/o Distribution
G-1.8	Single Circuit Tangent with 46kV Underbuilt
G-1.9	Single Circuit Deadend with 46kV Underbuilt
G-1.10	Single Circuit Tangent with 46kV Switch
G-2	Vine Substation Schematics
G-3	Visual Simulations



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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit G-1**

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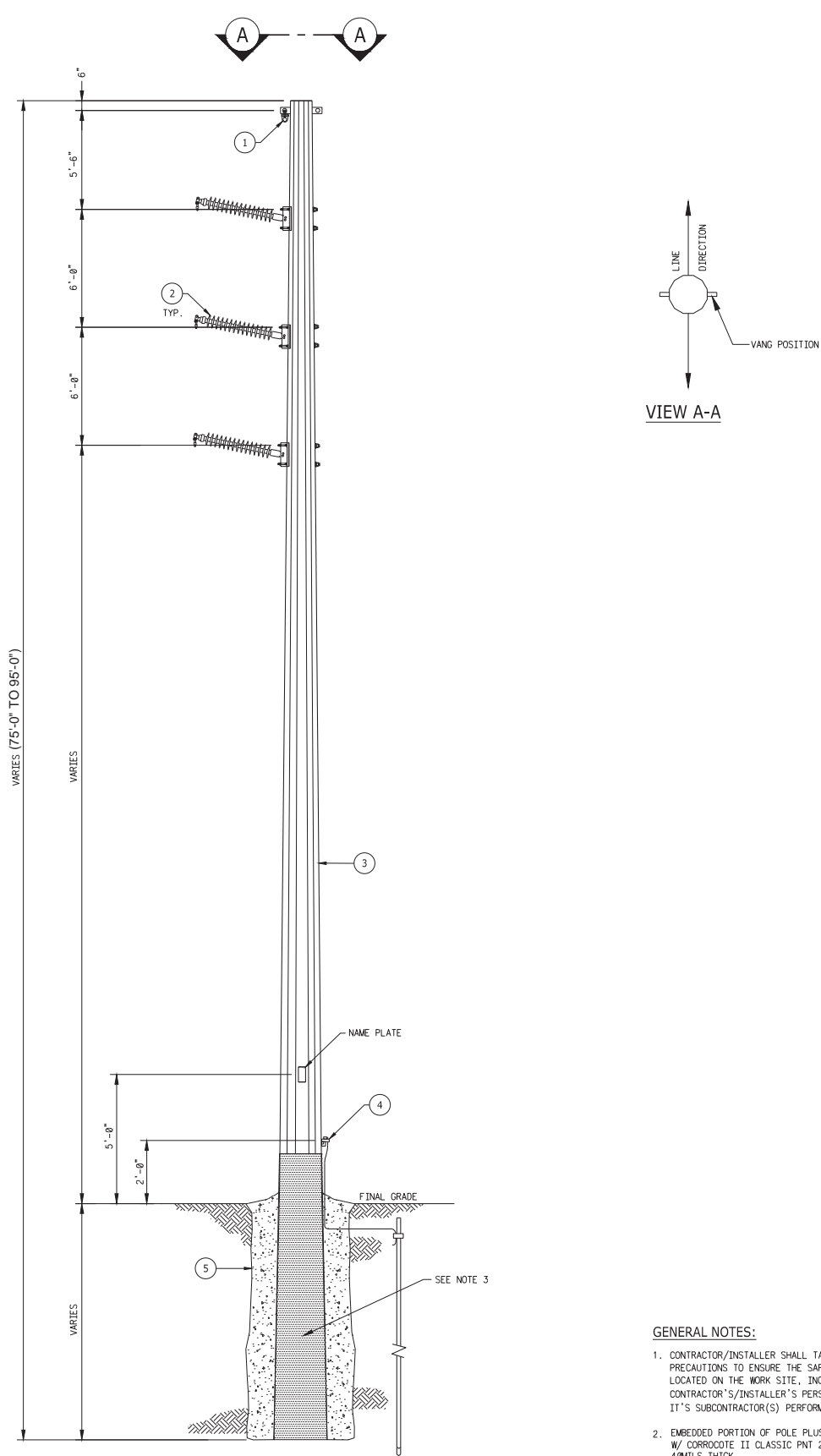


UniSourceEnergy  
Services

FRAMING, SINGLE CIRCUIT VERTICAL  
TANGENT (0-3 DEGREES) 46/69/138KV  
TRANSMISSION STANDARD

INITIATED	MF
EFFECTIVE DATE	12/31/11

TL0305.005-R00



TANGENT 0-3°, SINGLE CIRCUIT VERTICAL 46/69/138KV

- GENERAL NOTES:
1. CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF IT'S SUBCONTRACTOR(S) PERFORMING THE WORK).
  2. EMBEDDED PORTION OF POLE PLUS 1'-6" COATED W/ CORROCOTE II CLASSIC PNT 219A & 219B, 40MILS THICK.

BILL OF MATERIAL			
ITEM.	DESCRIPTION	QTY.	DRAWING ASSEMBLY
1	OPGW/STATIC SUSP. ASSEMBLY	1	TL0504.001 TL0506.001
2	POST INSULATOR ASSEMBLY	3	TL0502.003 TL0502.004
3	STEEL POLE	1	SEE CTE
4	GROUNDING ASSEMBLY	1	TL0502.001
5	FOUNDATION DETAIL	1	TL0700.005

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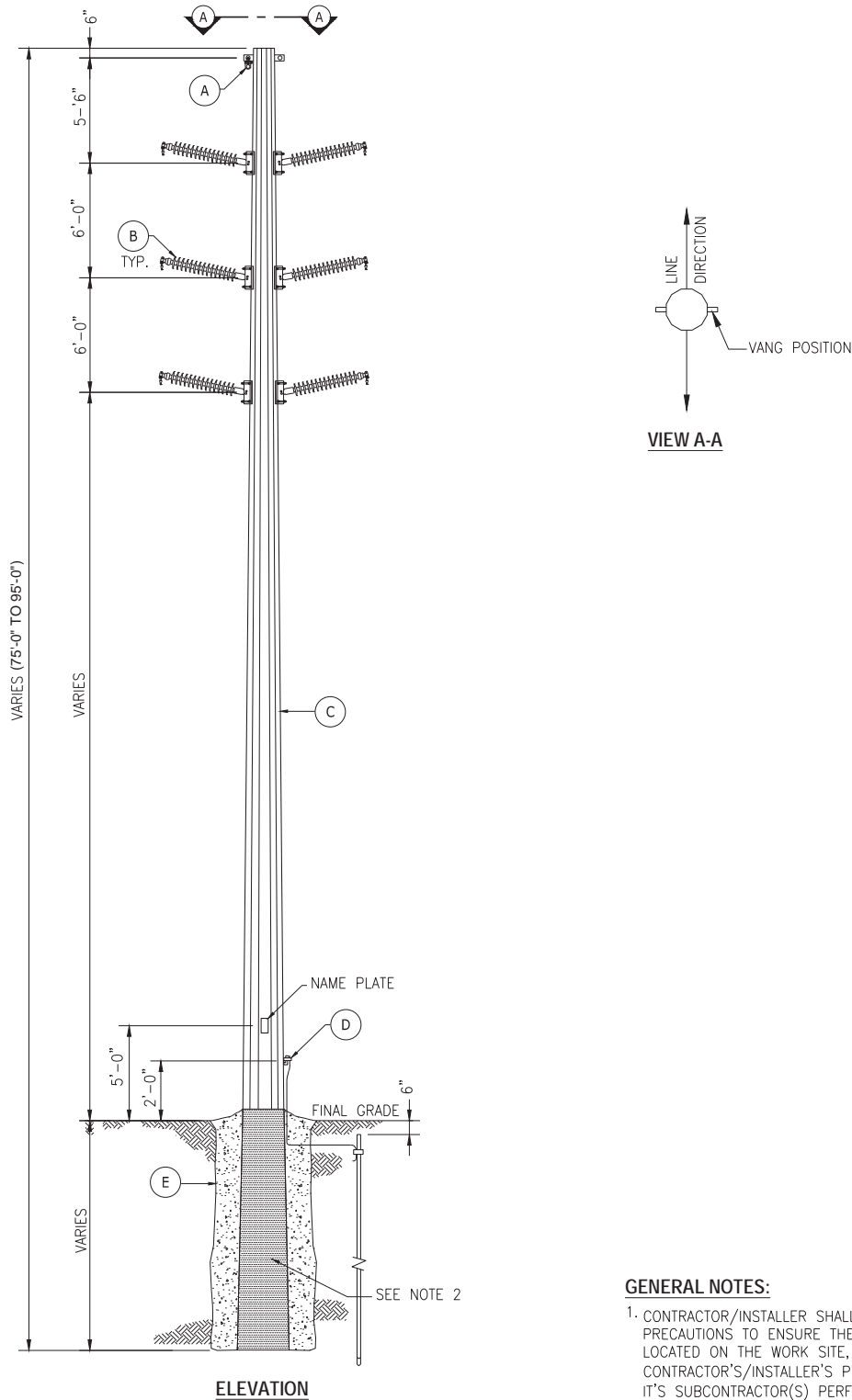


**FRAMING, DOUBLE CIRCUIT W/OUT DISTRIBUTION**

TANGENT (0-3 DEGREES), 46/69/138KV  
TRANSMISSION STANDARD

INITIATED	KV
EFFECTIVE DATE	08/25/20

TL0310.005-R01



**TANGENT 0-3°, DOUBLE CIRCUIT 46/69/138KV  
W/OUT DIST.**

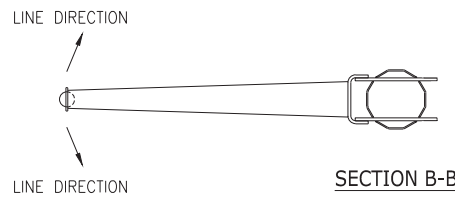
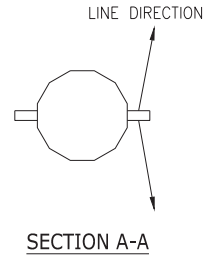
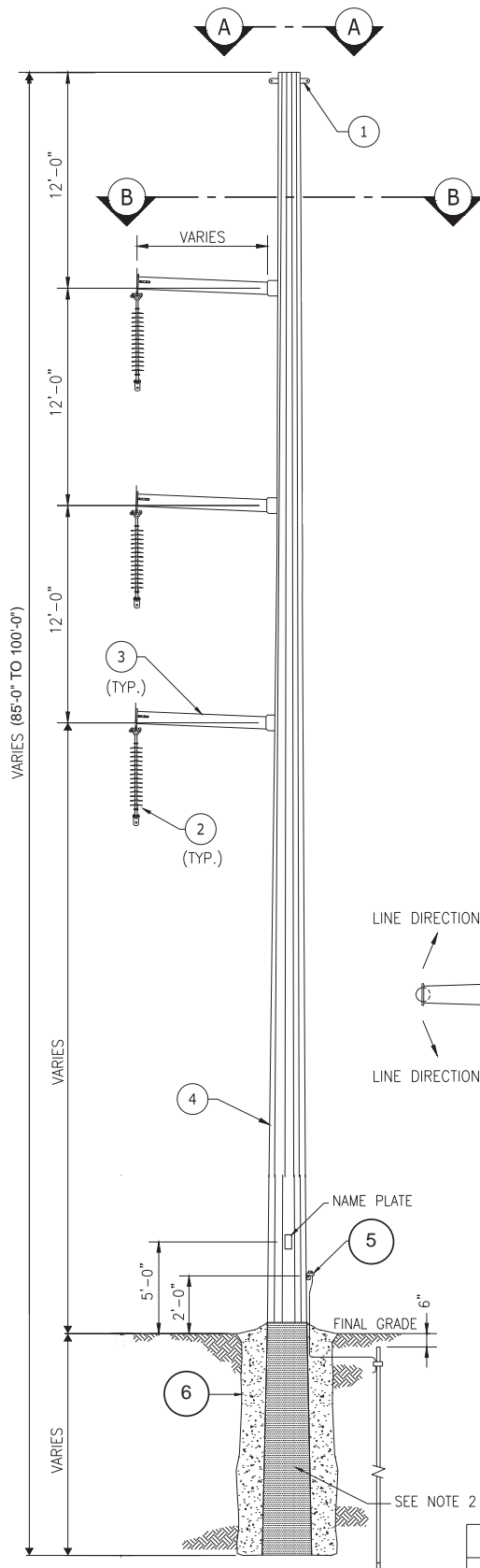
**GENERAL NOTES:**

1. CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF IT'S SUBCONTRACTOR(S) PERFORMING THE WORK).
2. EMBEDDED PORTION OF POLE PLUS 1'-6" COATED W/ CORROCOTE II CLASSIC PNT 219A & 219B OR MEYERCLAD PNT 218A & 218B, 40 MILS THICK.

**REFERENCE DRAWINGS**

ITEM.	DESCRIPTION	QTY.	ASSEMBLY DRAWINGS
A	OPGW/STATIC SUSP.ASSEMBLY	1	TL0504.009 (96-OPGW) TL0506.001 (3/8" EHS)
B	POST INSULATOR ASSEMBLY	6	TL0502.003 TL0502.004
C	STEEL POLE	1	SEE CTE
D	GROUNDING ASSEMBLY	1	TL0500.001
E	FOUNDATION DETAIL	1	TL0700.005

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**NOTE:**

1. CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF IT'S SUBCONTRACTOR(S) PERFORMING THE WORK.

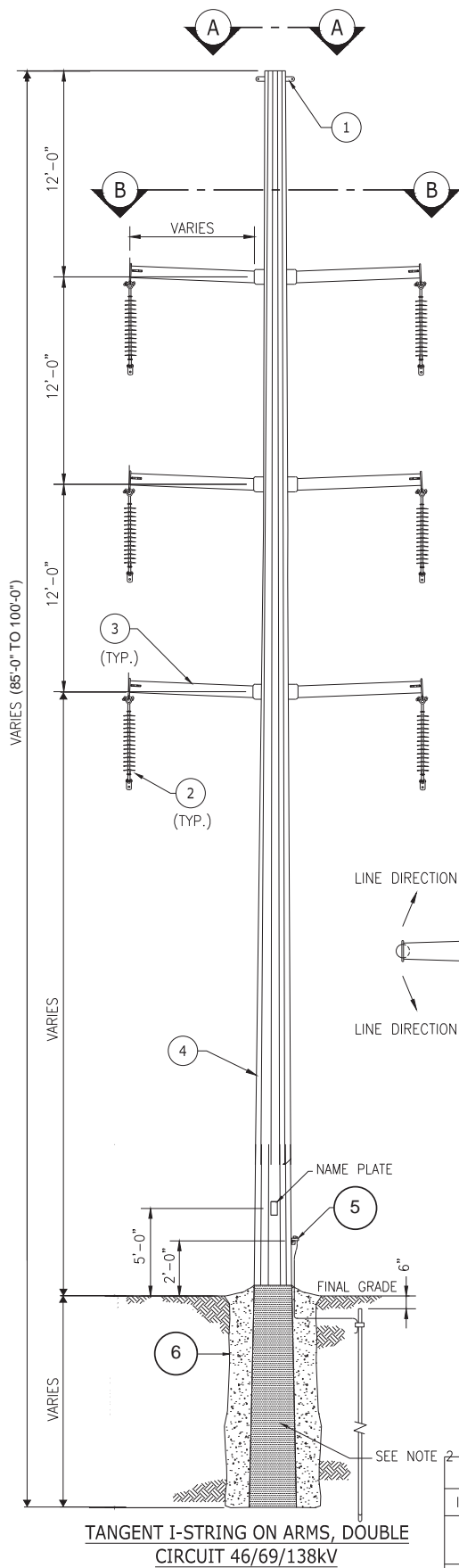
**REFERENCE DRAWINGS**

ITEM	DESCRIPTION	QTY.	ASSEMBLY DRAWINGS
1	OPGW/STATIC SUSPENSION ASSEMBLY	1	
2	I-STRING SUSPENSION INSULATOR ASSEMBLY	3	
3	TUBULAR DAVIT ARM	3	
4	STEEL POLE	1	
5	GROUND ASSEMBLY	1	
6	FOUNDATION	1	

**TANGENT I-STRING ON ARMS, SINGLE  
CIRCUIT 46/69/138kV**

INITIATED  
EFFECTIVE DATE

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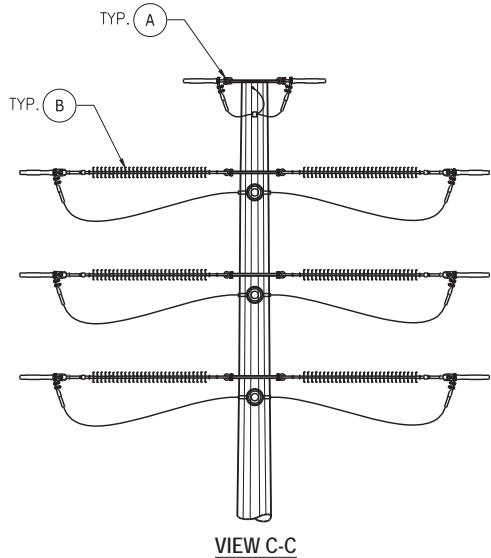
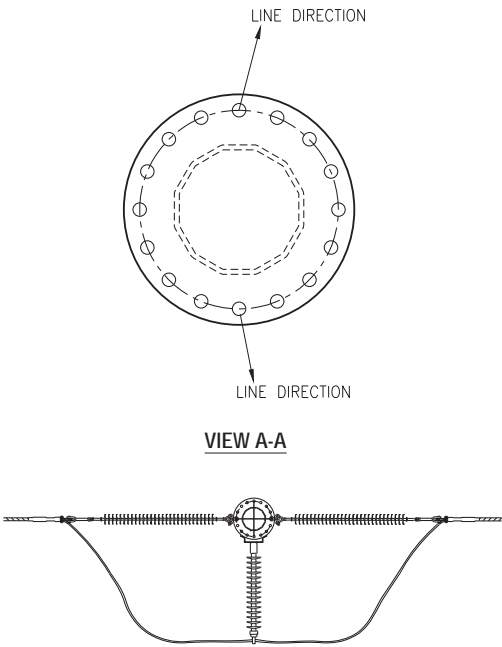
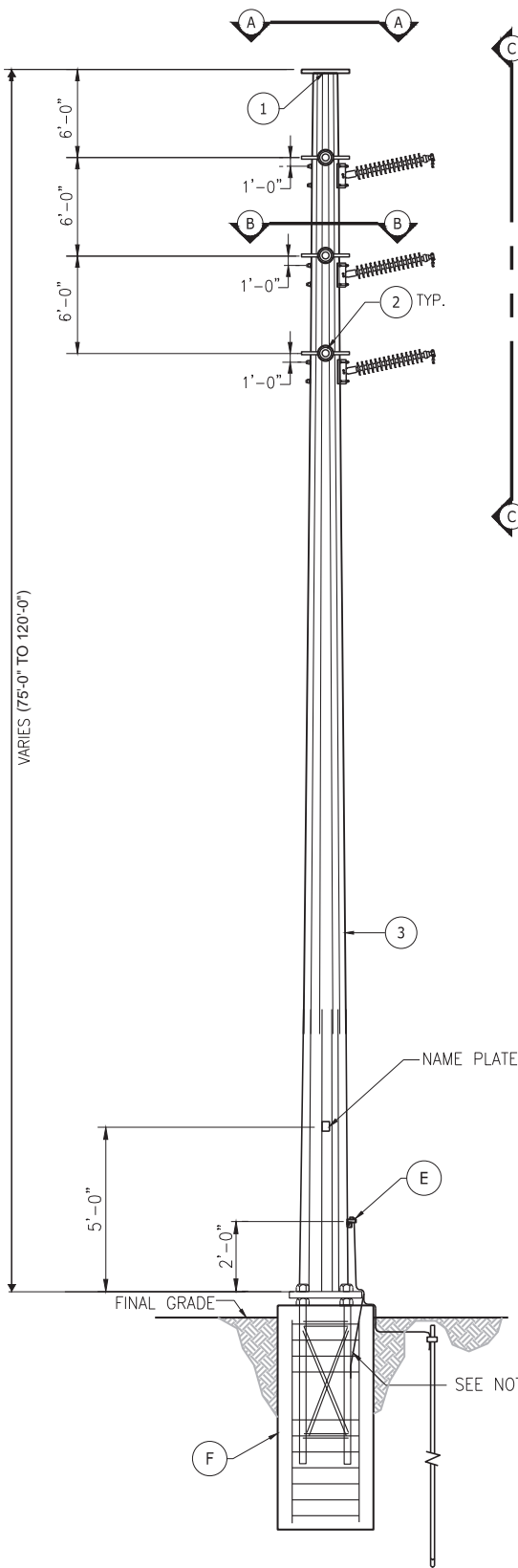
**NOTE:**

1. CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF IT'S SUBCONTRACTOR(S) PERFORMING THE WORK.

REFERENCE DRAWINGS			
ITEM	DESCRIPTION	QTY.	ASSEMBLY DRAWINGS
1	OPGW/STATIC SUSPENSION ASSEMBLY	1	
2	I-STRING SUSPENSION INSULATOR ASSEMBLY	6	
3	TUBULAR DAVIT ARM	6	
4	STEEL POLE	1	
5	GROUND ASSEMBLY	1	
6	FOUNDATION	1	



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**GENERAL NOTES:**

1. CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF IT'S SUBCONTRACTOR(S) PERFORMING THE WORK).
2. EMBEDDED PORTION OF POLE PLUS 1'-6" COATED W/ MEYERCLAD PNT 219A & 219B, 40MILS THICK.

DDE ON RING VANGS, SINGLE CIRCUIT VERTICAL 46/69/138kV  
W/OUT DIST.

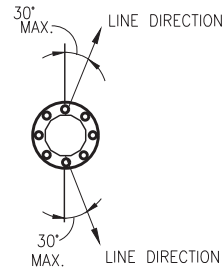
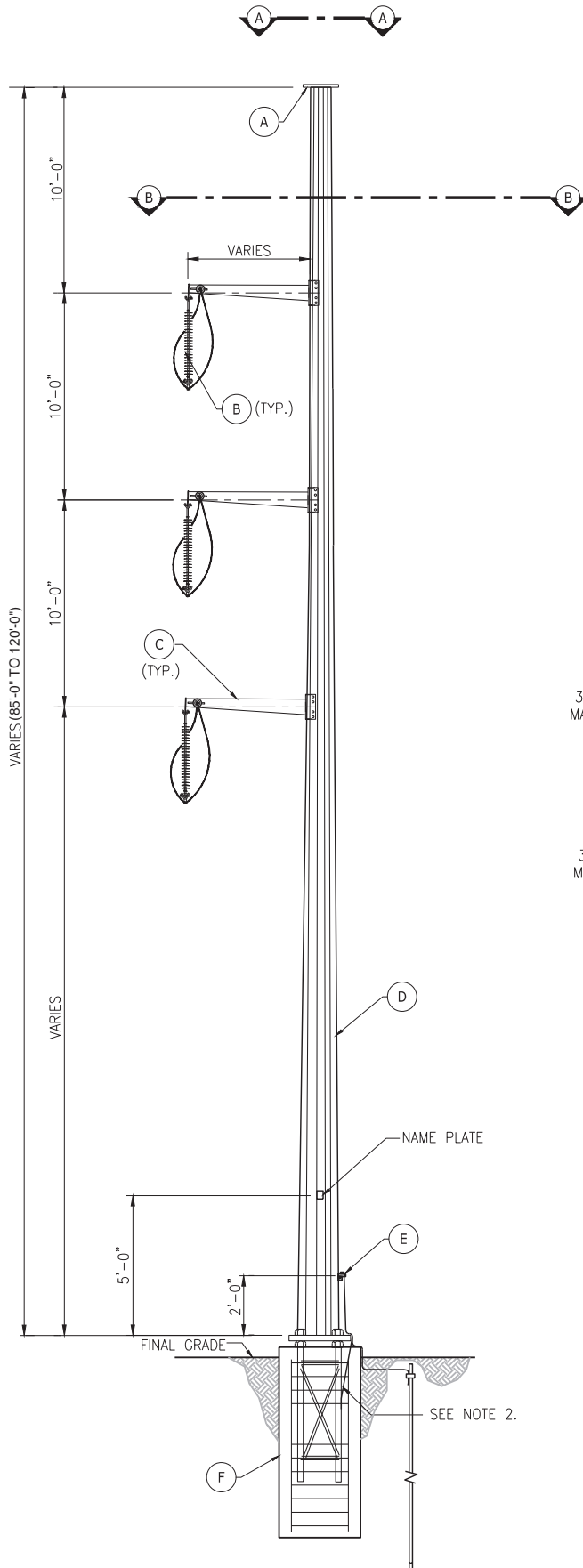
REFERENCE DRAWINGS			
ITEM.	DESCRIPTION	QTY.	ASSEMBLY DRAWINGS
1	OPGW/STATIC ASSEMBLY	1	
2	DEADEND ON POLE	3	
3	STEEL POLE	1	
4	GROUNDING ASSEMBLY	1	
5	FOUNDATION DETAIL	1	

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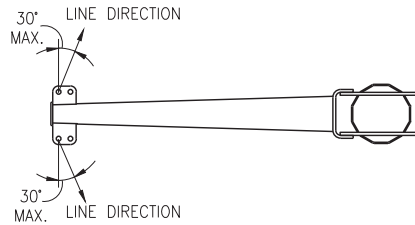
**FRAMING, SINGLE CIRCUIT VERTICAL**  
DEADEND OR DOUBLE DEADEND (0-60 DEGREES), 46/69/138kV  
TRANSMISSION STANDARD

INITIATED
EFFECTIVE DATE
6/15/2021

TL03115.002-R01



**SECTION A-A**



**SECTION B-B**

**GENERAL NOTES:**

1. CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF IT'S SUBCONTRACTOR(S) PERFORMING THE WORK).
2. TIE GROUNDING ASSEMBLY TO REINFORCING REBAR CAGE OF FOUNDATION.

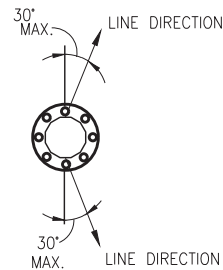
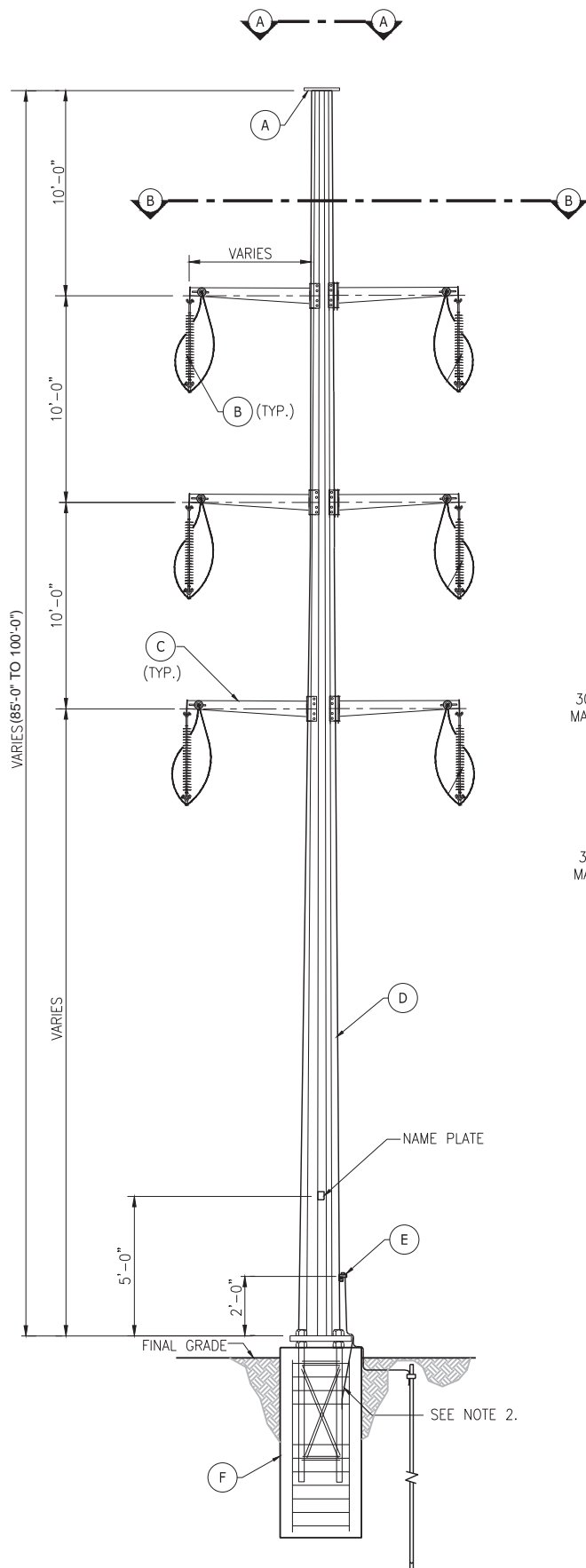
**BILL OF MATERIAL**

ITEM.	DESCRIPTION	QTY.	ASSEMBLY DRAWINGS
A	OPGW /STATIC DDE ASSEMBLY	1	TL0504.004 (OPGW 96) TL0504.006 (STATIC)
B	DE ON ARMS W/JUMPER	3	TL0501.005 TL0501.006
C	TUBULAR DAVIT ARM	3	SEE CTE
D	STEEL POLE	1	SEE CTE
E	GROUND ASSEMBLY	1	TL0500.001
F	FOUNDATION	1	TL0700.003 TL0700.004

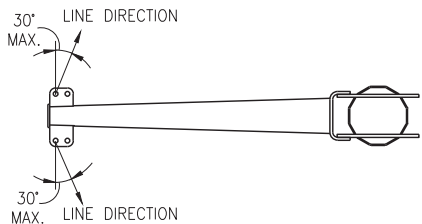
**DE OR DDE 0-60°, SINGLE CIRCUIT VERTICAL 46/69/138kV**  
**W/OUT DIST.**

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SECTION A-A



SECTION B-B

**GENERAL NOTES:**

1. CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF IT'S SUBCONTRACTOR(S) PERFORMING THE WORK).
2. TIE GROUNDING ASSEMBLY TO REINFORCING REBAR CAGE OF FOUNDATION.

**BILL OF MATERIAL**

ITEM.	DESCRIPTION	QTY.	ASSEMBLY DRAWINGS
A	OPGW /STATIC DDE ASSEMBLY	1	
B	DE ON ARMS W/JUMPER	3	
C	TUBULAR DAVIT ARM	3	
D	STEEL POLE	1	
E	GROUND ASSEMBLY	1	
F	FOUNDATION	1	

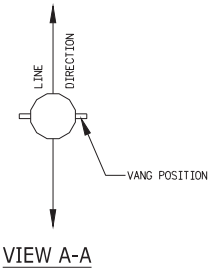
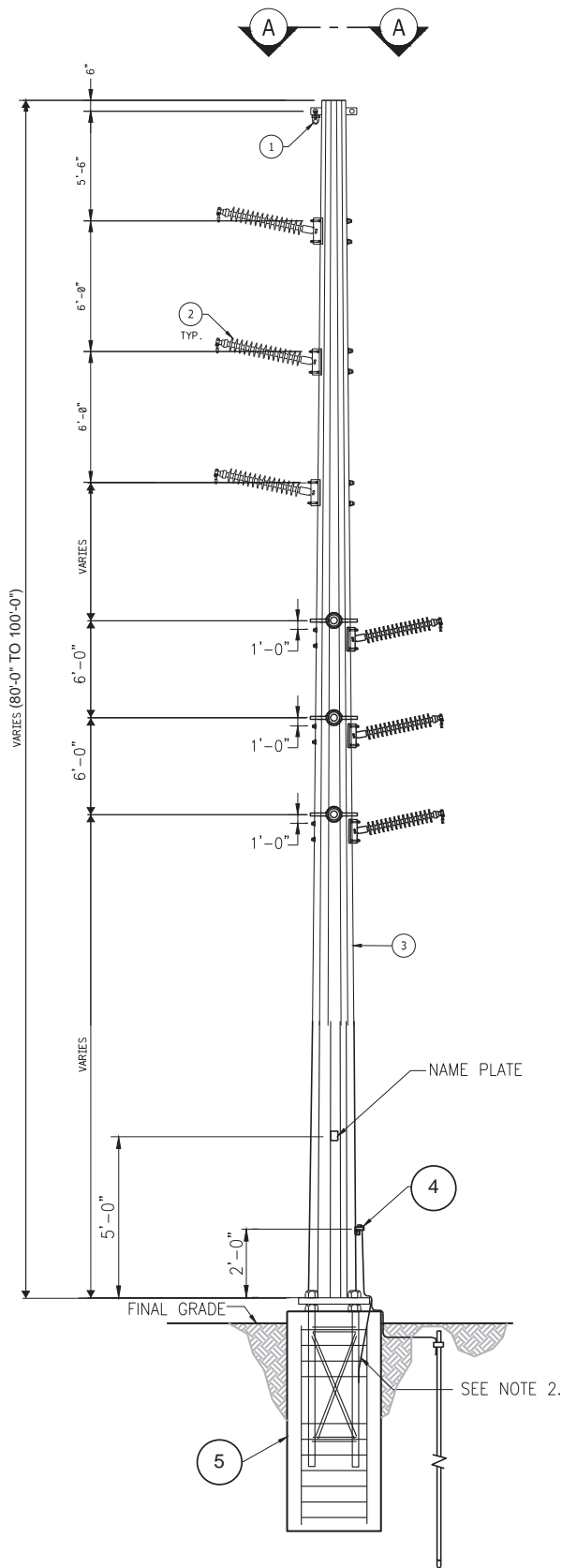
DE OR DDE 0-60°, DOUBLE CIRCUIT VERTICAL 46/69/138kV  
W/OUT DIST.

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UniSourceEnergy  
Services

INITIATED  
EFFECTIVE DATE

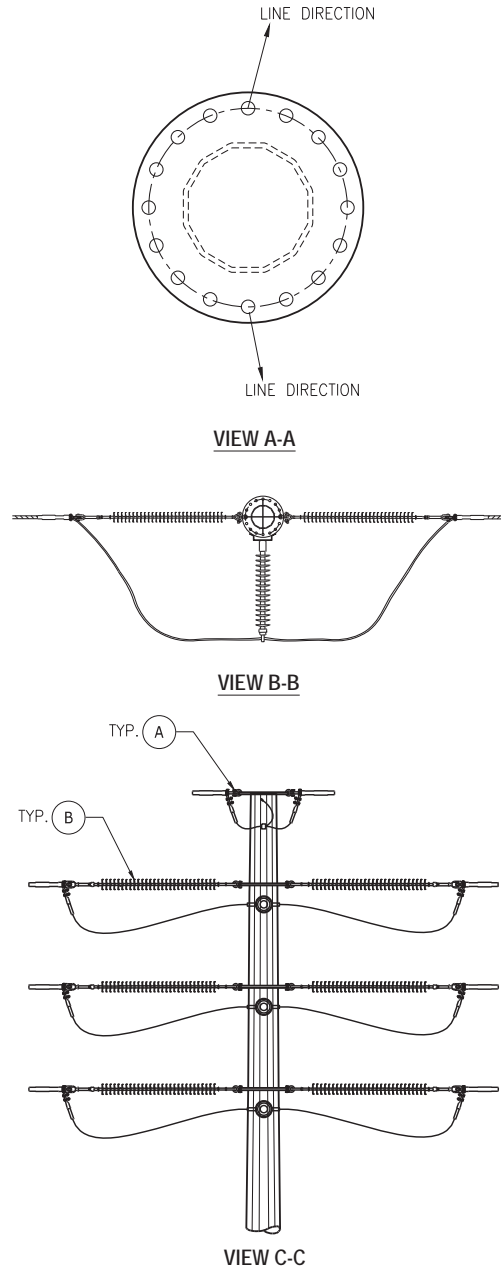
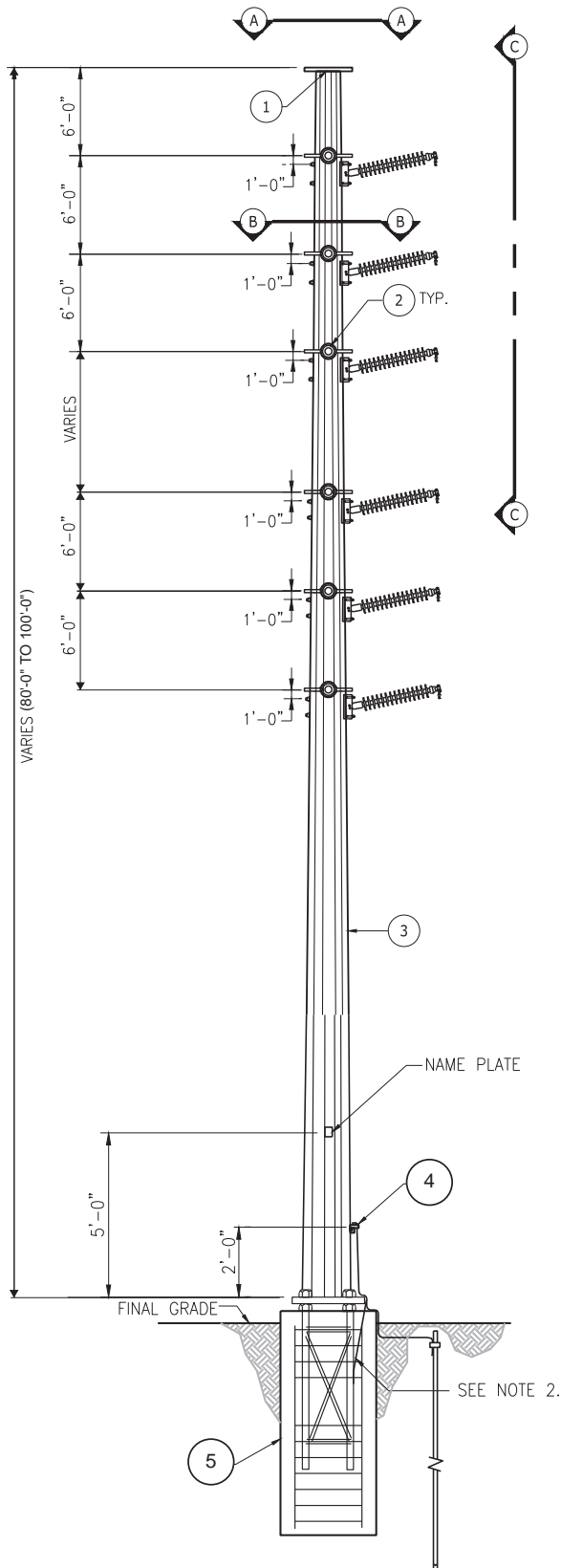


- GENERAL NOTES:**
1. CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF IT'S SUBCONTRACTOR(S) PERFORMING THE WORK).
  2. EMBEDDED PORTION OF POLE PLUS 1'-6" COATED W/ CORROCODE II CLASSIC PNT 219A & 219B, 40MILS THICK.

TANGENT 0-3°, SINGLE CIRCUIT VERTICAL 46/69/138KV  
W/46KV UNDERBUILT (CO-LOCATED)

BILL OF MATERIAL			
ITEM.	DESCRIPTION	QTY.	DRAWING ASSEMBLY
1	OPGW/STATIC SUSP. ASSEMBLY	1	
2	POST INSULATOR ASSEMBLY	3	
3	STEEL POLE	1	
4	GROUNDING ASSEMBLY	1	
5	FOUNDATION DETAIL	1	

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**GENERAL NOTES:**

1. CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF IT'S SUBCONTRACTOR(S) PERFORMING THE WORK).
2. EMBEDDED PORTION OF POLE PLUS 1'-6" COATED W/ MEYERCLAD PNT 219A & 219B, 40MILS THICK.

**REFERENCE DRAWINGS**

ITEM.	DESCRIPTION	QTY.	ASSEMBLY DRAWINGS
1	OPGW/STATIC ASSEMBLY	1	
2	DEADEND ON POLE	3	
3	STEEL POLE	1	
4	GROUNDING ASSEMBLY	1	
5	FOUNDATION DETAIL	1	

**DDE ON RING VANGS, SINGLE CIRCUIT VERTICAL 46/69/138kV  
W/46kV UNDERBUILT (CO-LOCATED)**

INITIATED  
EFFECTIVE DATE

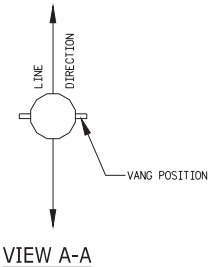
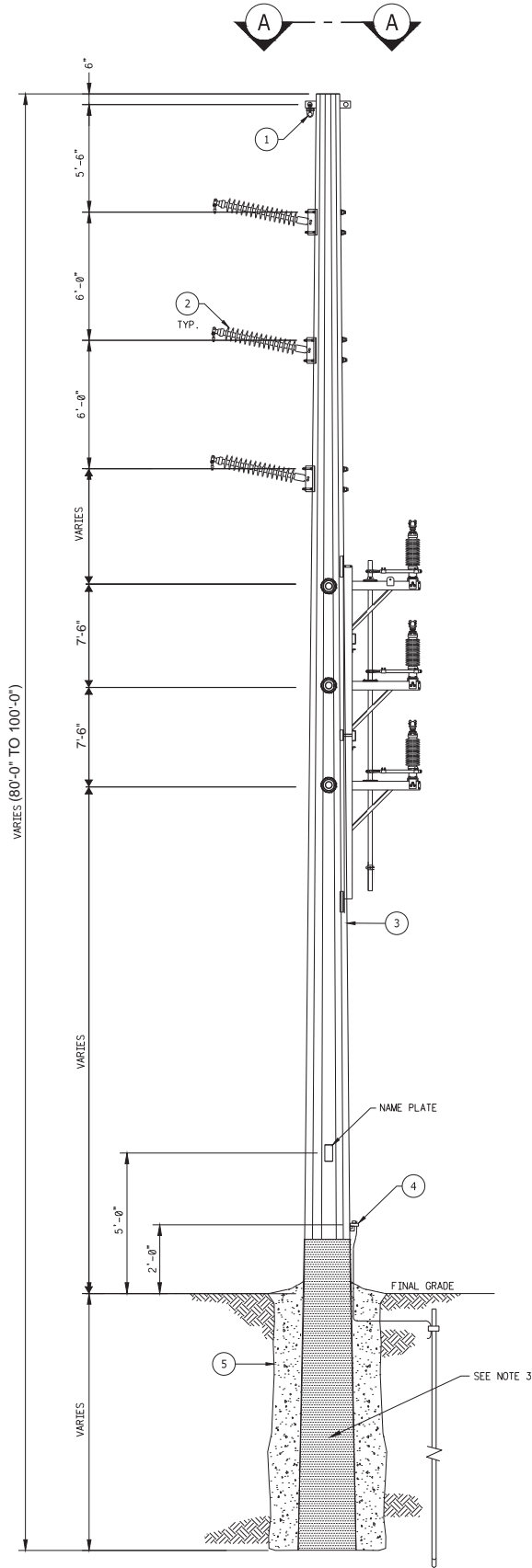


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UniSourceEnergy  
Services

INITIATED  
EFFECTIVE DATE



- GENERAL NOTES:**
1. CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF IT'S SUBCONTRACTOR(S) PERFORMING THE WORK).
  2. EMBEDDED PORTION OF POLE PLUS 1'-6" COATED W/ CORROCODE II CLASSIC PNT 219A & 219B, 40MILS THICK.

TANGENT 0-3°, SINGLE CIRCUIT VERTICAL 46/69/138kV  
W/46kV SWITCH

BILL OF MATERIAL			
ITEM.	DESCRIPTION	QTY.	DRAWING ASSEMBLY
1	OPGW/STATIC SUSP. ASSEMBLY	1	
2	POST INSULATOR ASSEMBLY	3	
3	STEEL POLE	1	
4	GROUNDING ASSEMBLY	1	
5	FOUNDATION DETAIL	1	

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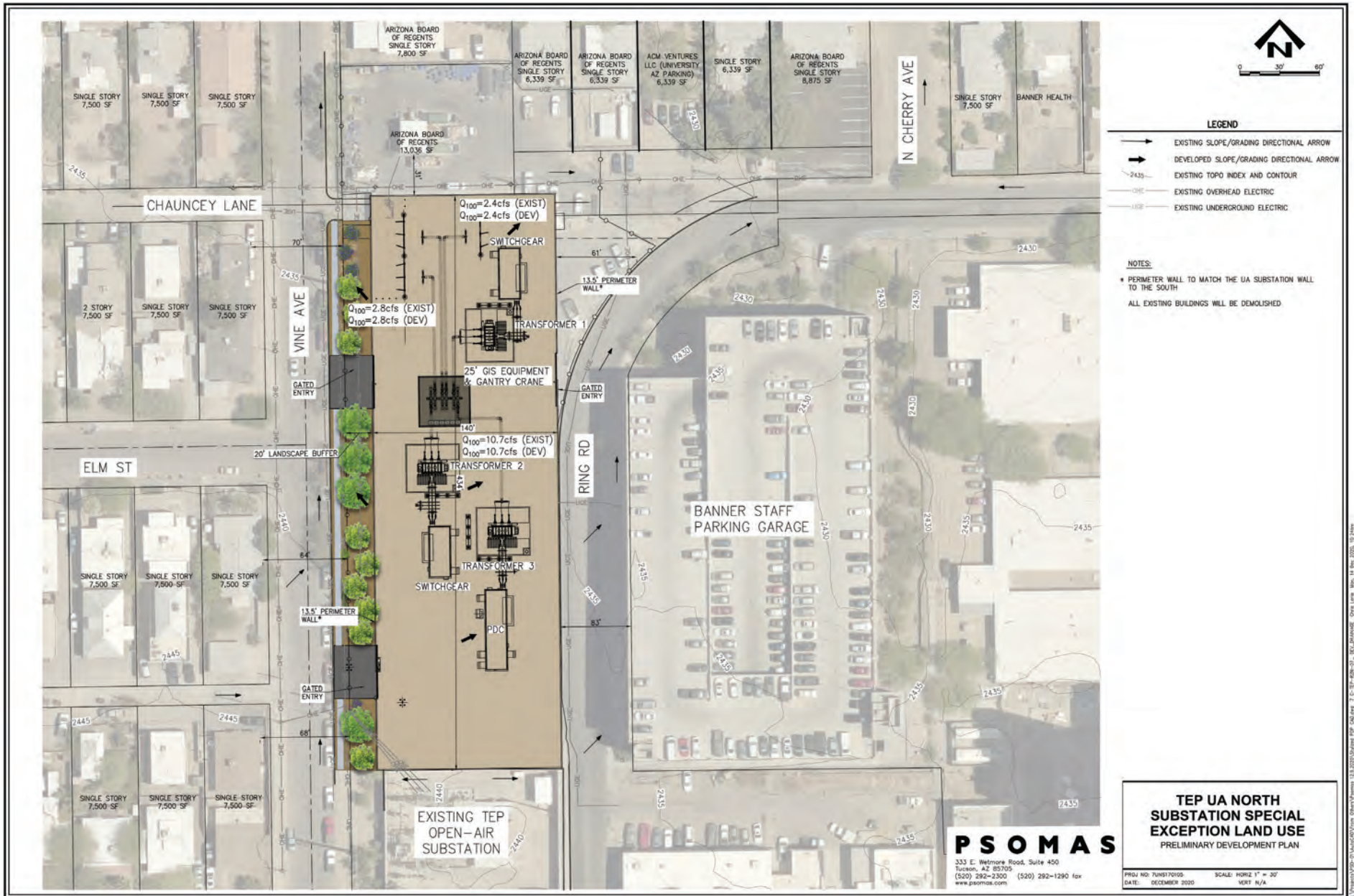
# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit G-2**

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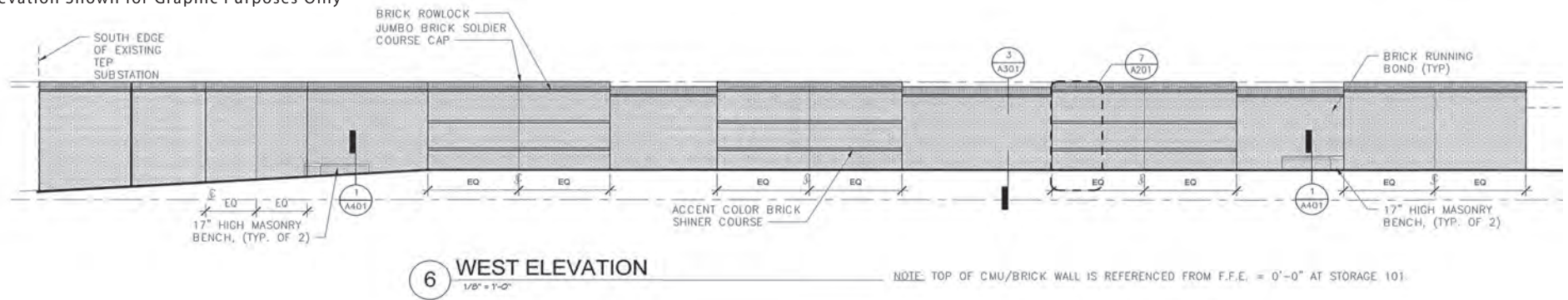
## Vine Substation

RENDERED PRELIMINARY DEVELOPMENT PLAN

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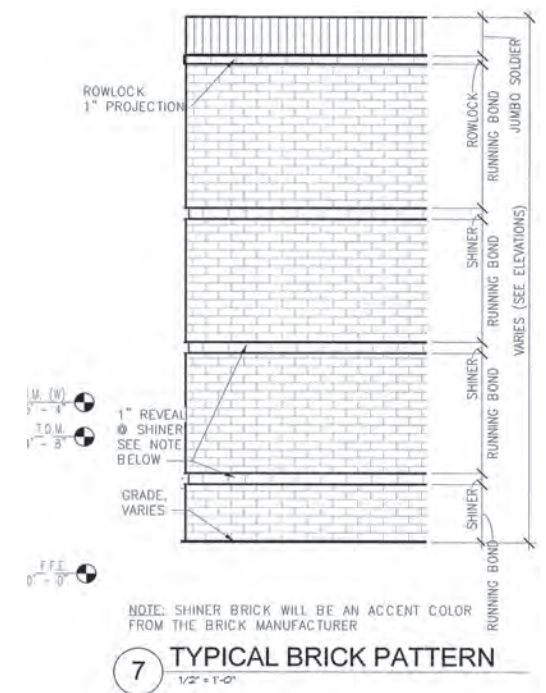
Elevation Shown for Graphic Purposes Only



Proposed Gate to Match Example Imagery



Proposed Wall to Match Example Imagery



Elevation Shown for Graphic Purposes Only

## Vine Substation

PROPOSED PERIMETER WALL & GATE

Note:

Wall details were provided by University of Arizona and were created by GLHN Architects in September of 2011 for the adjacent substation. The proposed wall for the Vine Substation will be similar to wall shown here. The proposed gate will be similar to gate shown and as present at the Kino Substation. Gate will be 13'-5" tall.

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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit G-3**



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# **Midtown Reliability Project**

## *Visual Simulation Package*

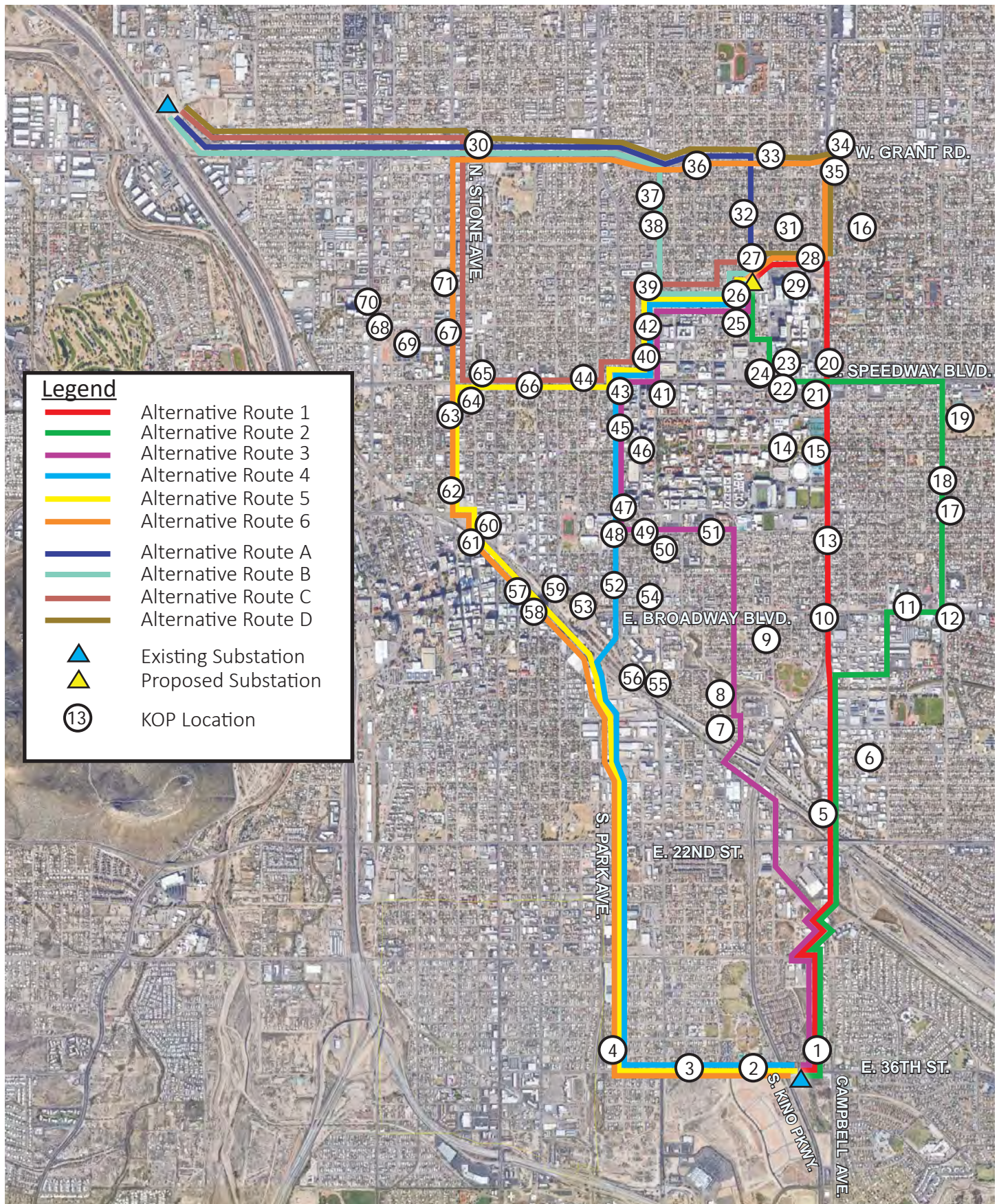
Prepared By:  
Jeremy Palmer | Sole Proprietor

April 29, 2024



# Midtown Reliability Project

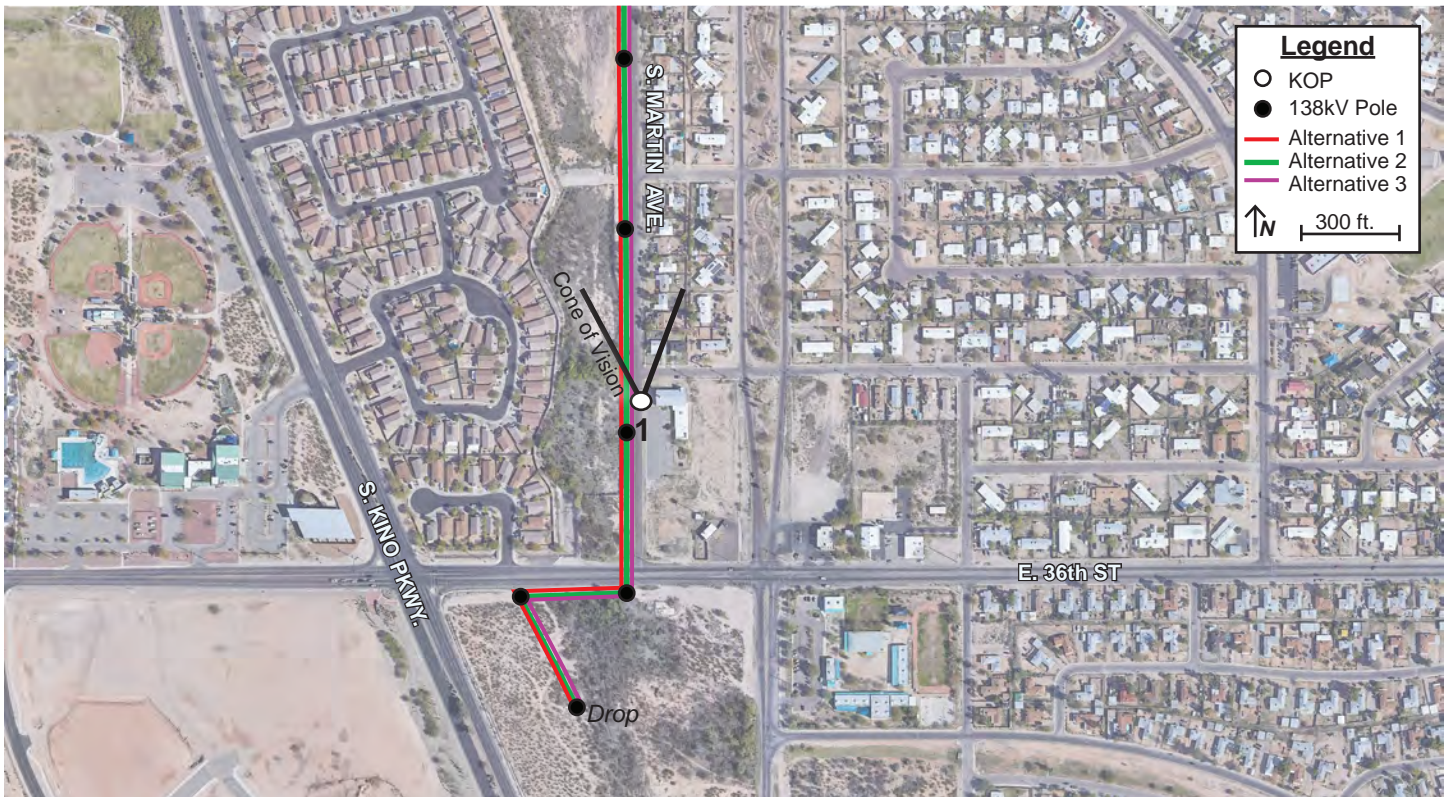
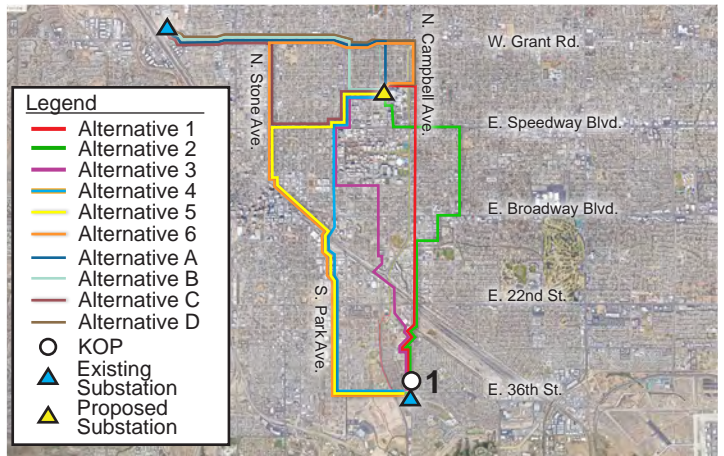
## Key Observation Point (KOP) - Key Map





## Midtown Reliability Project

### Key Observation Point (KOP) # 1



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: residents and church visitors
- Location: 2437 S. Martin Ave.
- Latitude: 32.193808° N; Longitude: 110.944719° W
- View Point Elevation at Eye Level: 2,486 ft.
- Looking: north
- Poles Visible: Alternative 1, 2, or 3 structures
- Image File Name: IMG\_3104.JPG

##### Simulation Notes

- Photo Taken: March 3rd, 2024 at 1:57 pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 562 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #1



Current Condition



Simulated Condition

Alternative 1,2,3 - Weathered Finish



## Key Observation Point (KOP) #1



Current Condition



Simulated Condition

Alternative 1,2,3 - Galvanized Finish



## Key Observation Point (KOP) #1



Current Condition

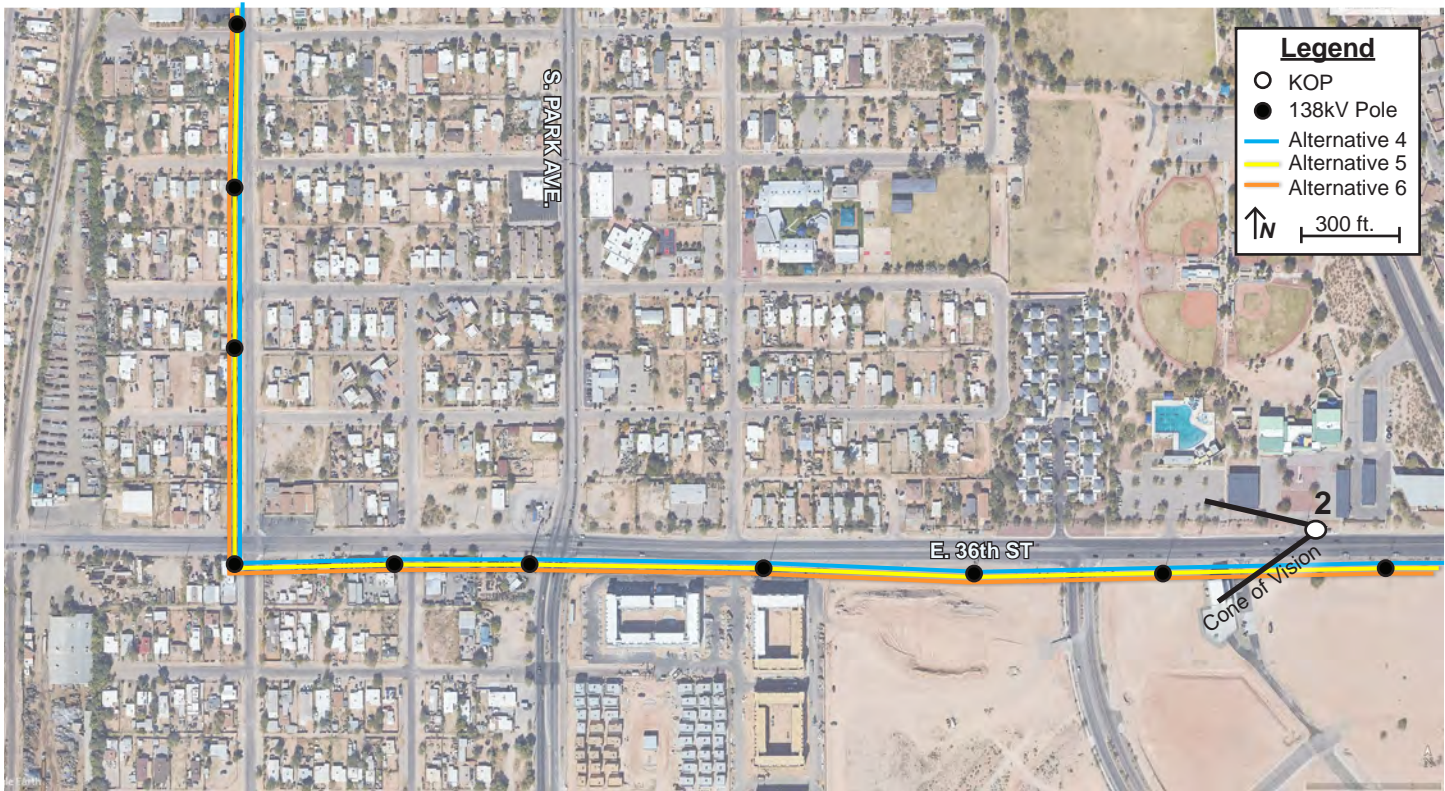
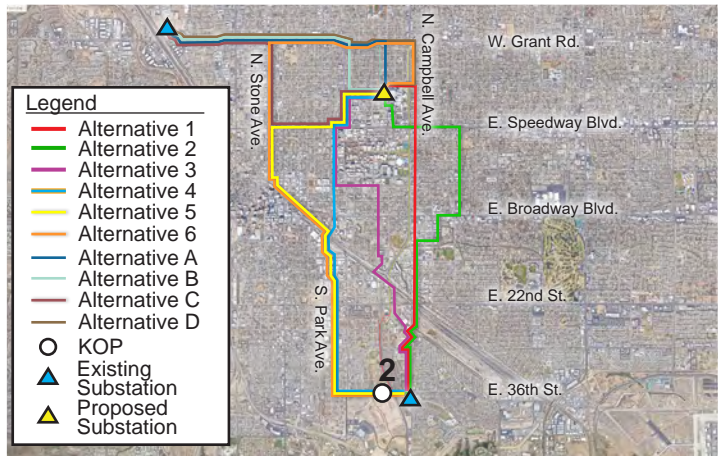


Simulated Condition

Alternative 1,2,3 - Mojave Sage Finish



## Key Observation Point (KOP) # 2



### Notes:

#### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

#### KOP

- Representative View for: commercial, recreational users
- Location: 1575 E. 36th St.
- Latitude: 32.192557° N; Longitude: 110.949075°W
- View Point Elevation at Eye Level: 2,474 ft.
- Looking: west
- Poles Visible: Alternative 4, 5, or 6 structures
- Image File Name: IMG\_3118.JPG

#### Simulation Notes

- Photo Taken: March 3rd, 2024 at 2:02 pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 449 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #2



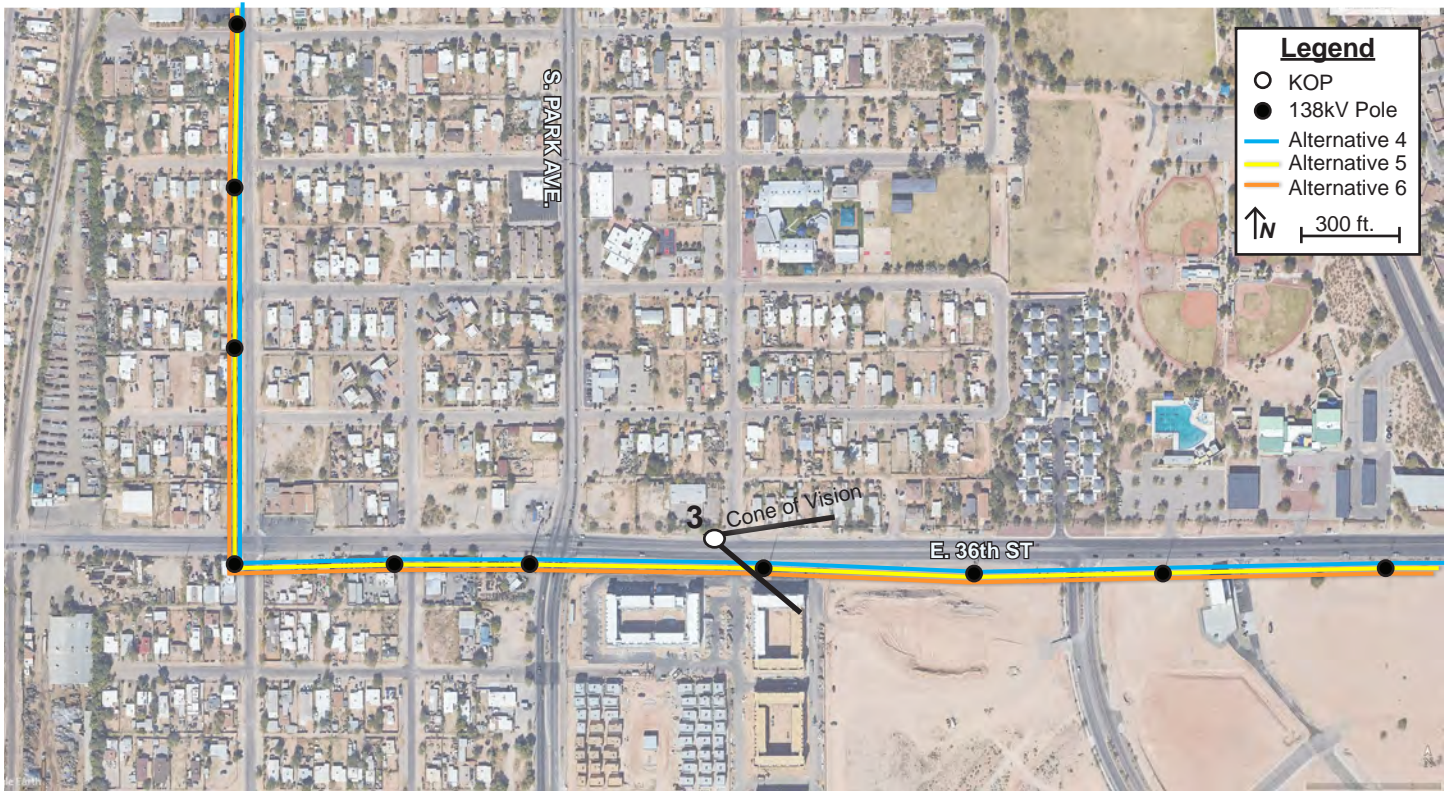
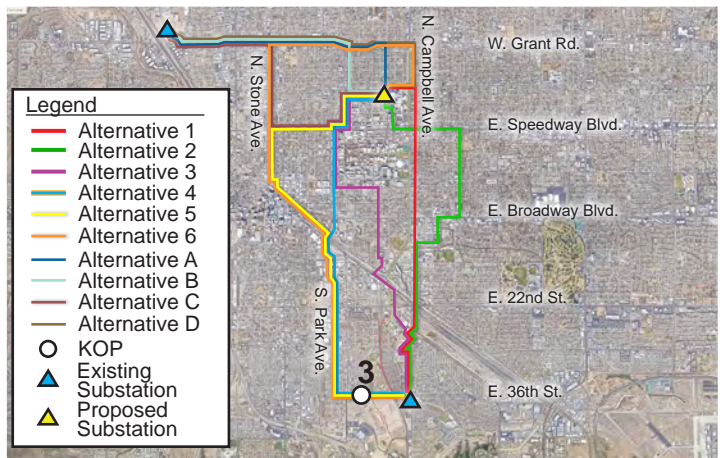
Current Condition



Simulated Condition

Alternative 4,5,or 6 - Weathered Finish





## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: commercial, residential
- Location: 1101 E. 36th St.
- Latitude: 32.192485° N; Longitude: 110.954478° W
- View Point Elevation at Eye Level: 2,460 ft.
- Looking: east
- Poles Visible: Alternative 4,5,or 6 structures
- Image File Name: IMG\_2876.JPG

### Simulation Notes

- Photo Taken: December 5th, 2023 at 10:46am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 692 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #3



Current Condition

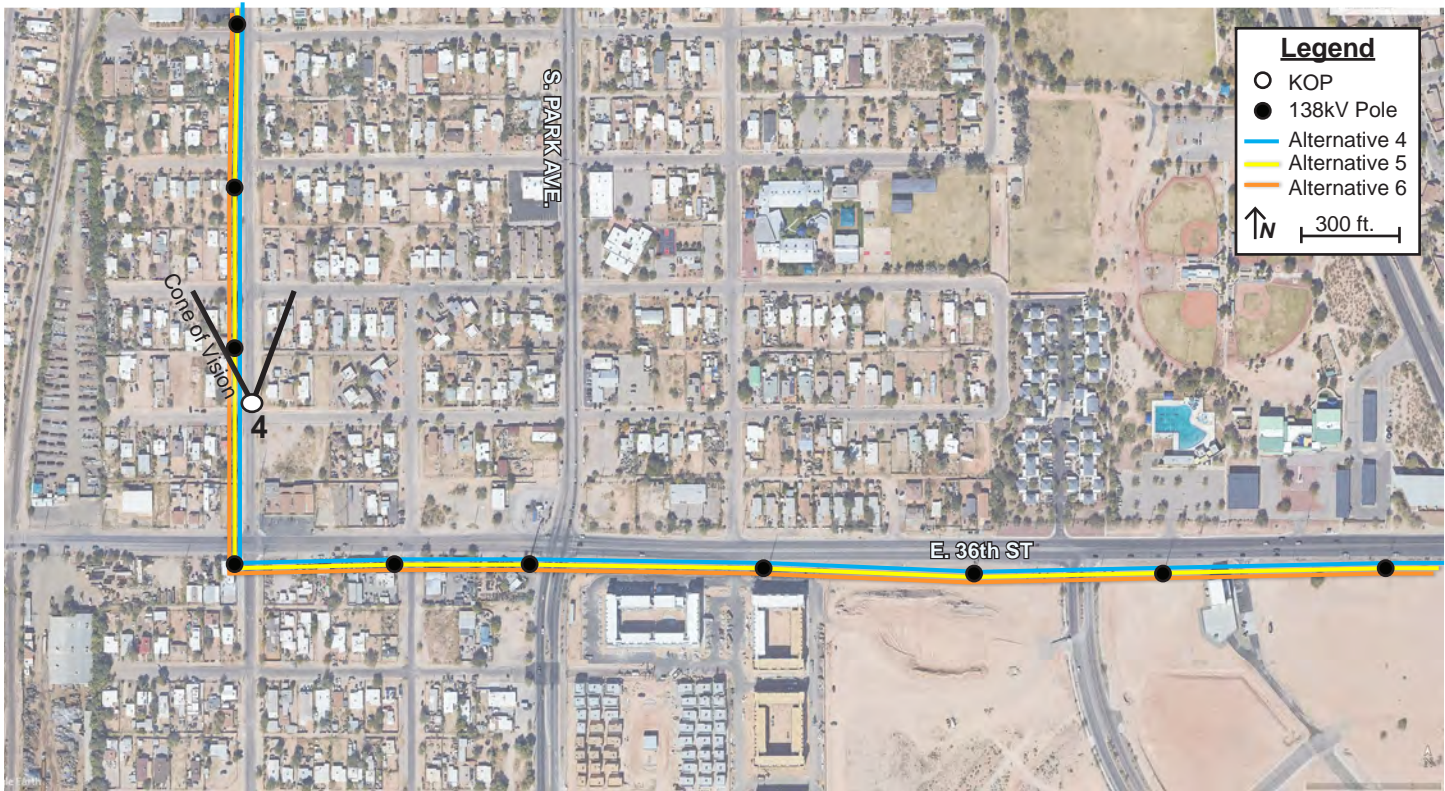
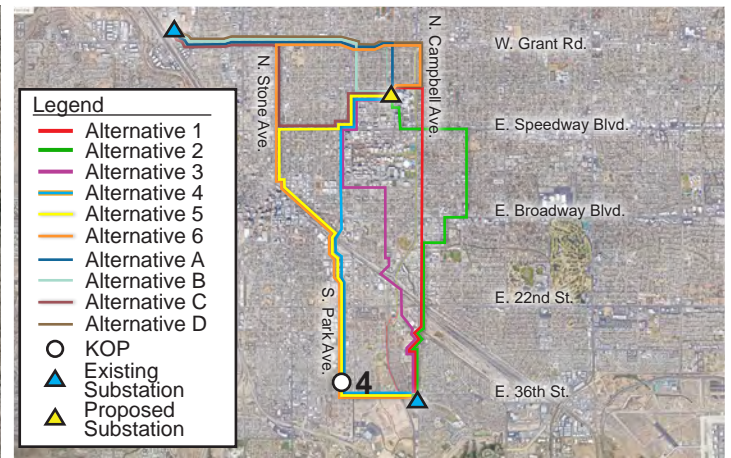


Simulated Condition

Alternative 4,5,or 6 - Weathered Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 4



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents
- Location: 2498 S. Euclid Ave.
- Latitude: 32.193627° N; Longitude: 110.959128° W
- View Point Elevation at Eye Level: 2,455 ft.
- Looking: north
- Poles Visible: Alternative 4, 5, or 6 structures
- Image File Name: IMG\_3132.JPG

### Simulation Notes

- Photo Taken: March 3rd, 2024 at 2:11 pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 158 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #4



Current Condition



Simulated Condition

Alternative 4,5,or 6 - Weathered Finish

## Key Observation Point (KOP) #4



Current Condition



Simulated Condition

Alternative 4,5,or 6 - Galvanized Finish



## Key Observation Point (KOP) #4



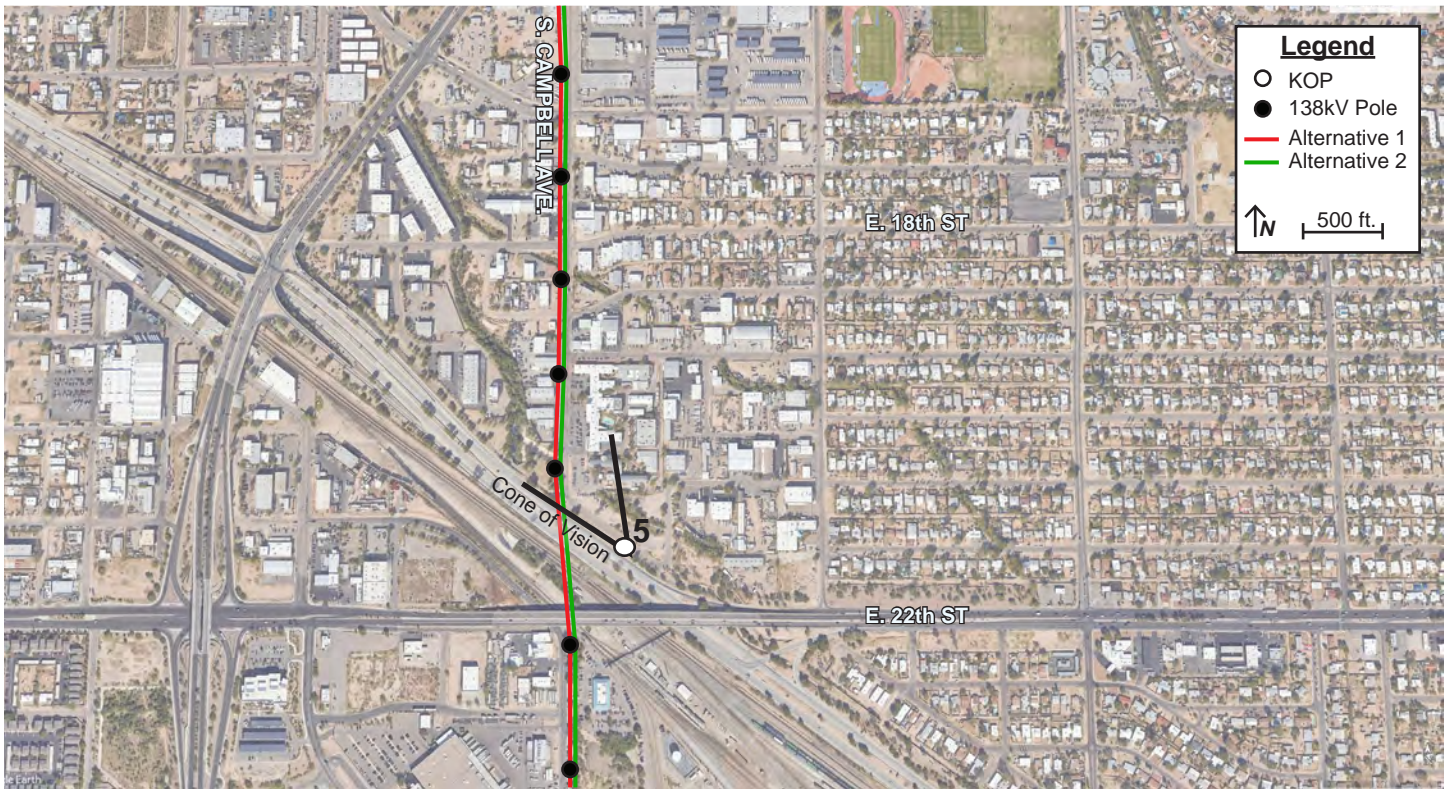
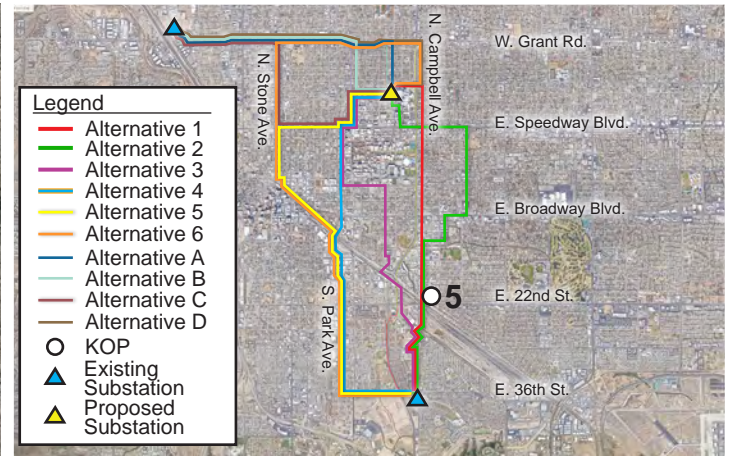
Current Condition



Simulated Condition

Alternative 4,5,or 6 - Mojave Sage Finish





## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 50mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: bikeway user
- Location: 2098 S. Campbell Ave.
- Latitude: 32.207755° N; Longitude: 110.942436° W
- View Point Elevation at Eye Level: 2,453 ft.
- Looking: northwest
- Poles Visible: Alternative 1, or 2 structures
- Image File Name: IMG\_3140.JPG

### Simulation Notes

- Photo Taken: March 3rd, 2024 at 2:21 pm
- The image is based on a single photo and represent approximately 39.5 degree horizontal field of view.
- This view is approximately 625 feet southeast of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #5



Current Condition



Simulated Condition

Alternative 1, or 2 - Weathered Finish

## Key Observation Point (KOP) #5



Current Condition



Simulated Condition

Alternative 1, or 2 - Galvanized Finish



## Key Observation Point (KOP) #5



Current Condition

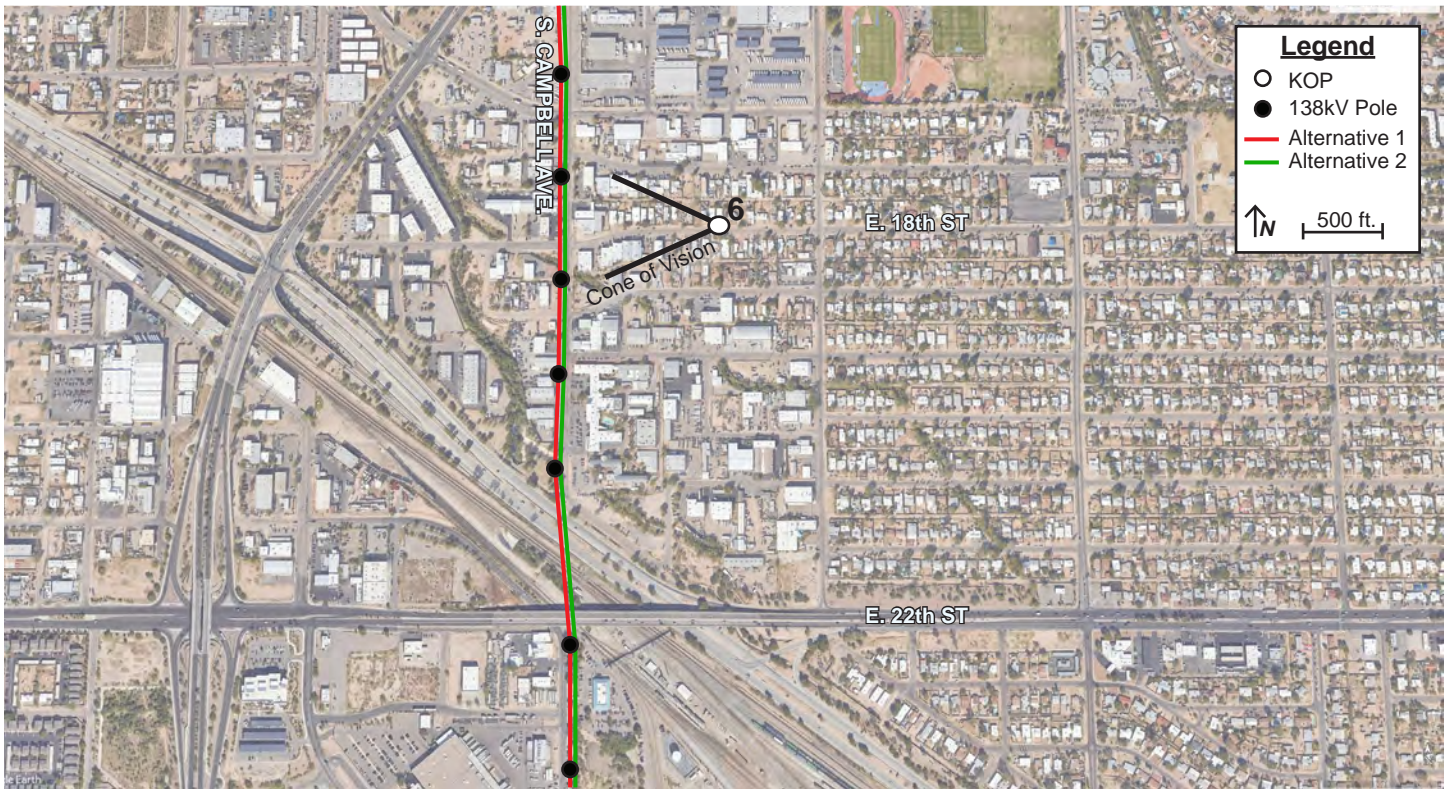
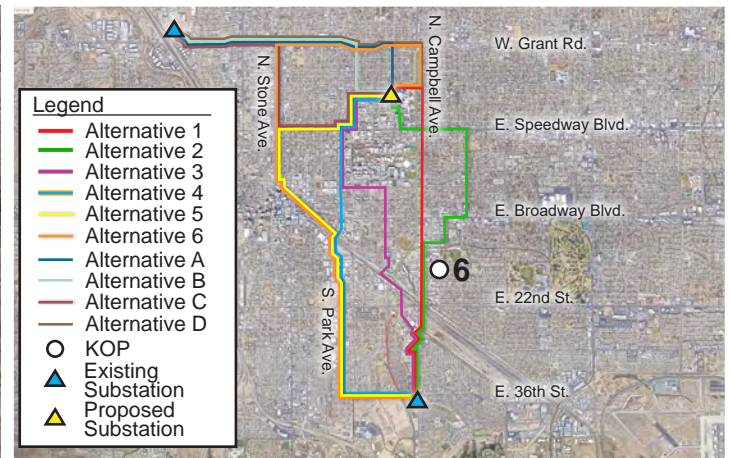


Simulated Condition

Alternative 1, or 2 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 6



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 50mm | F-Stop: f/10 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents
- Location: 2032 E. 18th St.
- Latitude: 32.212435° N; Longitude: 110.941389° W
- View Point Elevation at Eye Level: 2,450 ft.
- Looking: west
- Poles Visible: Alternative 1, or 2 structures
- Image File Name: IMG\_3158.JPG

### Simulation Notes

- Photo Taken: March 3rd, 2024 at 2:25 pm
- The image is based on a single photo and represent approximately 39.5 degree horizontal field of view.
- This view is approximately 780 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #6



Current Condition



Simulated Condition

Alternative 1, or 2 - Weathered Finish



## Key Observation Point (KOP) #6



Current Condition



Simulated Condition

Alternative 1, or 2 - Galvanized Finish



## Key Observation Point (KOP) #6



Current Condition



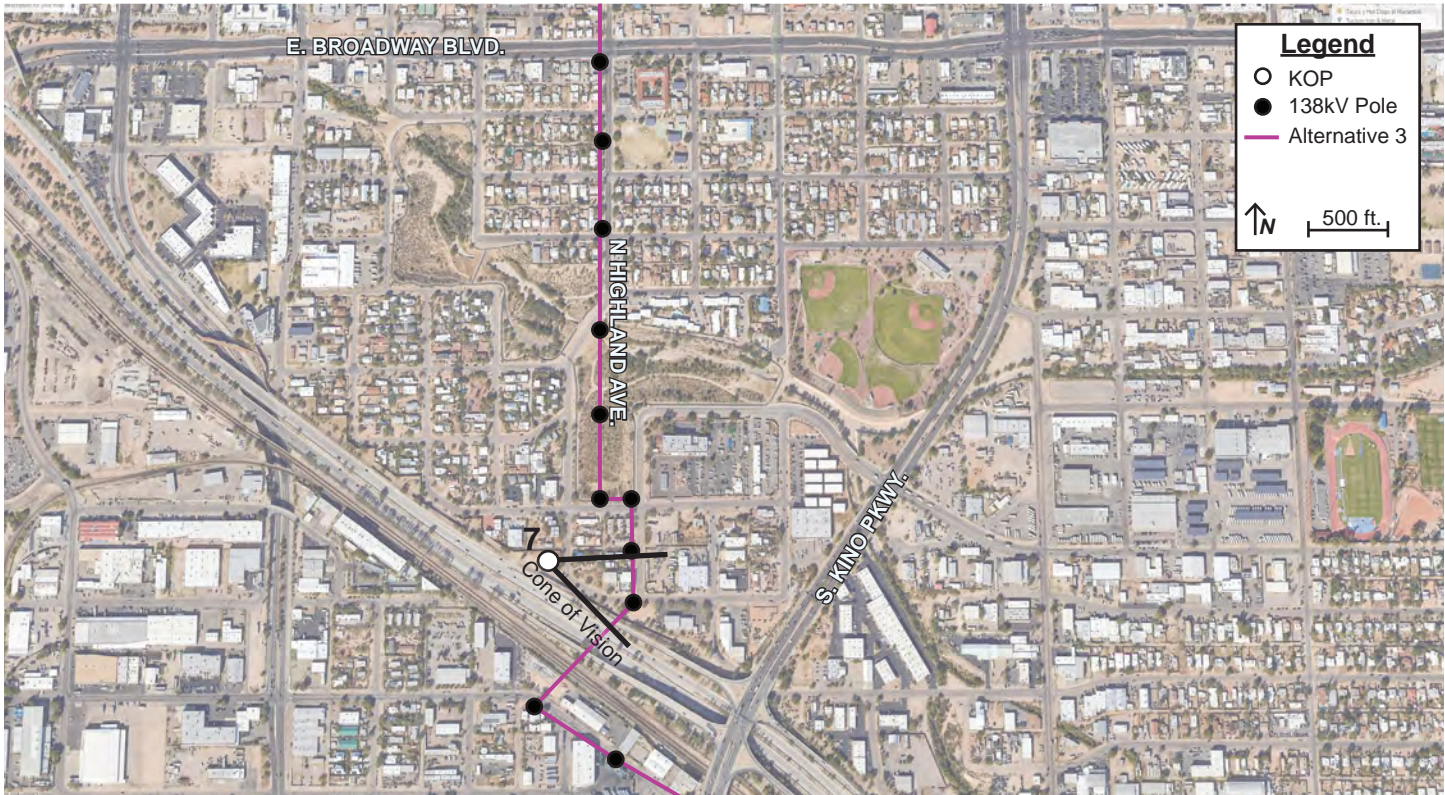
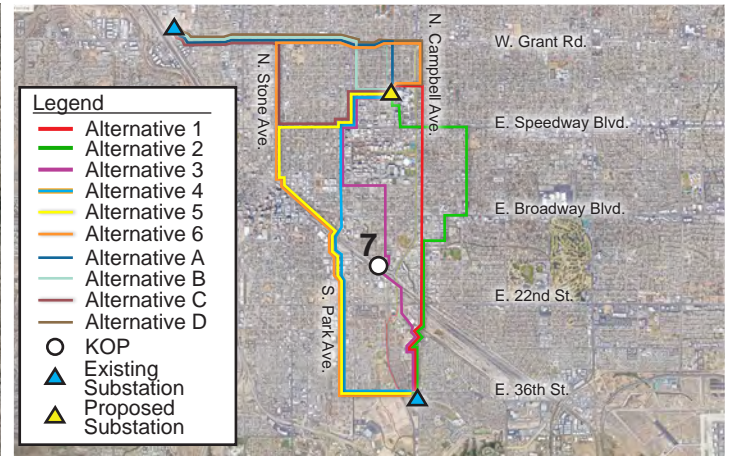
Simulated Condition

Alternative 1, or 2 - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 7



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: bikeway users
- Location: Highland Ave. Bikeway Trailhead
- Latitude: 32.213820° N; Longitude: 110.951875° W
- View Point Elevation at Eye Level: 2,432 ft.
- Looking: southeast
- Poles Visible: Alternative 3 structures
- Image File Name: IMG\_3175.JPG

##### Simulation Notes

- Photo Taken: March 3rd, 2024 at 2:32 pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 494 feet northwest of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #7



Current Condition



Simulated Condition

Alternative 3 - Weathered Finish  
Page 660



## Key Observation Point (KOP) #7



Current Condition



Simulated Condition



## Key Observation Point (KOP) #7



Current Condition

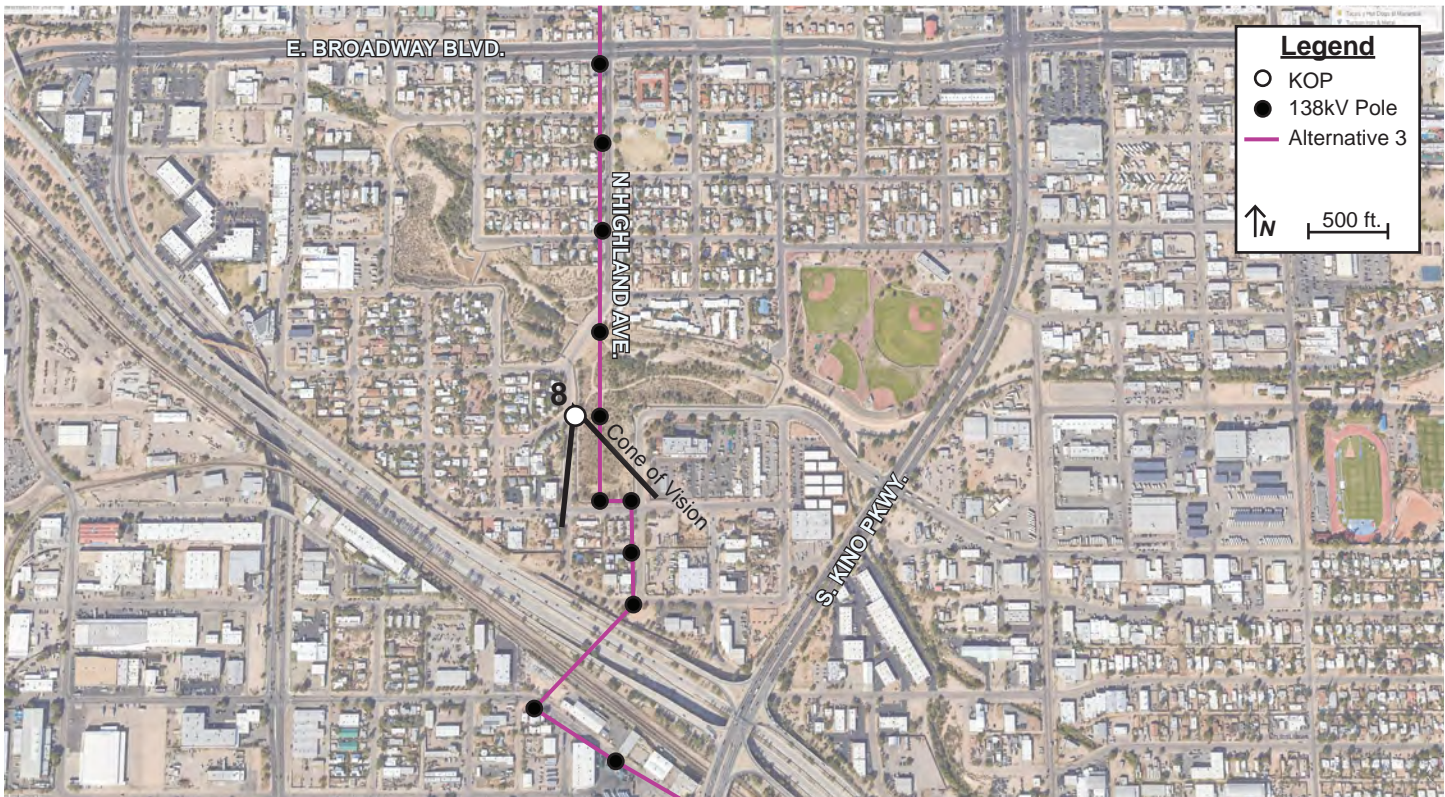
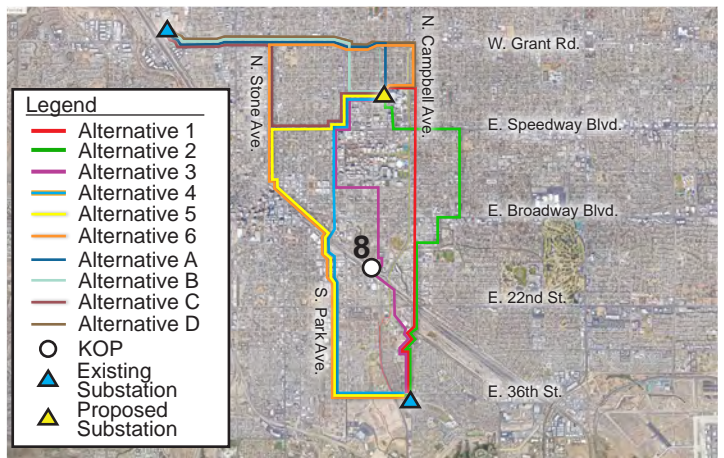


Simulated Condition



## Midtown Reliability Project

### Key Observation Point (KOP) # 8



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: recreational users
- Location: Arroyo Chico Greenbelt
- Latitude: 32.215884° N; Longitude: 110.951545° W
- View Point Elevation at Eye Level: 2,427 ft.
- Looking: south
- Poles Visible: Alternative 3 structures
- Image File Name: IMG\_3200.JPG

##### Simulation Notes

- Photo Taken: March 3rd, 2024 at 2:36 pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 433 feet north of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #8



Current Condition



Simulated Condition



## Key Observation Point (KOP) #8



Current Condition



Simulated Condition

Alternative 3 - Galvanized Finish  
Page 665



## Key Observation Point (KOP) #8

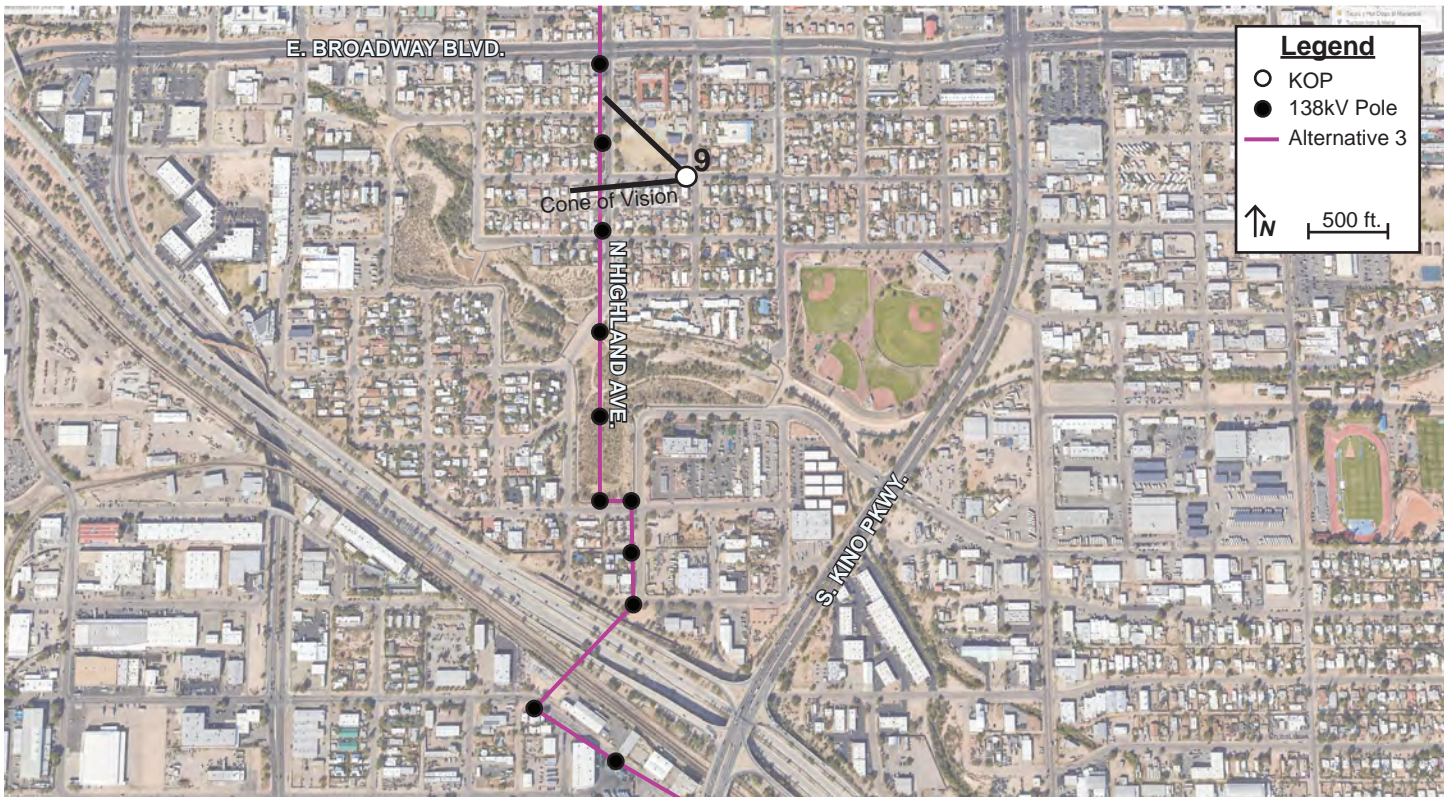
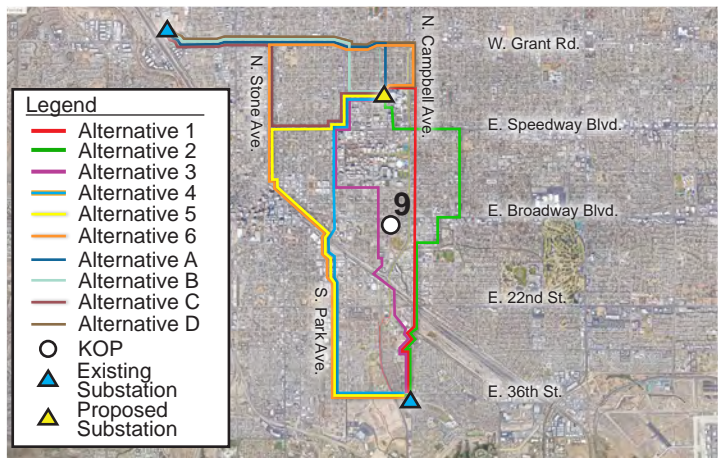


Current Condition



Simulated Condition





## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents
- Location: 1311 E Miles St
- Latitude: 32.219487° N; Longitude: 110.949774° W
- View Point Elevation at Eye Level: 2,421 ft.
- Looking: northwest
- Poles Visible: Alternative 3 structures
- Image File Name: IMG\_3222.JPG

### Simulation Notes

- Photo Taken: March 3rd, 2024 at 2:40 pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 479 feet southeast of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #9



Current Condition



Simulated Condition

Alternative 3 - Weathered Finish  
Page 668



## Key Observation Point (KOP) #9



Current Condition



Simulated Condition

Alternative 3 - Galvanized Finish  
Page 669

## Key Observation Point (KOP) #9



Current Condition

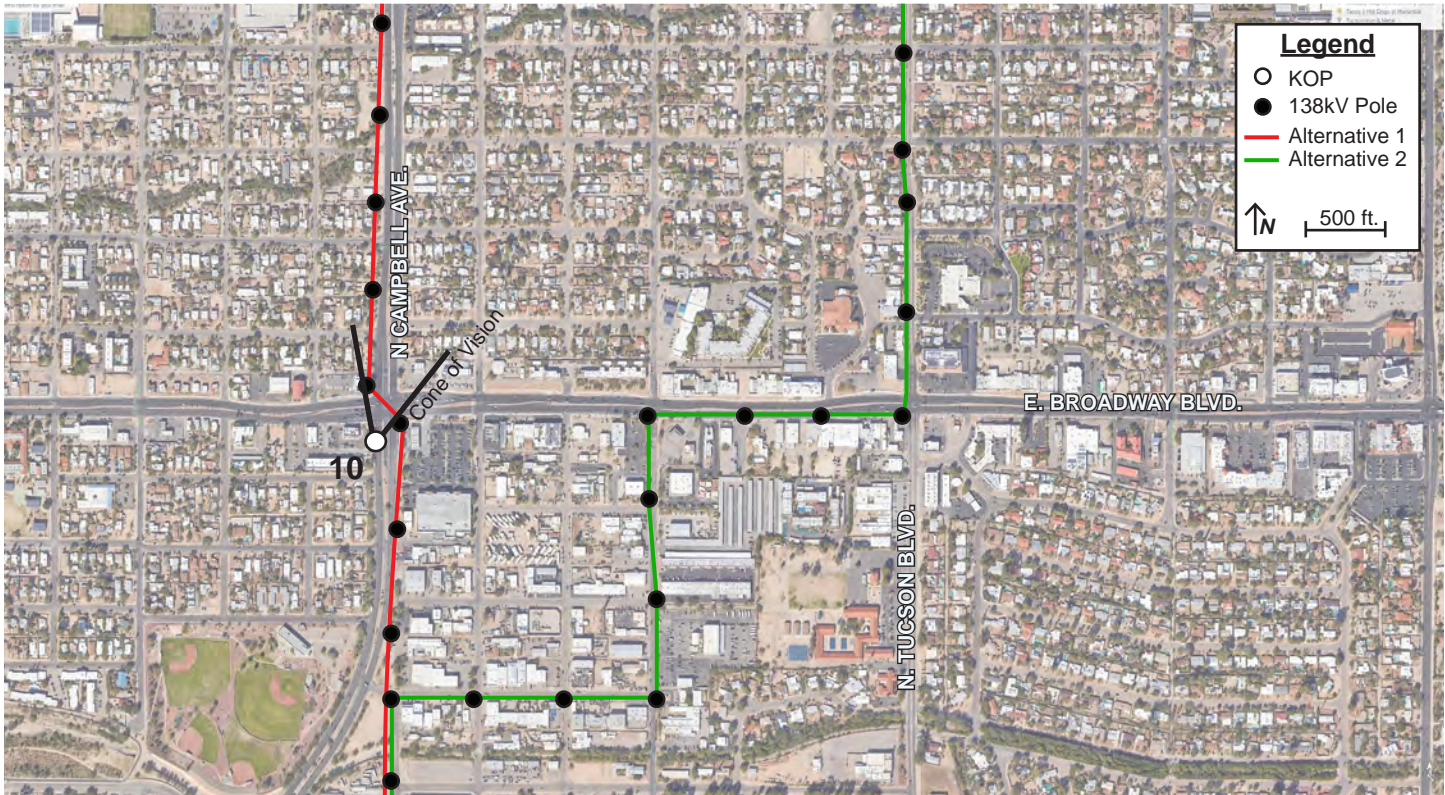
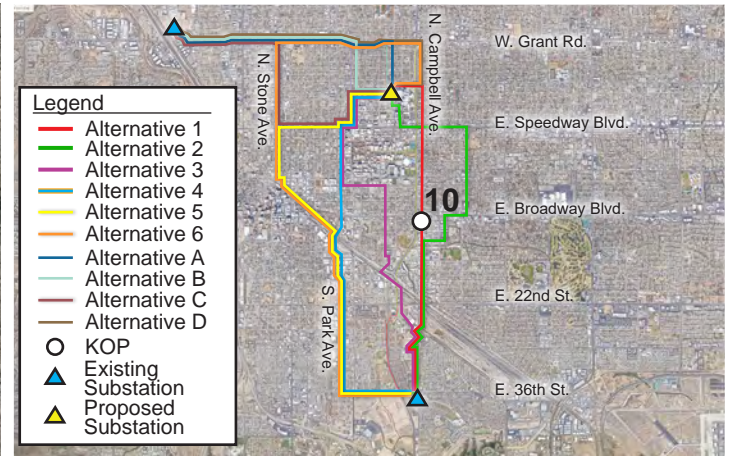


Simulated Condition



## Midtown Reliability Project

### Key Observation Point (KOP) # 10



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/5.6 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: residents and commercial traffic
- Location: 156 S. Kino Pkwy
- Latitude: 32.221020° N; Longitude: 110.944204° W
- View Point Elevation at Eye Level: 2,448 ft.
- Looking: north
- Poles Visible: Alternative 1 structures
- Image File Name: IMG\_3237.JPG

##### Simulation Notes

- Photo Taken: March 3rd, 2024 at 2:47 pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 236 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #10



Current Condition



Simulated Condition

Alternative 1 - Weathered Finish  
Page 672



## Key Observation Point (KOP) #10



Current Condition



Simulated Condition

Alternative 1 - Galvanized Finish  
Page 673



## Key Observation Point (KOP) #10



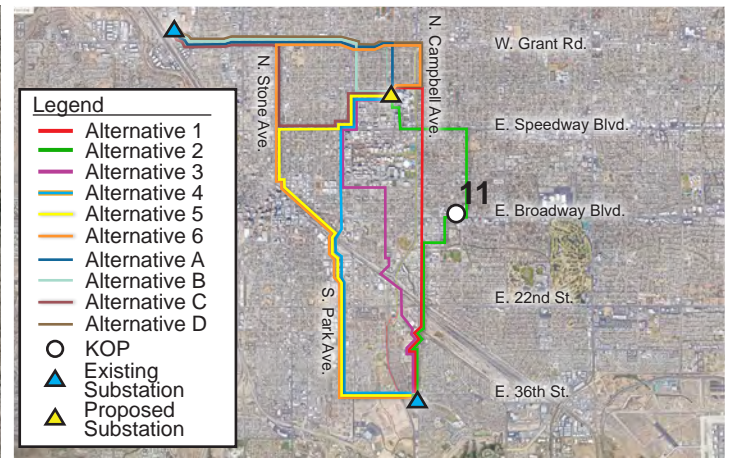
Current Condition



Simulated Condition



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 11



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents and commercial traffic
- Location: 2221 E. Broadway Blvd
- Latitude: 32.221680° N; Longitude: 110.939021° W
- View Point Elevation at Eye Level: 2,458 ft.
- Looking: east
- Poles Visible: Alternative 2 structures
- Image File Name: IMG\_3245.JPG

### Simulation Notes

- Photo Taken: March 3rd, 2024 at 2:53 pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 305 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #11



Current Condition



Simulated Condition

Alternative 2 - Weathered Finish  
Page 676



## Key Observation Point (KOP) #11



Current Condition



Simulated Condition

## Key Observation Point (KOP) #11



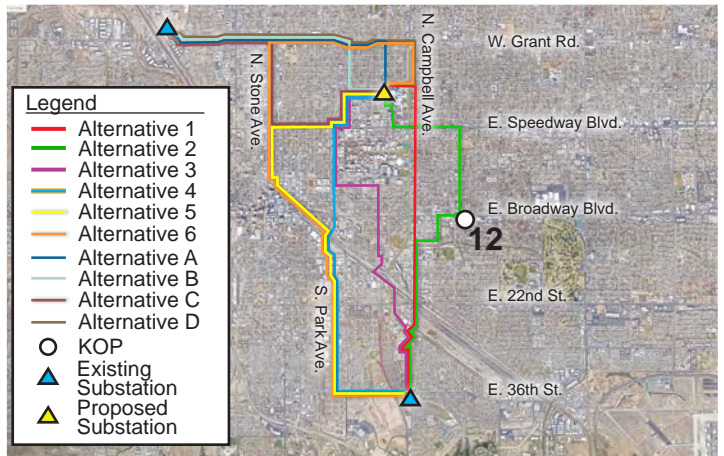
Current Condition



Simulated Condition



## Key Observation Point (KOP) # 12



### Notes:

#### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

#### KOP

- Representative View for: residents and commercial traffic
- Location: 94 South Tucson Blvd.
- Latitude: 32.221078° N; Longitude: 110.935082° W
- View Point Elevation at Eye Level: 2,463 ft.
- Looking: northwest
- Poles Visible: Alternative 2 structures
- Image File Name: IMG\_3265.JPG

#### Simulation Notes

- Photo Taken: March 3rd, 2024 at 3:00 pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 127 feet southeast of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #12



Current Condition



Simulated Condition

Alternative 2 - Weathered Finish  
Page 680



## Key Observation Point (KOP) #12



Current Condition



Simulated Condition

Alternative 2 - Galvanized Finish

## Key Observation Point (KOP) #12



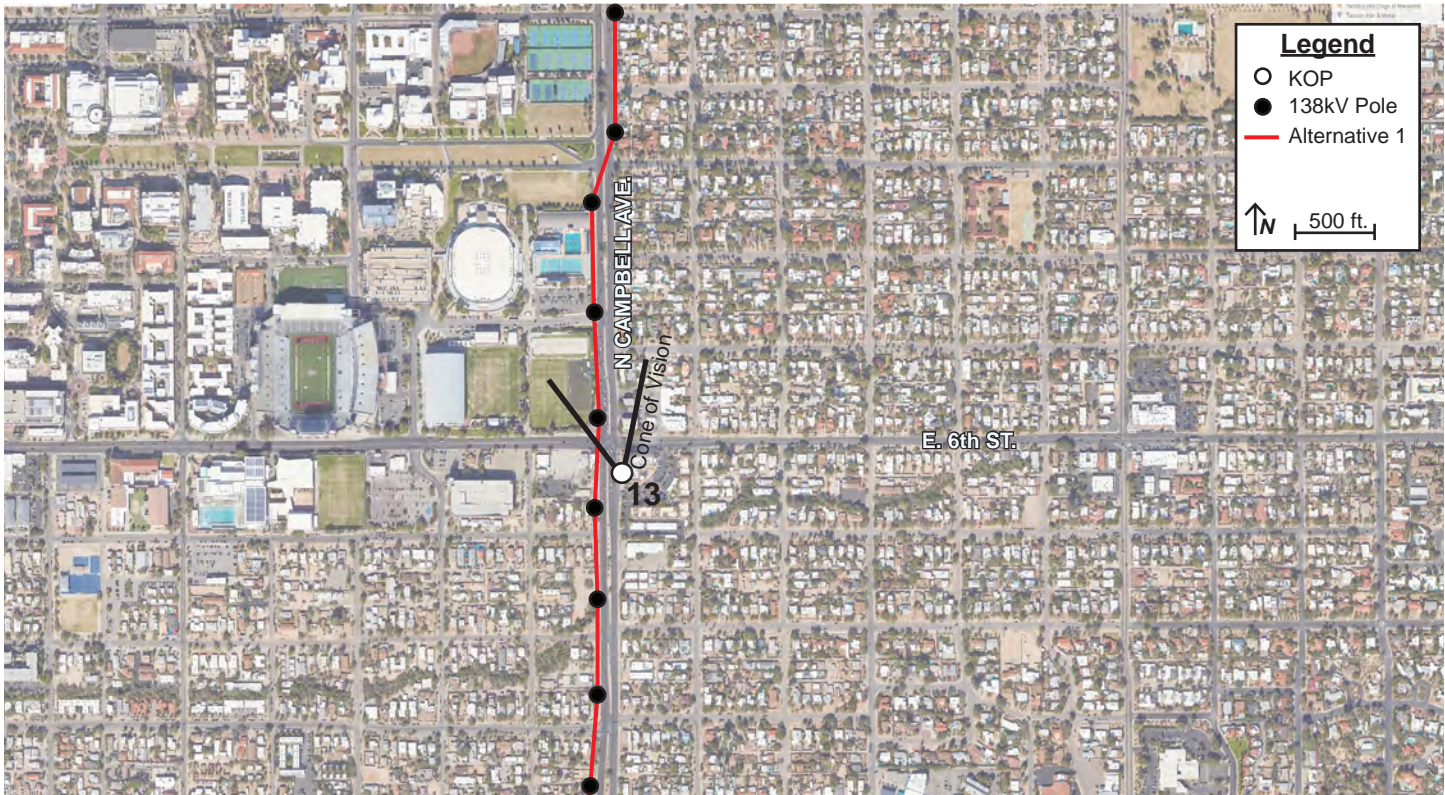
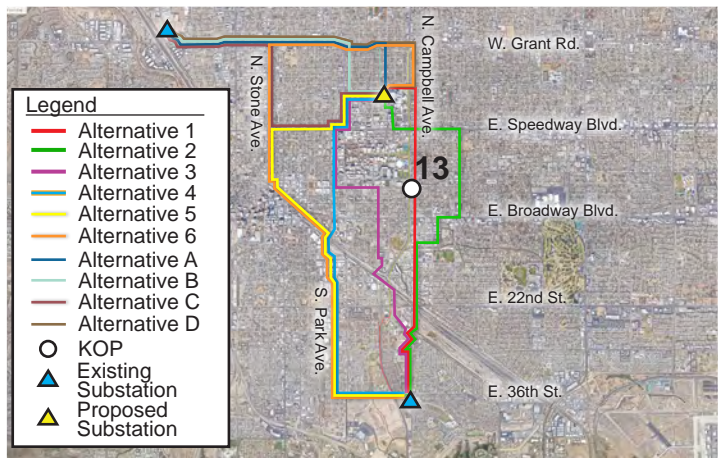
Current Condition



Simulated Condition



## Key Observation Point (KOP) # 13



### Notes:

#### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/8 | ISO:100
- Dimensions in pixel: 6240 x 4160

#### KOP

- Representative View for: residents, student, stadium and commercial traffic
- Location: 446 N Campbell Ave.
- Latitude: 32.227523° N; Longitude: 110.943689° W
- View Point Elevation at Eye Level: 2,449 ft.
- Looking: north
- Poles Visible: Alternative 1 structures
- Image File Name: IMG\_3311.JPG

#### Simulation Notes

- Photo Taken: March 3rd, 2024 at 3:17 pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 305 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #13



Current Condition



Simulated Condition

Alternative 1 - Weathered Finish



## Key Observation Point (KOP) #13



Current Condition



Simulated Condition

Alternative 1 - Galvanized Finish



## Key Observation Point (KOP) #13



Current Condition

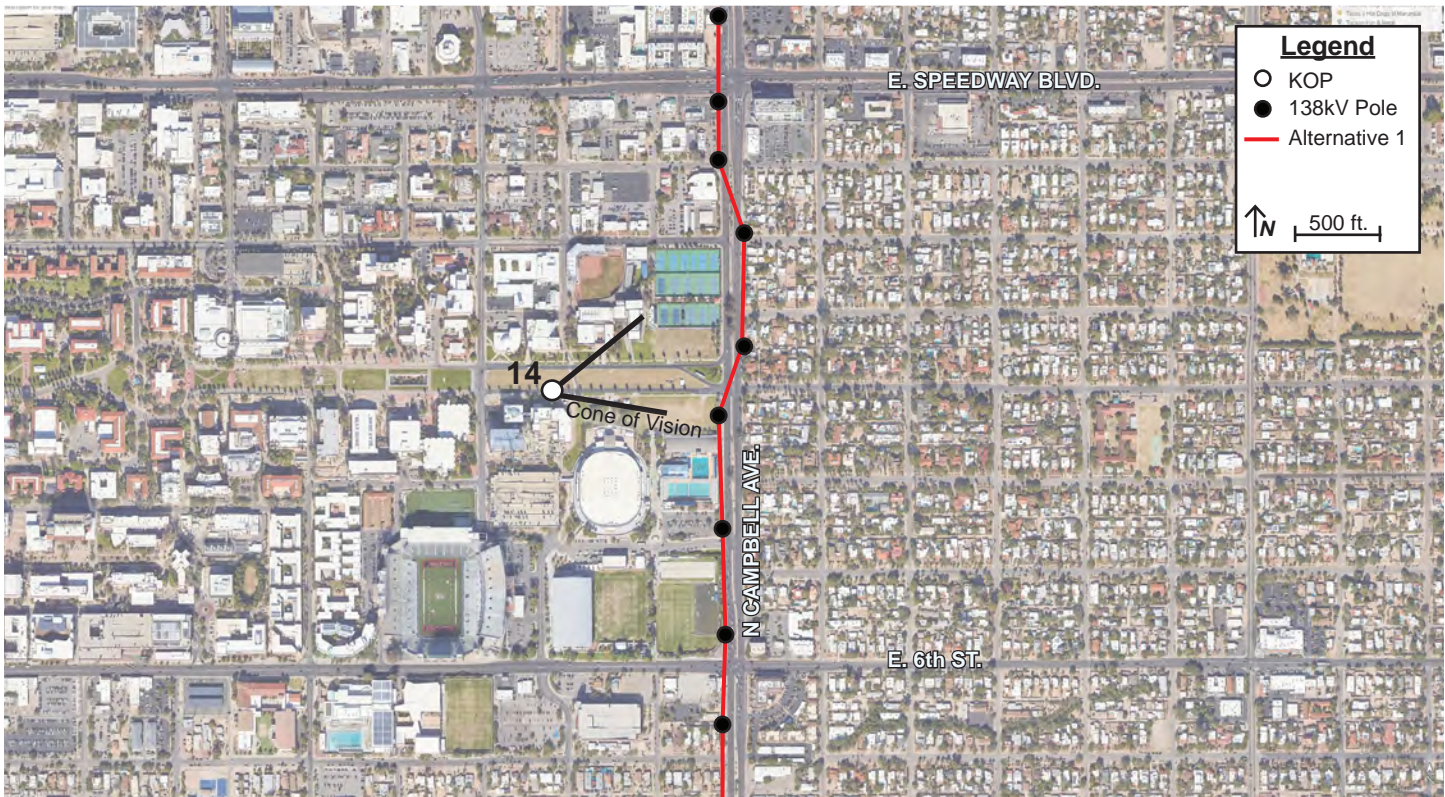
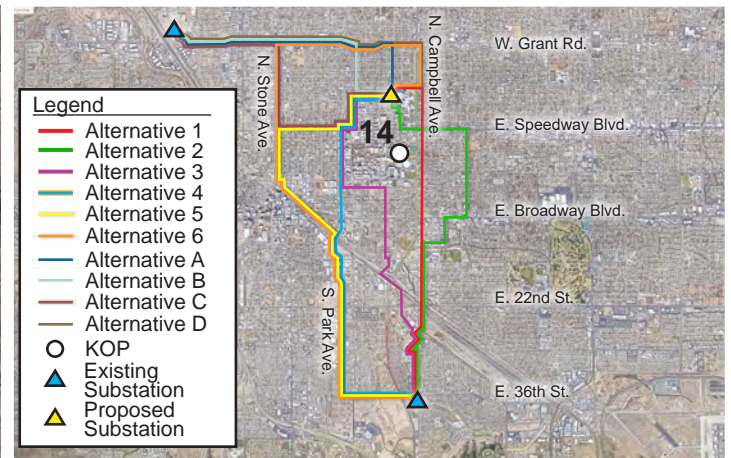


Simulated Condition

Alternative 1 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 14



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 70mm | F-Stop: f/6.3 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: students, stadium, commercial traffic
- Location: 1630 E. University Ave.
- Latitude: 32.231731° N; Longitude: 110.947070° W
- View Point Elevation at Eye Level: 2,447 ft.
- Looking: east
- Poles Visible: Alternative 1 structures
- Image File Name: IMG\_3347.JPG

**Simulation Notes**

- Photo Taken: March 3rd, 2024 at 3:29 pm
- The image is based on a single photo and represent approximately 28.8 degree horizontal field of view.
- This view is approximately 1,057 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #14



Current Condition



Simulated Condition

Alternative 1 - Weathered Finish  
Page 688



## Key Observation Point (KOP) #14



Current Condition



Simulated Condition

Alternative 1 - Galvanized Finish



## Key Observation Point (KOP) #14



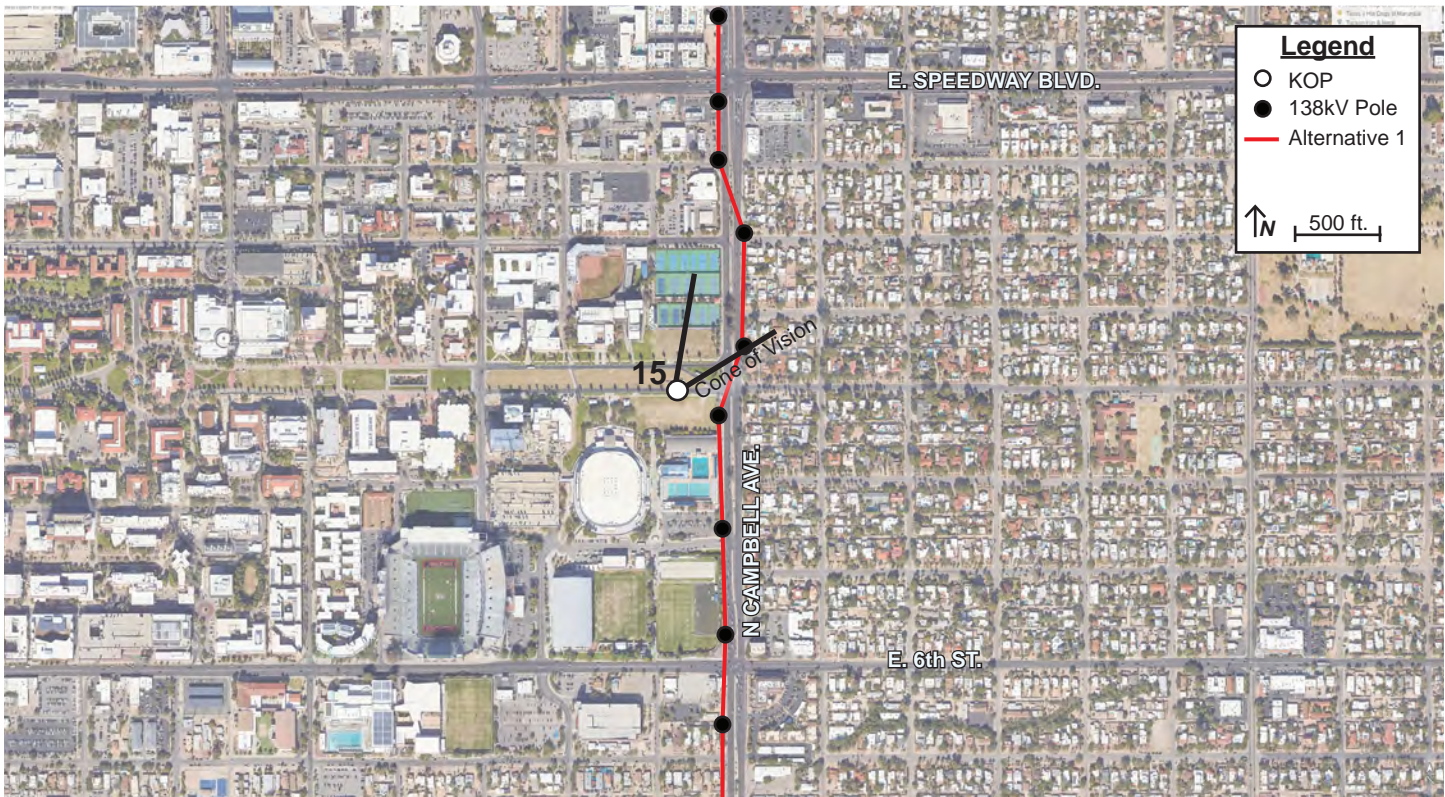
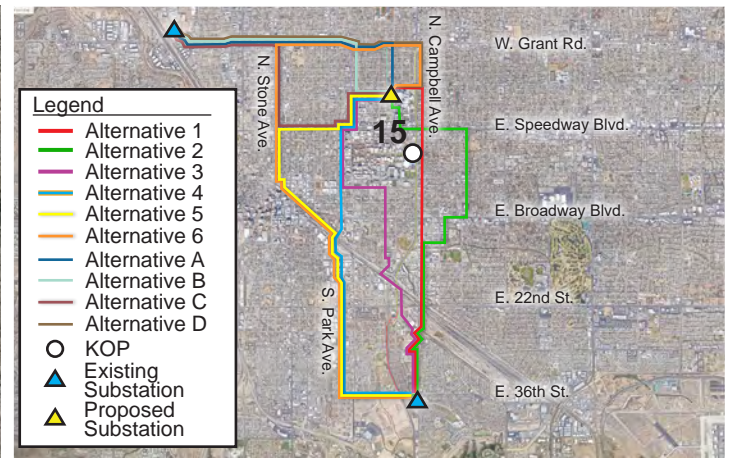
Current Condition



Simulated Condition



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 15



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/5.6 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: students, stadium, commercial traffic
- Location: 1873 E. University Ave.
- Latitude: 32.231744° N; Longitude: 110.945094° W
- View Point Elevation at Eye Level: 2,450 ft.
- Looking: northeast
- Poles Visible: Alternative 1 structures
- Image File Name: IMG\_3355.JPG

### Simulation Notes

- Photo Taken: March 3rd, 2024 at 3:33 pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 449 feet southwest of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #15



Current Condition



Simulated Condition

Alternative 1 - Weathered Finish



## Key Observation Point (KOP) #15



Current Condition



Simulated Condition

Alternative 1 - Galvanized Finish  
Page 693

## Key Observation Point (KOP) #15



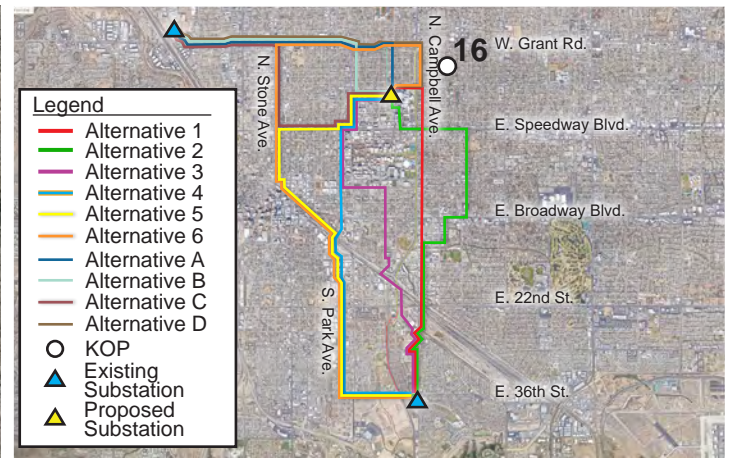
Current Condition



Simulated Condition



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 16



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/8 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents
- Location: 2125 E Waverly St.
- Latitude: 32.245451° N; Longitude: 110.941625° W
- View Point Elevation at Eye Level: 2,438 ft.
- Looking: west
- Poles Visible: Alternative 6 or D structures
- Image File Name: IMG\_3340.JPG

### Simulation Notes

- Photo Taken: March 3rd, 2024 at 4:05 pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 886 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #16



Current Condition



Simulated Condition

Alternative 6, or D - Weathered Finish



## Key Observation Point (KOP) #16



Current Condition



Simulated Condition

Alternative 6, or D - Galvanized Finish



## Key Observation Point (KOP) #16



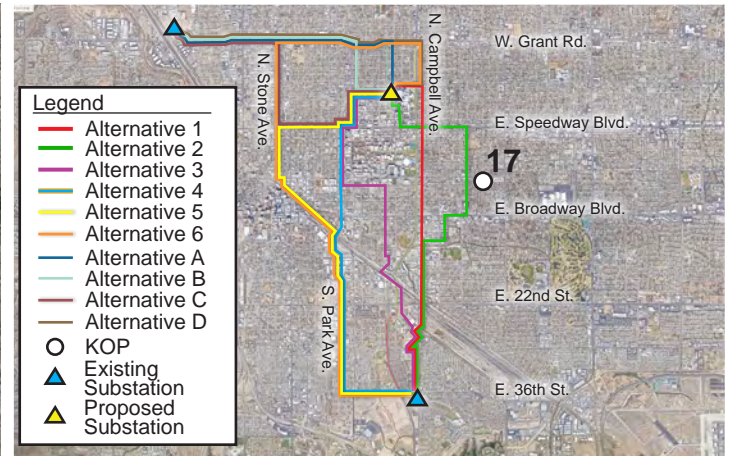
Current Condition



Simulated Condition

Alternative 6, or D - Mojave Sage Finish





## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/8 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents, student, and commercial traffic
- Location: 2530 E 6th St.
- Latitude: 32.227780° N; Longitude: 110.934457° W
- View Point Elevation at Eye Level: 2,462 ft.
- Looking: west
- Poles Visible: Alternative 2 structures
- Image File Name: IMG\_3376.JPG

### Simulation Notes

- Photo Taken: March 3rd, 2024 at 3:42 pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 315 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #17



Current Condition



Simulated Condition

Alternative 2 - Weathered Finish  
Page 700



## Key Observation Point (KOP) #17



Current Condition



Simulated Condition

## Key Observation Point (KOP) #17



Current Condition

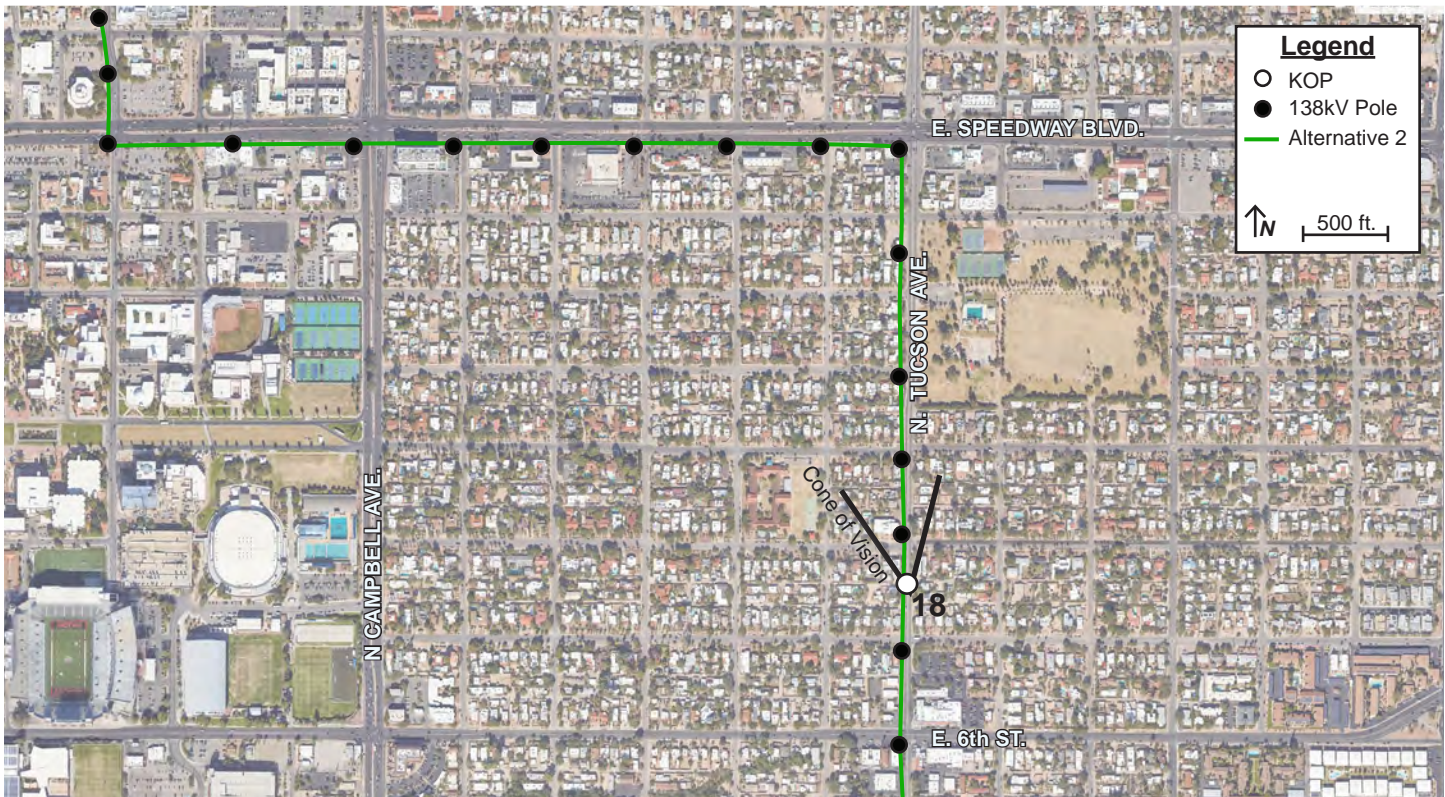
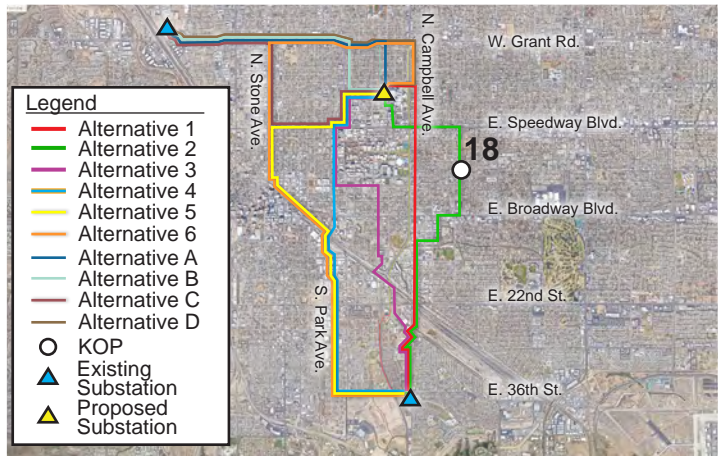


Simulated Condition



## Midtown Reliability Project

### Key Observation Point (KOP) # 18



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/7.1 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: residential users
- Location: 619 N Tucson Blvd
- Latitude: 32.229644° N; Longitude: 110.935287° W
- View Point Elevation at Eye Level: 2,471 ft.
- Looking: north
- Poles Visible: Alternative 2 structures
- Image File Name: IMG\_3044.JPG

##### Simulation Notes

- Photo Taken: December 28 at 8:59 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 155 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #18



Current Condition



Simulated Condition

Alternative 2 - Weathered Finish



## Key Observation Point (KOP) #18



Current Condition



Simulated Condition

Alternative 2 - Galvanized Finish



## Key Observation Point (KOP) #18



Current Condition

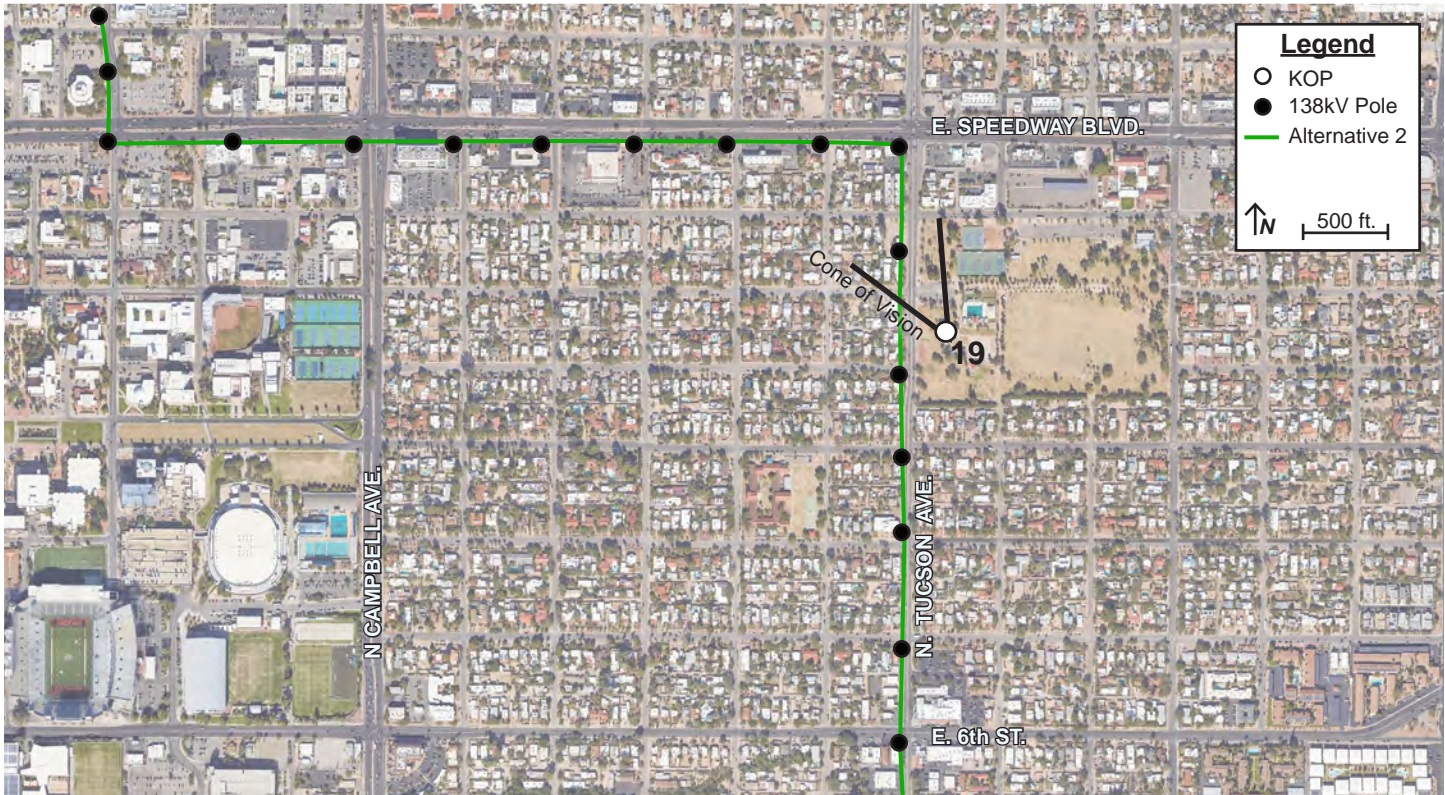
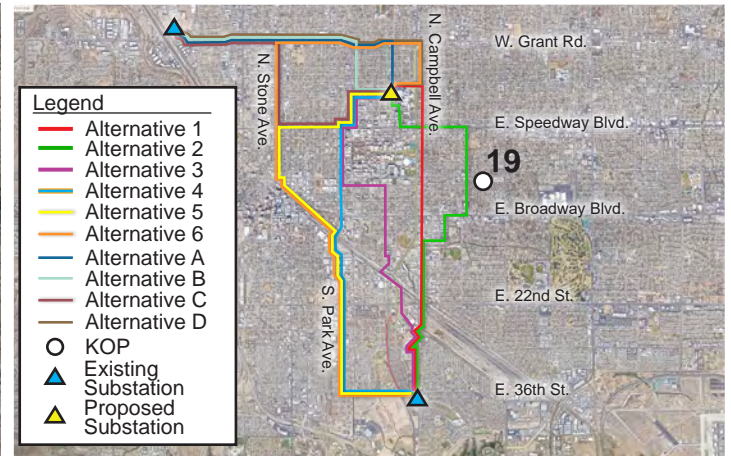


Simulated Condition



## Midtown Reliability Project

### Key Observation Point (KOP) # 19



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: recreational users @ Himmel Park
- Location: Himmel Park
- Latitude: 32.233364° N; Longitude: 110.935004° W
- View Point Elevation at Eye Level: 2,469 ft.
- Looking: northwest
- Poles Visible: Alternative 2 structures
- Image File Name: IMG\_3419.JPG

##### Simulation Notes

- Photo Taken: March 3rd, 2024 at 3:55 pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 400 feet southeast of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #19



Current Condition



Simulated Condition

Alternative 2 - Weathered Finish



## Key Observation Point (KOP) #19



Current Condition



Simulated Condition

Alternative 2 - Galvanized Finish  
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## Key Observation Point (KOP) #19



Current Condition

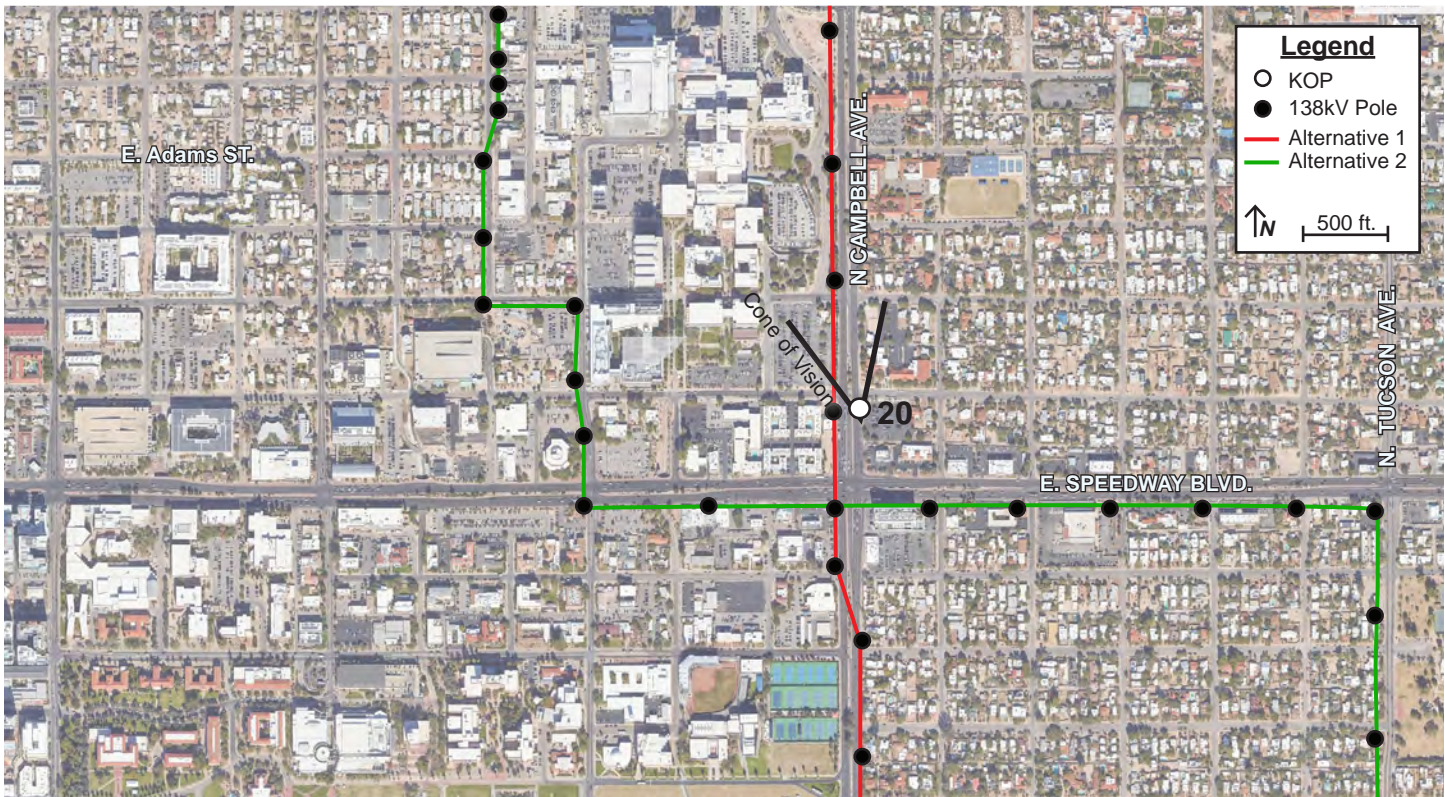
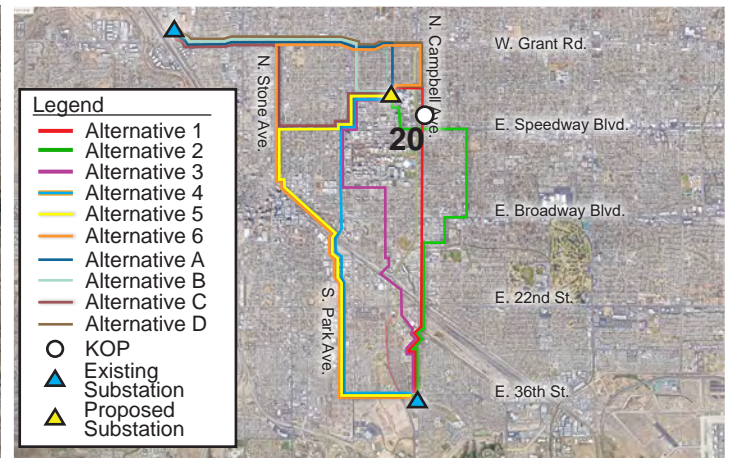


Simulated Condition

Alternative 2 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 20



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/8 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: commercial users and commuters
- Location: 1198 N. Campbell Ave.
- Latitude: 32.237095° N; Longitude: 110.943790° W
- View Point Elevation at Eye Level: 2,463 ft.
- Looking: north
- Poles Visible: Alternative 1 structures
- Image File Name: IMG\_3444.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 9:35 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 649 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #20



Current Condition



Simulated Condition

Alternative 1 - Weathered Finish  
Page 712



## Key Observation Point (KOP) #20



Current Condition



Simulated Condition

Alternative 1 - Galvanized Finish  
Page 713



## Key Observation Point (KOP) #20



Current Condition



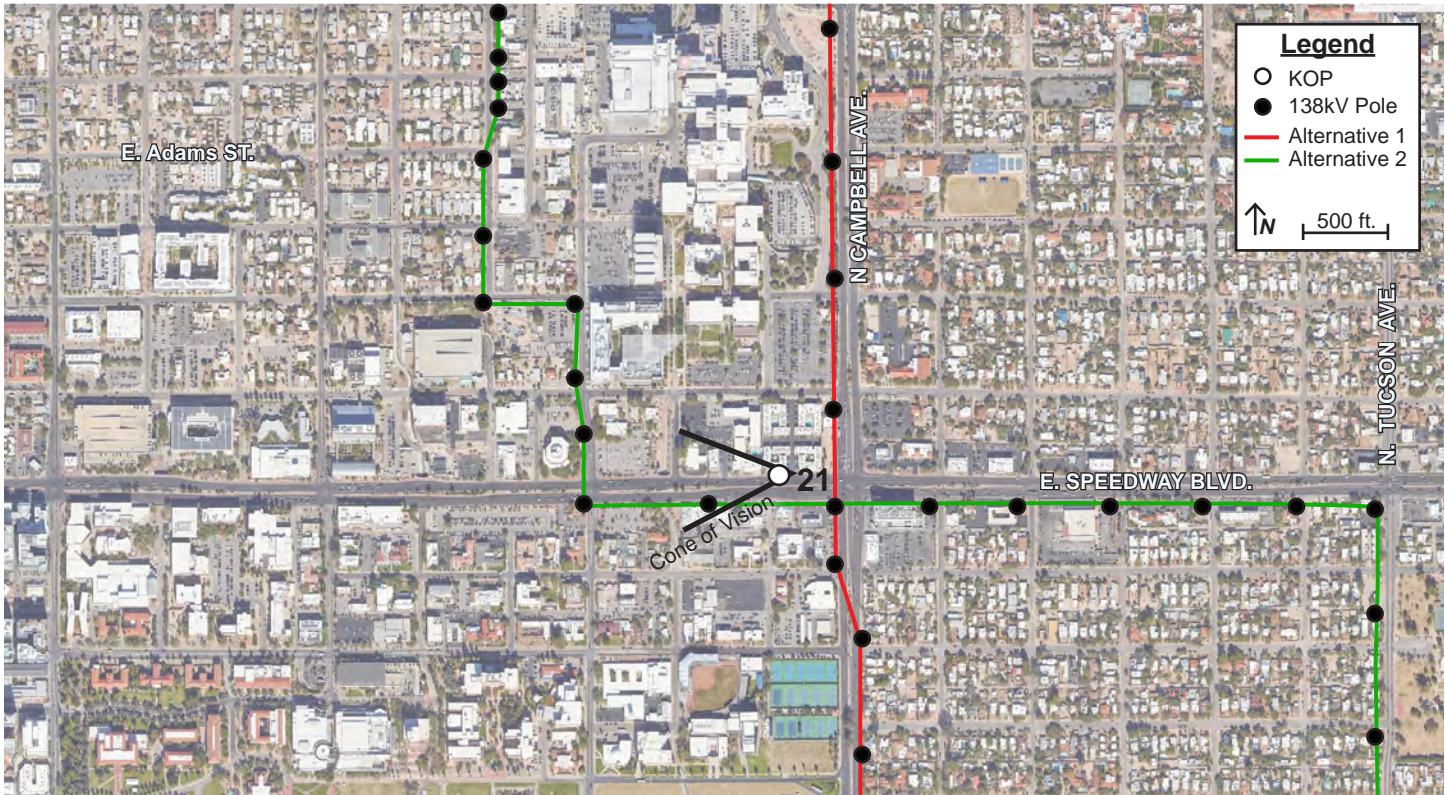
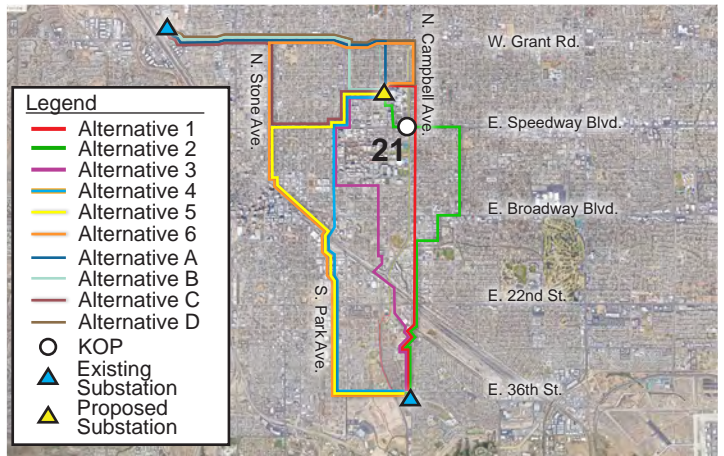
Simulated Condition

Alternative 1 - Mojave Sage Finish  
Page 714



## Midtown Reliability Project

### Key Observation Point (KOP) # 21



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 37mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: commercial/commuter/residents
- Location: 1809 E. Speedway Blvd.
- Latitude: 32.236284° N; Longitude: 110.944805° W
- View Point Elevation at Eye Level: 2,466 ft.
- Looking: west
- Poles Visible: Alternative 2 structures
- Image File Name: IMG\_3471.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 9:39 am
- The image is based on a single photo and represent approximately 53 degree horizontal field of view.
- This view is approximately 483 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #21



Current Condition



Simulated Condition

Alternative 2 - Weathered Finish



## Key Observation Point (KOP) #21



Current Condition



Simulated Condition

Alternative 2 - Galvanized Finish



## Key Observation Point (KOP) #21



Current Condition

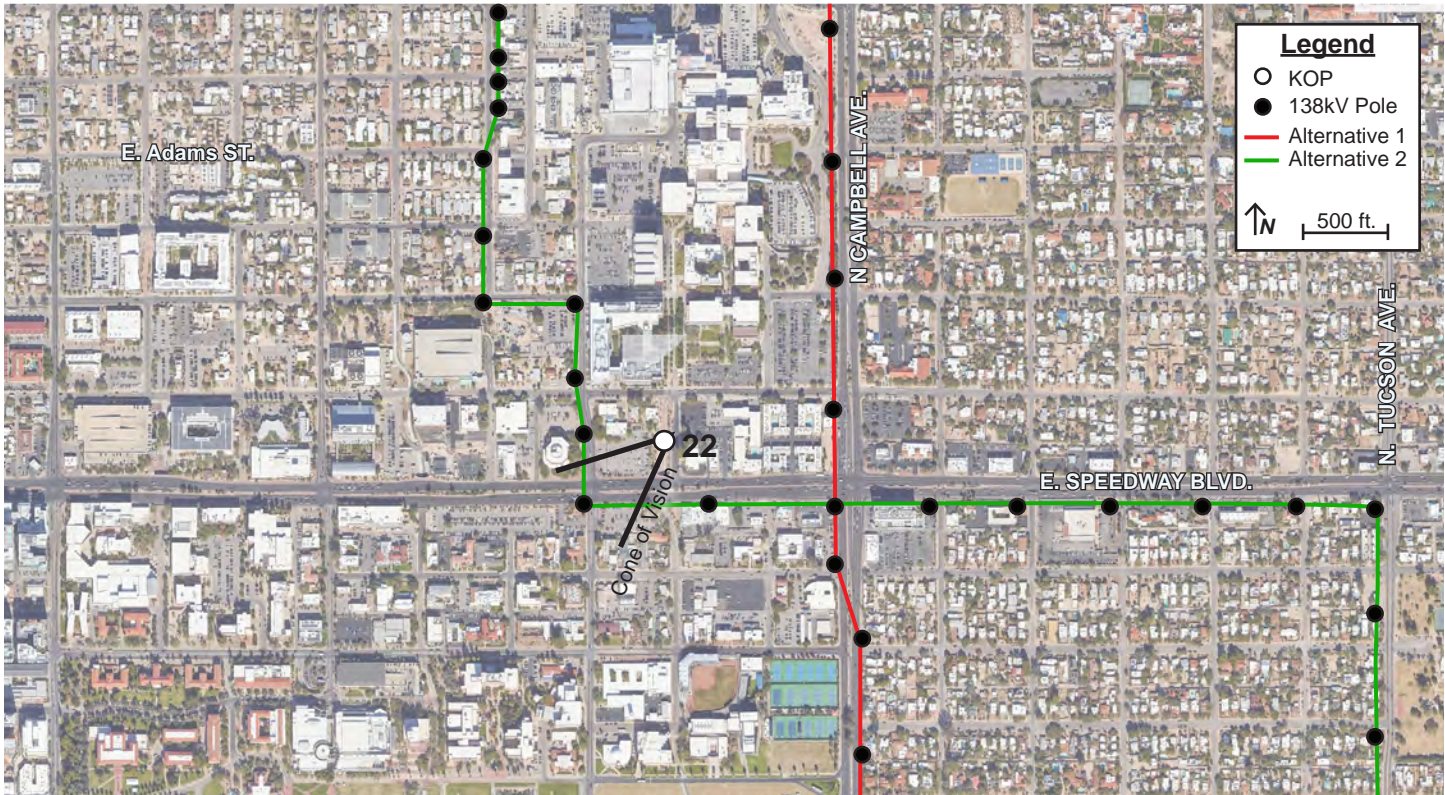
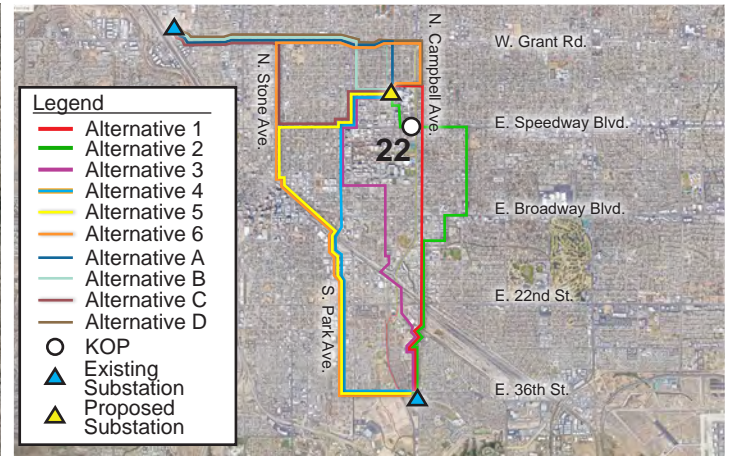


Simulated Condition

Alternative 2 - Mojave Sage Finish



## Key Observation Point (KOP) # 22



### Notes:

#### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

#### KOP

- Representative View for: students and recreational users
- Location: E. Speedway Blvd. streetcar underpass/plaza
- Latitude: 32.236653° N; Longitude: 110.946958° W
- View Point Elevation at Eye Level: 2,458 ft.
- Looking: southwest
- Poles Visible: Alternative 2 structures
- Image File Name: IMG\_3496.JPG

#### Simulation Notes

- Photo Taken: March 4th, 2024 at 9:48 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 546 feet northeast of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #22



Current Condition



Simulated Condition

Alternative 2 - Weathered Finish



## Key Observation Point (KOP) #22



Current Condition



Simulated Condition

Alternative 2 - Galvanized Finish  
Page 721



## Key Observation Point (KOP) #22



Current Condition

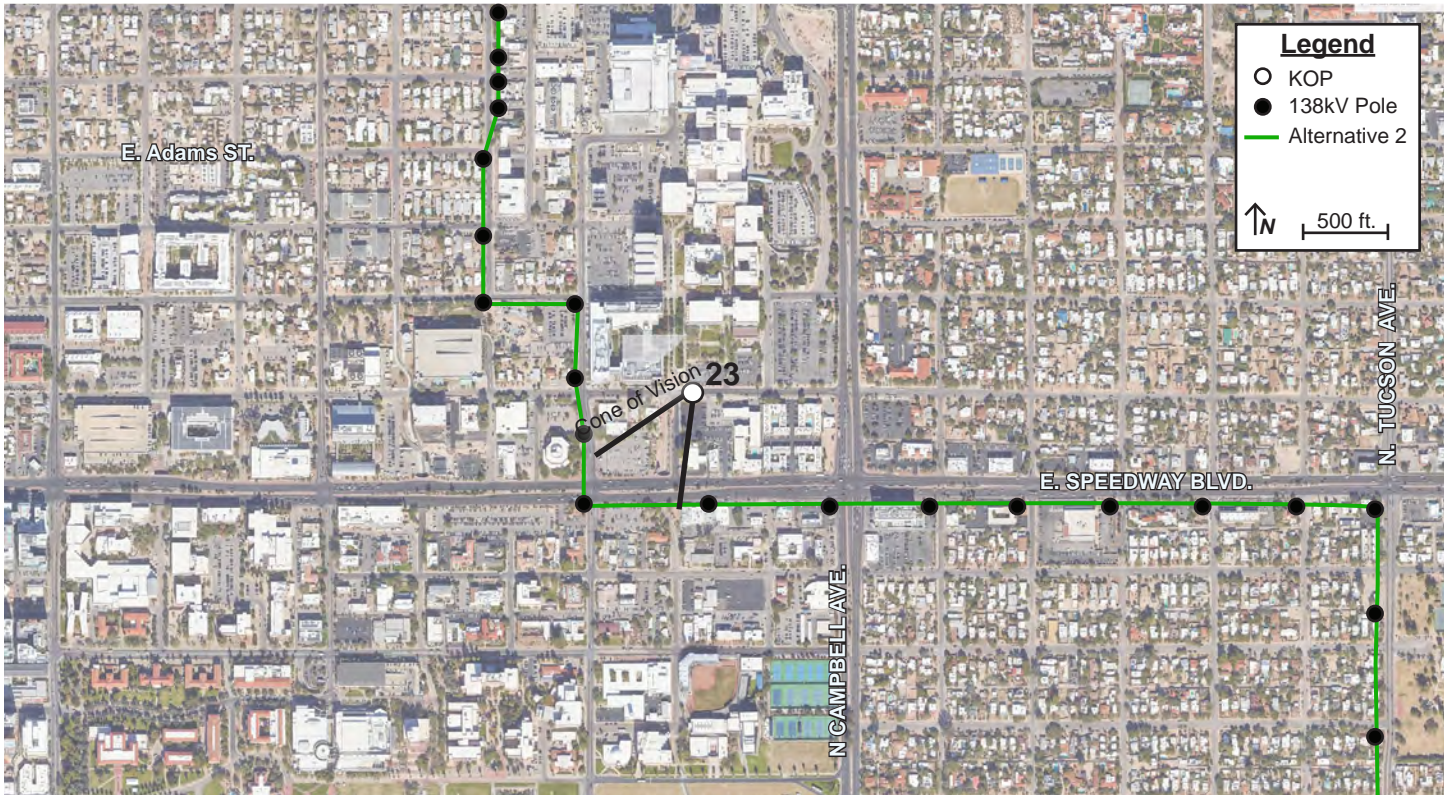
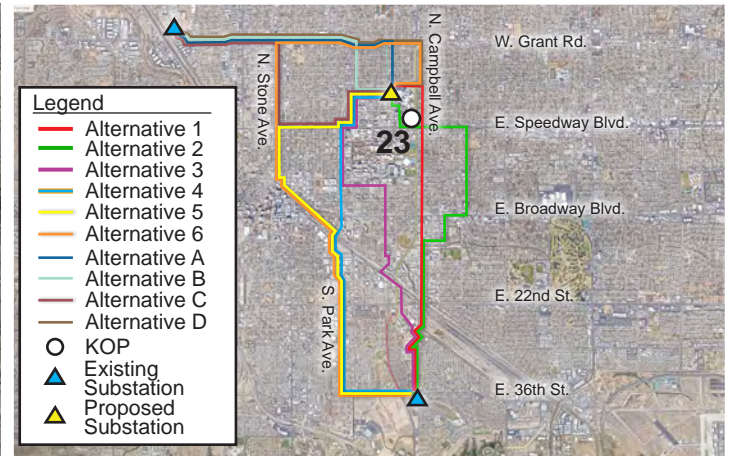


Simulated Condition



## Midtown Reliability Project

### Key Observation Point (KOP) # 23



### Notes:

#### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

#### KOP

- Representative View for: students and streetcar riders
- Location: Helen St. Street Car Station
- Latitude: 32.237150° N; Longitude: 110.946947° W
- View Point Elevation at Eye Level: 2,463 ft.
- Looking: southwest
- Poles Visible: Alternative 2 structures
- Image File Name: IMG\_3545.JPG

#### Simulation Notes

- Photo Taken: March 4th, 2024 at 9:59 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 735 feet northeast of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #23



Current Condition



Simulated Condition

Alternative 2 - Weathered Finish  
Page 724



## Key Observation Point (KOP) #23



Current Condition



Simulated Condition

Alternative 2 - Galvanized Finish  
Page 725

## Key Observation Point (KOP) #23



Current Condition



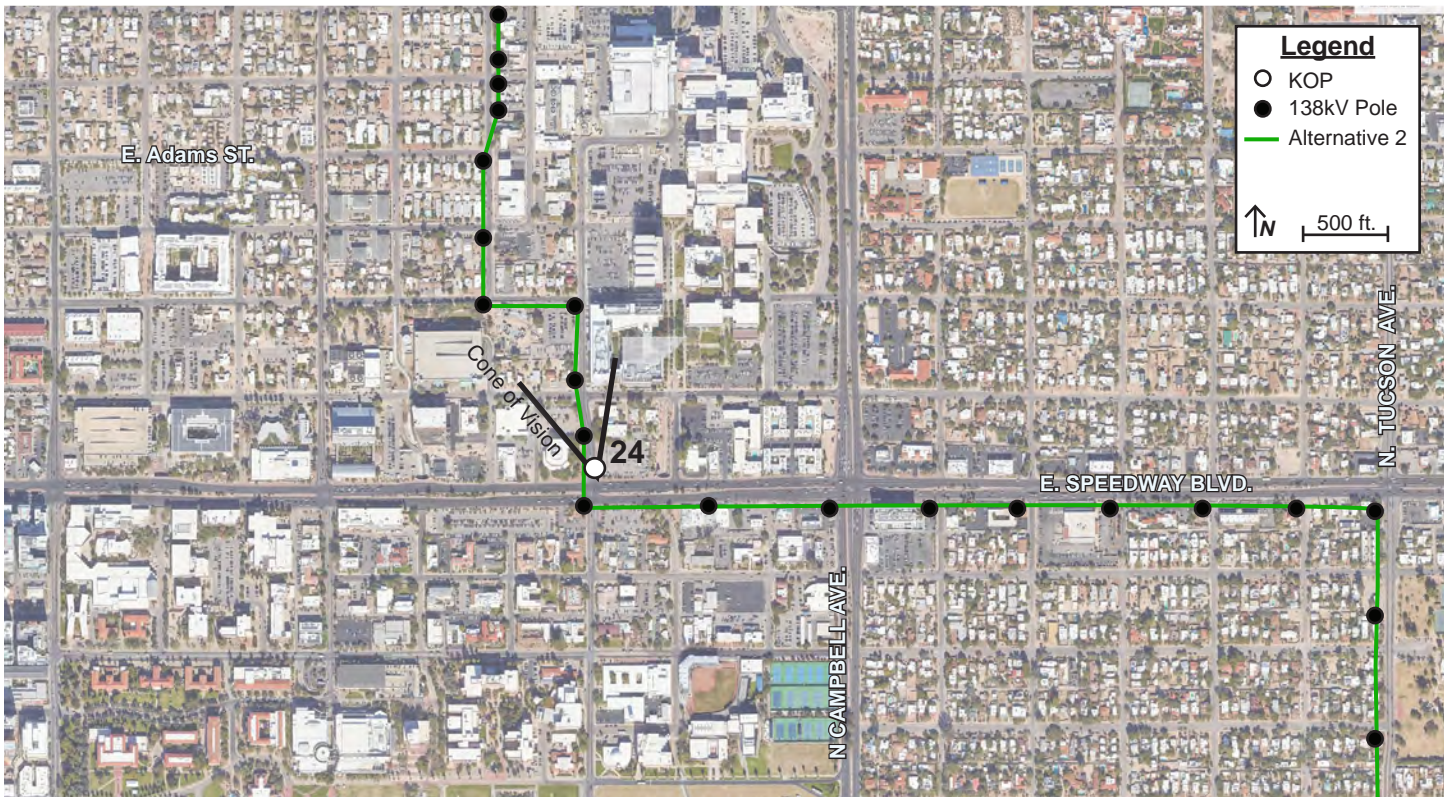
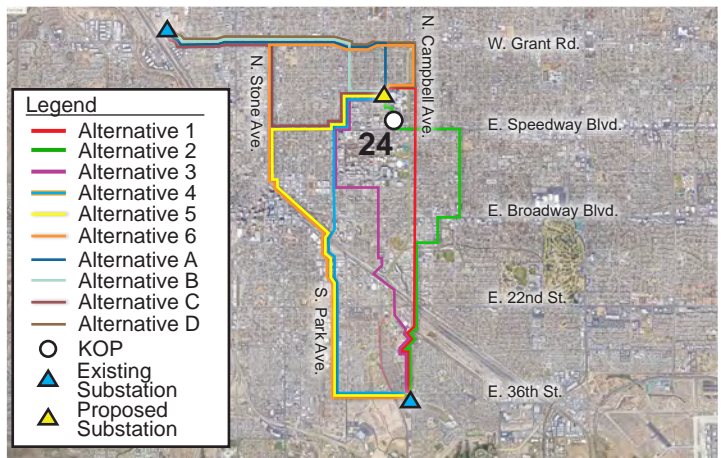
Simulated Condition

Alternative 2 - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 24



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: commercial
- Location: 1113 N. Cherry Ave.
- Latitude: 32.236394° N; Longitude: 110.948038° W
- View Point Elevation at Eye Level: 2,462 ft.
- Looking: north
- Poles Visible: Alternative 2 structures
- Image File Name: IMG\_3535.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 9:54 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 177 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #24



Current Condition



Simulated Condition

Alternative 2 - Weathered Finish



## Key Observation Point (KOP) #24



Current Condition



Simulated Condition

Alternative 2 - Galvanized Finish



## Key Observation Point (KOP) #24



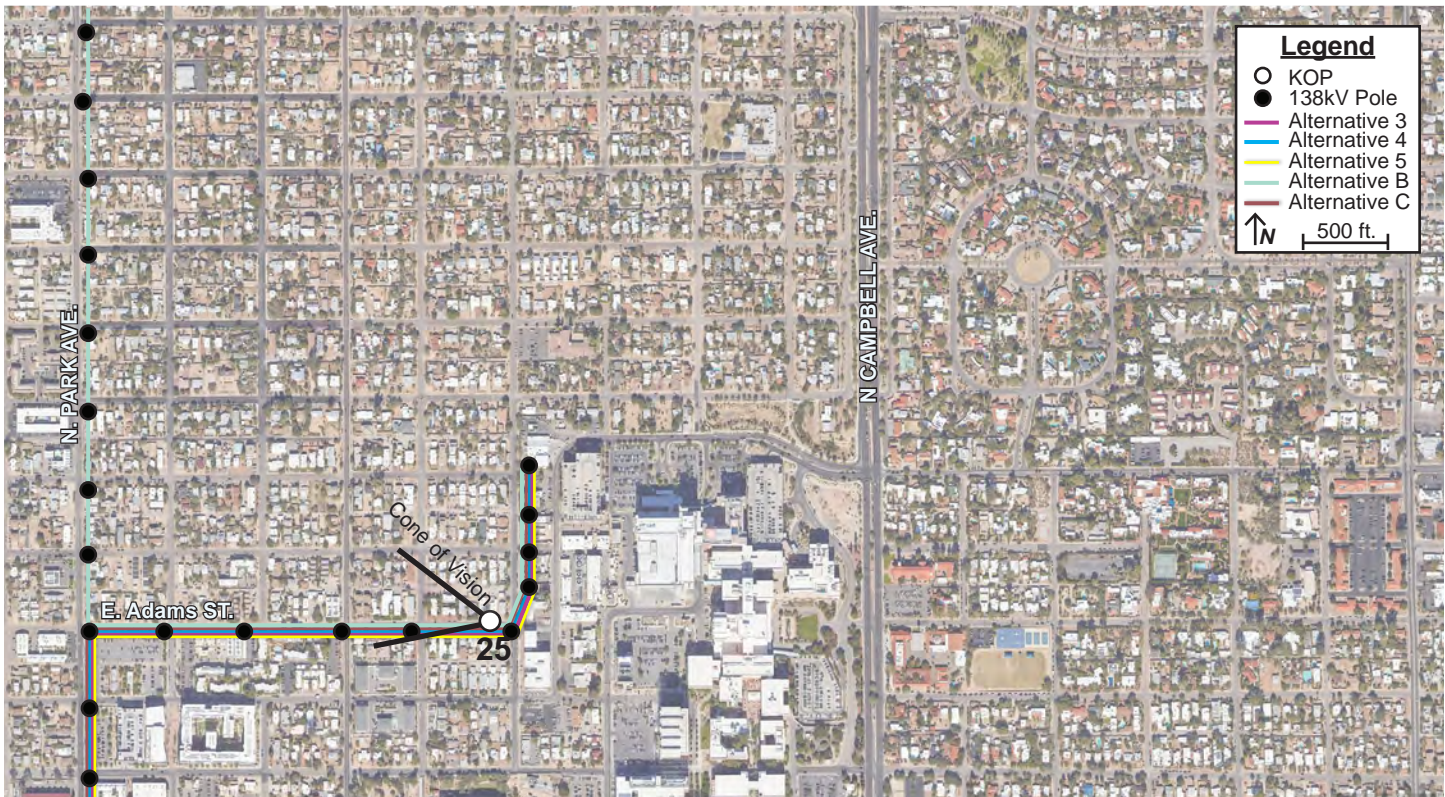
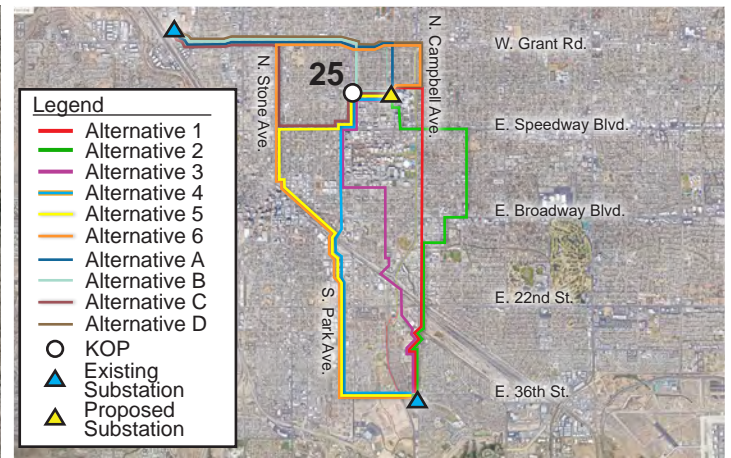
Current Condition



Simulated Condition



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 25



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 50mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: residents
- Location: 1439 E Adam St
- Latitude: 32.240687° N; Longitude: 110.950391° W
- View Point Elevation at Eye Level: 2,454 ft.
- Looking: west
- Poles Visible: Alternative 3,4,5,B,or C structures
- Image File Name: IMG\_3552.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 10:05 am
- The image is based on a single photo and represent approximately 39.5 degree horizontal field of view.
- This view is approximately 287 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #25



Current Condition



Simulated Condition

Alternative 3,4,5,B,or C - Weathered Finish



## Key Observation Point (KOP) #25



Current Condition



Simulated Condition

Alternative 3,4,5,B, or C - Galvanized Finish



## Key Observation Point (KOP) #25



Current Condition

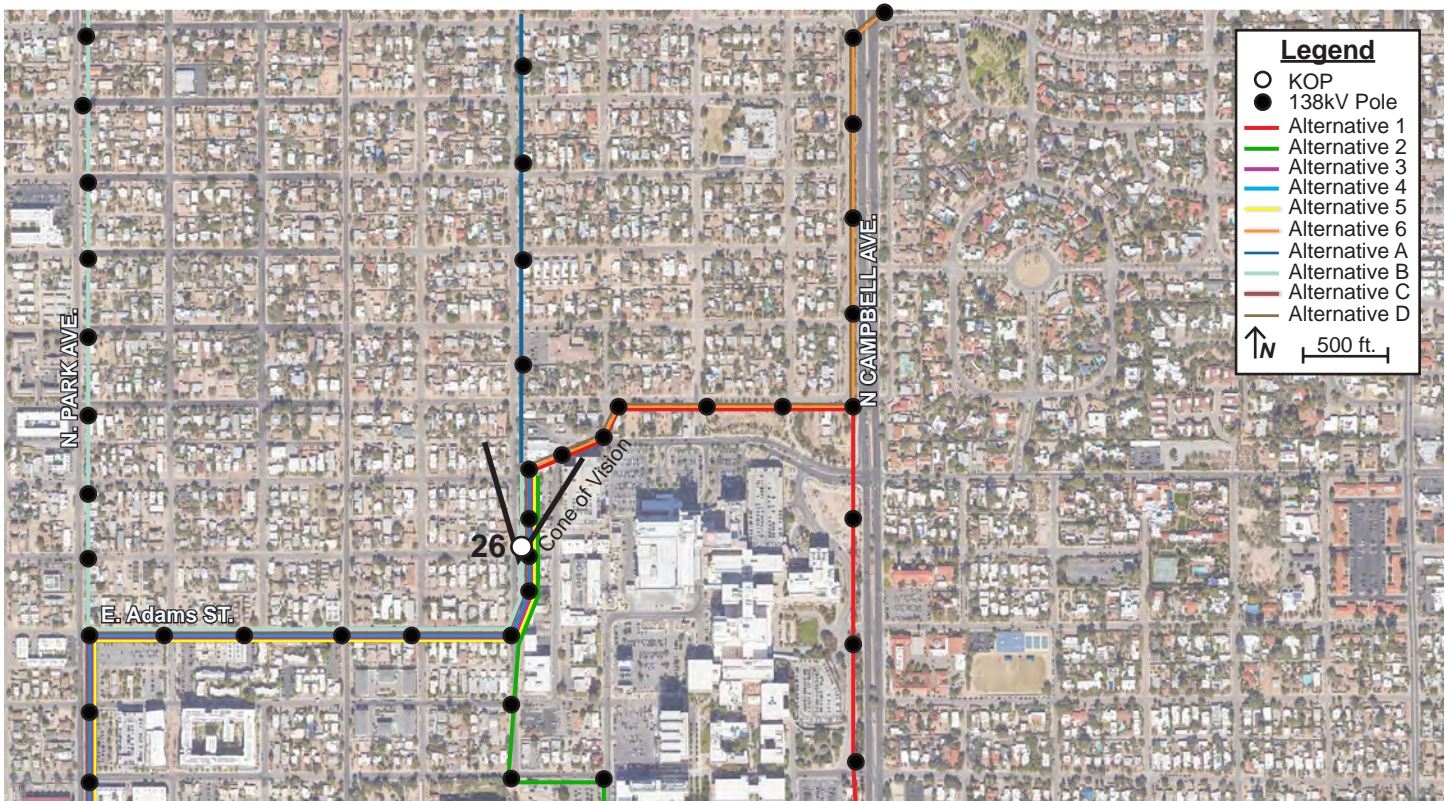
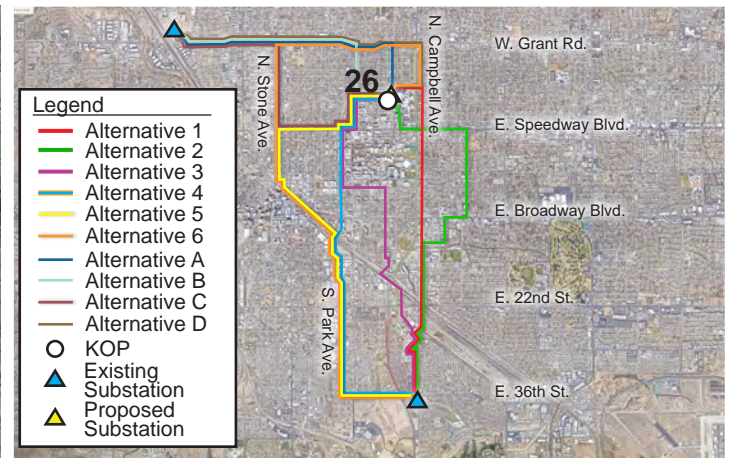


Simulated Condition

Alternative 3,4,5,B, or C - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 26



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: residents
- Location: 1601 N Vine Ave.
- Latitude: 32.241700° N; Longitude: 110.949848° W
- View Point Elevation at Eye Level: 2,445 ft.
- Looking: north
- Poles Visible: Alternative structures as noted below
- Image File Name: IMG\_3557.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 10:08 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 74 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #26



Current Condition



Simulated Condition



## Key Observation Point (KOP) #26



Current Condition



Simulated Condition



## Key Observation Point (KOP) #26



Current Condition



Simulated Condition



## Key Observation Point (KOP) #26



Current Condition



Simulated Condition

Alternatives 1,2,6, or D - Weathered Finish



## Key Observation Point (KOP) #26



Current Condition



Simulated Condition

Alternatives 1,2,6, or D - Galvanized Finish



## Key Observation Point (KOP) #26



Current Condition



Simulated Condition



## Key Observation Point (KOP) #26



Current Condition



Simulated Condition

Alternative A - Weathered Finish  
Page 742



## Key Observation Point (KOP) #26



Current Condition



Simulated Condition

Alternative A - Galvanized Finish  
Page 743



## Key Observation Point (KOP) #26



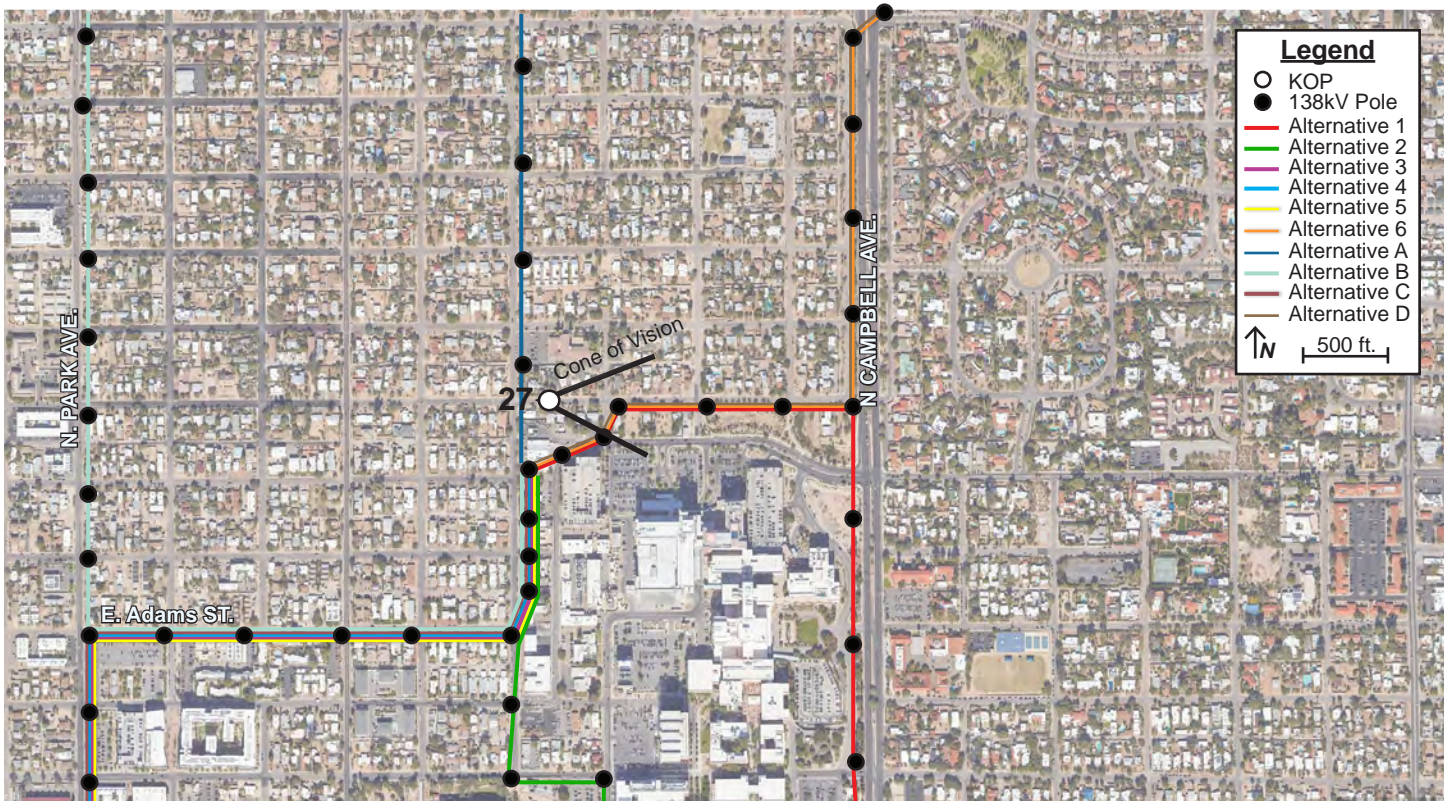
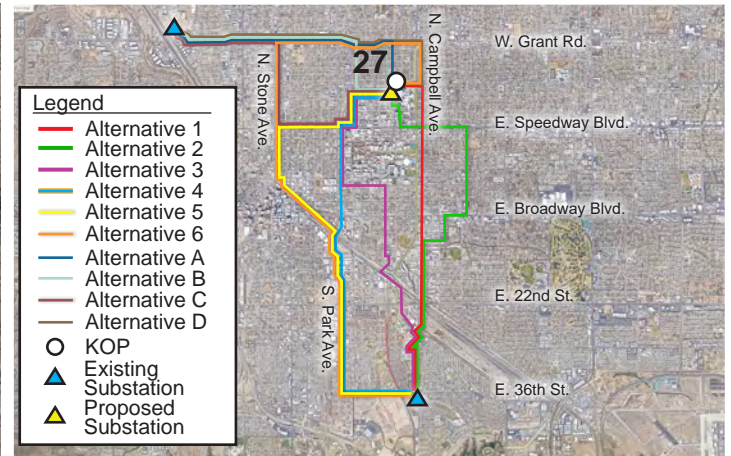
Current Condition



Simulated Condition

Alternative A - Mojave Sage Finish  
Page 744





## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/10 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents
- Location: 1517 E Lester St.
- Latitude: 32.243709° N; Longitude: 110.949300° W
- View Point Elevation at Eye Level: 2,423 ft.
- Looking: east
- Poles Visible: Alternative 1,6, or D structures
- Image File Name: IMG\_3566.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 10:11 am
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 348 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #27



Current Condition



Simulated Condition

Alternative 6 or D - Weathered Finish



## Key Observation Point (KOP) #27



Current Condition



Simulated Condition

Alternative 6 or D - Galvanized Finish



## Key Observation Point (KOP) #27



Current Condition



Simulated Condition

Alternative 6 or D - Mojave Sage Finish



## Key Observation Point (KOP) #27



Current Condition



Simulated Condition

Alternative 1 - Weathered Finish



## Key Observation Point (KOP) #27



Current Condition



Simulated Condition

Alternative 1 - Galvanized Finish



## Key Observation Point (KOP) #27



Current Condition



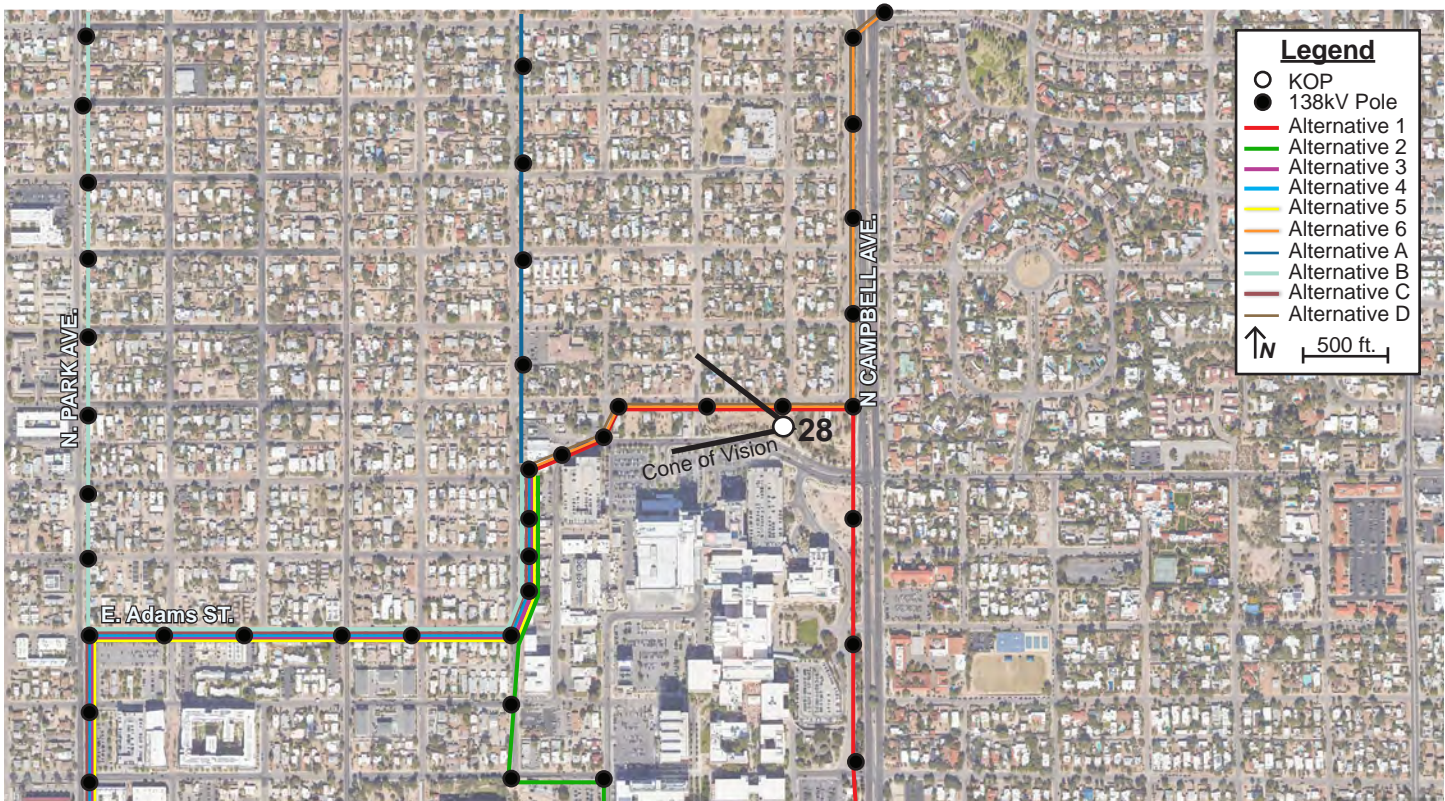
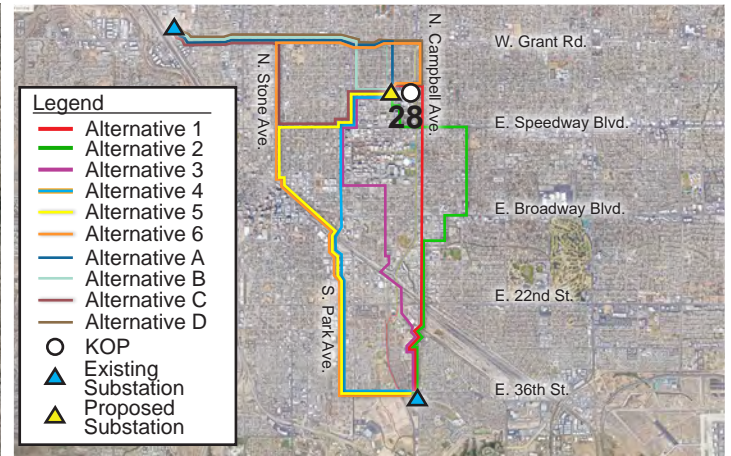
Simulated Condition

Alternative 1 - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 28



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: Hospital visitors and staff
- Location: Lester Retention Area
- Latitude: 32.243348° N; Longitude: 110.945392° W
- View Point Elevation at Eye Level: 2,435 ft.
- Looking: west
- Poles Visible: Alternative 1,6, or D structures
- Image File Name: IMG\_3591.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 10:16 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 485 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #28



Current Condition



Simulated Condition

Alternative 1,6,or D - Weathered Finish



## Key Observation Point (KOP) #28



Current Condition



Simulated Condition

Alternative 1,6,or D - Galvanized Finish



## Key Observation Point (KOP) #28



Current Condition



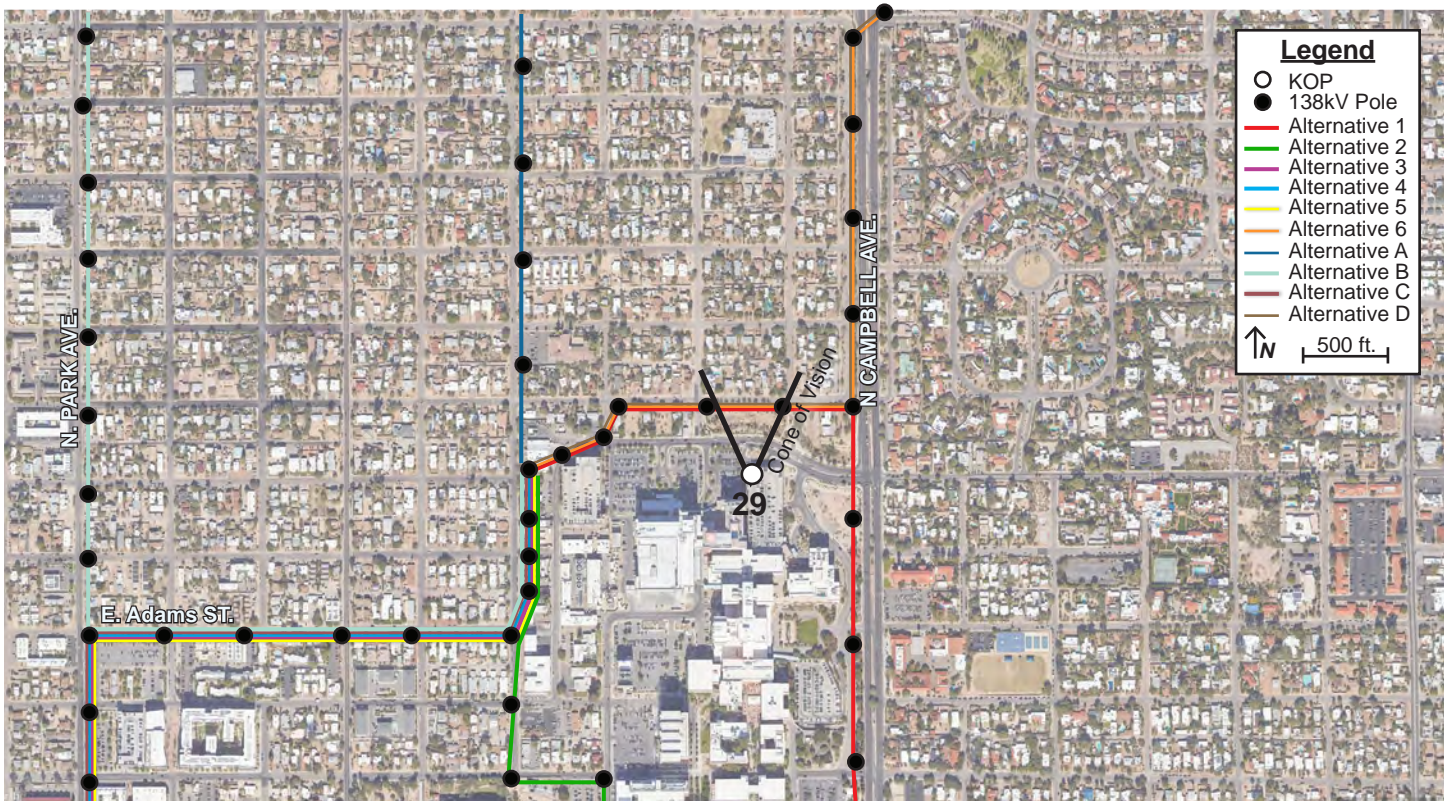
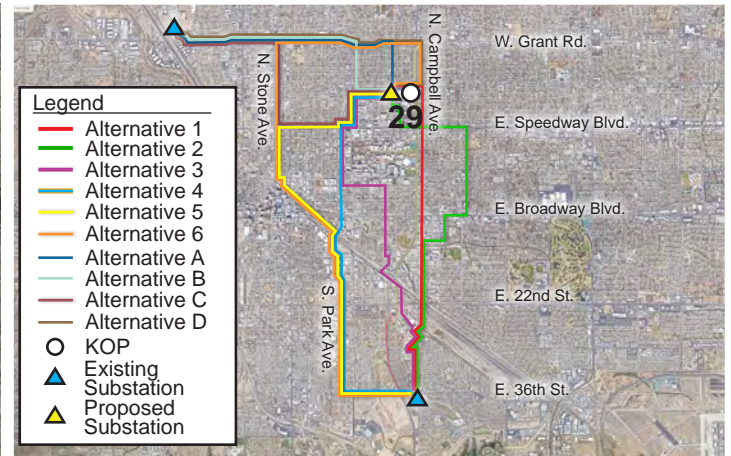
Simulated Condition

Alternative 1,6,or D - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 29



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/8 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: Hospital visitors and staff
- Location: Elevated Hospital View
- Latitude: 32.242810° N; Longitude: 110.945952° W
- View Point Elevation at Eye Level: 2,453 ft.
- Looking: north
- Poles Visible: Alternative 1,6, or D structures
- Image File Name: IMG\_3604.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 10:19 am
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 314 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #29



Current Condition



Simulated Condition

Alternative 1,6,or D - Weathered Finish



## Key Observation Point (KOP) #29



Current Condition



Simulated Condition

Alternative 1,6,or D - Galvanized Finish



## Key Observation Point (KOP) #29



Current Condition

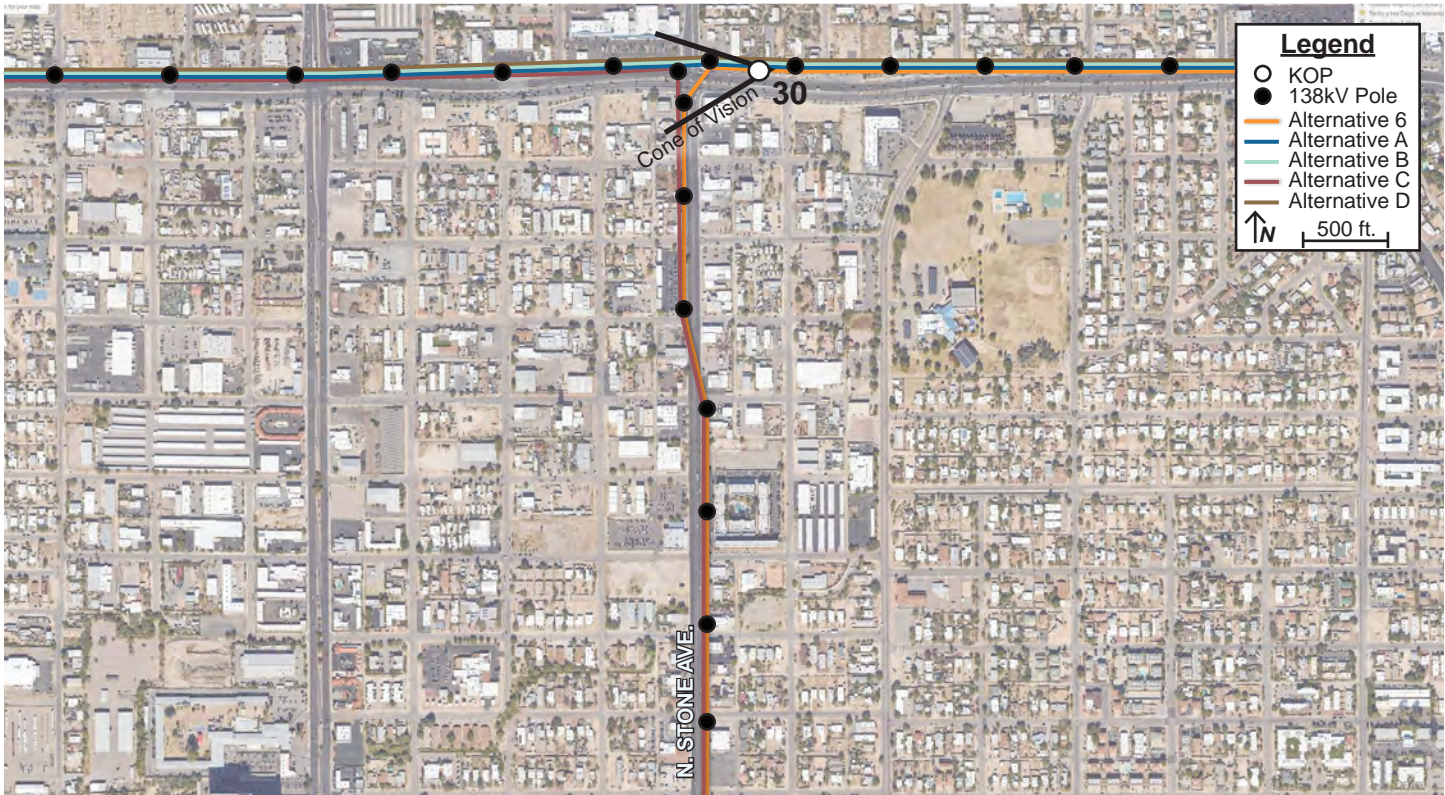
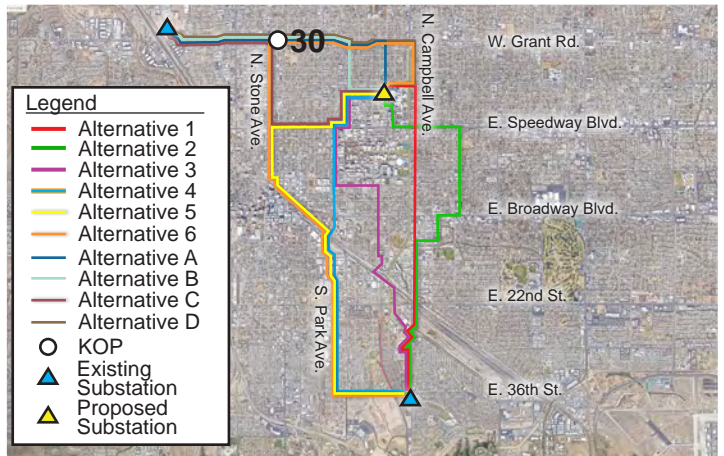


Simulated Condition

Alternative 1,6,or D - Mojave Sage Finish



## Key Observation Point (KOP) # 30



### Notes:

#### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 32mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

#### KOP

- Representative View for: commercial traffic
- Location: 19 E. Grant Rd.
- Latitude: 32.250456° N; Longitude: 110.971303° W
- View Point Elevation at Eye Level: 2,380ft.
- Looking: west
- Poles Visible: Alternative 6, A, B, C, or D structures
- Image File Name: IMG\_0035.JPG

#### Simulation Notes

- Photo Taken: November 1st, 2020 at 9:47am
- The image is based on a single photo and represent approximately 68 degree horizontal field of view.
- This view is approximately 136 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #30



Current Condition



Simulated Condition

Alternative 6 - Weathered Finish



## Key Observation Point (KOP) #30



Current Condition



Simulated Condition

Alternative 6 - Galvanized Finish



## Key Observation Point (KOP) #30



Current Condition



Simulated Condition



## Key Observation Point (KOP) #30



Current Condition



Simulated Condition

Alternative A,B,or D - Weathered Finish



## Key Observation Point (KOP) #30



Current Condition



Simulated Condition

Alternative A,B,or D - Galvanized Finish



## Key Observation Point (KOP) #30



Current Condition



Simulated Condition

Alternative A,B,or D - Mojave Sage Finish



## Key Observation Point (KOP) #30



Current Condition



Simulated Condition

Alternative C - Weathered Finish



## Key Observation Point (KOP) #30



Current Condition



Simulated Condition

Alternative C - Galvanized Finish



## Key Observation Point (KOP) #30



Current Condition

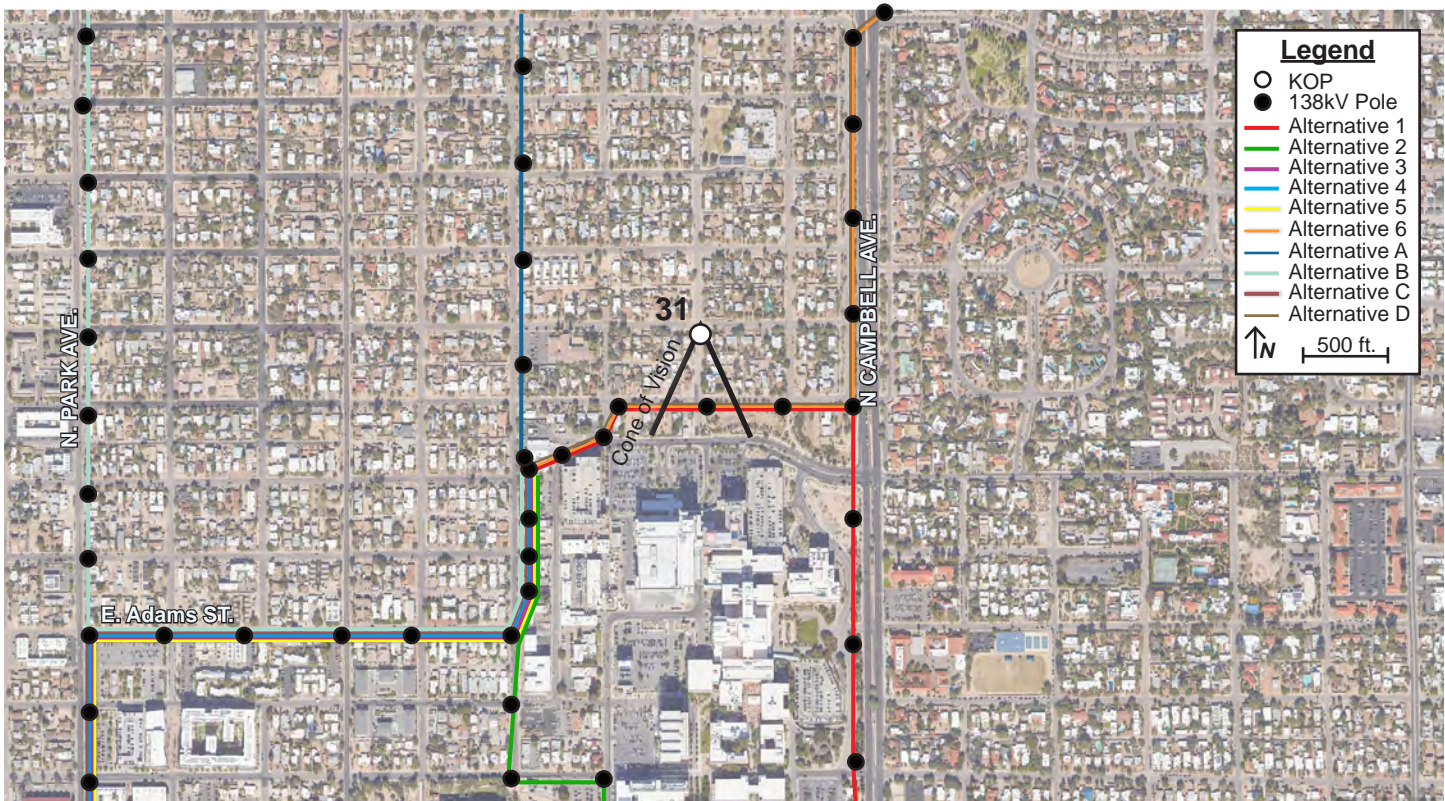
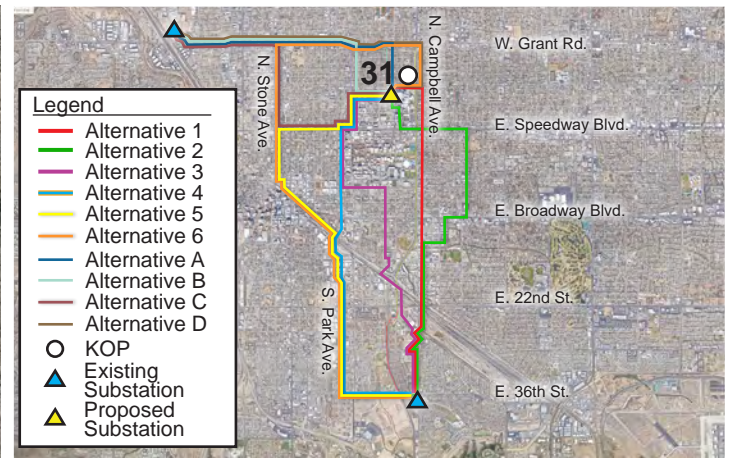


Simulated Condition

Alternative C - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 31



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/8 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: residents
- Location: 1898 N Warren Ave
- Latitude: 32.244609° N; Longitude: 110.946824° W
- View Point Elevation at Eye Level: 2,432 ft.
- Looking: south
- Poles Visible: Alternative 1,6, or A structures
- Image File Name: IMG\_3620.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 10:27 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 375 feet north of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #31



Current Condition



Simulated Condition

Alternative 1,6,or D - Weathered Finish



## Key Observation Point (KOP) #31



Current Condition



Simulated Condition

Alternative 1,6,or D - Galvanized Finish



## Key Observation Point (KOP) #31



Current Condition

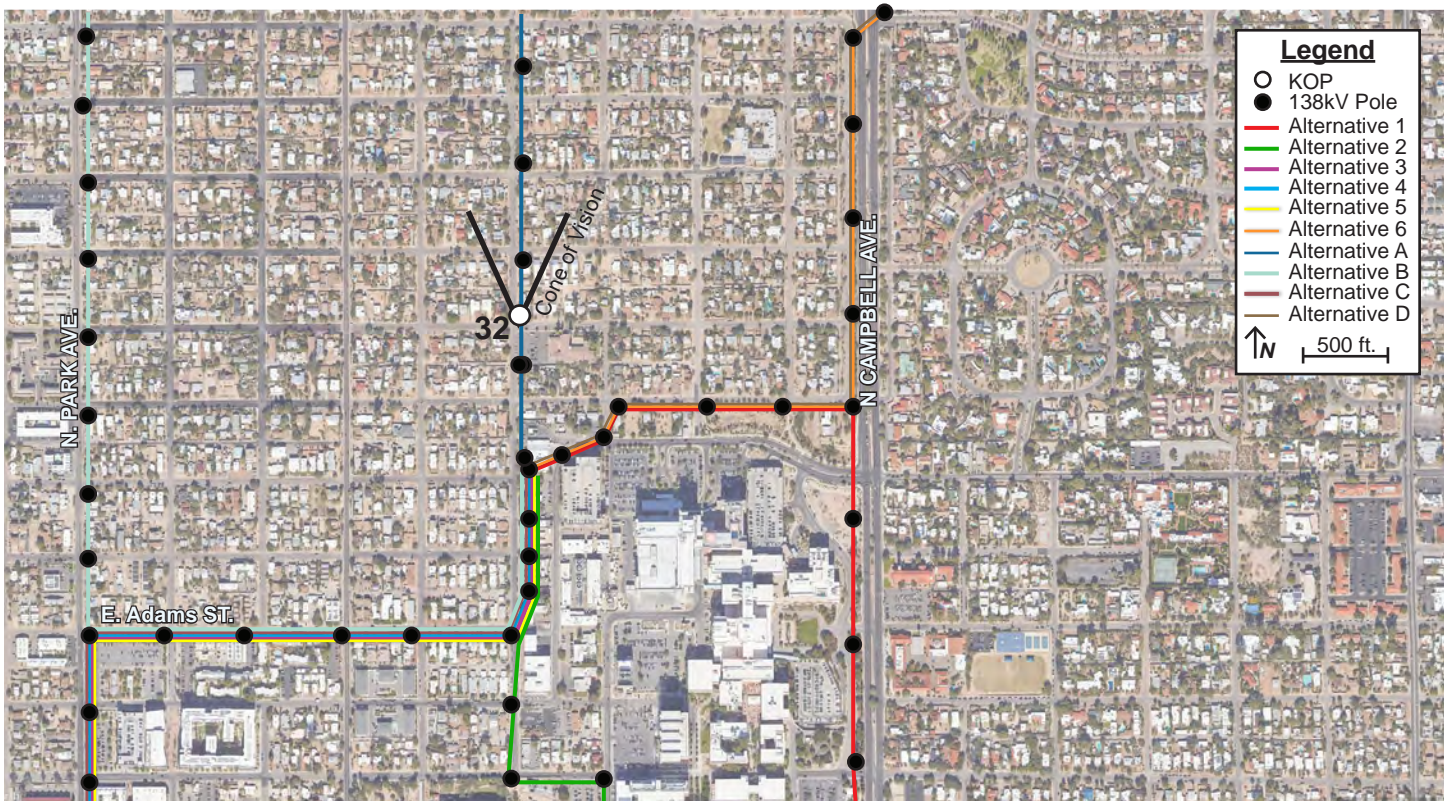
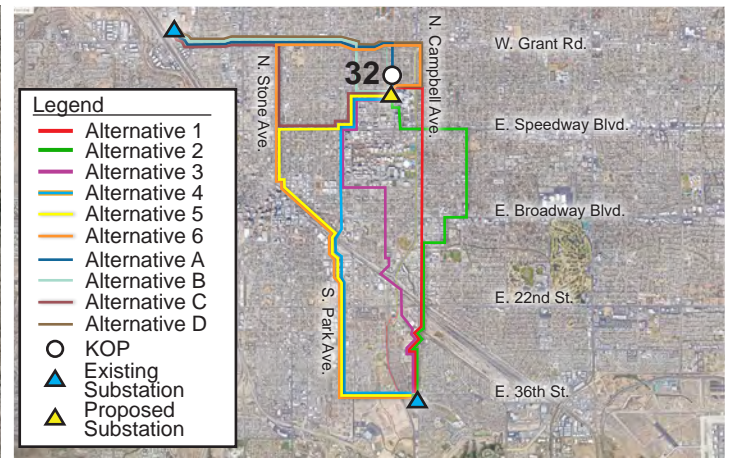


Simulated Condition

Alternative 1,6,or D - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 32



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents
- Location: 1950 Vine Ave
- Latitude: 32.244943° N; Longitude: 110.949758° W
- View Point Elevation at Eye Level: 2,431 ft.
- Looking: north
- Poles Visible: Alternative A structures
- Image File Name: IMG\_3634.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 10:30 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 268 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #32



Current Condition



Simulated Condition

Alternative A - Weathered Finish  
Page 775

## Key Observation Point (KOP) #32



Current Condition



Simulated Condition

Alternative A - Galvanized Finish  
Page 776



## Key Observation Point (KOP) #32

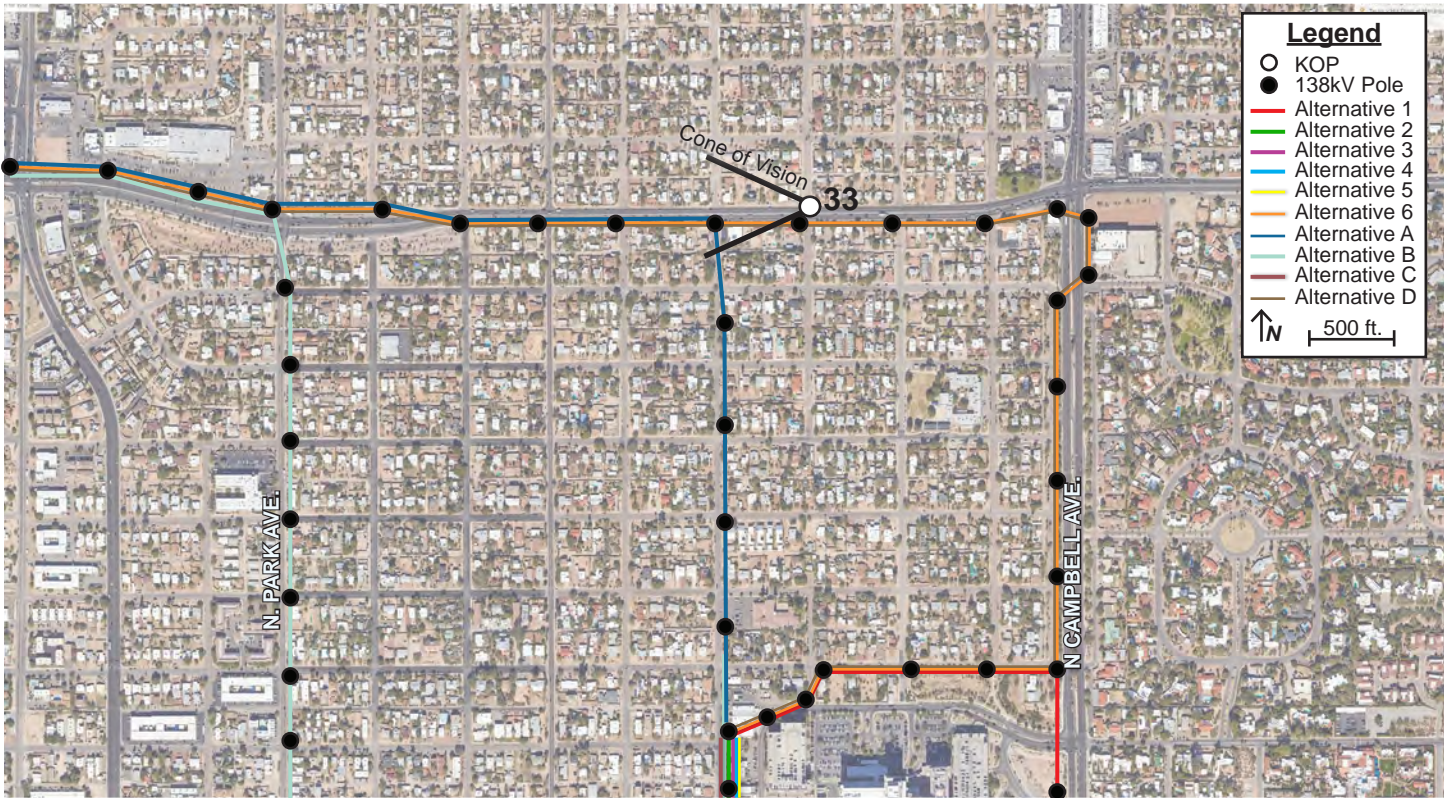
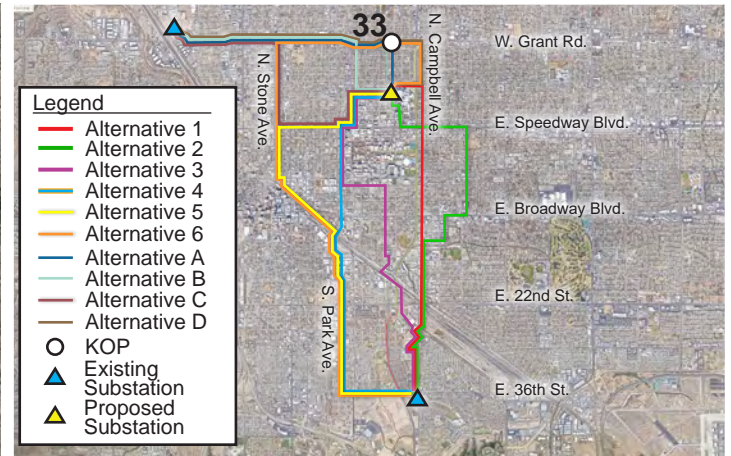


Current Condition



Simulated Condition





## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents and commercial travelers
- Location: 1601 Grant Ave
- Latitude: 32.250078° N; Longitude: 110.948432° W
- View Point Elevation at Eye Level: 2,420 ft.
- Looking: west
- Poles Visible: Alternative 1,A,B,or D structures
- Image File Name: IMG\_3638.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 10:33 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 519 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #33



Current Condition



Simulated Condition

Alternative 6, or D - Weathered Finish

## Key Observation Point (KOP) #33



Current Condition



Simulated Condition

Alternative 6, or D - Galvanized Finish  
Page 780



## Key Observation Point (KOP) #33



Current Condition

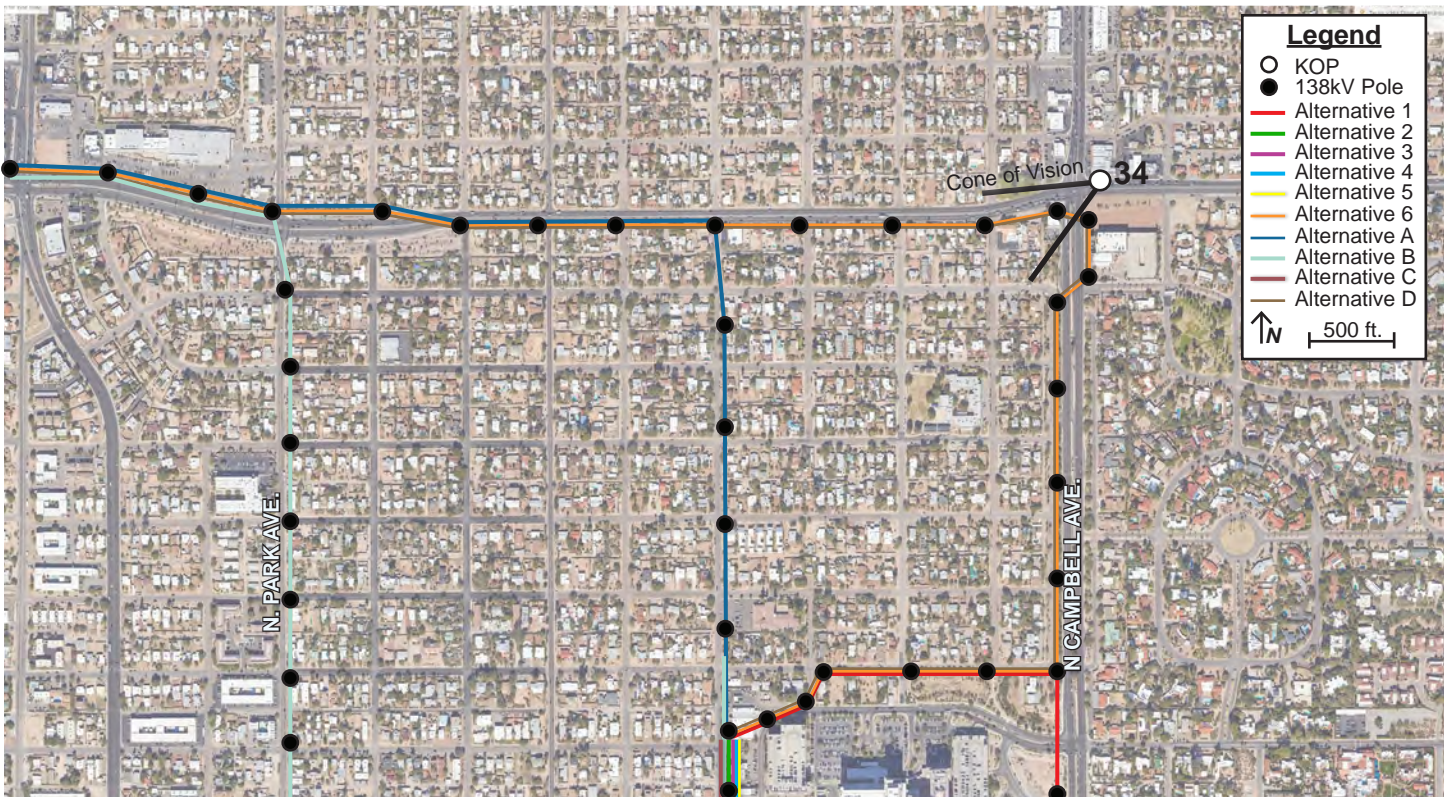
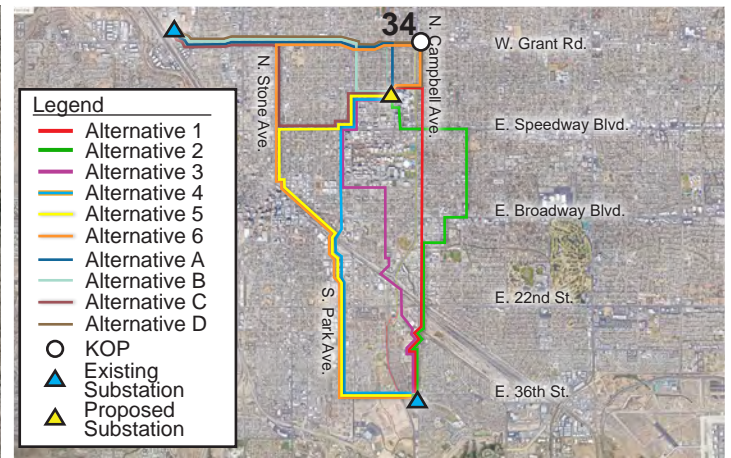


Simulated Condition

Alternative 6, or D - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 34



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: commercial travelers
- Location: 1909 E Grant Rd
- Latitude: 32.250393° N; Longitude: 110.943586° W
- View Point Elevation at Eye Level: 2,423 ft.
- Looking: west
- Poles Visible: Alternative 6 or D structures
- Image File Name: IMG\_3662.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 10:38 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 277 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #34



Current Condition



Simulated Condition

Alternative 6, or D - Weathered Finish



## Key Observation Point (KOP) #34



Current Condition



Simulated Condition

Alternative 6, or D - Galvanized Finish

## Key Observation Point (KOP) #34



Current Condition

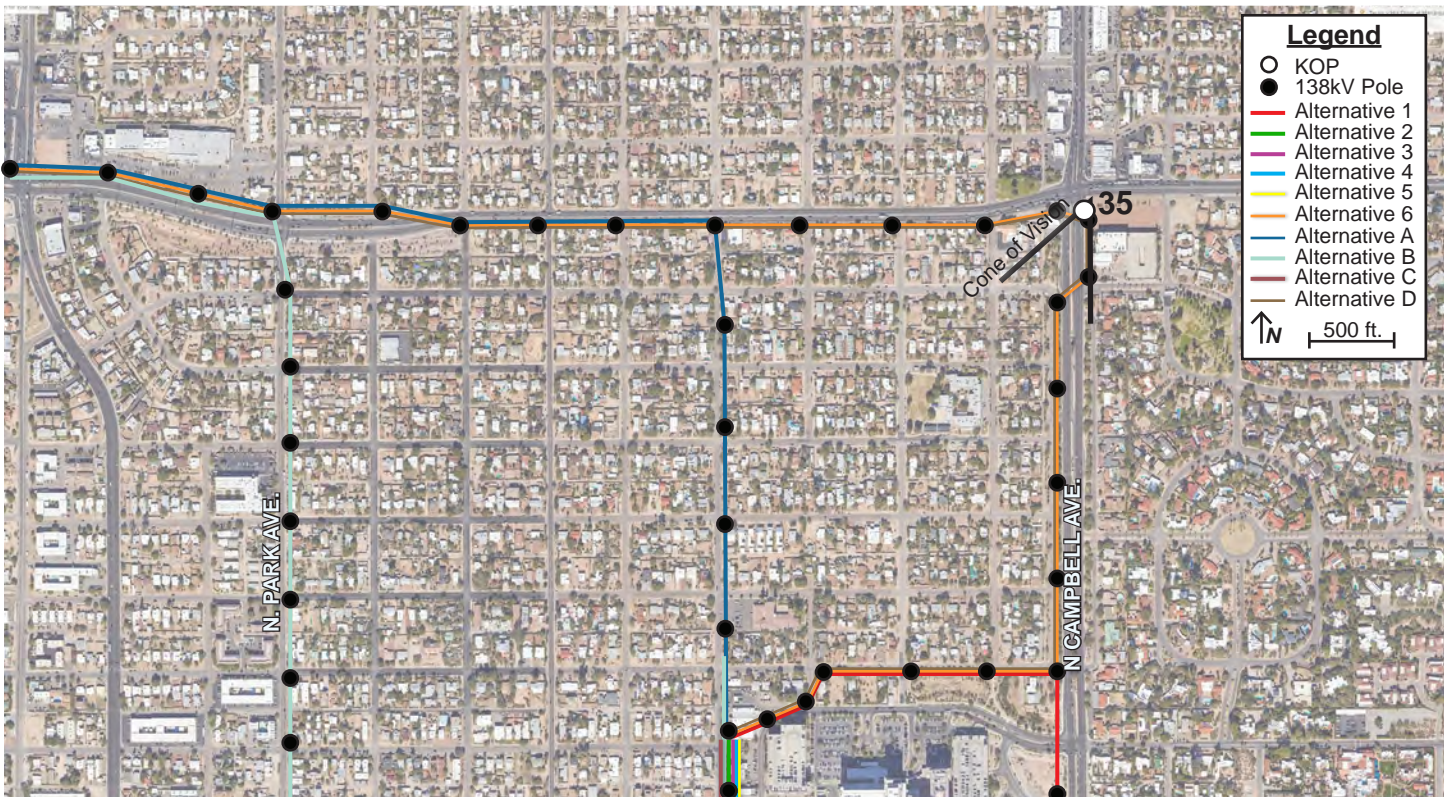
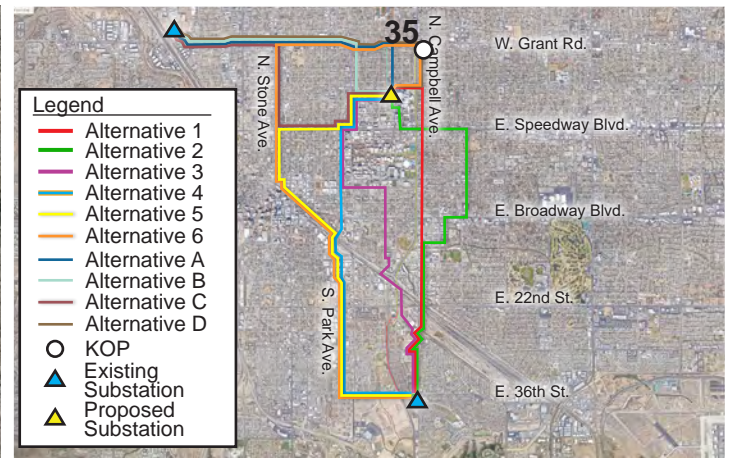


Simulated Condition

Alternative 6, or D - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 35



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 50mm | F-Stop: f/10 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: commercial travelers
- Location: 2398 N Campbell Ave
- Latitude: 32.249973° N; Longitude: 110.943870° W
- View Point Elevation at Eye Level: 2,425 ft.
- Looking: south
- Poles Visible: Alternative 6 or D structures
- Image File Name: IMG\_3687.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 10:42 am
- The image is based on a single photo and represent approximately 39.5 degree horizontal field of view.
- This view is approximately 366 feet north of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #35



Current Condition



Simulated Condition

Alternative 6, or D - Weathered Finish

## Key Observation Point (KOP) #35



Current Condition



Simulated Condition

Alternative 6, or D - Galvanized Finish



## Key Observation Point (KOP) #35



Current Condition

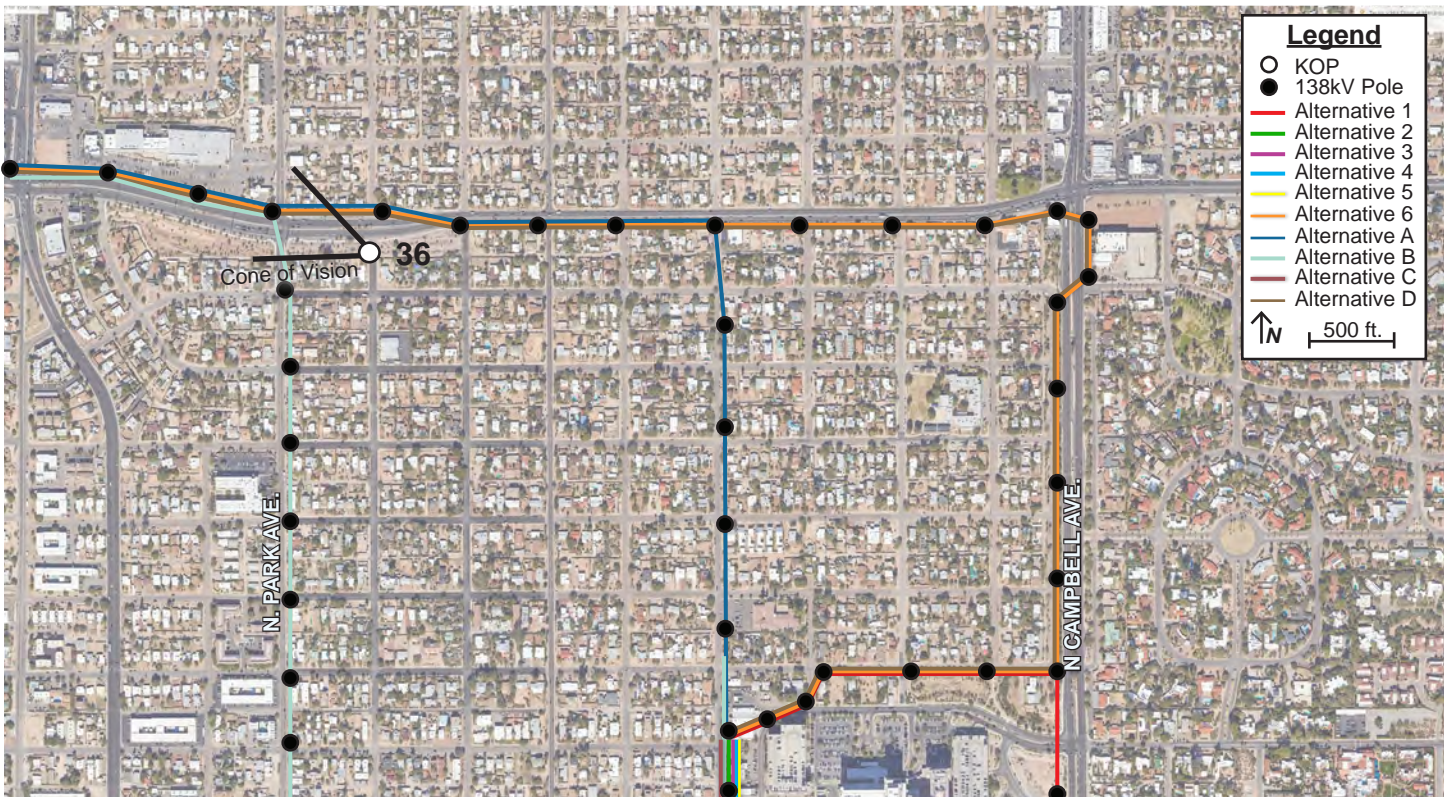
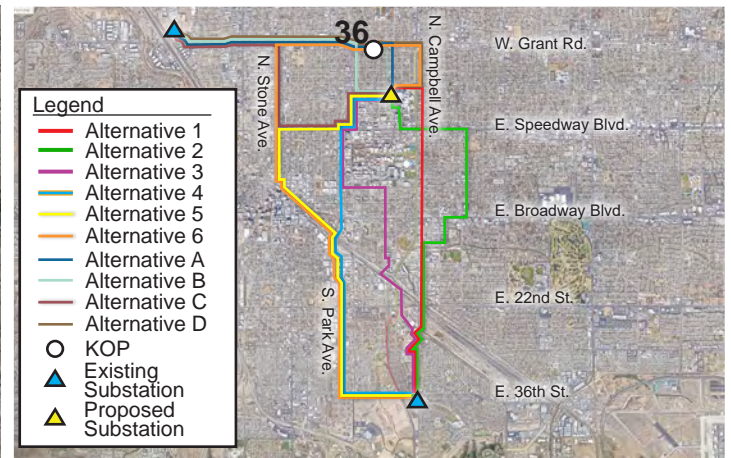


Simulated Condition

Alternative 6, or D - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 36



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents and commercial travelers
- Location: 2320 N Freemont Ave
- Latitude: 32.249455° N; Longitude: 110.955267° W
- View Point Elevation at Eye Level: 2,415 ft.
- Looking: west
- Poles Visible: Alternative 6, A, or D structures
- Image File Name: IMG\_3698.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 10:49 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 583 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #36



Current Condition



Simulated Condition

Alternative 6,A, or D - Weathered Finish

## Key Observation Point (KOP) #36



Current Condition



Simulated Condition

Alternative 6,A, or D - Galvanized Finish



## Key Observation Point (KOP) #36



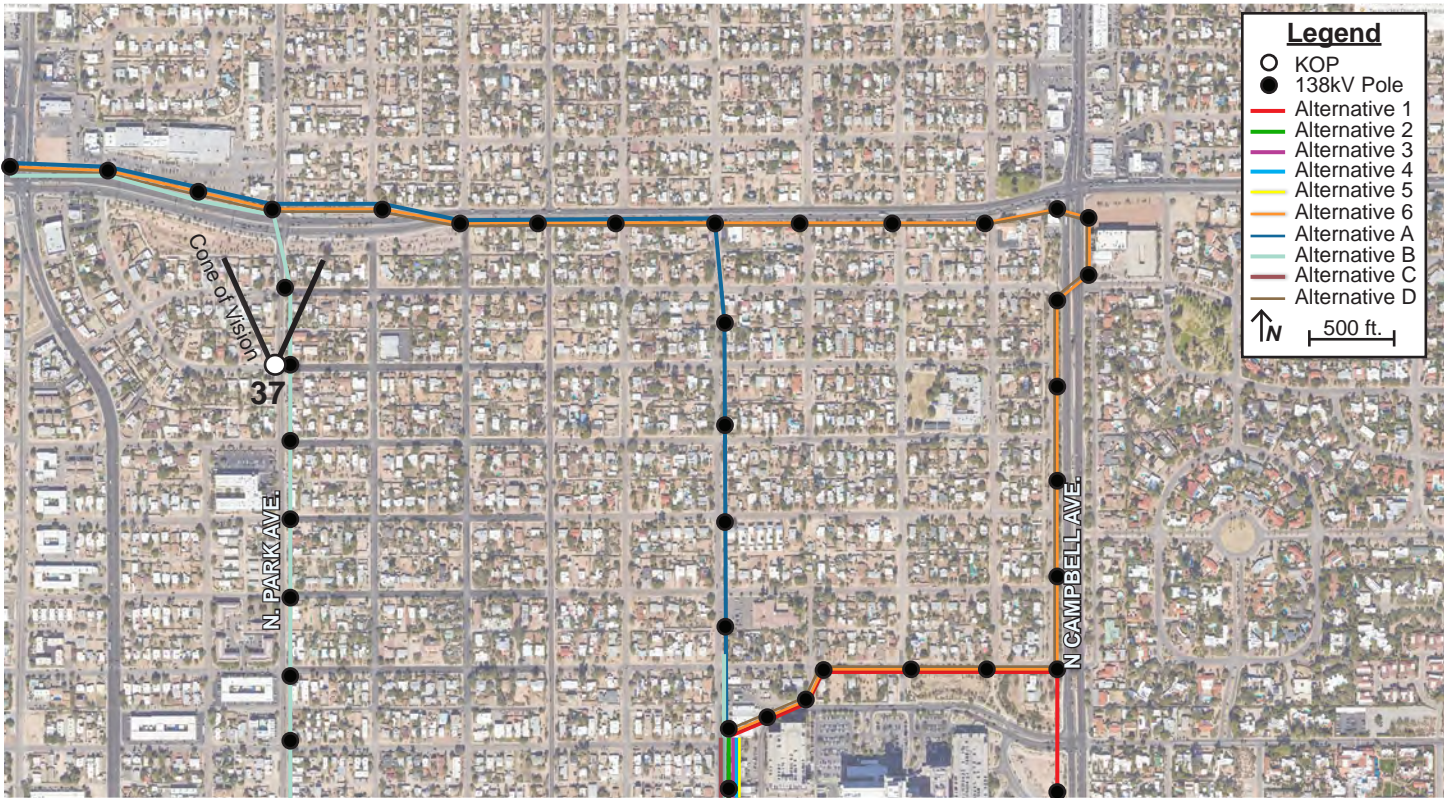
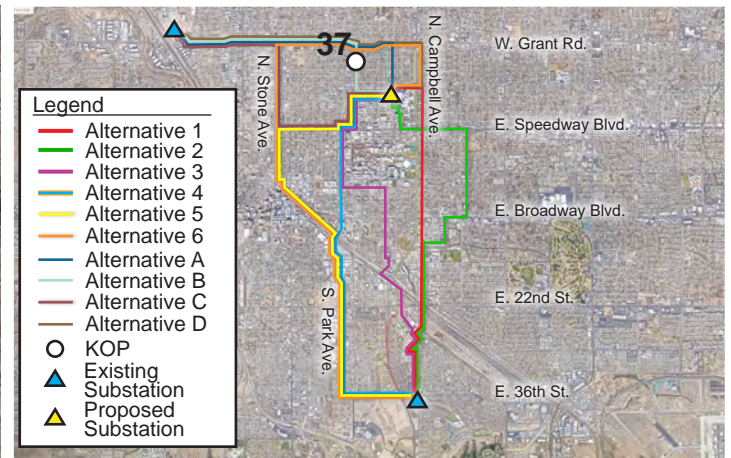
Current Condition



Simulated Condition

Alternative 6,A, or D - Mojave Sage Finish





## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents and commercial travelers
- Location: 2200 N Park Ave.
- Latitude: 32.247848° N; Longitude: 110.957059° W
- View Point Elevation at Eye Level: 2,430 ft.
- Looking: north
- Poles Visible: Alternative B structures
- Image File Name: IMG\_3714.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 10:52 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 329 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #37



Current Condition



Simulated Condition

Alternative B - Weathered Finish



## Key Observation Point (KOP) #37



Current Condition



Simulated Condition

## Key Observation Point (KOP) #37



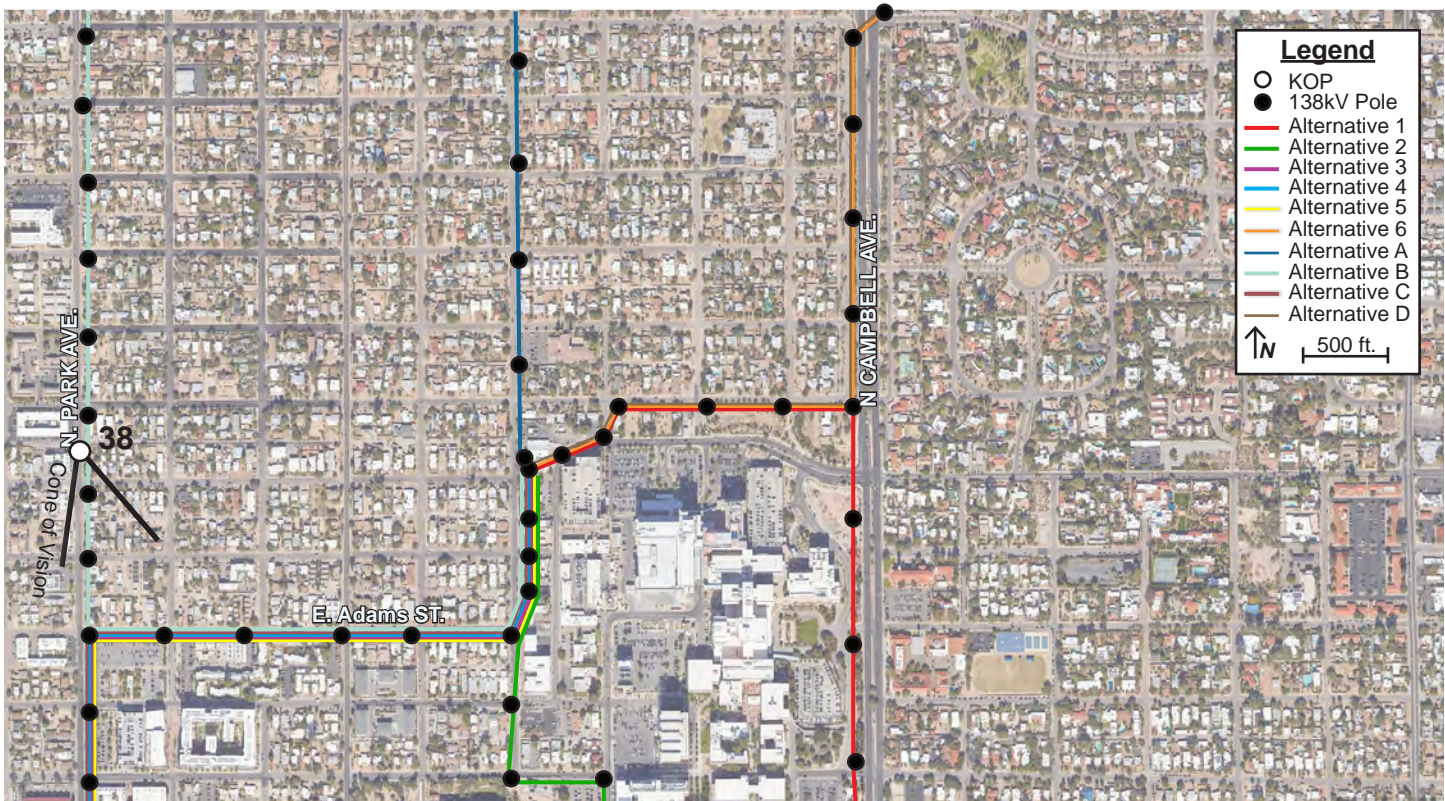
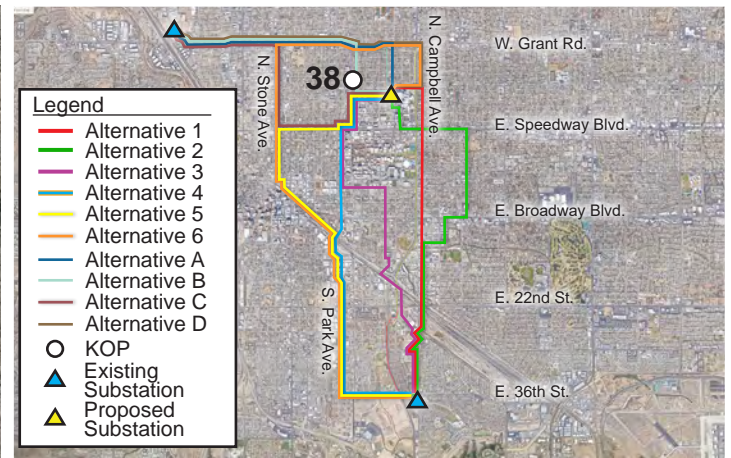
Current Condition



Simulated Condition



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 38



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: residents
- Location: 1804 N. Park Ave.
- Latitude: 32.243773° N; Longitude: 110.956922° W
- View Point Elevation at Eye Level: 2,426 ft.
- Looking: south
- Poles Visible: Alternative B structures
- Image File Name: IMG\_3724.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 10:56 am
- The image is based on a single photo and represent approximately 39.5 degree horizontal field of view.
- This view is approximately 617 feet north of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #38



Current Condition



Simulated Condition

Alternative B - Weathered Finish  
Page 799

## Key Observation Point (KOP) #38



Current Condition



Simulated Condition

Alternative B - Galvanized Finish  
Page 800



## Key Observation Point (KOP) #38



Current Condition

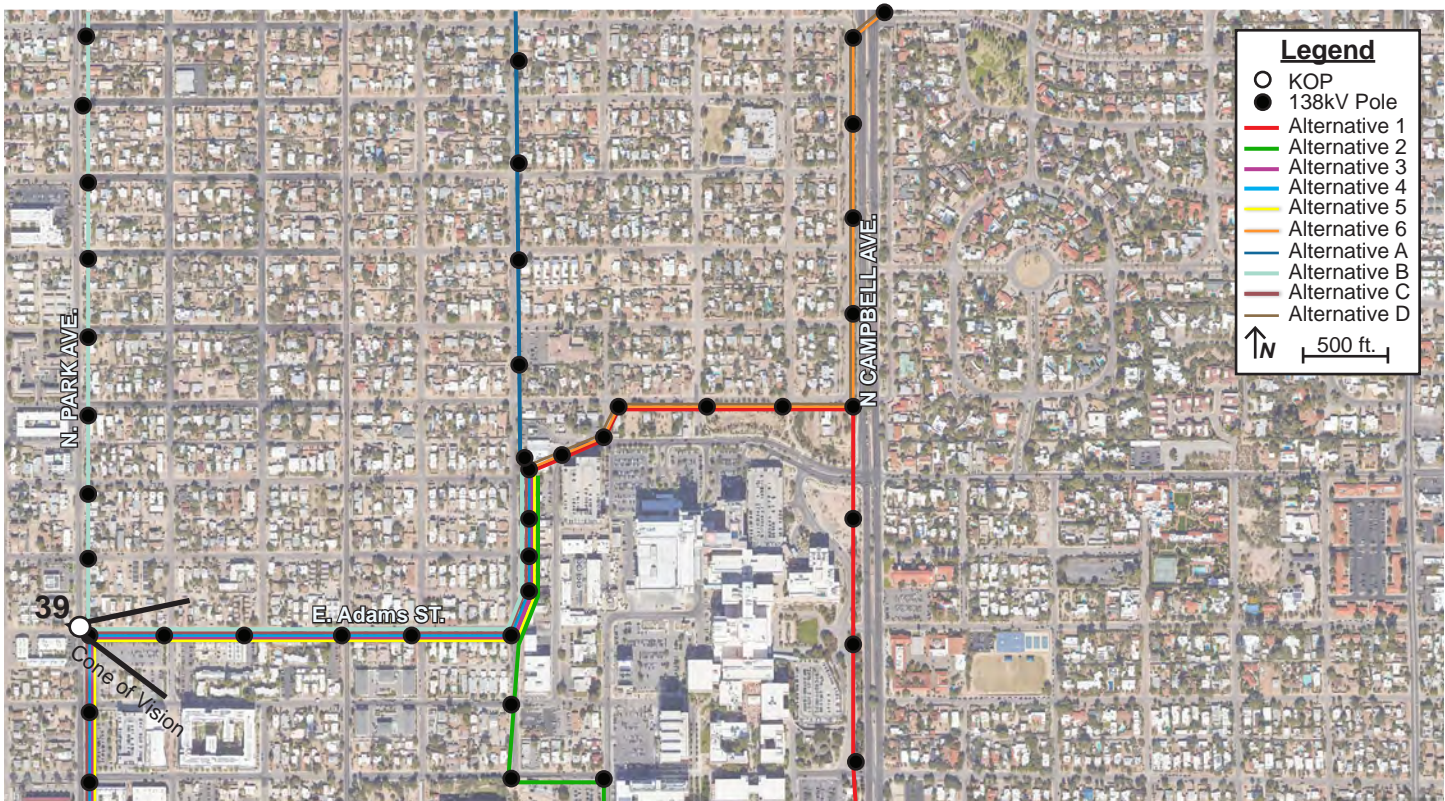
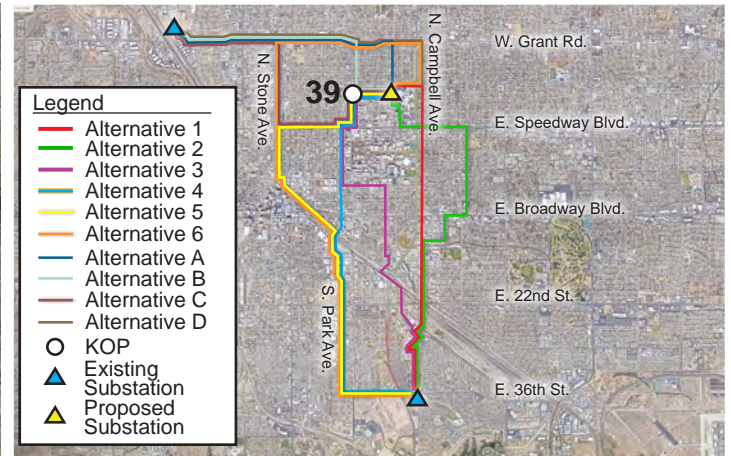


Simulated Condition



## Midtown Reliability Project

### Key Observation Point (KOP) # 39



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: residents
- Location: 1000 E. Adams St.
- Latitude: 32.240337° N; Longitude: 110.956882° W
- View Point Elevation at Eye Level: 2,424 ft.
- Looking: east
- Poles Visible: Alternative 3,4,5, B, or C structures
- Image File Name: IMG\_3751.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 11:03 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 45 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #39



Current Condition



Simulated Condition



## Key Observation Point (KOP) #39



Current Condition



Simulated Condition



## Key Observation Point (KOP) #39



Current Condition

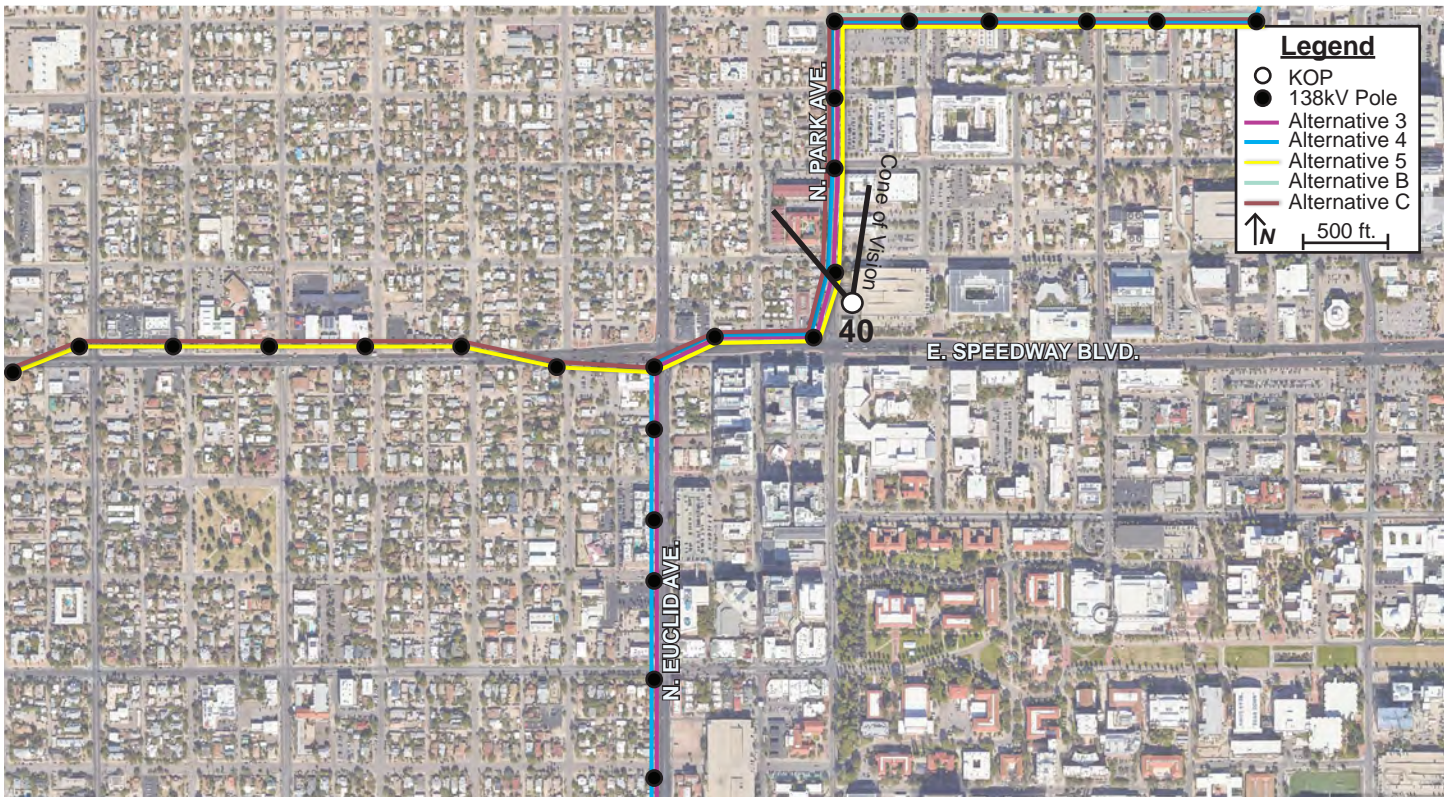
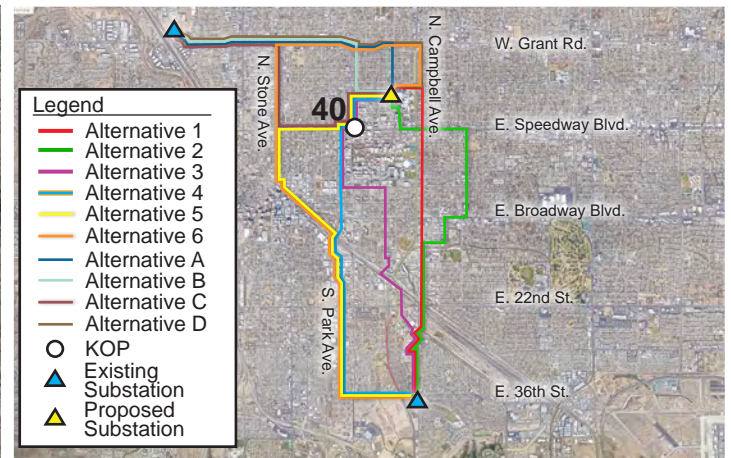


Simulated Condition

Alternative 3,4,5,B, or C - Mojave Sage Finish  
pg169 Page 805



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 40



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents, students, and commercial
- Location: 1107 N. Park Ave.
- Latitude: 32.236665° N; Longitude: 110.956627° W
- View Point Elevation at Eye Level: 2,434 ft.
- Looking: north
- Poles Visible: Alternative 3,4,5,B or C structures
- Image File Name: IMG\_3766.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 11:11 am
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 198 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #40



Current Condition



Simulated Condition



## Key Observation Point (KOP) #40



Current Condition



Simulated Condition



## Key Observation Point (KOP) #40



Current Condition

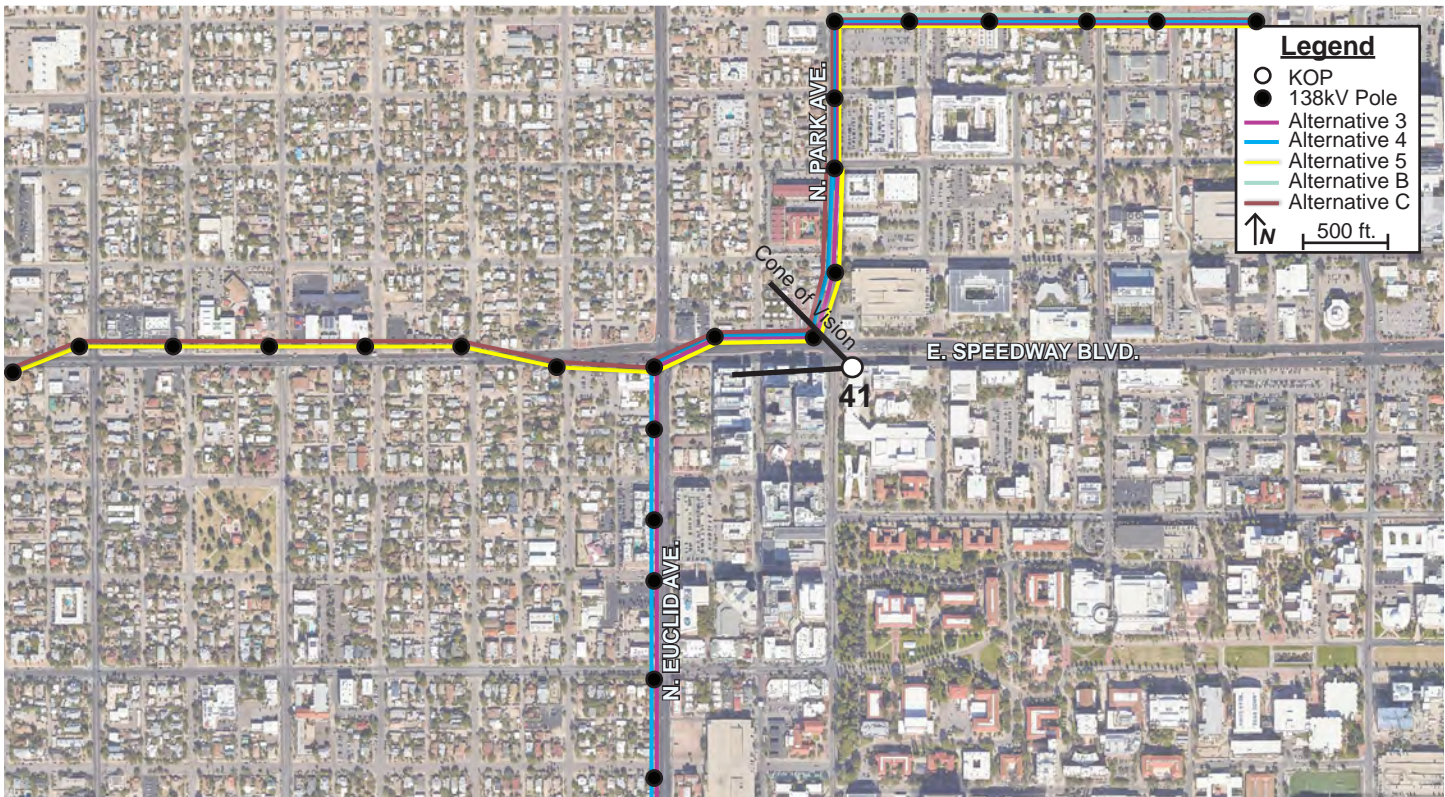
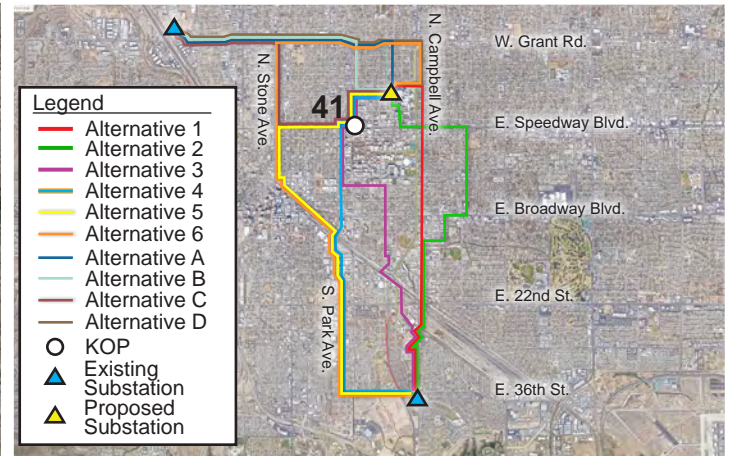


Simulated Condition



## Midtown Reliability Project

### Key Observation Point (KOP) # 41



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 50mm | F-Stop: f/5 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: residents, students, and commercial
- Location: 1002 E Speedway Blvd.
- Latitude: 32.236257° N; Longitude: 110.956311° W
- View Point Elevation at Eye Level: 2,436 ft.
- Looking: west
- Poles Visible: Alternative 3,4,5,B, or C structures
- Image File Name: IMG\_2793.JPG

##### Simulation Notes

- Photo Taken: December 5th, 2023 at 10:11 am
- The image is based on a single photo and represent approximately 39.5 degree horizontal field of view.
- This view is approximately 665 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #41



Current Condition



Simulated Condition

Alternative 3 & 4 - Weathered Finish

## Key Observation Point (KOP) #41



Current Condition



Simulated Condition

Alternative 3 & 4 - Galvanized Finish



## Key Observation Point (KOP) #41



Current Condition



Simulated Condition

Alternative 3 & 4 - Mojave Sage Finish



## Key Observation Point (KOP) #41



Current Condition



Simulated Condition

Alternative 5, or C - Weathered Finish

## Key Observation Point (KOP) #41



Current Condition



Simulated Condition

Alternative 5, or C - Galvanized Finish



## Key Observation Point (KOP) #41



Current Condition



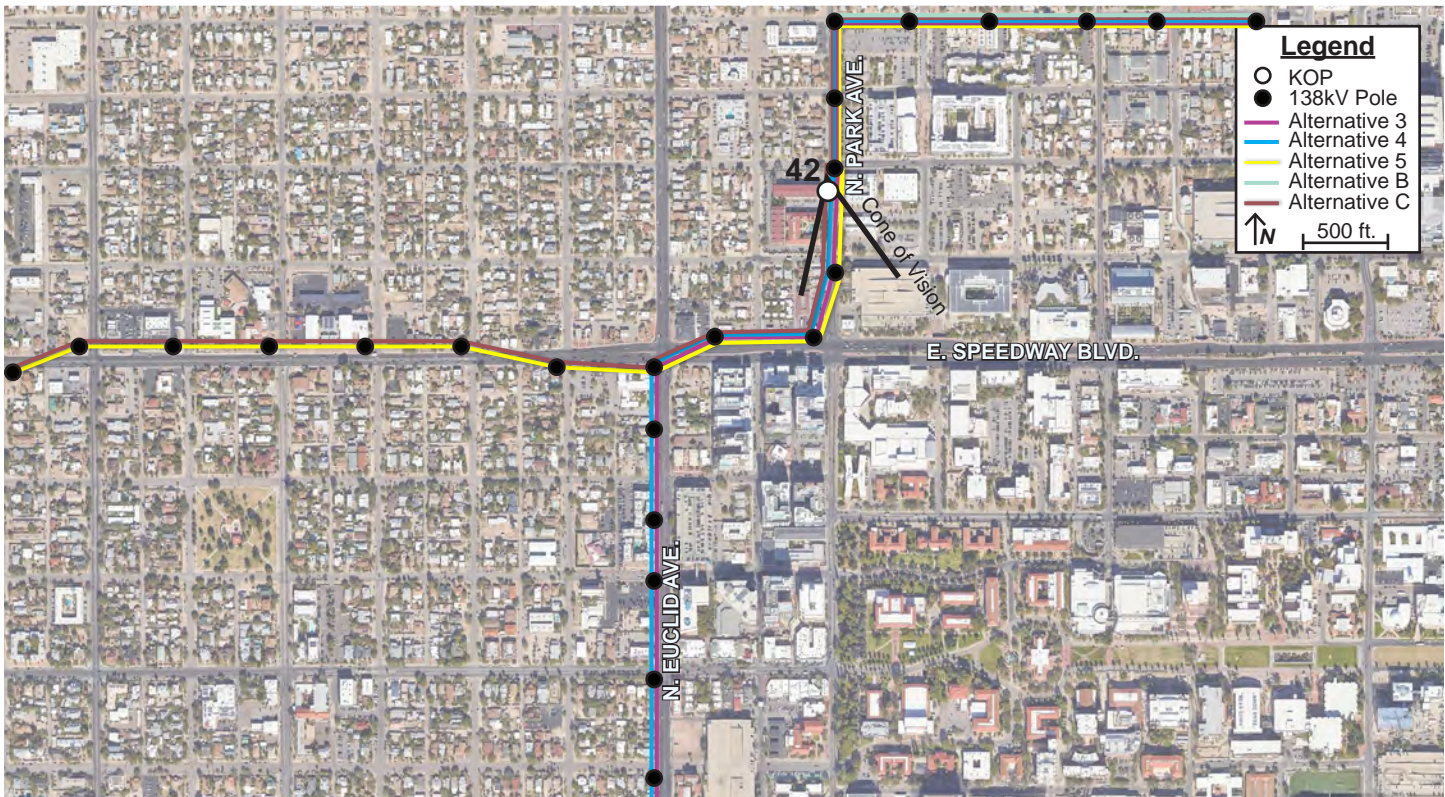
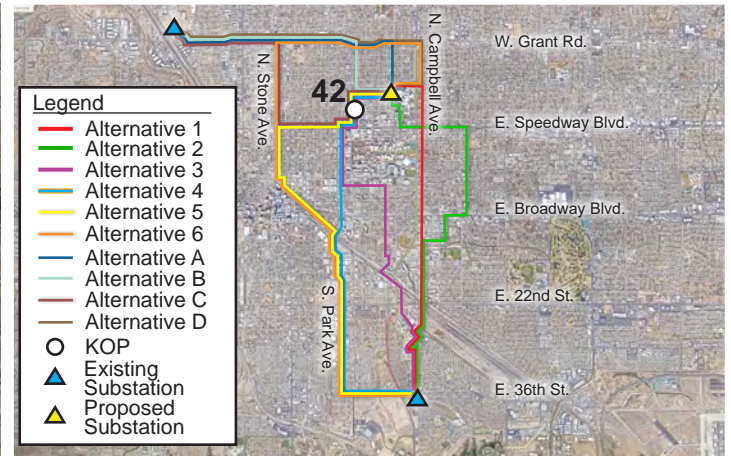
Simulated Condition

Alternative 5, or C - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 42



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: residents, students, and commercial
- Location: 1201 N Park
- Latitude: 32.238180° N; Longitude: 110.956844° W
- View Point Elevation at Eye Level: 2,429 ft.
- Looking: south
- Poles Visible: Alternative 3,4,5, or C structures
- Image File Name: IMG\_3790.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 11:18 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 348 feet north of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #42



Current Condition



Simulated Condition

Alternative 3,4,5,or C - Weathered Finish



## Key Observation Point (KOP) #42



Current Condition



Simulated Condition

Alternative 3,4,5,or C - Galvanized Finish



## Key Observation Point (KOP) #42



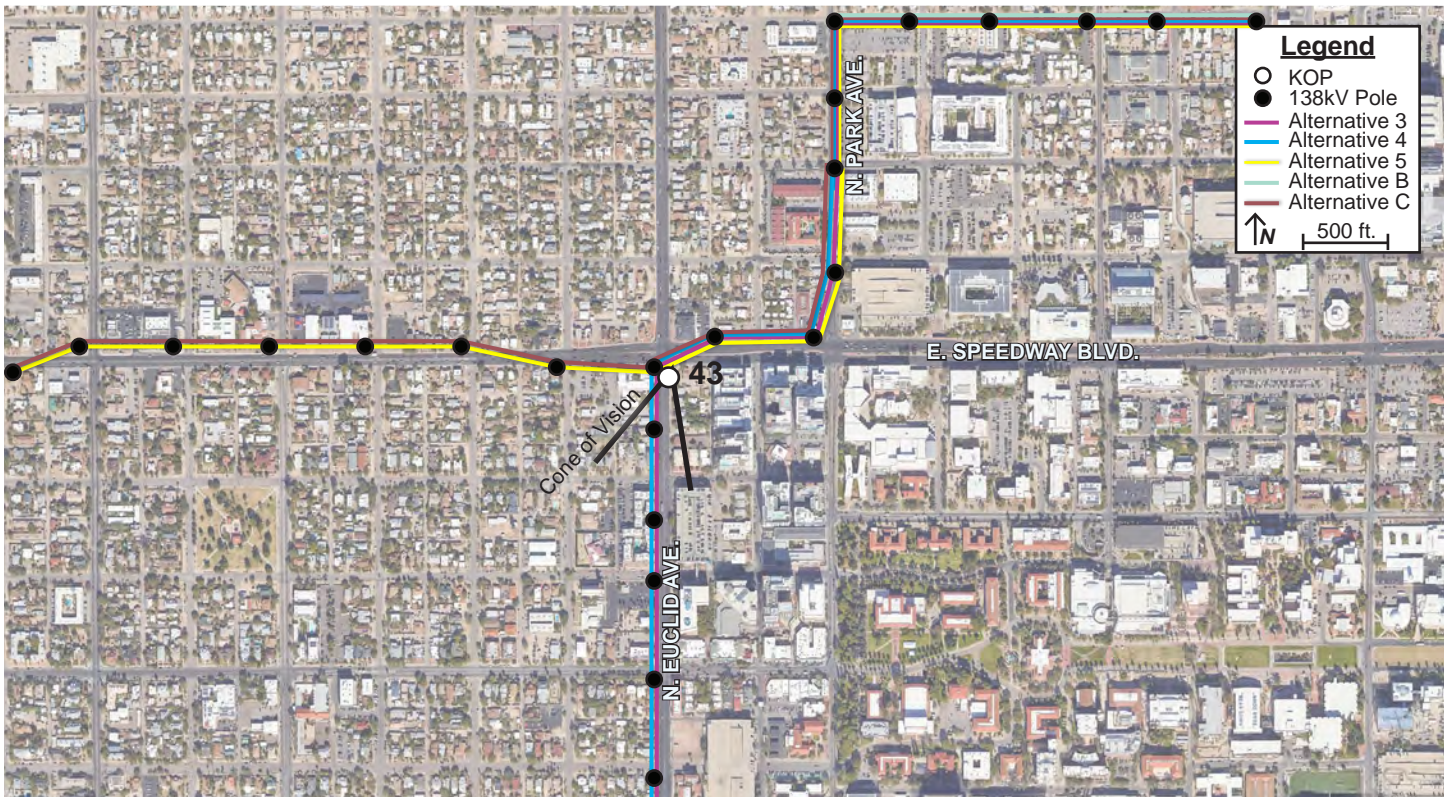
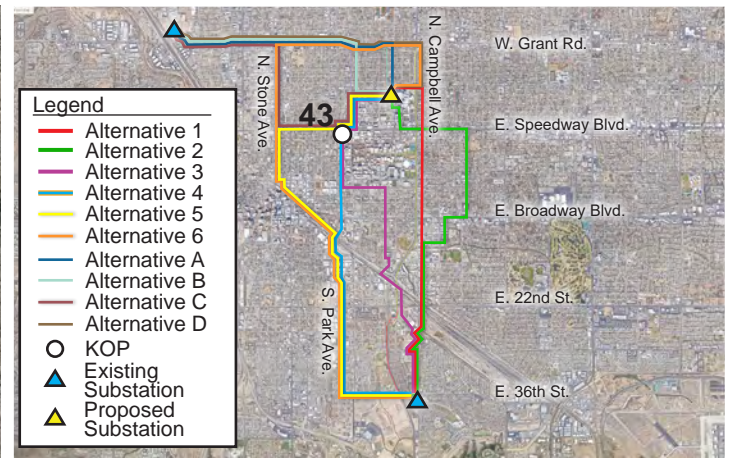
Current Condition



Simulated Condition



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 43



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 50mm | F-Stop: f/10 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: commercial
- Location: 1073 N Euclid Ave
- Latitude: 32.235514° N; Longitude: 110.959371° W
- View Point Elevation at Eye Level: 2,426 ft.
- Looking: south
- Poles Visible: Alternative 3, or 4 structures
- Image File Name: IMG\_3798.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 11:29 am
- The image is based on a single photo and represent approximately 39.5 degree horizontal field of view.
- This view is approximately 282 feet north of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #43



Current Condition



Simulated Condition

Alternative 3, or 4 - Weathered Finish



## Key Observation Point (KOP) #43



Current Condition



Simulated Condition

Alternative 3, or 4 - Galvanized Finish

## Key Observation Point (KOP) #43



Current Condition

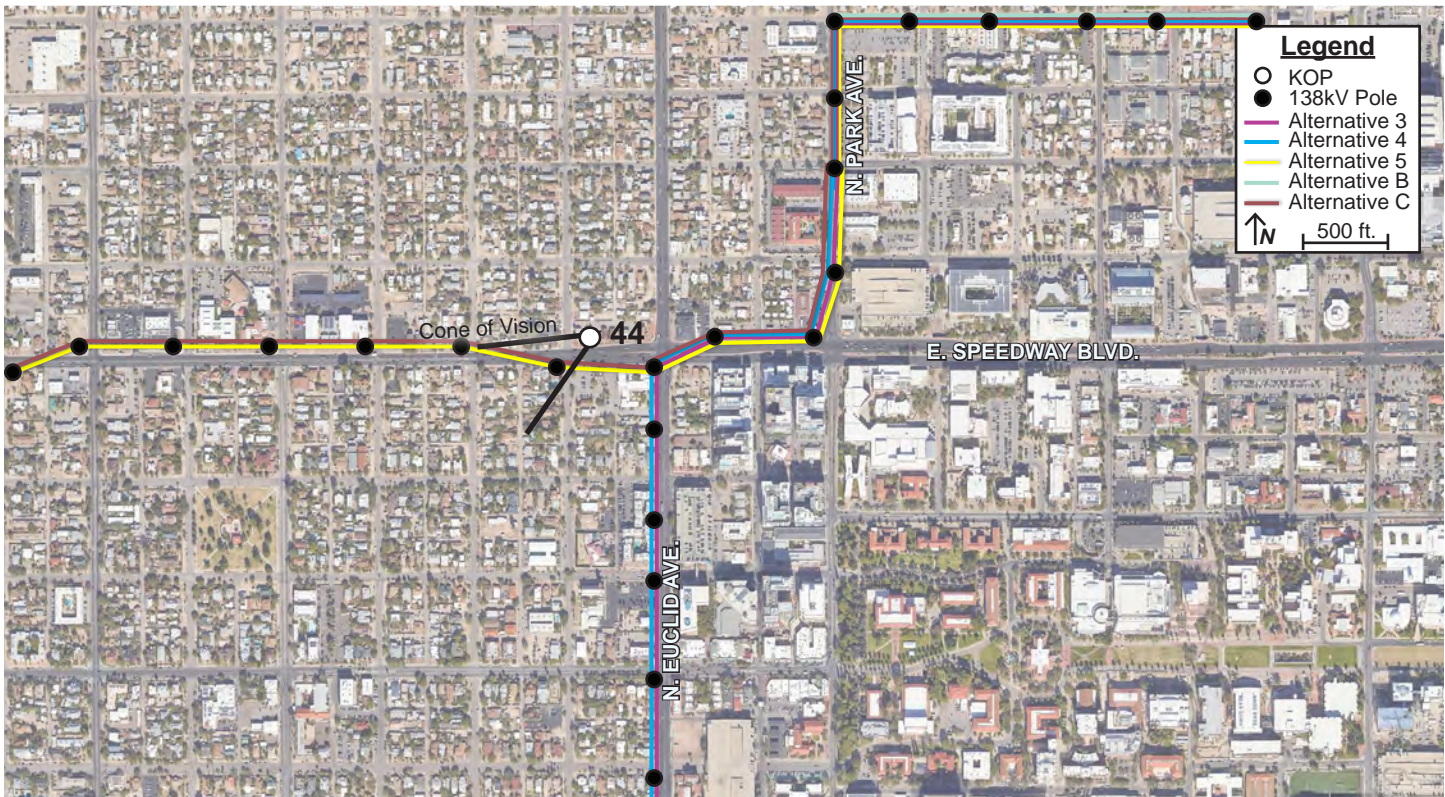
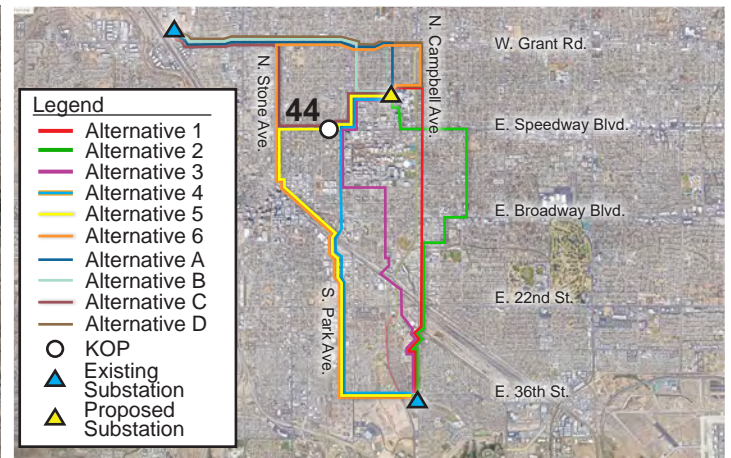


Simulated Condition

Alternative 3, or 4 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 44



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: commercial
- Location: 710 E. Speedway Blvd.
- Latitude: 32.236131° N; Longitude: 110.960534° W
- View Point Elevation at Eye Level: 2,421 ft.
- Looking: west
- Poles Visible: Alternative 5, or C structures
- Image File Name: IMG\_3811.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 11:33 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 227 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #44



Current Condition



Simulated Condition

Alternative 5, or C - Weathered Finish



## Key Observation Point (KOP) #44



Current Condition



Simulated Condition

Alternative 5, or C - Galvanized Finish



## Key Observation Point (KOP) #44



Current Condition



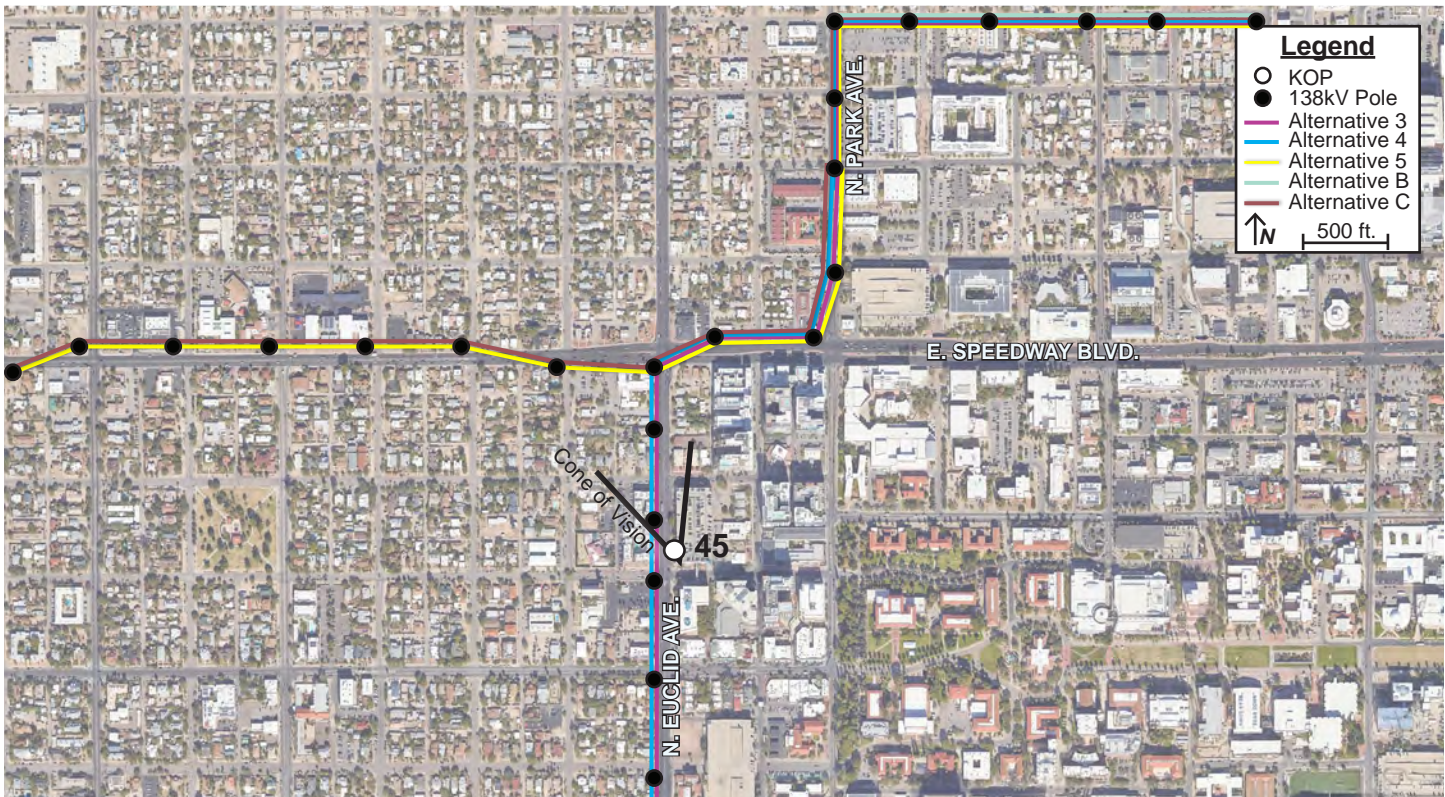
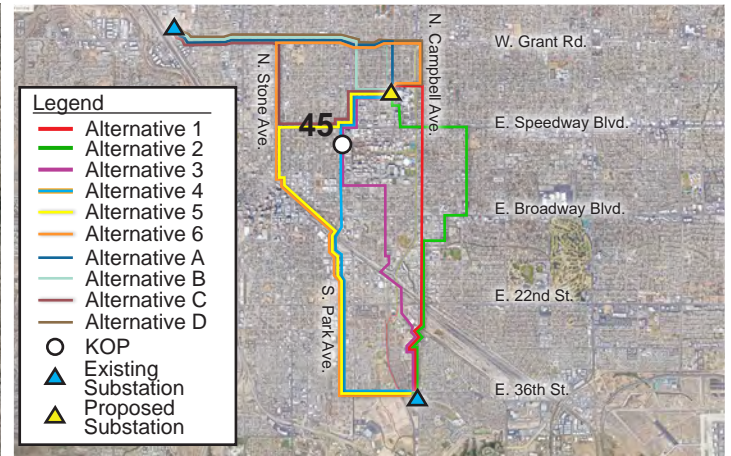
Simulated Condition

Alternative 5, or C - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 45



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: commercial
- Location: 924 N Euclid Ave
- Latitude: 32.233354° N; Longitude: 110.959388° W
- View Point Elevation at Eye Level: 2,420 ft.
- Looking: north
- Poles Visible: Alternative 3, or 4 structures
- Image File Name: IMG\_3826.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 11:44 am
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 168 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #45



Current Condition



Simulated Condition

Alternative 3, or 4 - Weathered Finish



## Key Observation Point (KOP) #45



Current Condition



Simulated Condition

Alternative 3, or 4 - Galvanized Finish



## Key Observation Point (KOP) #45



Current Condition



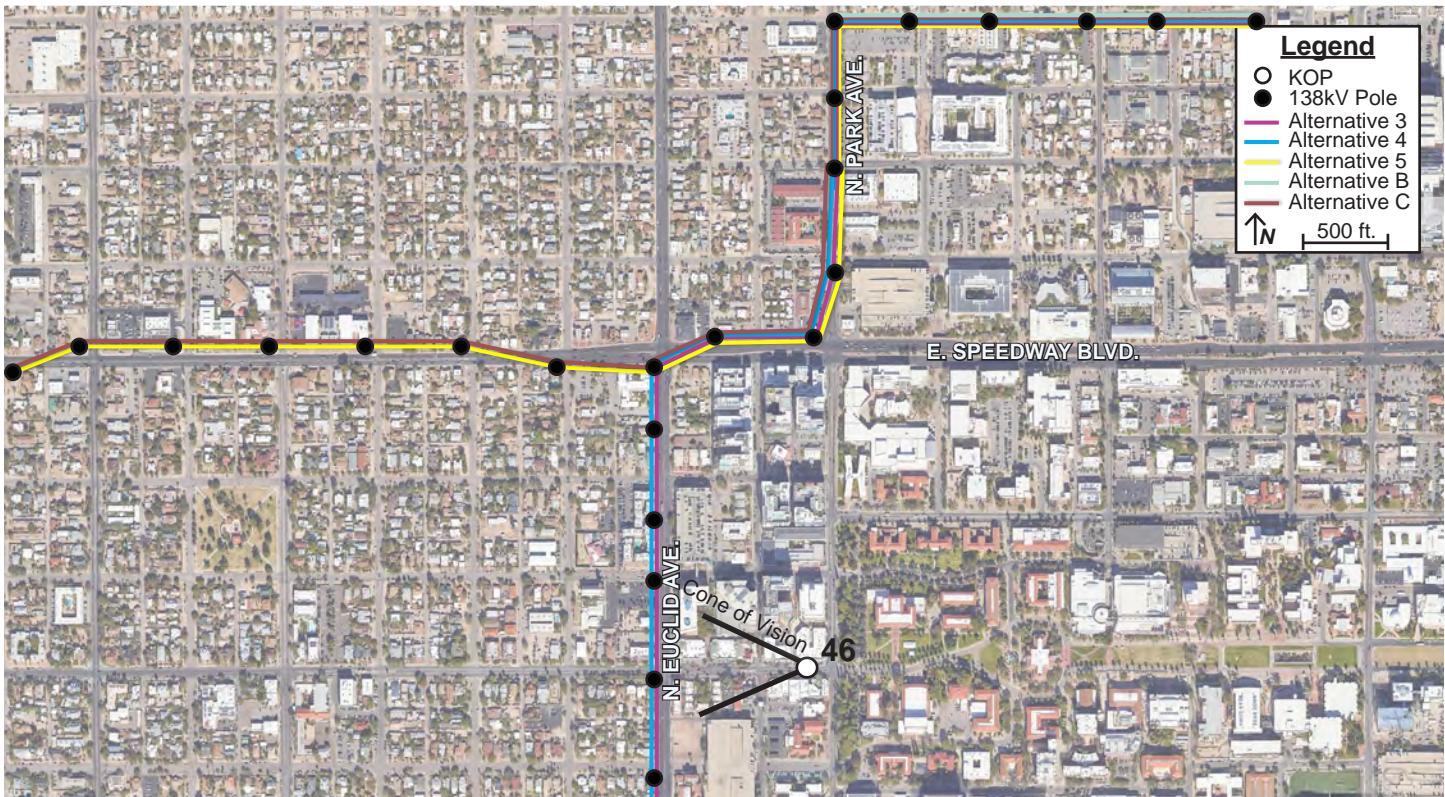
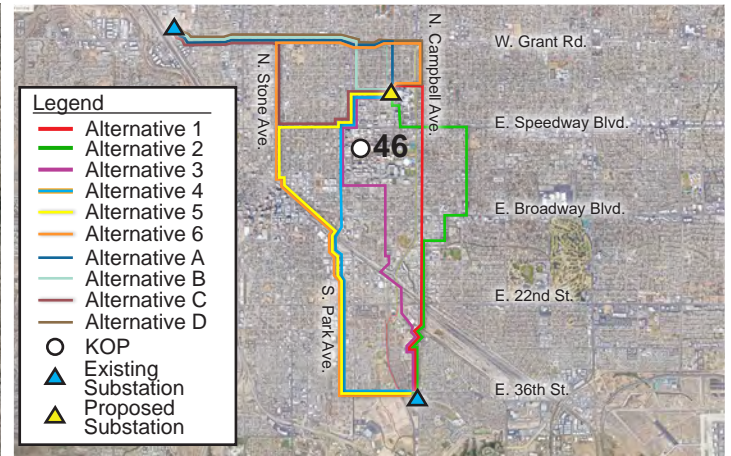
Simulated Condition

Alternative 3, or 4 - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 46



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: residents, students, and commercial
- Location: 982 E University
- Latitude: 32.231705° N; Longitude: 110.958282° W
- View Point Elevation at Eye Level: 2,423 ft.
- Looking: west
- Poles Visible: Alternative 3 or 4 structures
- Image File Name: IMG\_3833.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 11:49 am
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 406 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #46



Current Condition



Simulated Condition

Alternative 3, or 4 - Weathered Finish



## Key Observation Point (KOP) #46



Current Condition



Simulated Condition

Alternative 3, or 4 - Galvanized Finish



## Key Observation Point (KOP) #46



Current Condition



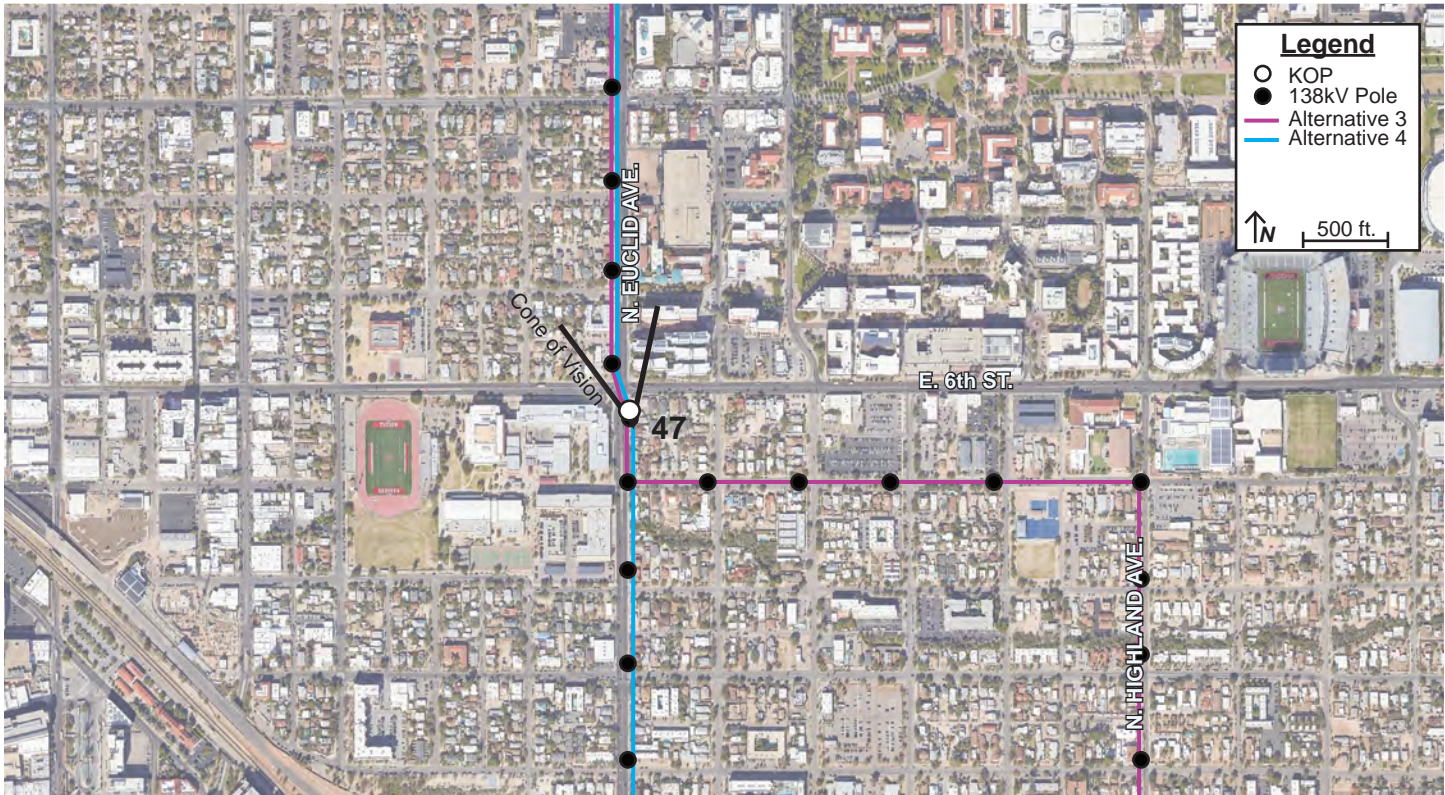
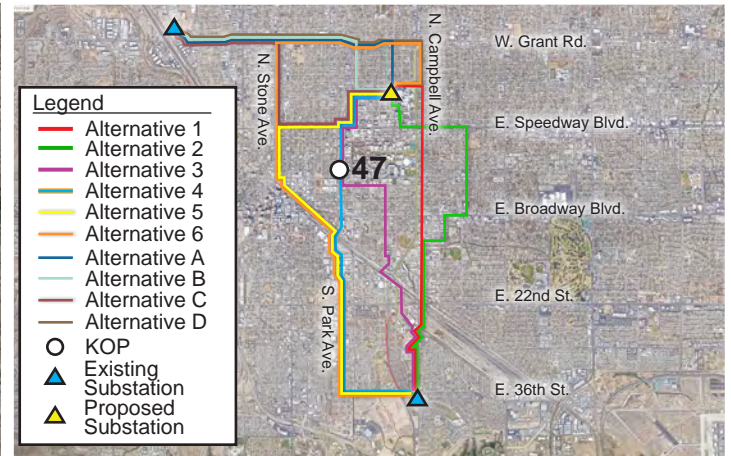
Simulated Condition

Alternative 3, or 4 - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 47



### Notes:

#### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/4.5 | ISO:100
- Dimensions in pixel: 6240 x 4160

#### KOP

- Representative View for: residents, students, and commercial
- Location: 440 N Euclid Ave
- Latitude: 32.227642° N; Longitude: 110.959374° W
- View Point Elevation at Eye Level: 2,407 ft.
- Looking: north
- Poles Visible: Alternative 3 or 4 structures
- Image File Name: IMG\_3081.JPG

#### Simulation Notes

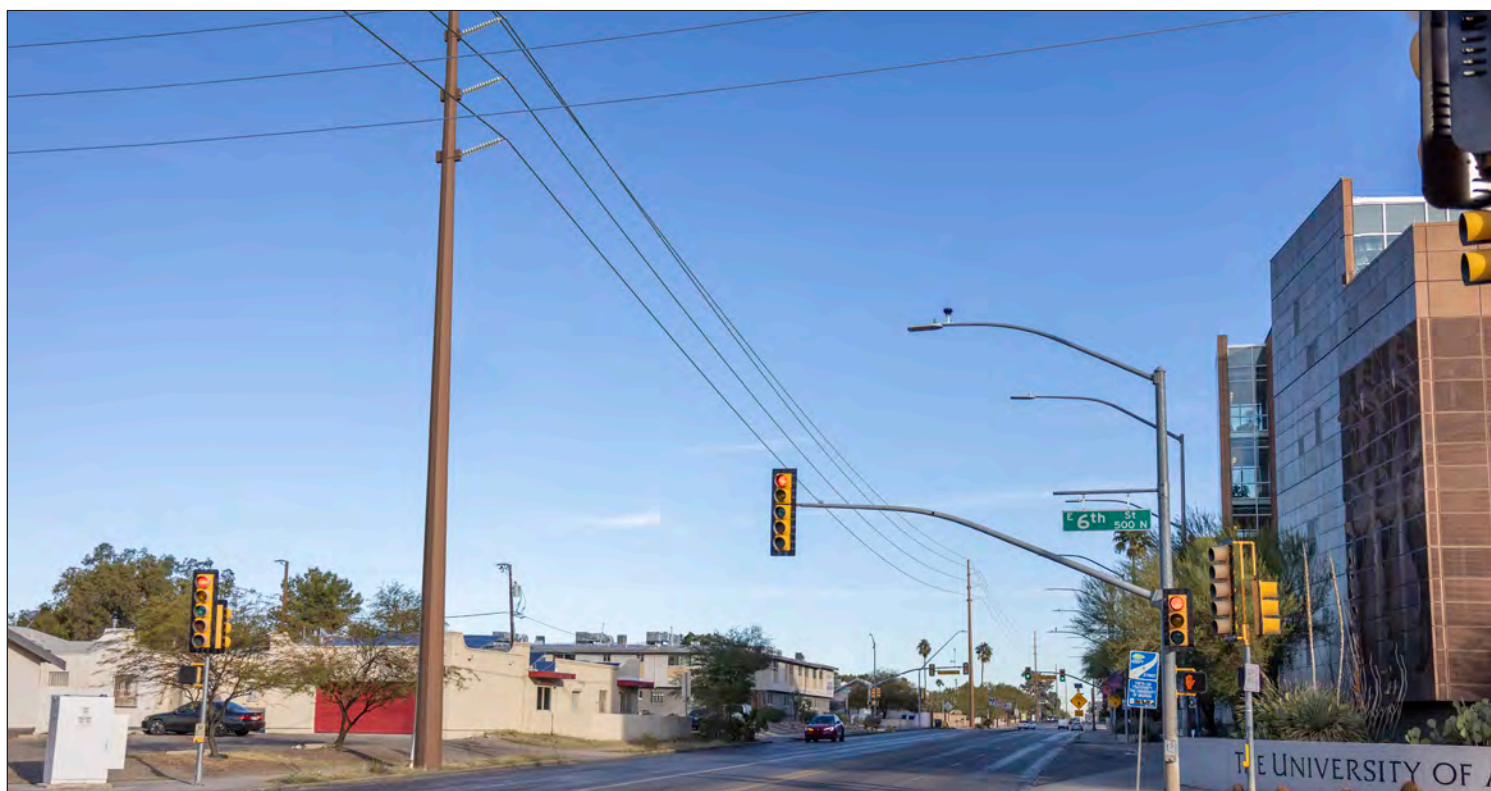
- Photo Taken: December 28th, 2024 at 9:16 am
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 124 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #47



Current Condition



Simulated Condition

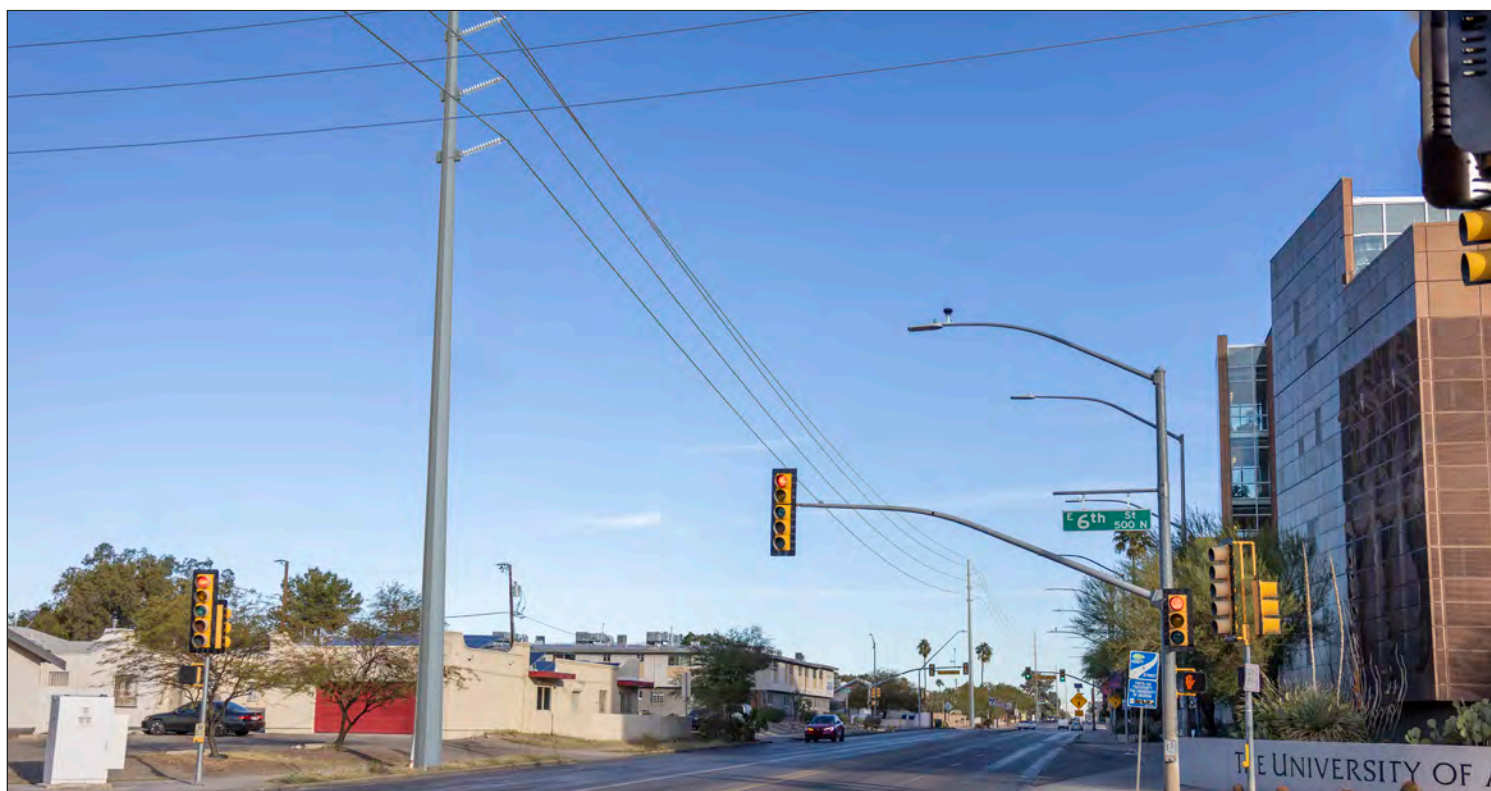
Alternative Route 3 or 4 - Weathered Finish



## Key Observation Point (KOP) #47



Current Condition



Simulated Condition

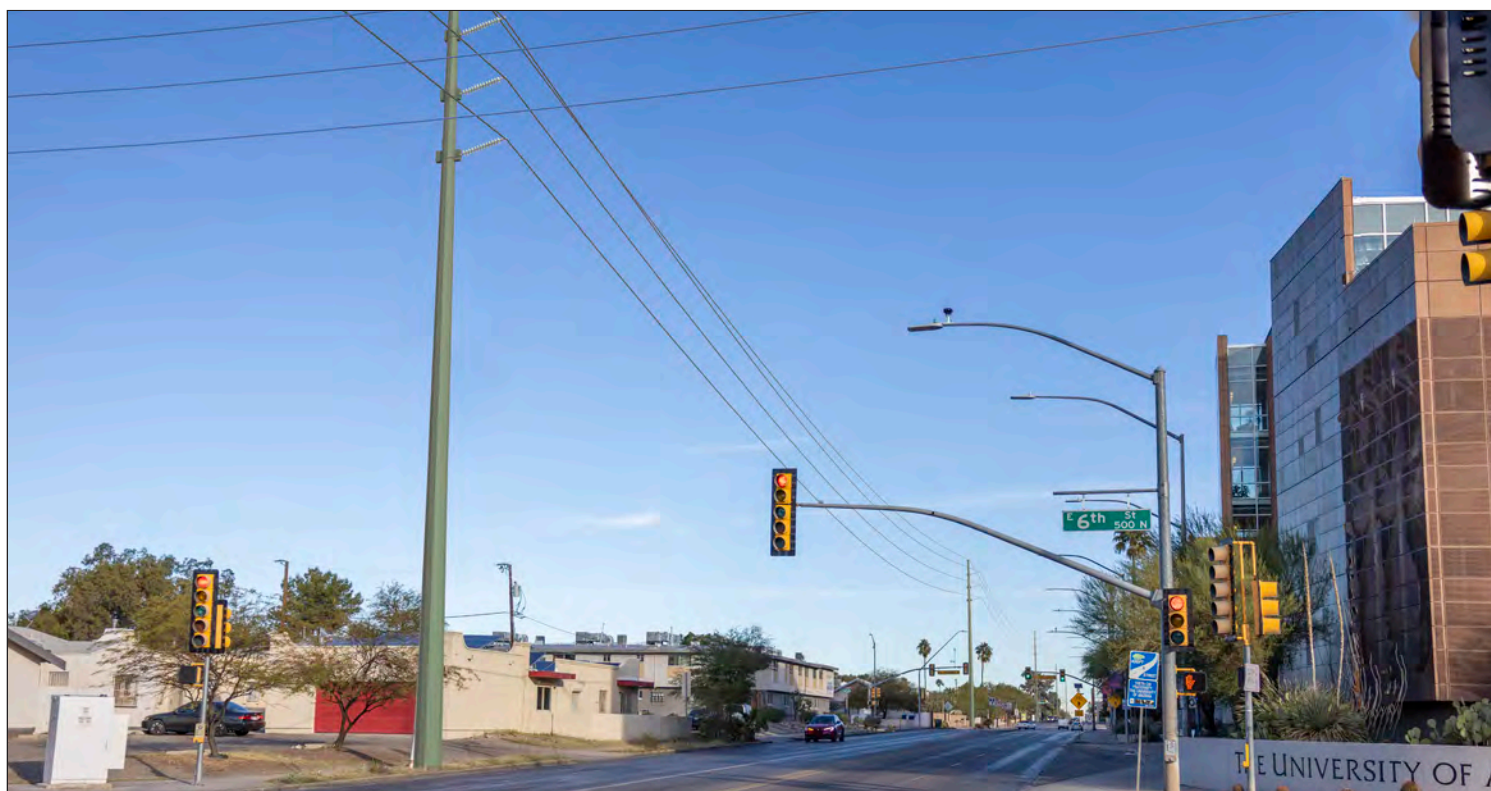
Alternative Route 3 or 4 - Galvanized Finish



## Key Observation Point (KOP) #47



Current Condition

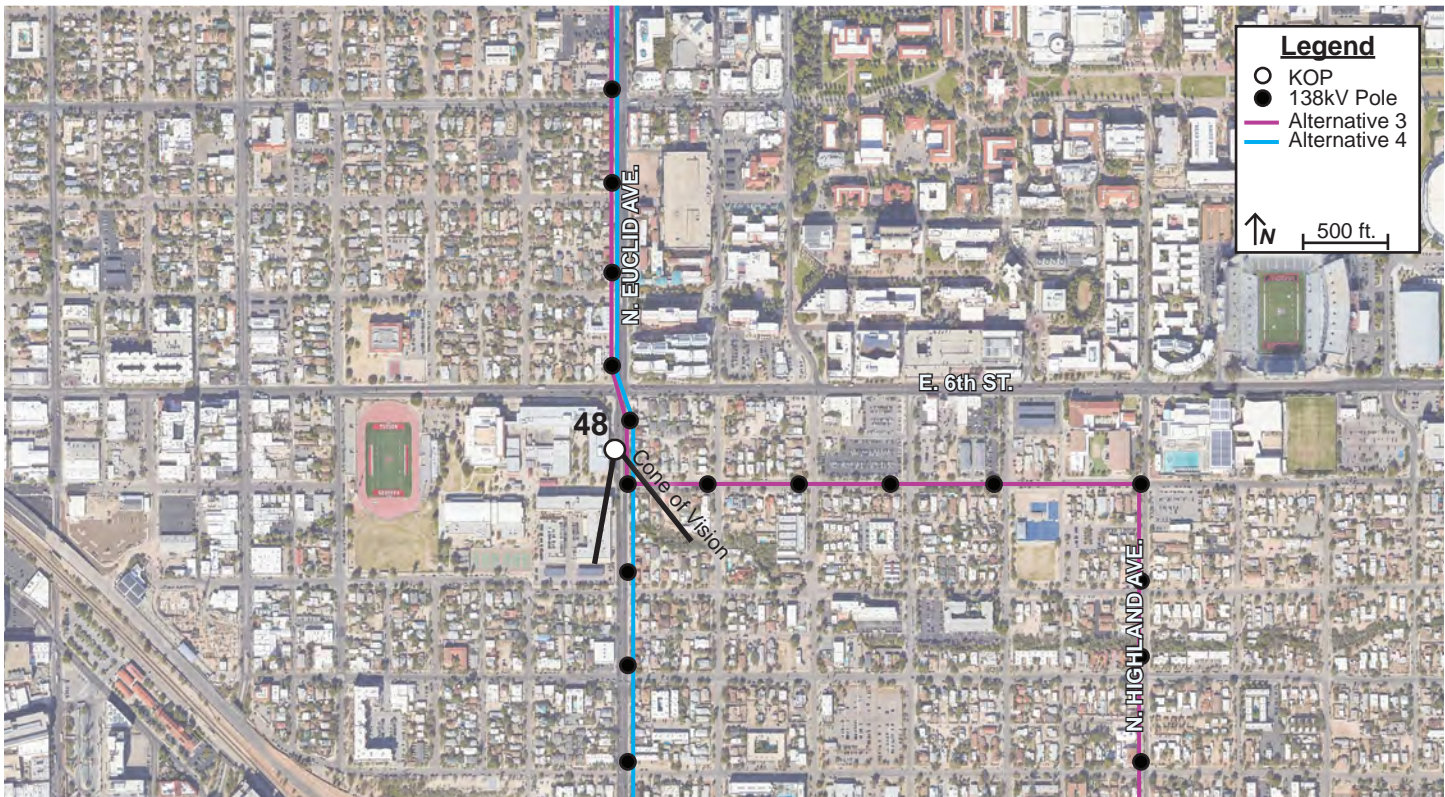
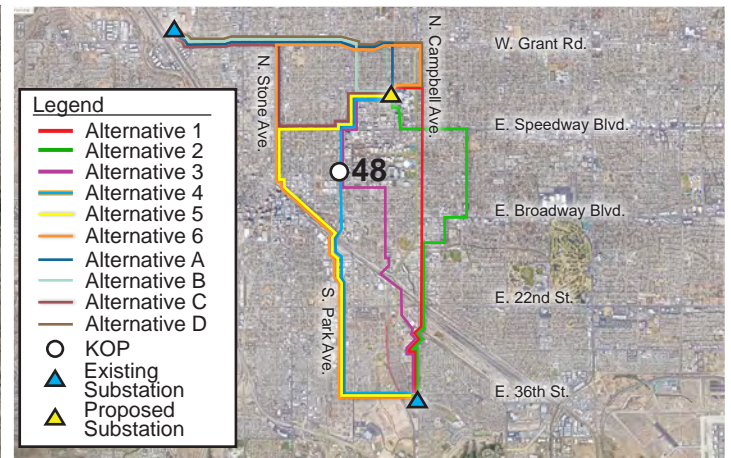


Simulated Condition

Alternative Route 3 or 4 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 48



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/10 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents, students, and commercial
- Location: 428 N Euclid
- Latitude: 32.227078° N; Longitude: 110.959520° W
- View Point Elevation at Eye Level: 2,404 ft.
- Looking: south
- Poles Visible: Alternative 3 or 4 structures
- Image File Name: IMG\_3851.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 11:59 am
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 205 feet north of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #48



Current Condition



Simulated Condition

Alternative 3 - Weathered Finish



## Key Observation Point (KOP) #48



Current Condition



Simulated Condition

Alternative 3 - Galvanized Finish



## Key Observation Point (KOP) #48



Current Condition



Simulated Condition



## Key Observation Point (KOP) #48



Current Condition



Simulated Condition

Alternative 4 - Weathered Finish



## Key Observation Point (KOP) #48



Current Condition



Simulated Condition

Alternative 4 - Galvanized Finish



## Key Observation Point (KOP) #48



Current Condition



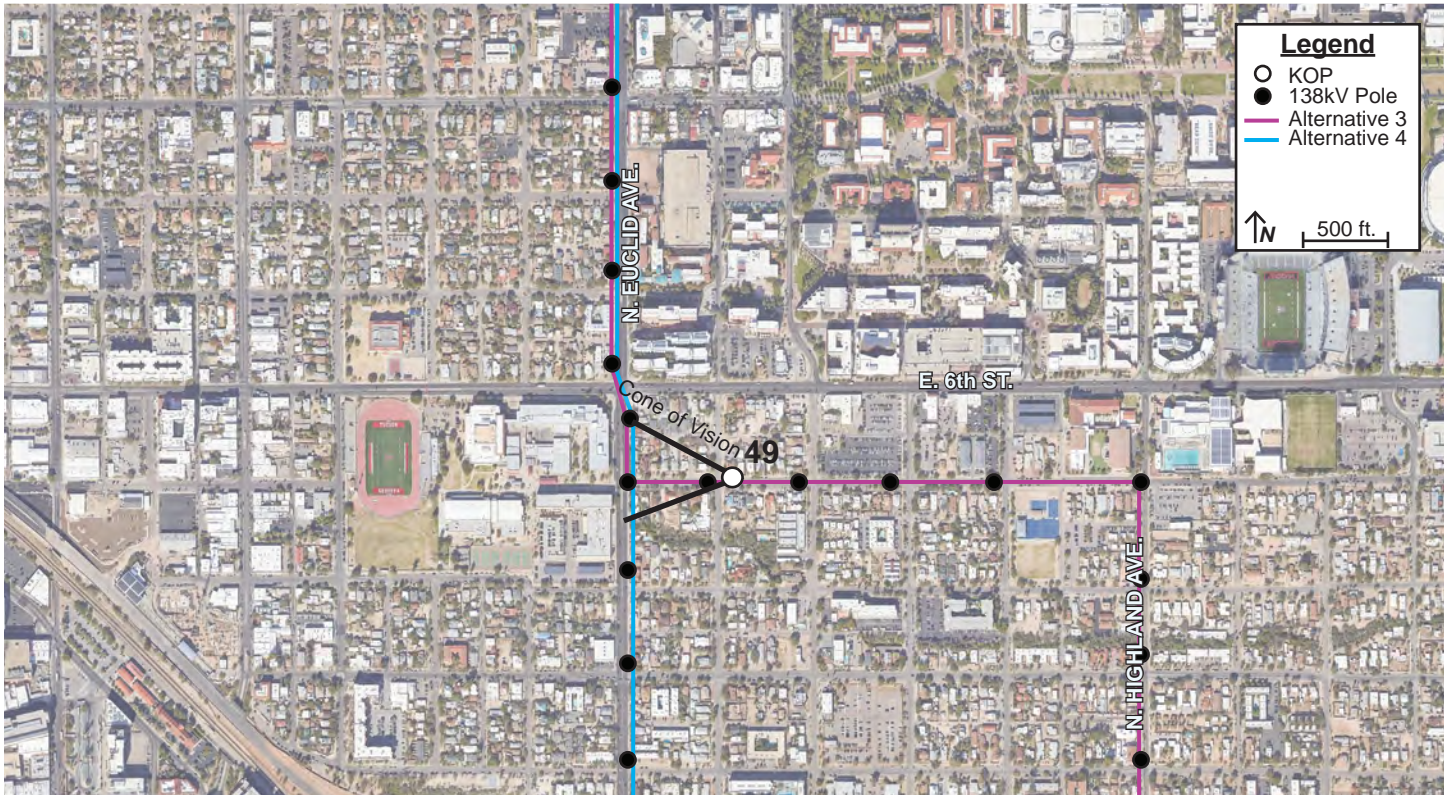
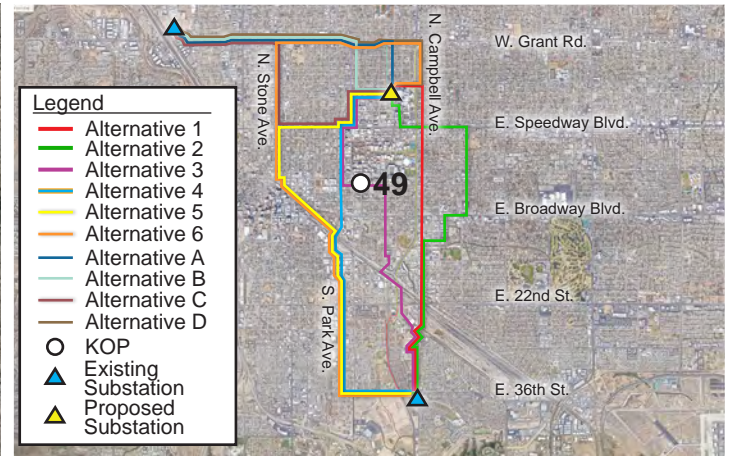
Simulated Condition

Alternative 4 - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 49



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: residents
- Location: 850 E 7th St.
- Latitude: 32.226415° N; Longitude: 110.957721° W
- View Point Elevation at Eye Level: 2,407 ft.
- Looking: west
- Poles Visible: Alternative 3 or 4 structures
- Image File Name: IMG\_3873.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 12:04 pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 112 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #49



Current Condition



Simulated Condition

Alternative 3 - Weathered Finish  
Page 849



## Key Observation Point (KOP) #49



Current Condition



Simulated Condition

Alternative 3 - Galvanized Finish

## Key Observation Point (KOP) #49



Current Condition



Simulated Condition

Alternative 3 - Mojave Sage Finish  
Page 851



## Key Observation Point (KOP) #49



Current Condition



Simulated Condition

Alternative 4 - Weathered Finish  
Page 852



## Key Observation Point (KOP) #49



Current Condition



Simulated Condition

Alternative 4 - Galvanized Finish  
Page 853

## Key Observation Point (KOP) #49



Current Condition

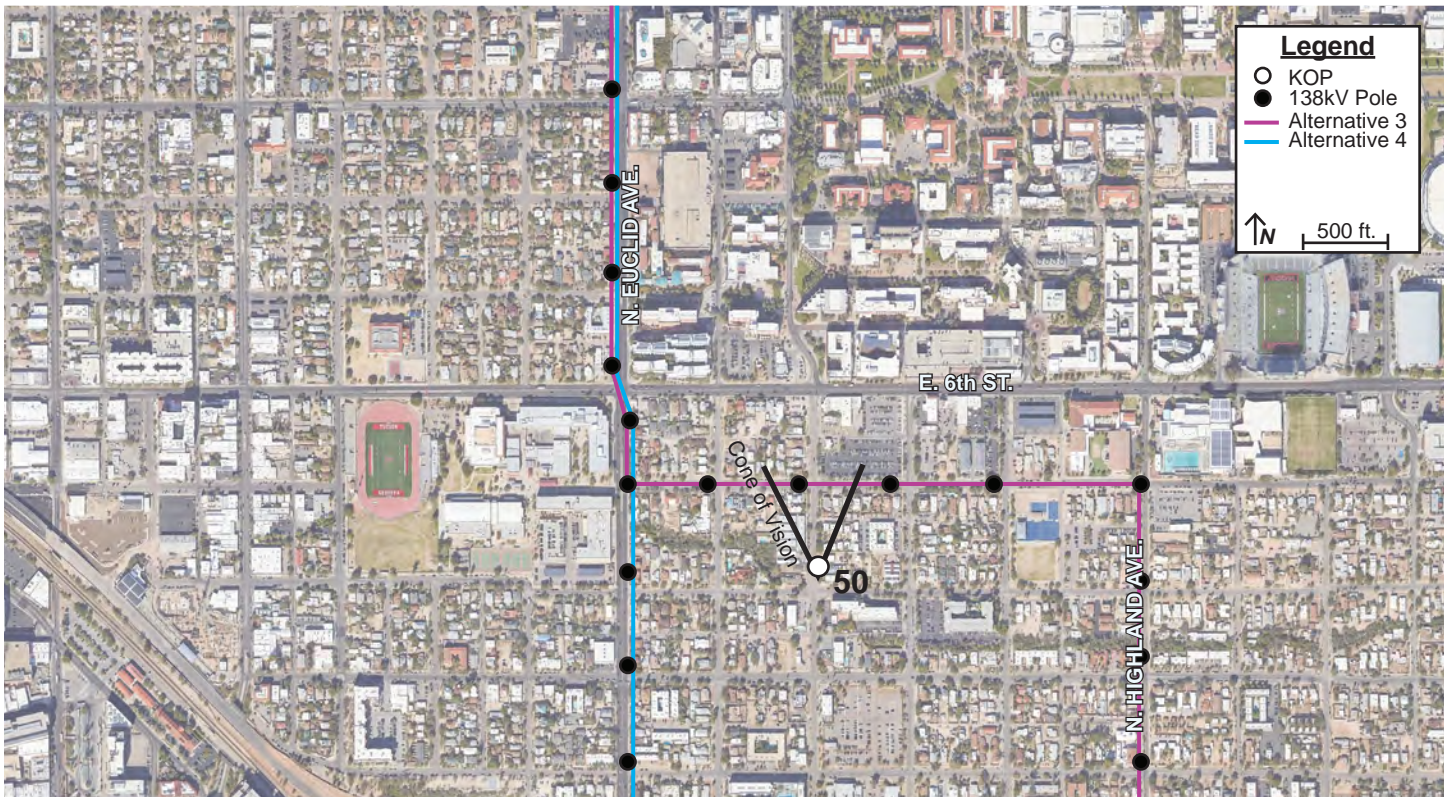
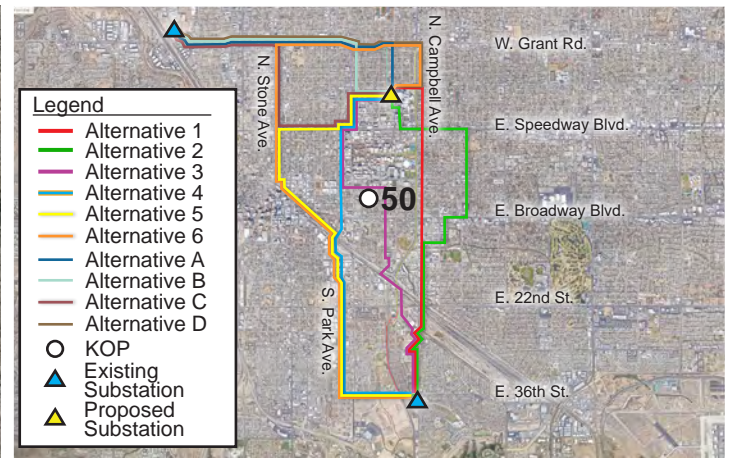


Simulated Condition

Alternative 4 - Mojave Sage Finish  
Page 854



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 50



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents
- Location: 314 N Park Ave.
- Latitude: 32.225459° N; Longitude: 110.956355° W
- View Point Elevation at Eye Level: 2,405 ft.
- Looking: north
- Poles Visible: Alternative 3 structures
- Image File Name: IMG\_3875.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 12:06 pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 345 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #50



Current Condition



Simulated Condition

Alternative 3 - Weathered Finish



## Key Observation Point (KOP) #50



Current Condition



Simulated Condition

Alternative 3 - Galvanized Finish



## Key Observation Point (KOP) #50



Current Condition

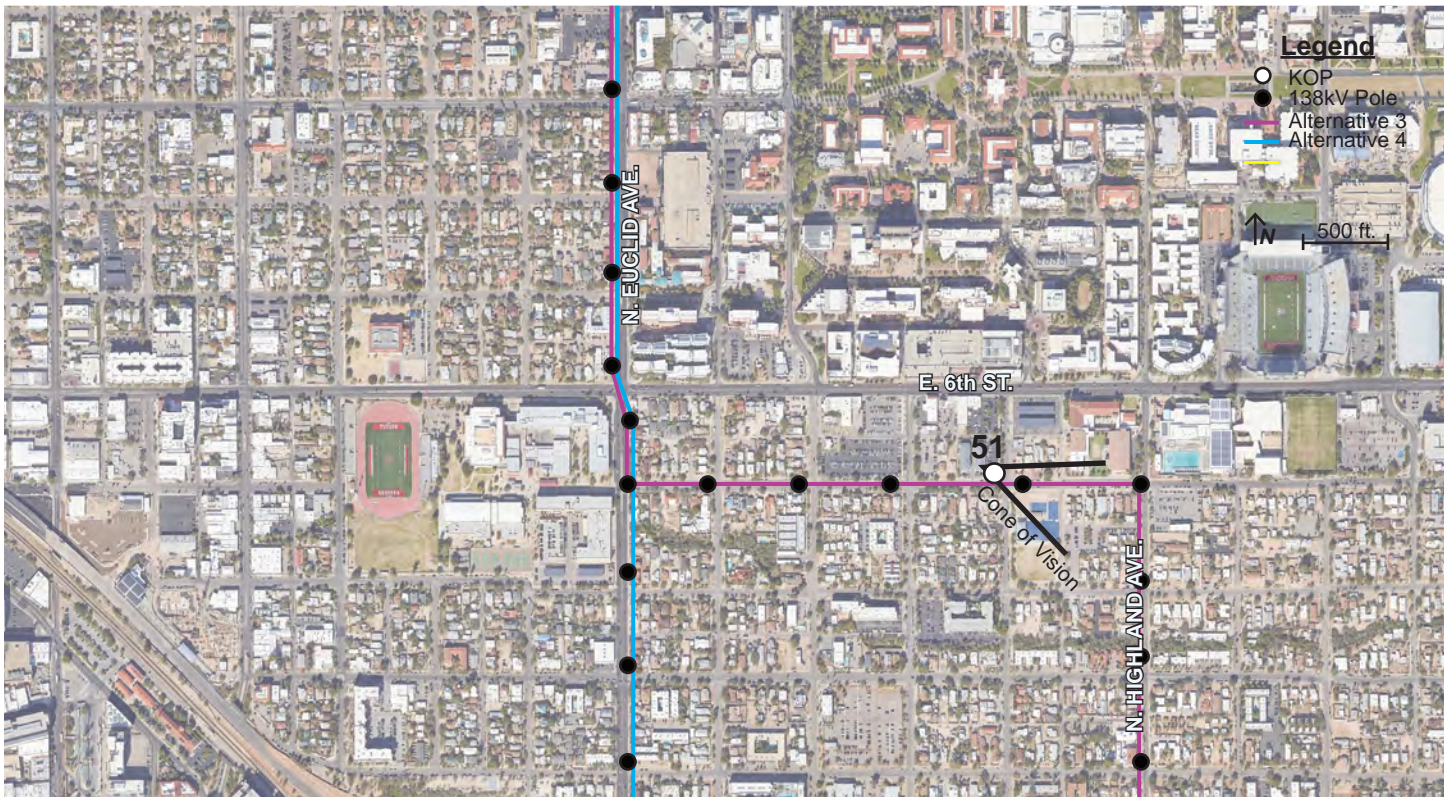
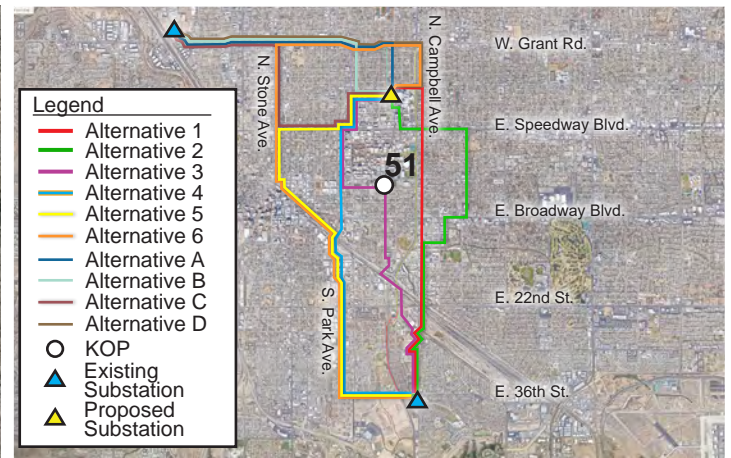


Simulated Condition

Alternative 3 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 51



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: residents and school traffic
- Location: 1199 E 7th St.
- Latitude: 32.226470° N; Longitude: 110.953499° W
- View Point Elevation at Eye Level: 2,418 ft.
- Looking: east
- Poles Visible: Alternative 3 structures
- Image File Name: IMG\_3881.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 12:10 pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 133 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #51



Current Condition



Simulated Condition

Alternative 3 - Weathered Finish

## Key Observation Point (KOP) #51



Current Condition



Simulated Condition

Alternative 3 - Galvanized Finish



## Key Observation Point (KOP) #51



Current Condition

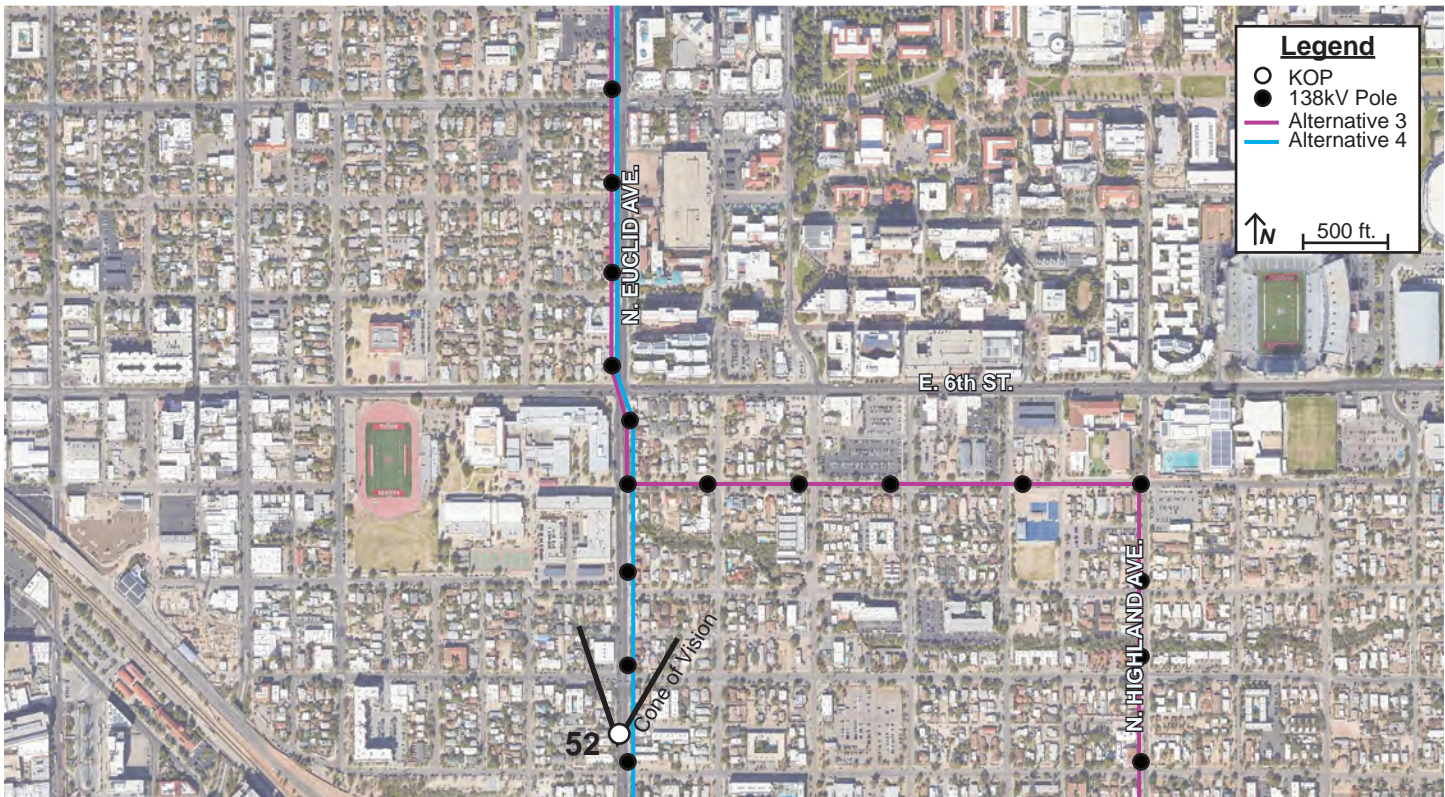
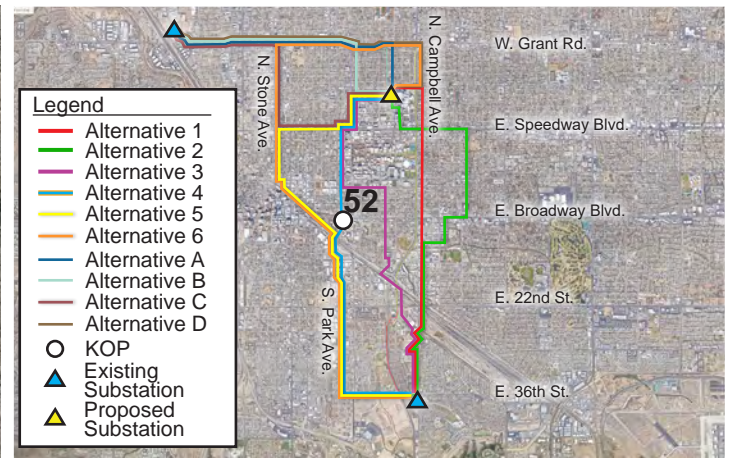


Simulated Condition

Alternative 3 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 52



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/5.6 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: residents and school traffic
- Location: 101 N Euclid Ave.
- Latitude: 32.222676° N; Longitude: 110.959592° W
- View Point Elevation at Eye Level: 2,405 ft.
- Looking: north
- Poles Visible: Alternative 4 structures
- Image File Name: IMG\_3887.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 12:15 pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 398 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #52



Current Condition



Simulated Condition

Alternative 4 - Weathered Finish



## Key Observation Point (KOP) #52



Current Condition



Simulated Condition

Alternative 4 - Galvanized Finish  
Page 865



## Key Observation Point (KOP) #52



Current Condition

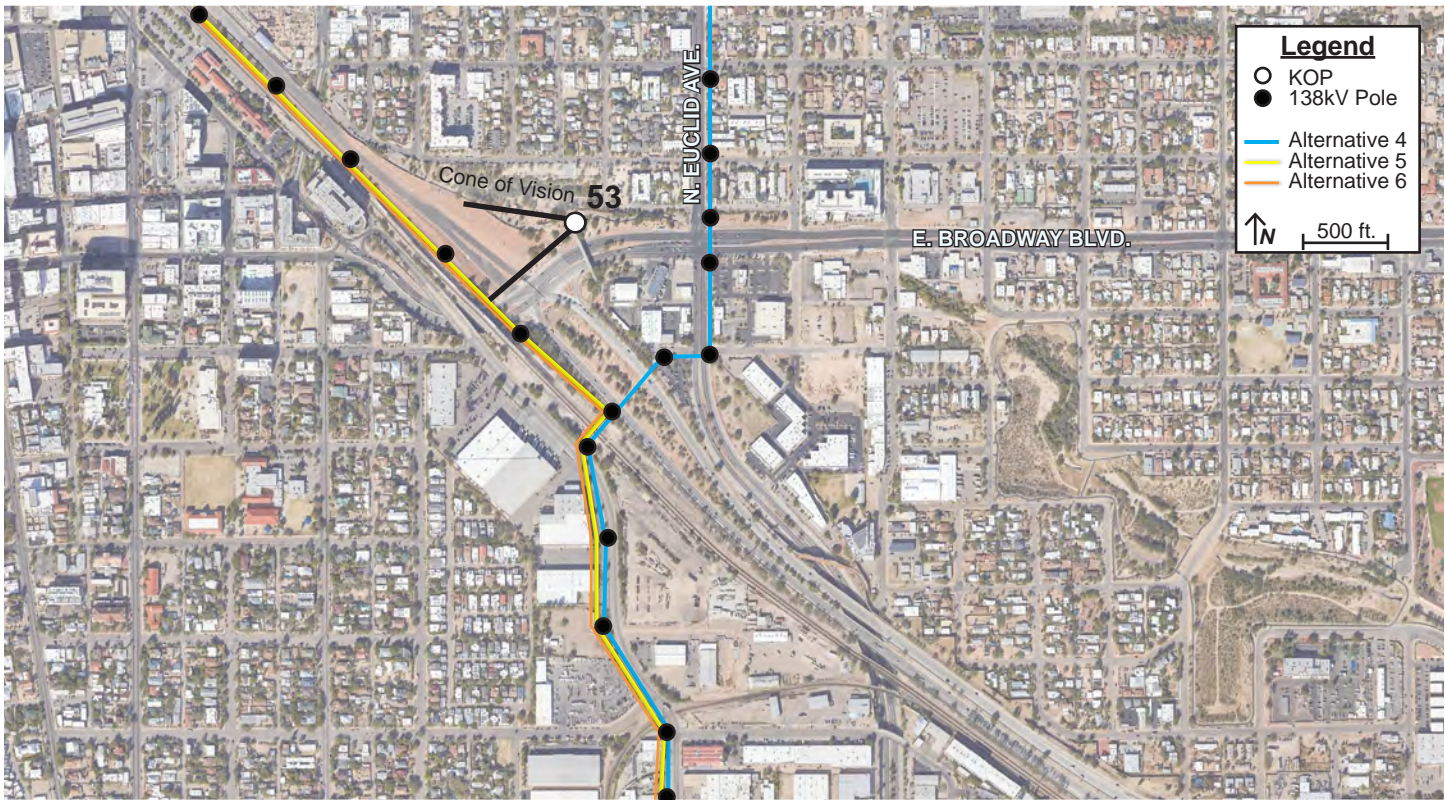
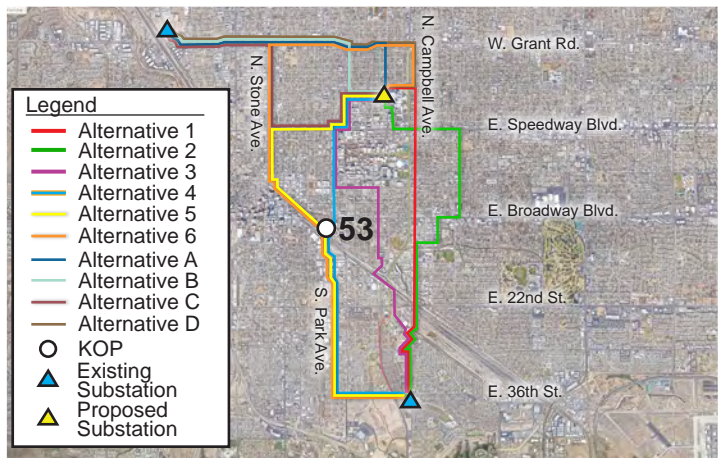


Simulated Condition

Alternative 4 - Mojave Sage Finish  
Page 866



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 53



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/5.6 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: Bike path/recreational users
- Location: Snake Bridge Plaza
- Latitude: 32.221640° N; Longitude: 110.961541° W
- View Point Elevation at Eye Level: 2,410 ft.
- Looking: west
- Poles Visible: Alternative 5 or 6 structures
- Image File Name: IMG\_3905.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 12:26 pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 630 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #53



Current Condition



Simulated Condition

Alternative 5 or 6 - Weathered Finish



## Key Observation Point (KOP) #53



Current Condition



Simulated Condition

Alternative 5 or 6 - Galvanized Finish



## Key Observation Point (KOP) #53



Current Condition

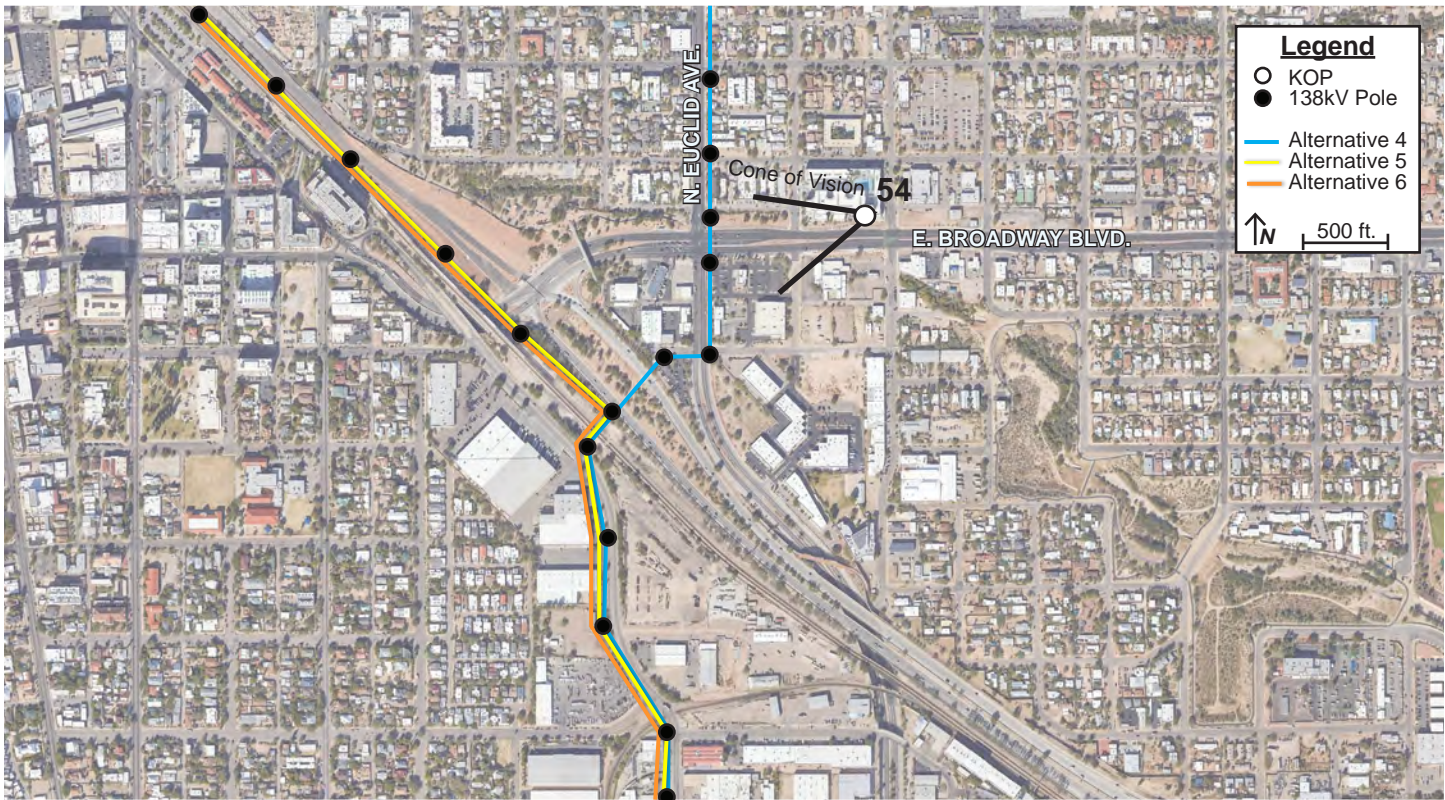
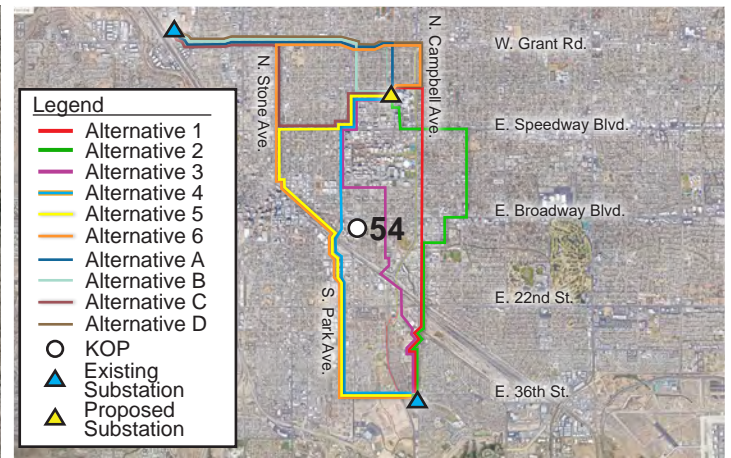


Simulated Condition

Alternative 5 or 6 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 54



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 50mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: residents, commercial
- Location: 929 E Broadway Blvd
- Latitude: 32.221627° N; Longitude: 110.956885° W
- View Point Elevation at Eye Level: 2,414 ft.
- Looking: west
- Poles Visible: Alternative 4,5, or 6 structures
- Image File Name: IMG\_3922.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 12:59 pm
- The image is based on a single photo and represent approximately 39.5 degree horizontal field of view.
- This view is approximately 752 feet east of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #54



Current Condition



Simulated Condition

Alternative 4 - Weathered Finish



## Key Observation Point (KOP) #54



Current Condition



Simulated Condition

Alternative 4 - Galvanized Finish



## Key Observation Point (KOP) #54



Current Condition



Simulated Condition



## Key Observation Point (KOP) #54



Current Condition



Simulated Condition

Alternative 5, or 6 - Weathered Finish



## Key Observation Point (KOP) #54



Current Condition



Simulated Condition

Alternative 5, or 6 - Galvanized Finish



## Key Observation Point (KOP) #54



Current Condition



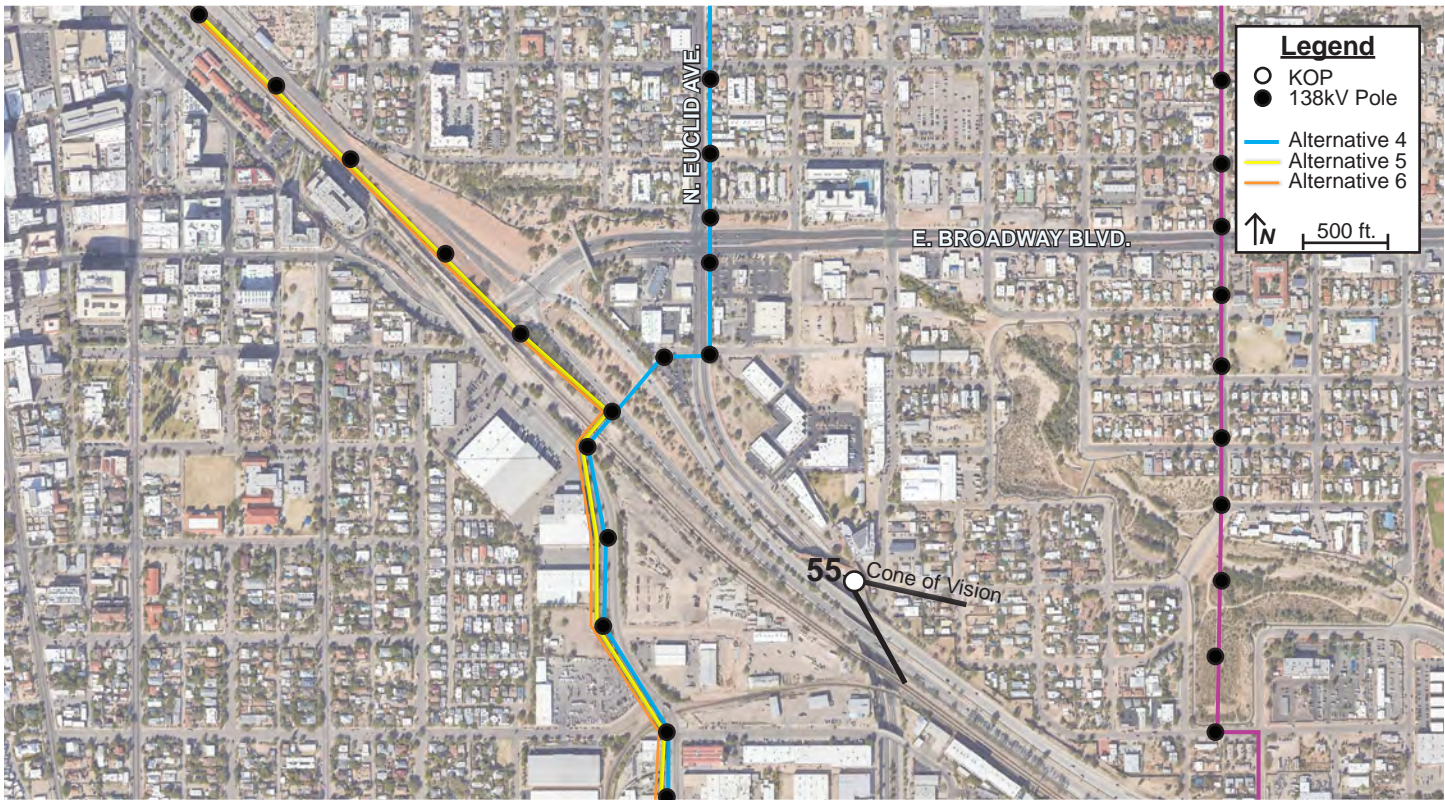
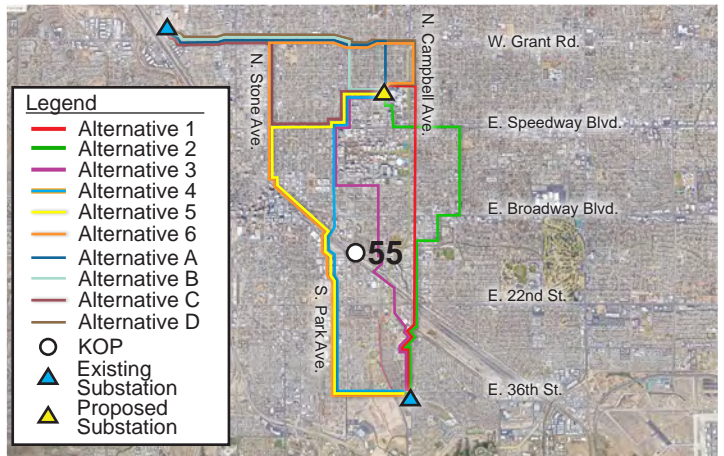
Simulated Condition

Alternative 5, or 6 - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 55



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: recreational users
- Location: Bike Path Bridge
- Latitude: 32.216756° N; Longitude: 110.956782° W
- View Point Elevation at Eye Level: 2,421 ft.
- Looking: southeast
- Poles Visible: Alternative 3 structures
- Image File Name: IMG\_3932.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 1:03pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 2,027 feet northwest of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #55



Current Condition



Simulated Condition

Alternative 3 - Weathered Finish



## Key Observation Point (KOP) #55



Current Condition



Simulated Condition

Alternative 3 - Galvanized Finish

## Key Observation Point (KOP) #55



Current Condition

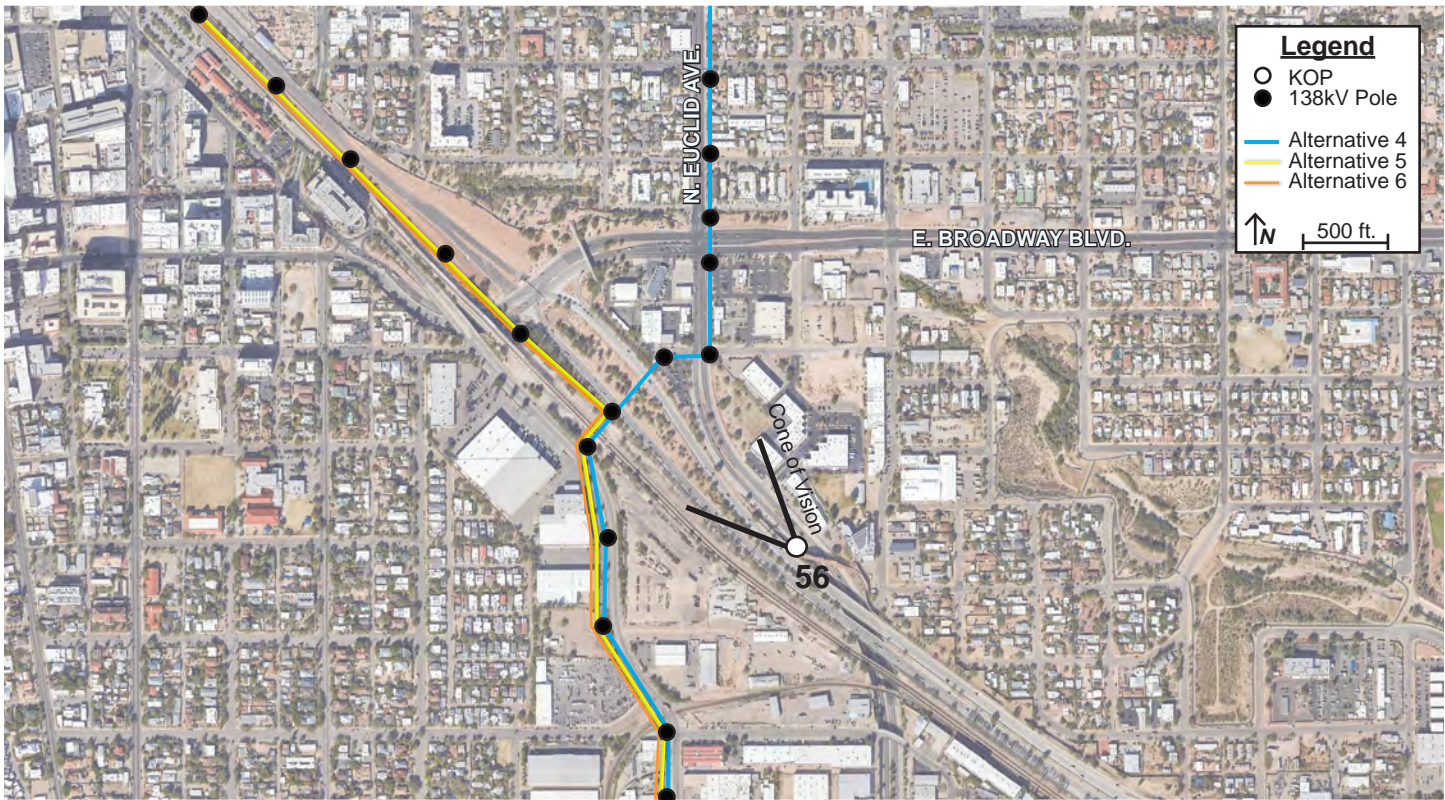
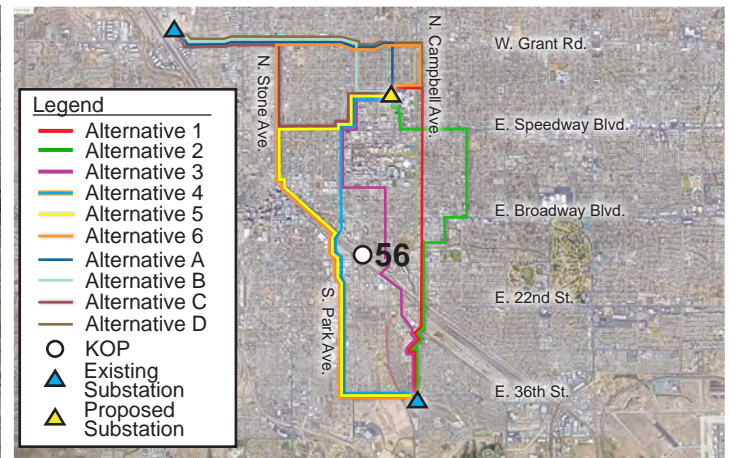


Simulated Condition

Alternative 3 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 56



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/10 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: recreational users
- Location: Bike Path Bridge
- Latitude: 32.217159° N; Longitude: 110.957797° W
- View Point Elevation at Eye Level: 2,412 ft.
- Looking: northwest
- Poles Visible: Alternative 4 structures
- Image File Name: IMG\_3937.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 1:07pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 1161 feet southeast of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #56



Current Condition



Simulated Condition

Alternative 4 - Weathered Finish  
Page 883

## Key Observation Point (KOP) #56



Current Condition



Simulated Condition

Alternative 4 - Galvanized Finish  
Page 884



## Key Observation Point (KOP) #56



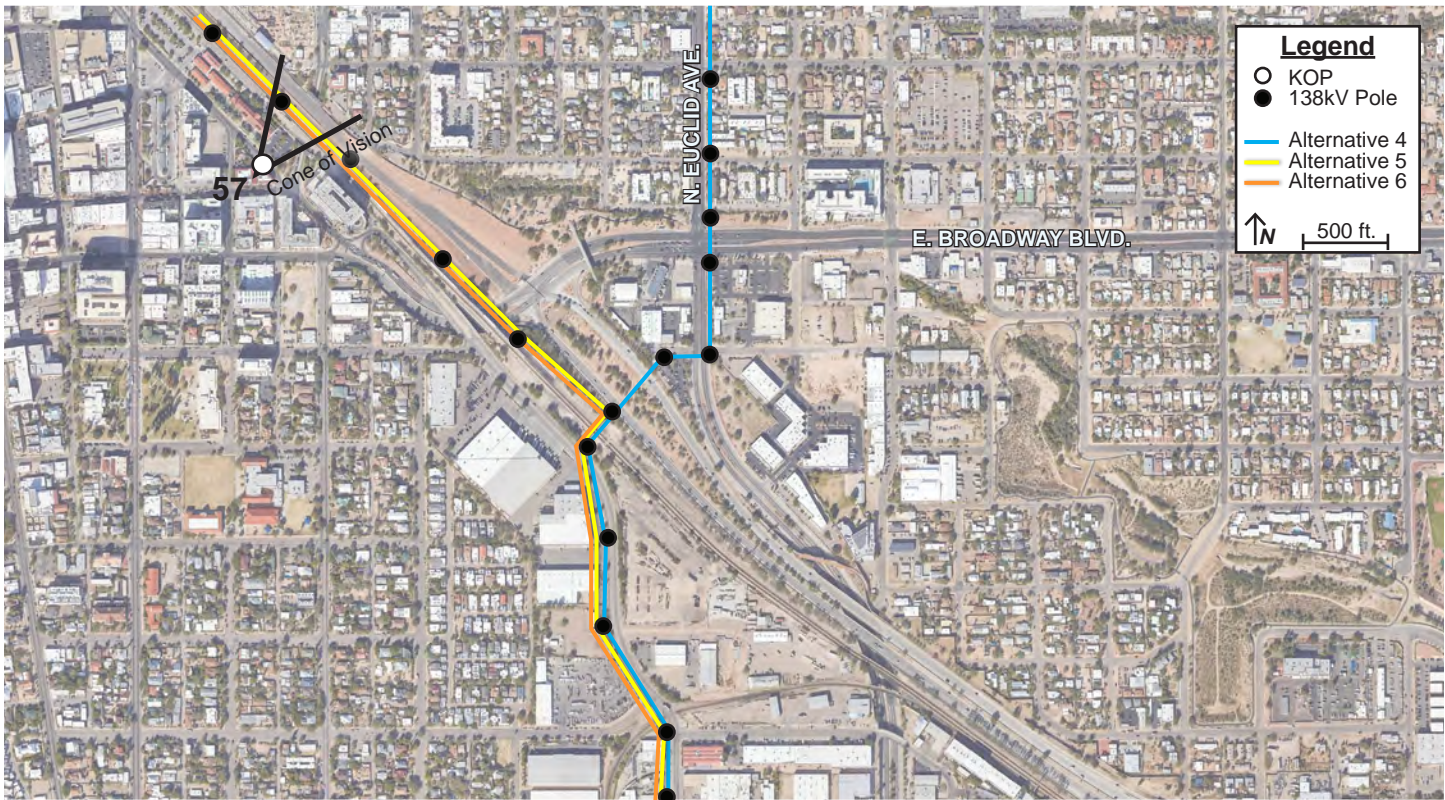
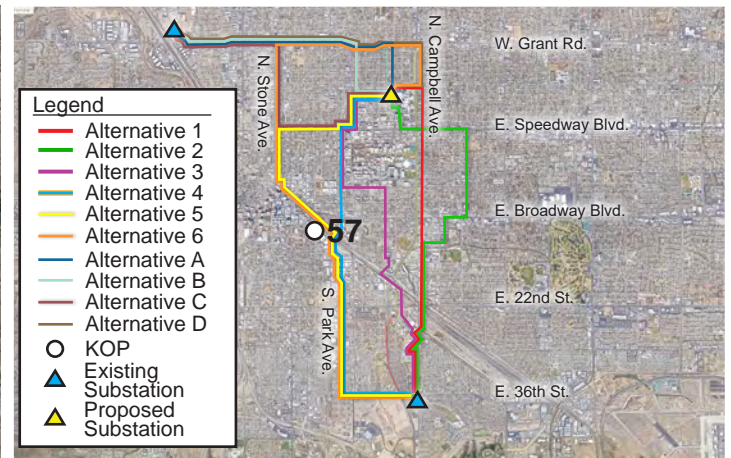
Current Condition



Simulated Condition



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 57



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: downtown
- Location: 350 N Toole Ave.
- Latitude: 32.222482° N; Longitude: 110.966514° W
- View Point Elevation at Eye Level: 2,398ft.
- Looking: northeast
- Poles Visible: Alternative 5 or 6 structures
- Image File Name: IMG\_3957.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 1:16pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 358 feet southwest of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #57



Current Condition



Simulated Condition

Alternative 5 or 6 - Weathered Finish



## Key Observation Point (KOP) #57



Current Condition



Simulated Condition

Alternative 5 or 6 - Galvanized Finish



## Key Observation Point (KOP) #57



Current Condition

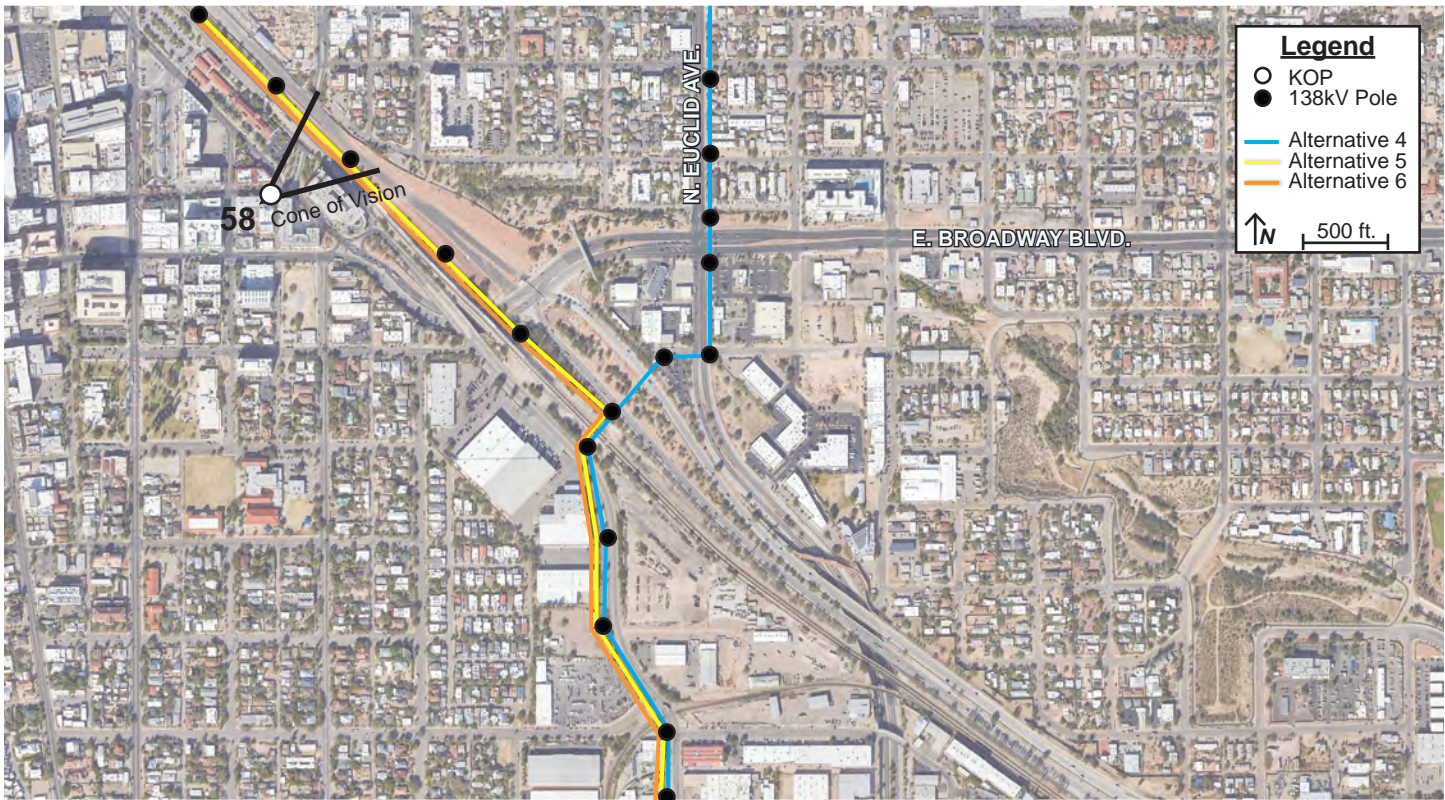
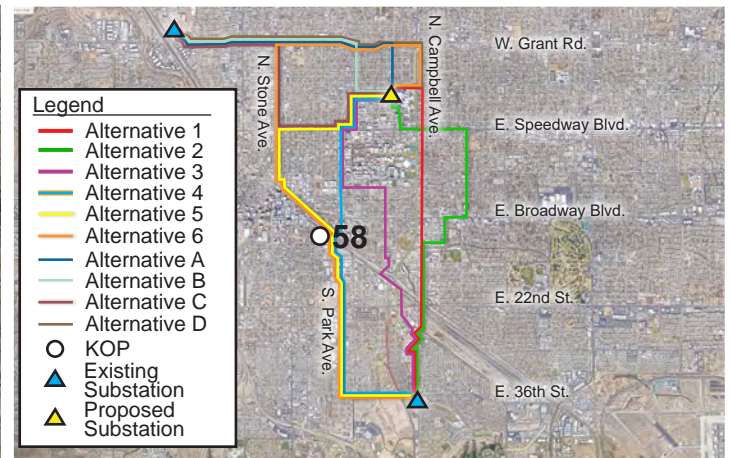


Simulated Condition

Alternative 5 or 6 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 58



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/5.6 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: downtown
- Location: 318 Congress St.
- Latitude: 32.222190° N; Longitude: 110.966426° W
- View Point Elevation at Eye Level: 2,397ft.
- Looking: northeast
- Poles Visible: Alternative 5 or 6 structures
- Image File Name: IMG\_3972.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 1:18pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 498 feet southwest of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #58



Current Condition



Simulated Condition

Alternative 5 or 6 - Weathered Finish



## Key Observation Point (KOP) #58



Current Condition



Simulated Condition

Alternative 5 or 6 - Galvanized Finish



## Key Observation Point (KOP) #58



Current Condition

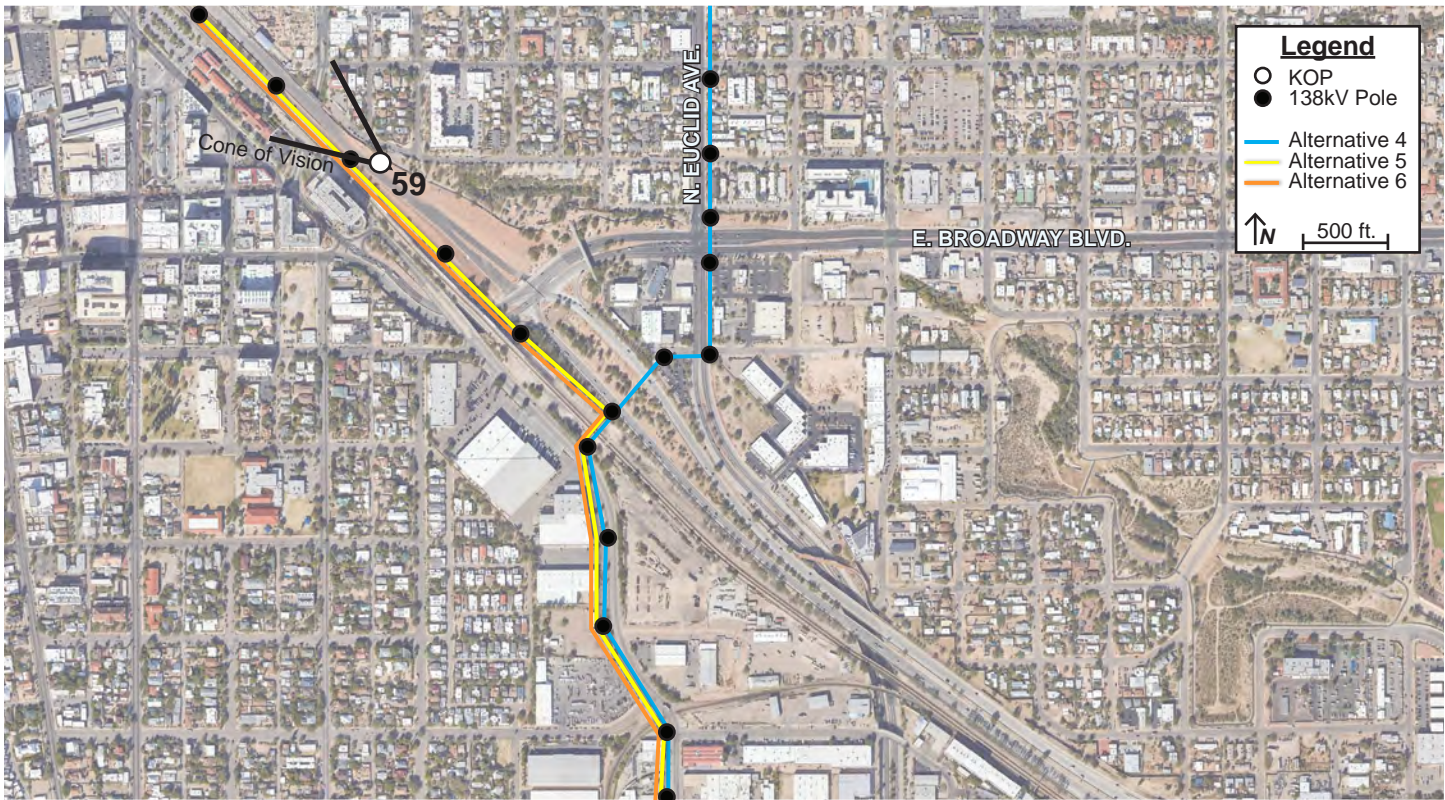
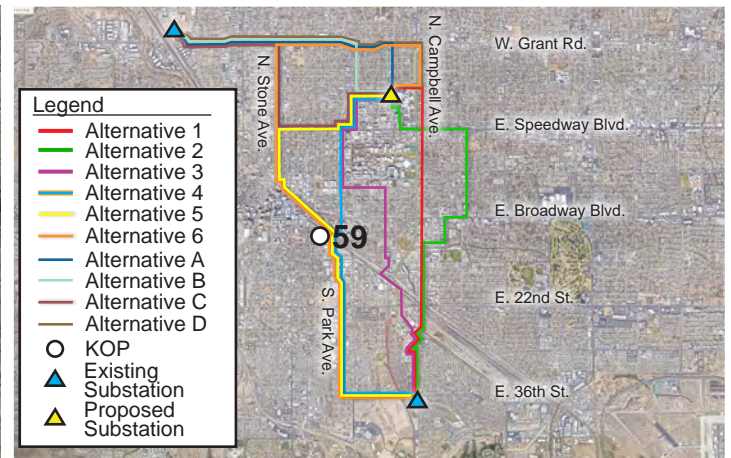


Simulated Condition

Alternative 5 or 6 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 59



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: downtown
- Location: Maclovio Barraza Parkway
- Latitude: 32.222569° N; Longitude: 110.964760° W
- View Point Elevation at Eye Level: 2,397ft.
- Looking: northwest
- Poles Visible: Alternative 5 or 6 structures
- Image File Name: IMG\_3985.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 1:25pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 534 feet southeast of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #59



Current Condition



Simulated Condition

Alternative 5 or 6 - Weathered Finish

## Key Observation Point (KOP) #59



Current Condition



Simulated Condition

Alternative 5 or 6 - Galvanized Finish



## Key Observation Point (KOP) #59



Current Condition

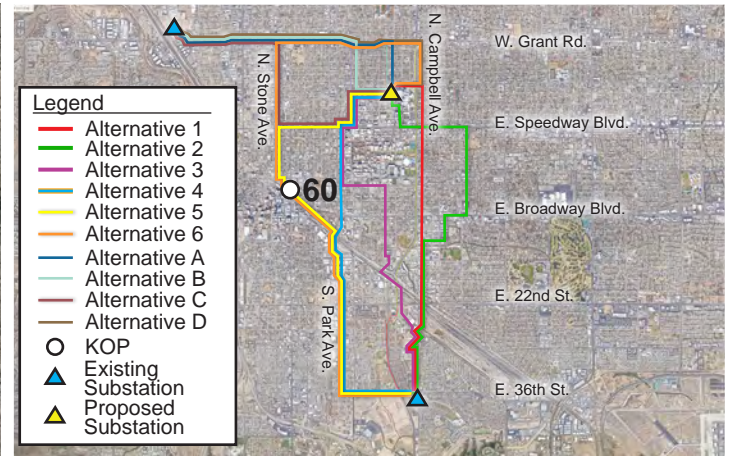


Simulated Condition

Alternative 5 or 6 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 60



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: commercial traffic
- Location: Maclovio Barraza Parkway
- Latitude: 32.226774° N; Longitude: 110.970115° W
- View Point Elevation at Eye Level: 2,376ft.
- Looking: southeast
- Poles Visible: Alternative 5 or 6 structures
- Image File Name: IMG\_3986.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 1:31pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 158 feet north of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #60



Current Condition



Simulated Condition

Alternative 5 or 6 - Weathered Finish



## Key Observation Point (KOP) #60



Current Condition



Simulated Condition

Alternative 5 or 6 - Galvanized Finish  
Page 900



## Key Observation Point (KOP) #60



Current Condition

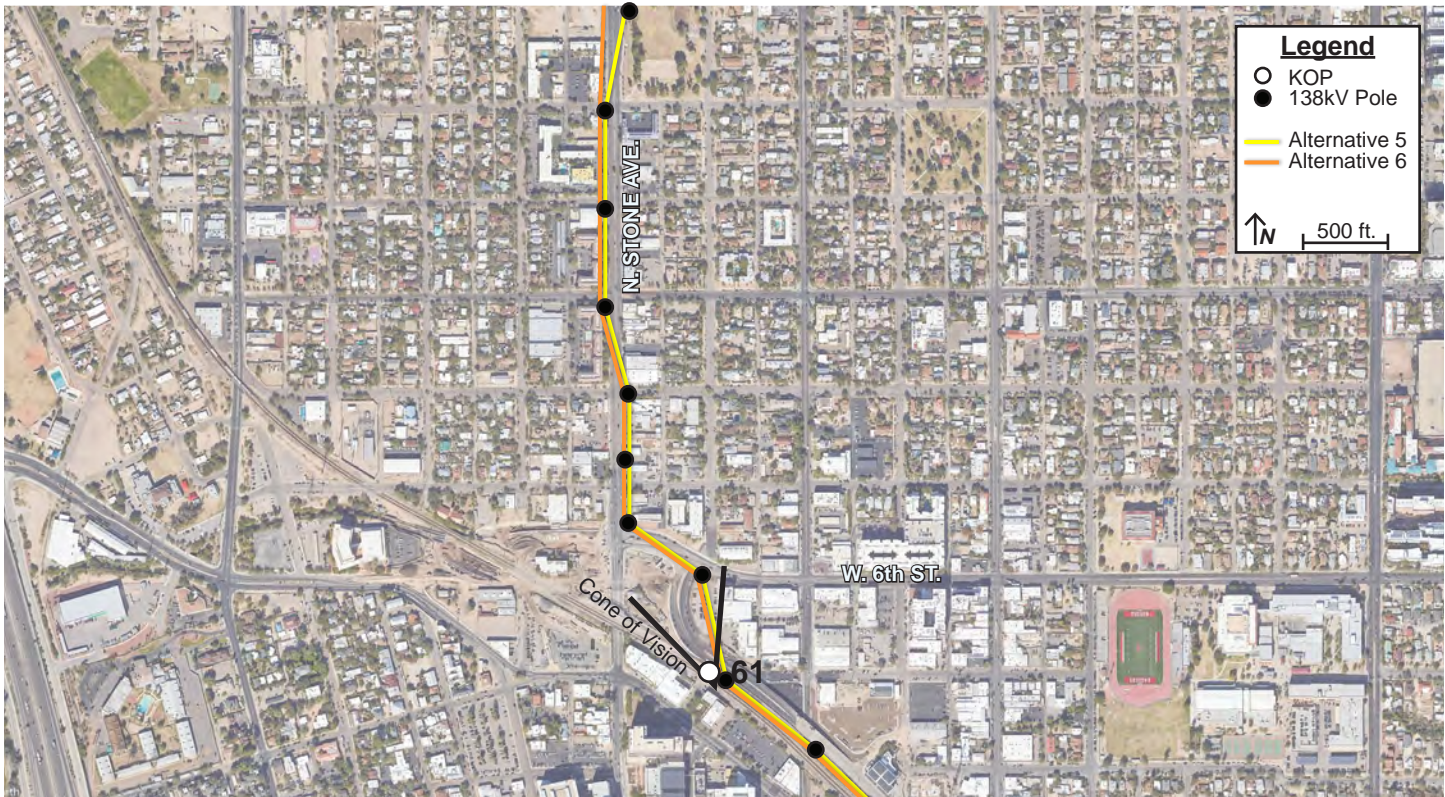
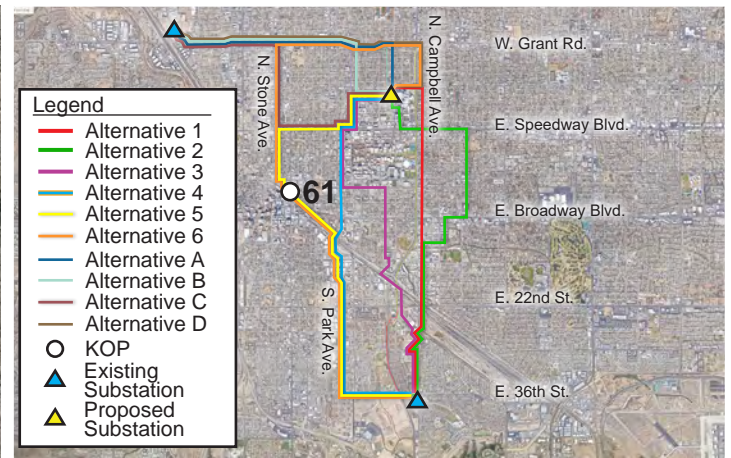


Simulated Condition

Alternative 5 or 6 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 61



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: recreational/bikeway/commercial
- Location: Maclovio Barraza Parkway
- Latitude: 32.226466° N; Longitude: 110.970135° W
- View Point Elevation at Eye Level: 2,378ft.
- Looking: northwest
- Poles Visible: Alternative 5 or 6 structures
- Image File Name: IMG\_4006.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 1:33pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 479 feet southeast of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #61



Current Condition



Simulated Condition

Alternative 5 or 6 - Weathered Finish  
Page 903



## Key Observation Point (KOP) #61



Current Condition



Simulated Condition

Alternative 5 or 6 - Galvanized Finish



## Key Observation Point (KOP) #61



Current Condition

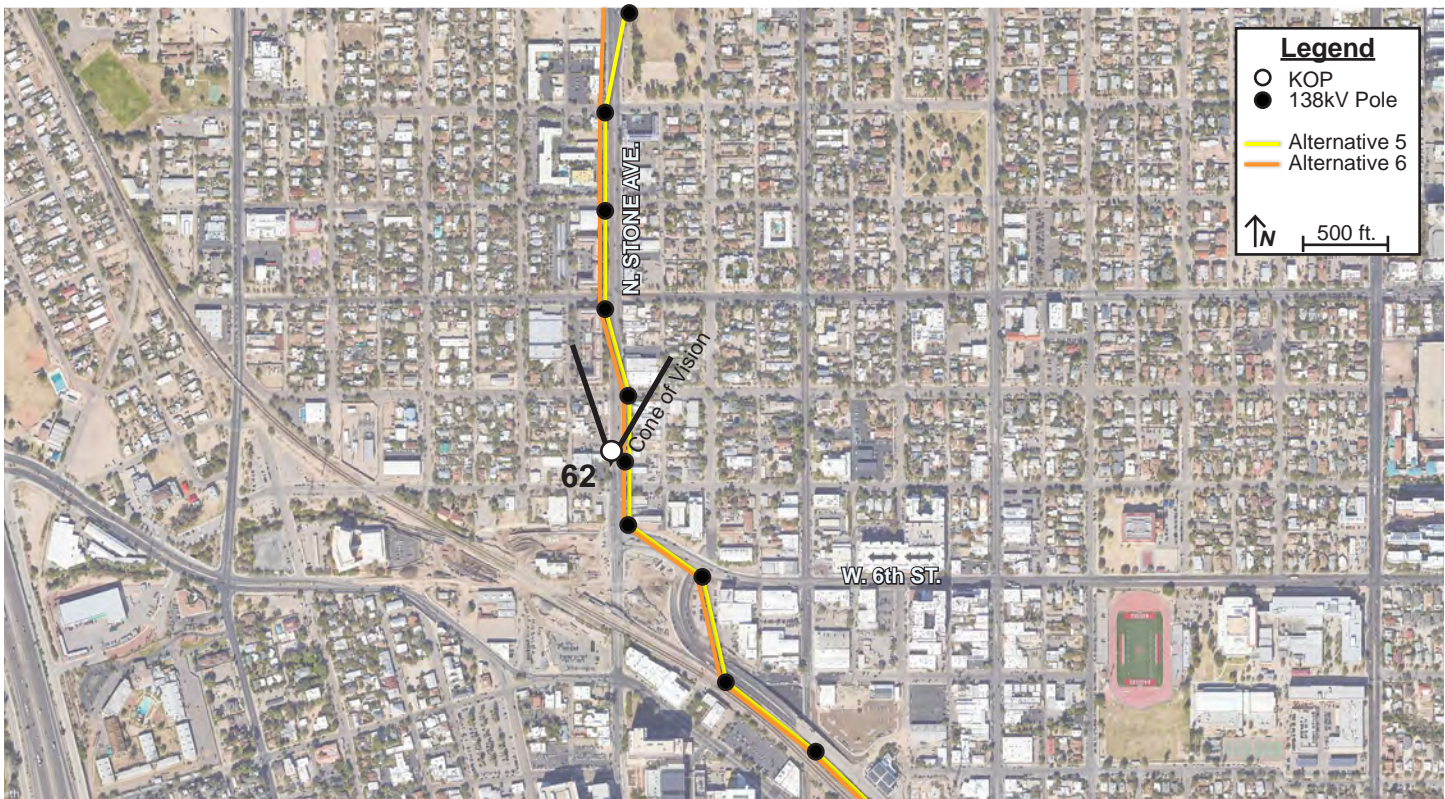
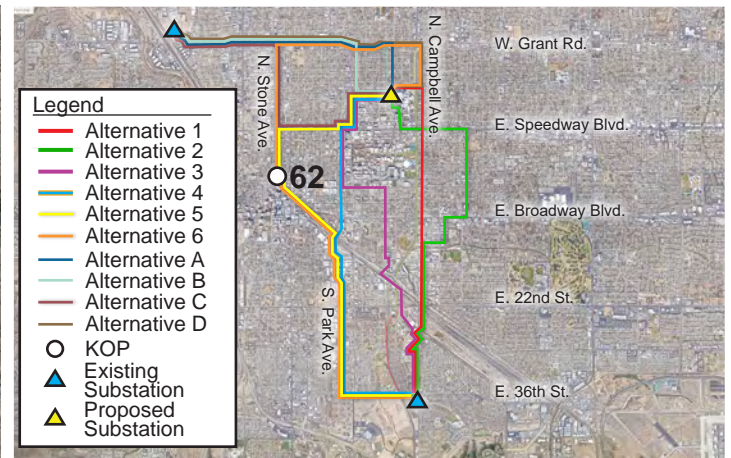


Simulated Condition

Alternative 5 or 6 - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 62



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/10 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: commercial traffic
- Location: 642 N Stone Ave
- Latitude: 32.229329° N; Longitude: 110.971876° W
- View Point Elevation at Eye Level: 2,383ft.
- Looking: north
- Poles Visible: Alternative 5 or 6 structures
- Image File Name: IMG\_4033.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 1:39pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 308 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #62



Current Condition



Simulated Condition

Alternative 5 or 6 - Weathered Finish  
Page 907



## Key Observation Point (KOP) #62



Current Condition



Simulated Condition

Alternative 5 or 6 - Galvanized Finish  
Page 908



## Key Observation Point (KOP) #62



Current Condition



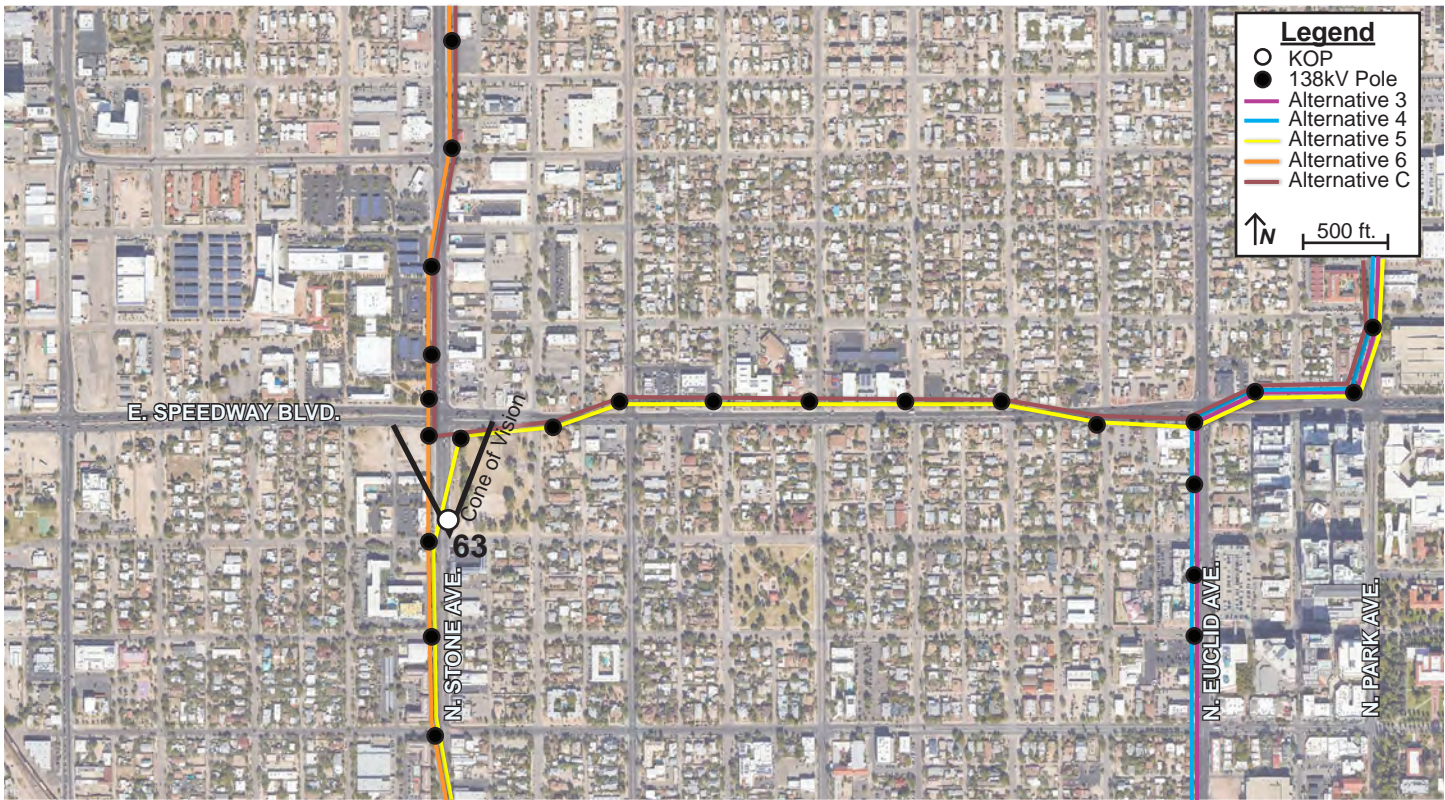
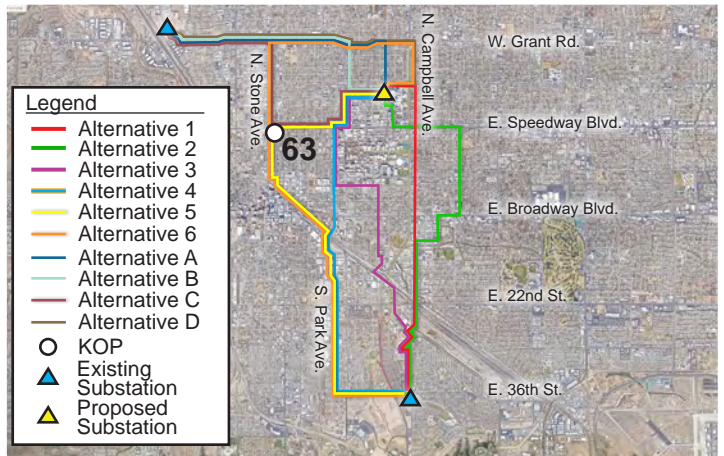
Simulated Condition

Alternative 5 or 6 - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 63



### Notes:

#### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

#### KOP

- Representative View for: residents, and commercial
- Location: 1001 N Stone Ave.
- Latitude: 32.234432° N; Longitude: 110.971714° W
- View Point Elevation at Eye Level: 2,384 ft.
- Looking: north
- Poles Visible: Alternative 5, 6, or C structures
- Image File Name: IMG\_4042.JPG

#### Simulation Notes

- Photo Taken: March 4th, 2024 at 1:45pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 257 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #63



Current Condition



Simulated Condition

Alternative 5 - Weathered Finish  
Page 911



## Key Observation Point (KOP) #63



Current Condition



Simulated Condition

Alternative 5 - Galvanized Finish  
Page 912



## Key Observation Point (KOP) #63



Current Condition



Simulated Condition



## Key Observation Point (KOP) #63



Current Condition



Simulated Condition

Alternative 6 - Weathered Finish  
Page 914



## Key Observation Point (KOP) #63



Current Condition



Simulated Condition



## Key Observation Point (KOP) #63



Current Condition



Simulated Condition



## Key Observation Point (KOP) #63



Current Condition



Simulated Condition

Alternative C - Weathered Finish  
Page 917



## Key Observation Point (KOP) #63



Current Condition



Simulated Condition

Alternative C - Galvanized Finish  
Page 918



## Key Observation Point (KOP) #63



Current Condition

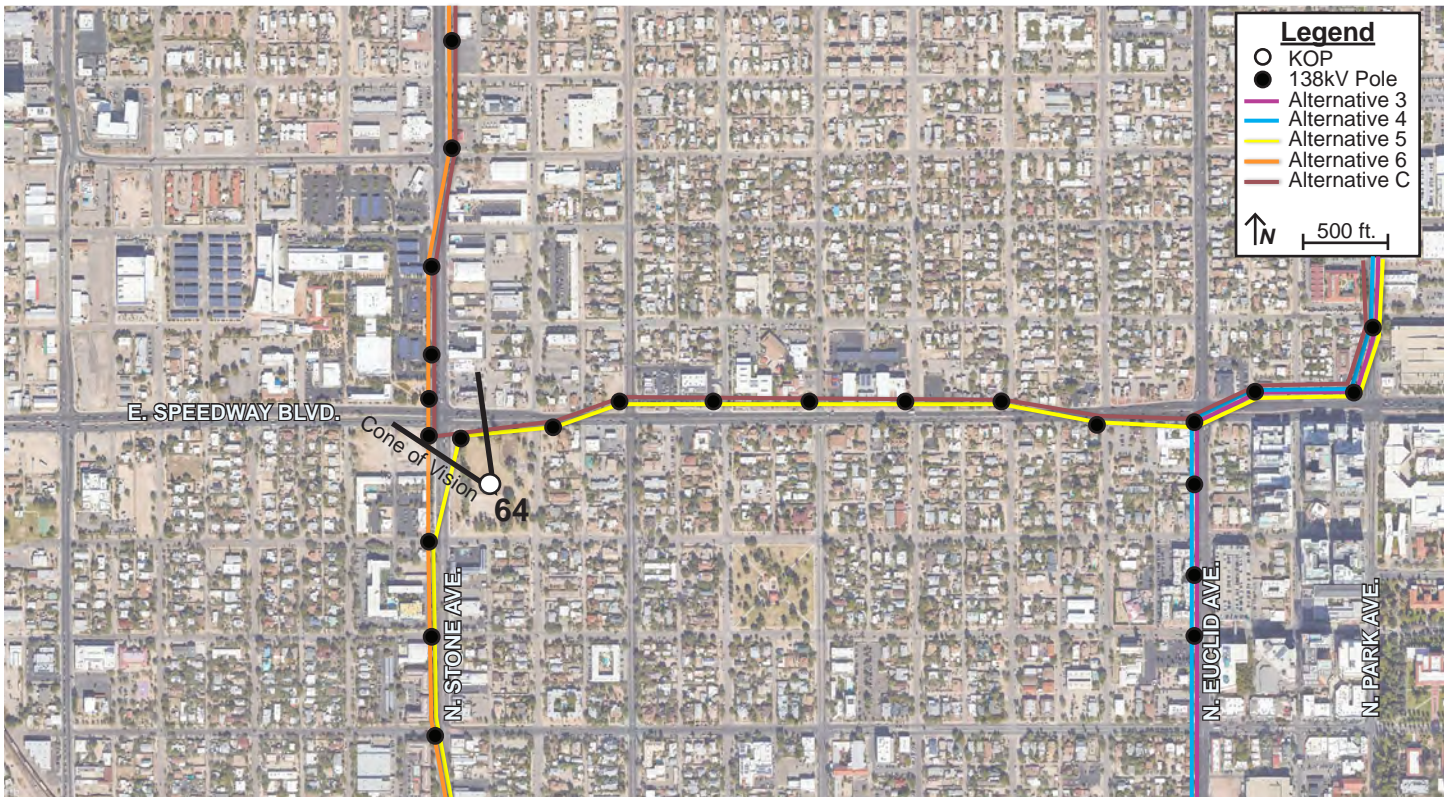
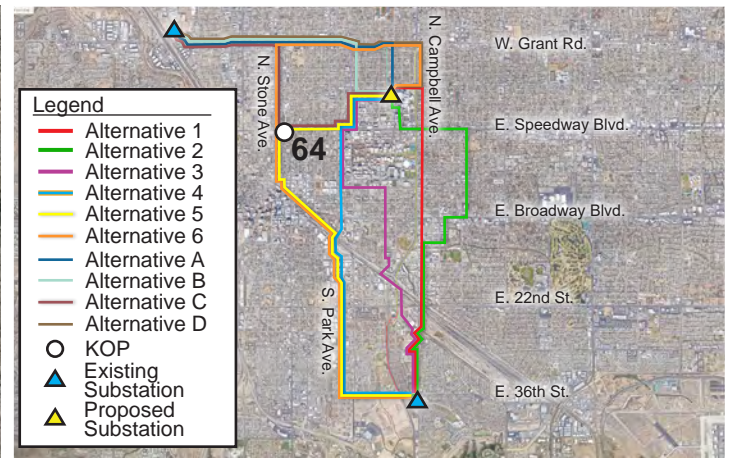


Simulated Condition

Alternative C - Mojave Sage Finish  
Page 919



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 64



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24 mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: recreational user
- Location: Anza Park
- Latitude: 32.235031° N; Longitude: 110.971142° W
- View Point Elevation at Eye Level: 2,386 ft.
- Looking: north
- Poles Visible: Alternative 5, 6, or C structures
- Image File Name: IMG\_4063.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 1:48pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 263 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #64



Current Condition



Simulated Condition

Alternative 5 - Weathered Finish



## Key Observation Point (KOP) #64



Current Condition



Simulated Condition



## Key Observation Point (KOP) #64



Current Condition



Simulated Condition



## Key Observation Point (KOP) #64



Current Condition



Simulated Condition

Alternative 6 - Weathered Finish



## Key Observation Point (KOP) #64



Current Condition



Simulated Condition

Alternative 6 - Galvanized Finish



## Key Observation Point (KOP) #64



Current Condition



Simulated Condition

Alternative 6 - Mojave Sage Finish



## Key Observation Point (KOP) #64



Current Condition



Simulated Condition



## Key Observation Point (KOP) #64



Current Condition



Simulated Condition

Alternative C - Galvanized Finish



## Key Observation Point (KOP) #64



Current Condition



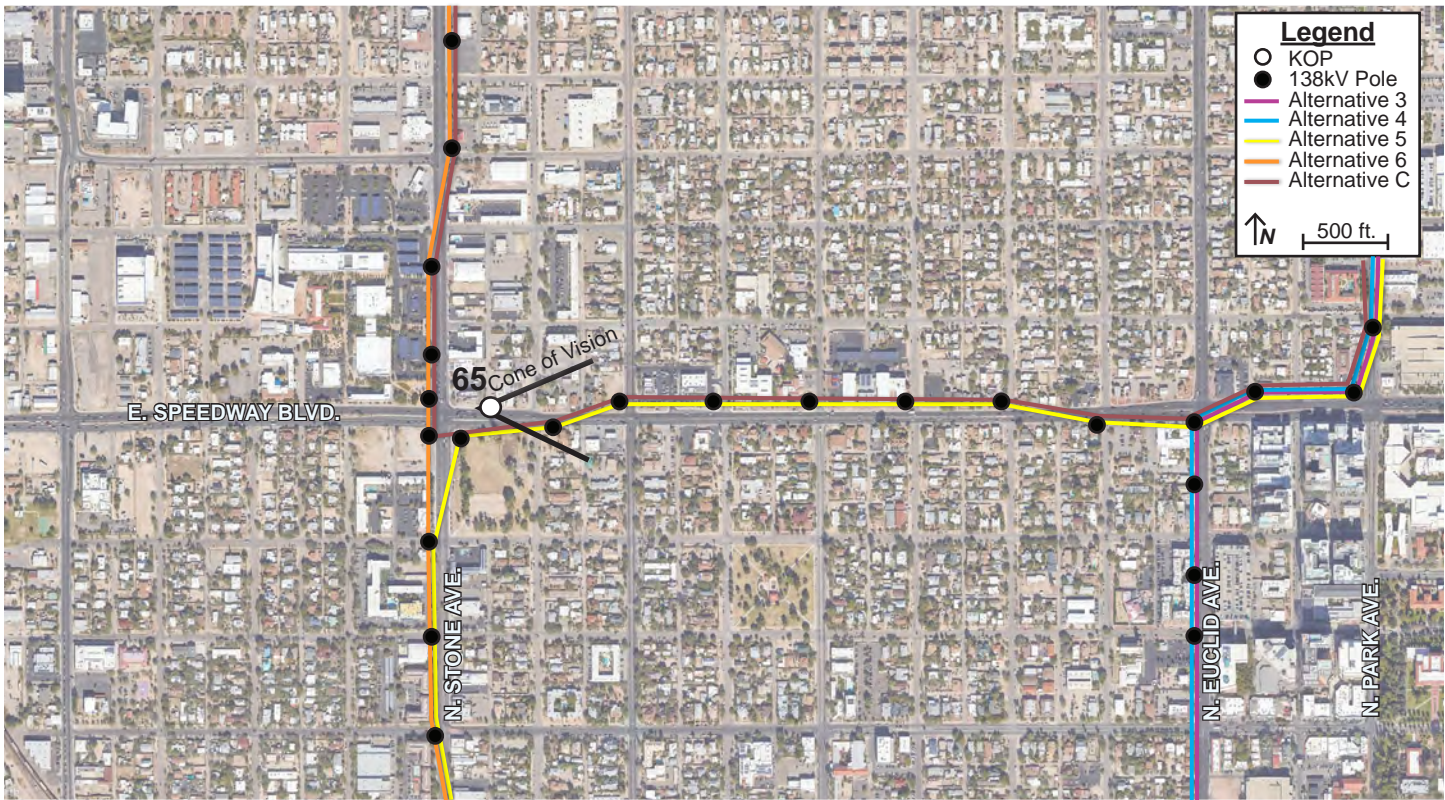
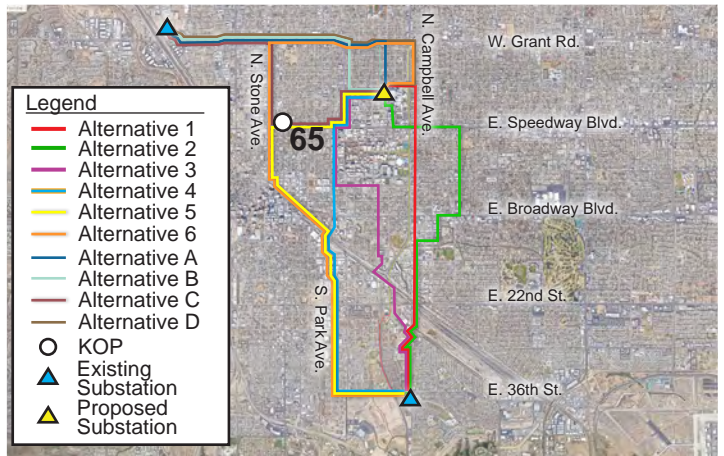
Simulated Condition

Alternative C - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 65



### Notes:

#### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24 mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

#### KOP

- Representative View for: commercial traffic
- Location: 19 E Speedway Blvd
- Latitude: 32.236089° N; Longitude: 110.971258° W
- View Point Elevation at Eye Level: 2,382 ft.
- Looking: east
- Poles Visible: Alternative 5, or C structures
- Image File Name: IMG\_4074.JPG

#### Simulation Notes

- Photo Taken: March 4th, 2024 at 1:53pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 364 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #65



Current Condition



Simulated Condition

Alternative 5 or C - Weathered Finish



## Key Observation Point (KOP) #65



Current Condition



Simulated Condition

Alternative 5 or C - Galvanized Finish  
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## Key Observation Point (KOP) #65



Current Condition

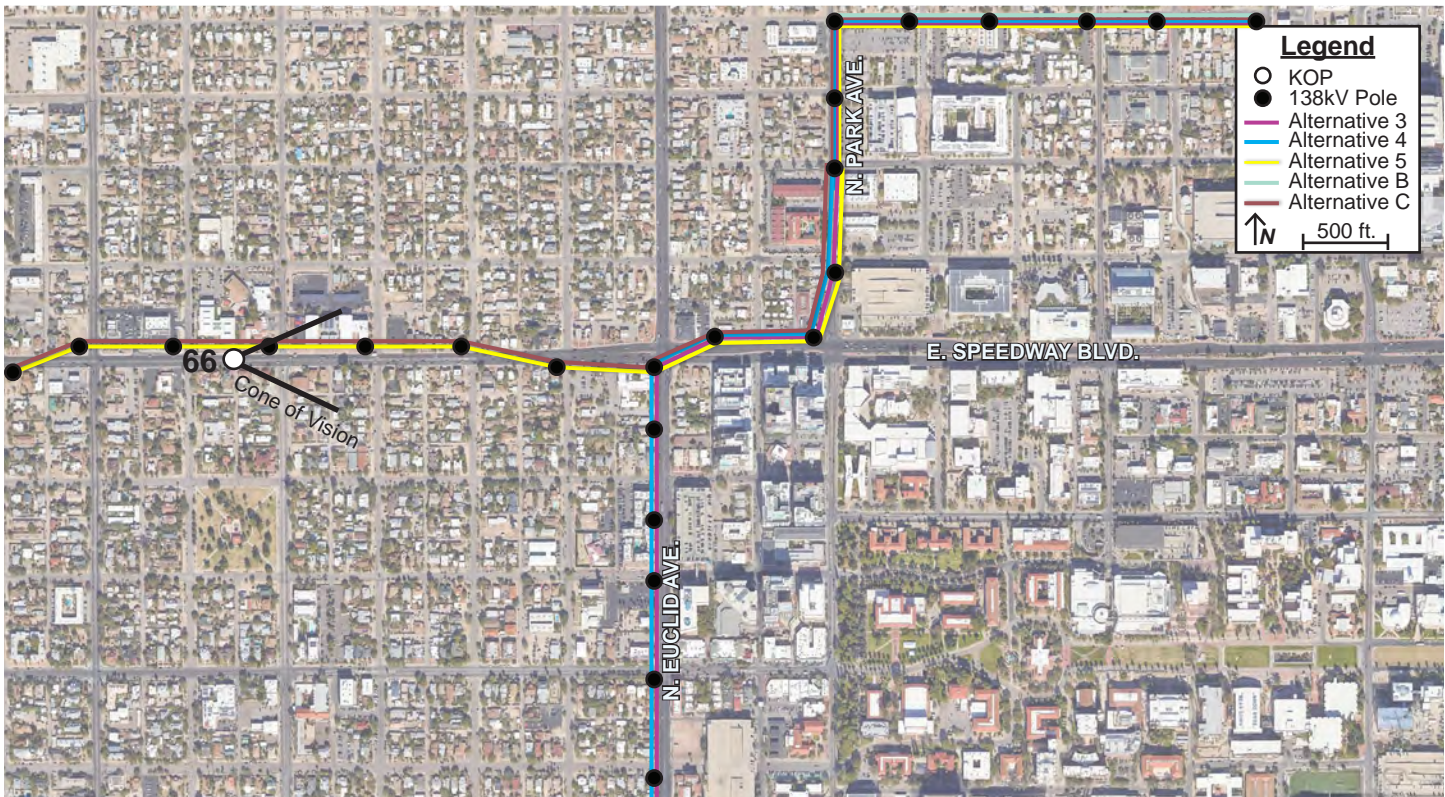
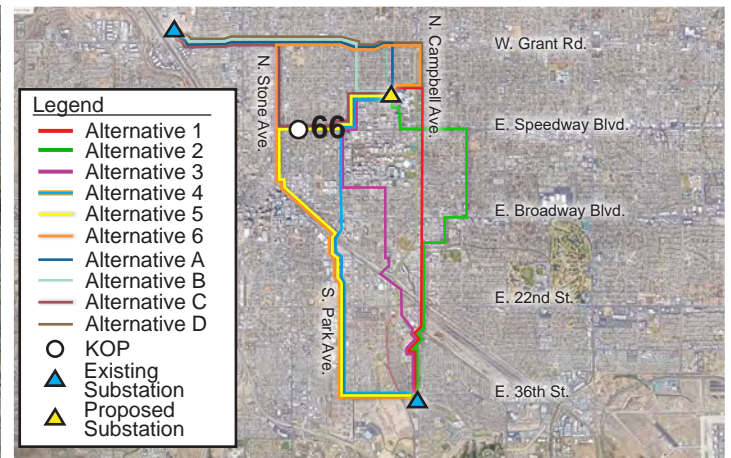


Simulated Condition

Alternative 5 or C - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 66



## Notes:

### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/5.6 | ISO:100
- Dimensions in pixel: 6240 x 4160

### KOP

- Representative View for: residents, and commercial
- Location: 203 E Speedway
- Latitude: 32.235851° N; Longitude: 110.966304° W
- View Point Elevation at Eye Level: 2,403 ft.
- Looking: east
- Poles Visible: Alternative 5 or C structures
- Image File Name: IMG\_4076.JPG

### Simulation Notes

- Photo Taken: March 4th, 2024 at 1:57pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 180 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #66



Current Condition



Simulated Condition

Alternative 5 or C - Weathered Finish



## Key Observation Point (KOP) #66



Current Condition



Simulated Condition

Alternative 5 or C - Galvanized Finish



## Key Observation Point (KOP) #66



Current Condition

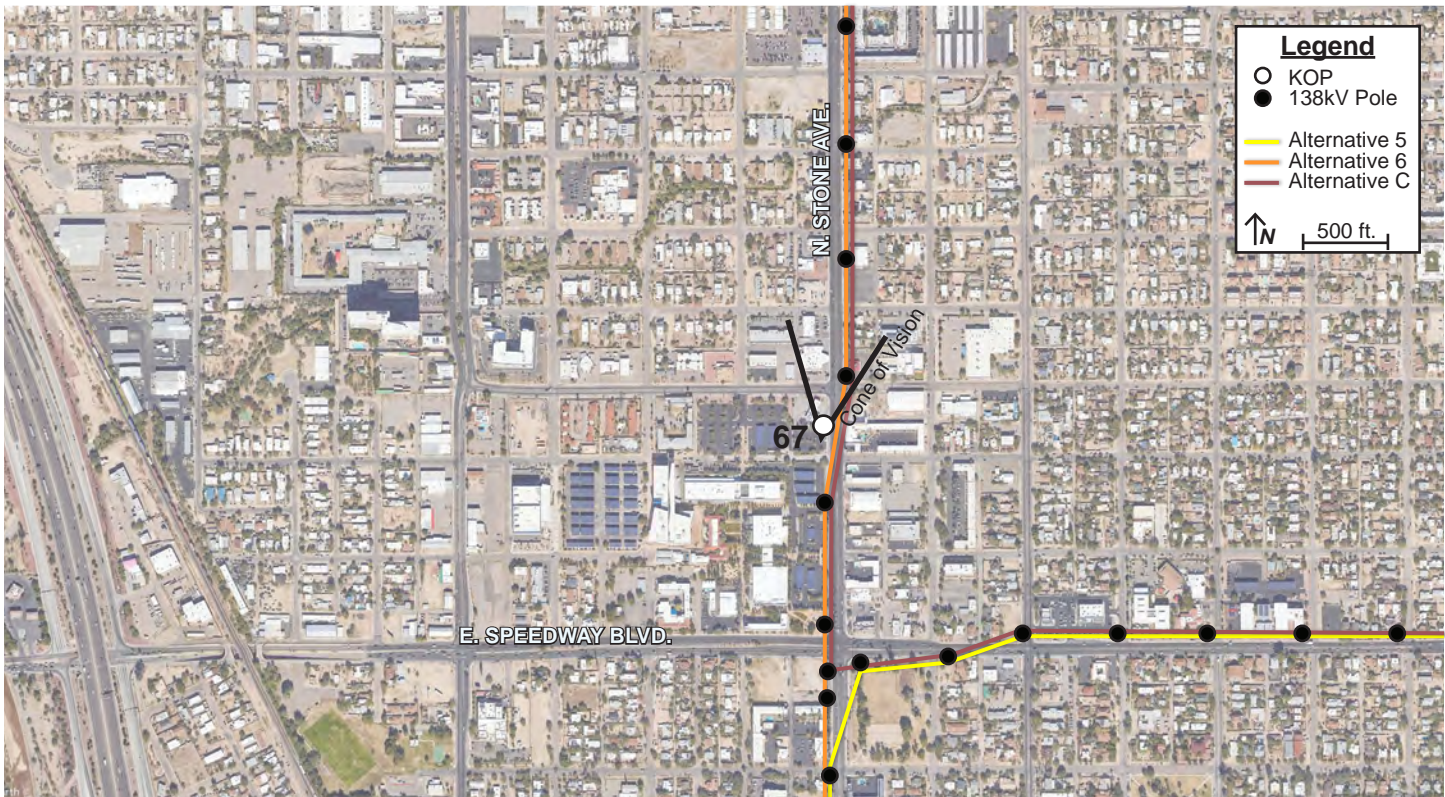
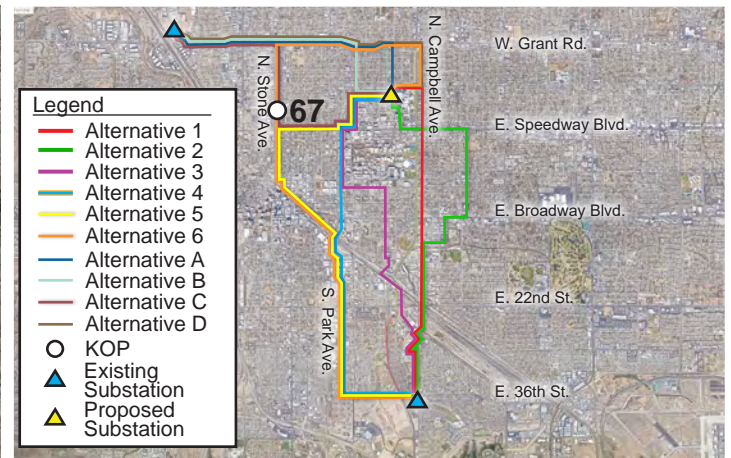


Simulated Condition

Alternative 5 or C - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 67



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/10 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: commercial traffic
- Location: 1342 N Stone Ave.
- Latitude: 32.238999° N; Longitude: 110.972008° W
- View Point Elevation at Eye Level: 2,381ft.
- Looking: north
- Poles Visible: Alternative 6, or C structures
- Image File Name: IMG\_4085.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 2:02pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 241 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #67



Current Condition



Simulated Condition

Alternative 6 or C - Weathered Finish



## Key Observation Point (KOP) #67



Current Condition



Simulated Condition

Alternative 6 or C - Galvanized Finish  
Page 940

## Key Observation Point (KOP) #67



Current Condition



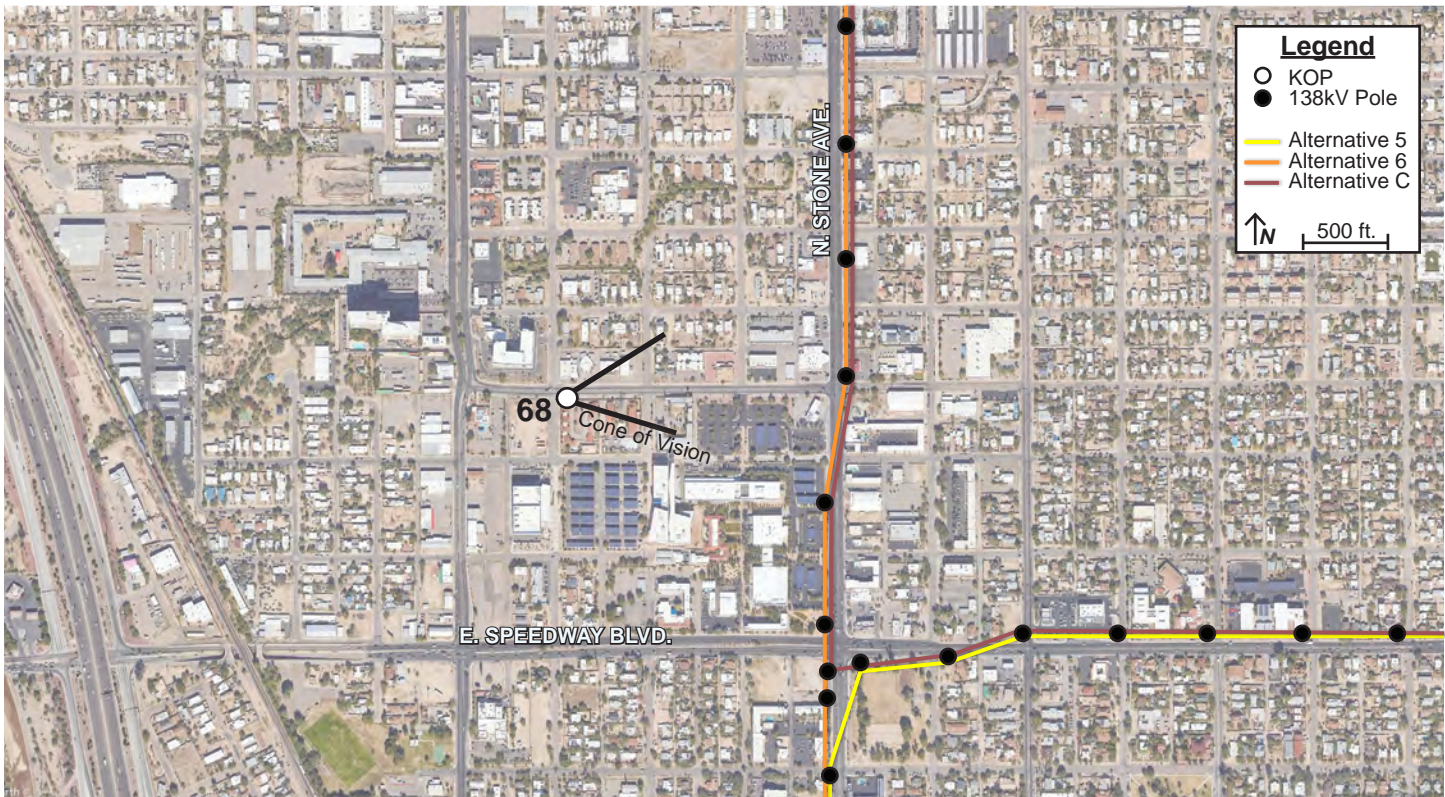
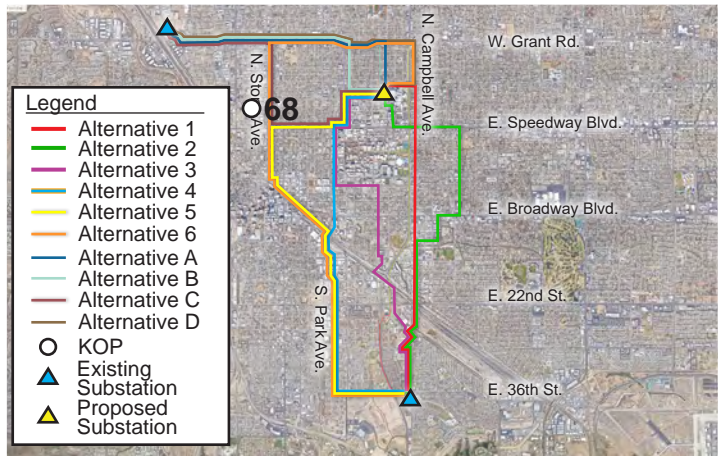
Simulated Condition

Alternative 6 or C - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 68



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 50mm | F-Stop: f/10 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: commercial traffic
- Location: 244 W Drachman St.
- Latitude: 32.239331° N; Longitude: 110.976282° W
- View Point Elevation at Eye Level: 2,368ft.
- Looking: east
- Poles Visible: Alternative 6, or C structures
- Image File Name: IMG\_4092.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 2:05pm
- The image is based on a single photo and represent approximately 39.5 degree horizontal field of view.
- This view is approximately 1,433 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #68



Current Condition



Simulated Condition

Alternative 6 or C - Weathered Finish

## Key Observation Point (KOP) #68



Current Condition



Simulated Condition

Alternative 6 or C - Galvanized Finish



## Key Observation Point (KOP) #68



Current Condition



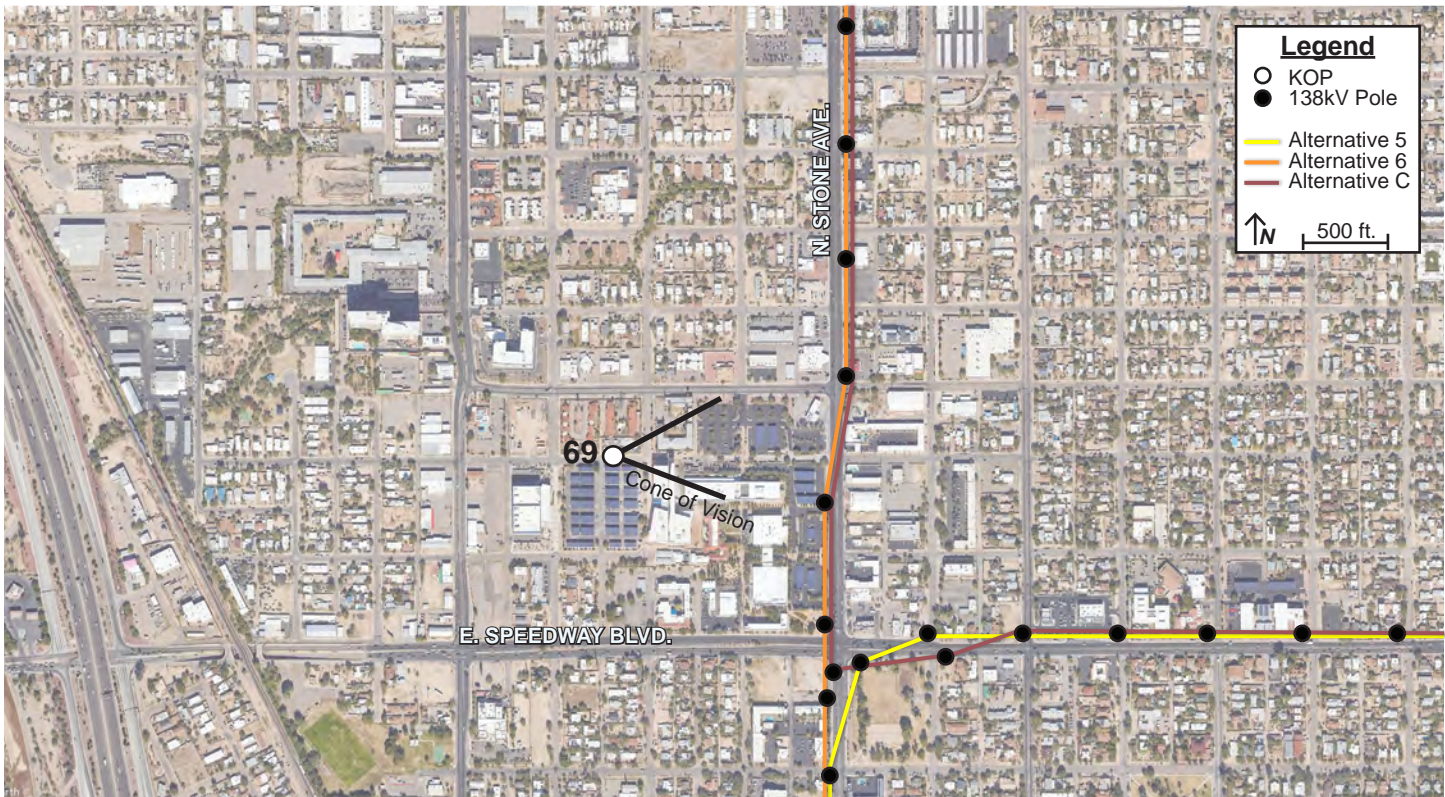
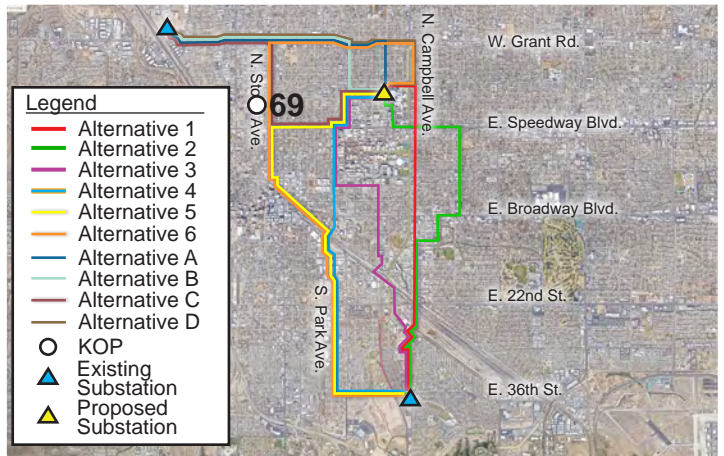
Simulated Condition

Alternative 6 or C - Mojave Sage Finish



## Midtown Reliability Project

### Key Observation Point (KOP) # 69



#### Notes:

##### Camera Information

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

##### KOP

- Representative View for: students and staff at Pima CC
- Location: 240 W Mabel
- Latitude: 32.238474° N; Longitude: 110.975384° W
- View Point Elevation at Eye Level: 2,370ft.
- Looking: east
- Poles Visible: Alternative 6 or C structures
- Image File Name: IMG\_4095.JPG

##### Simulation Notes

- Photo Taken: March 4th, 2024 at 2:07pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 1,235 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #69



Current Condition



Simulated Condition

Alternative 6 or C - Weathered Finish



## Key Observation Point (KOP) #69



Current Condition



Simulated Condition

Alternative 6 or C - Galvanized Finish



## Key Observation Point (KOP) #69



Current Condition

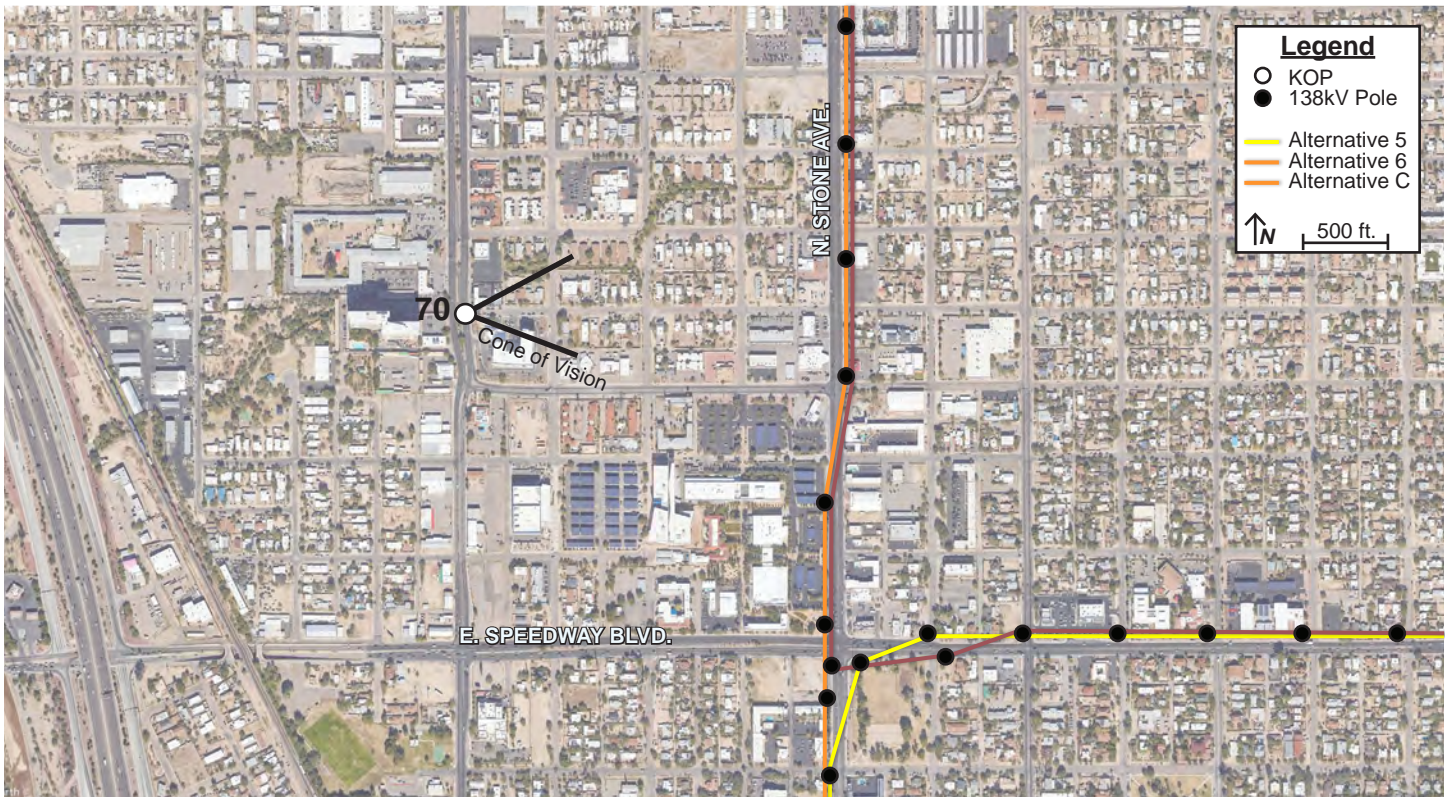
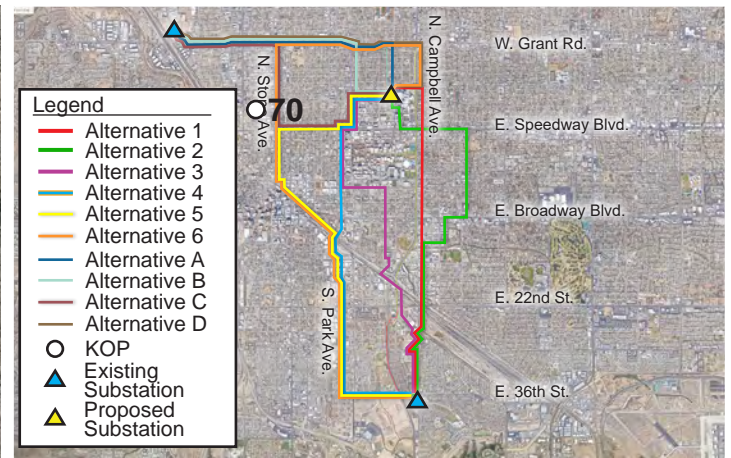


Simulated Condition

Alternative 6 or C - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 70



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 35mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: residents and visitors
- Location: 1548 N Oracle
- Latitude: 32.240545° N; Longitude: 110.978353° W
- View Point Elevation at Eye Level: 2,363ft.
- Looking: east
- Poles Visible: Alternative 6, or C structures
- Image File Name: IMG\_4102.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 2:12pm
- The image is based on a single photo and represent approximately 54 degree horizontal field of view.
- This view is approximately 2,075 feet west of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #70



Current Condition



Simulated Condition

Alternative 6 or C - Weathered Finish  
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## Key Observation Point (KOP) #70



Current Condition



Simulated Condition

Alternative 6 or C - Galvanized Finish



## Key Observation Point (KOP) #70



Current Condition

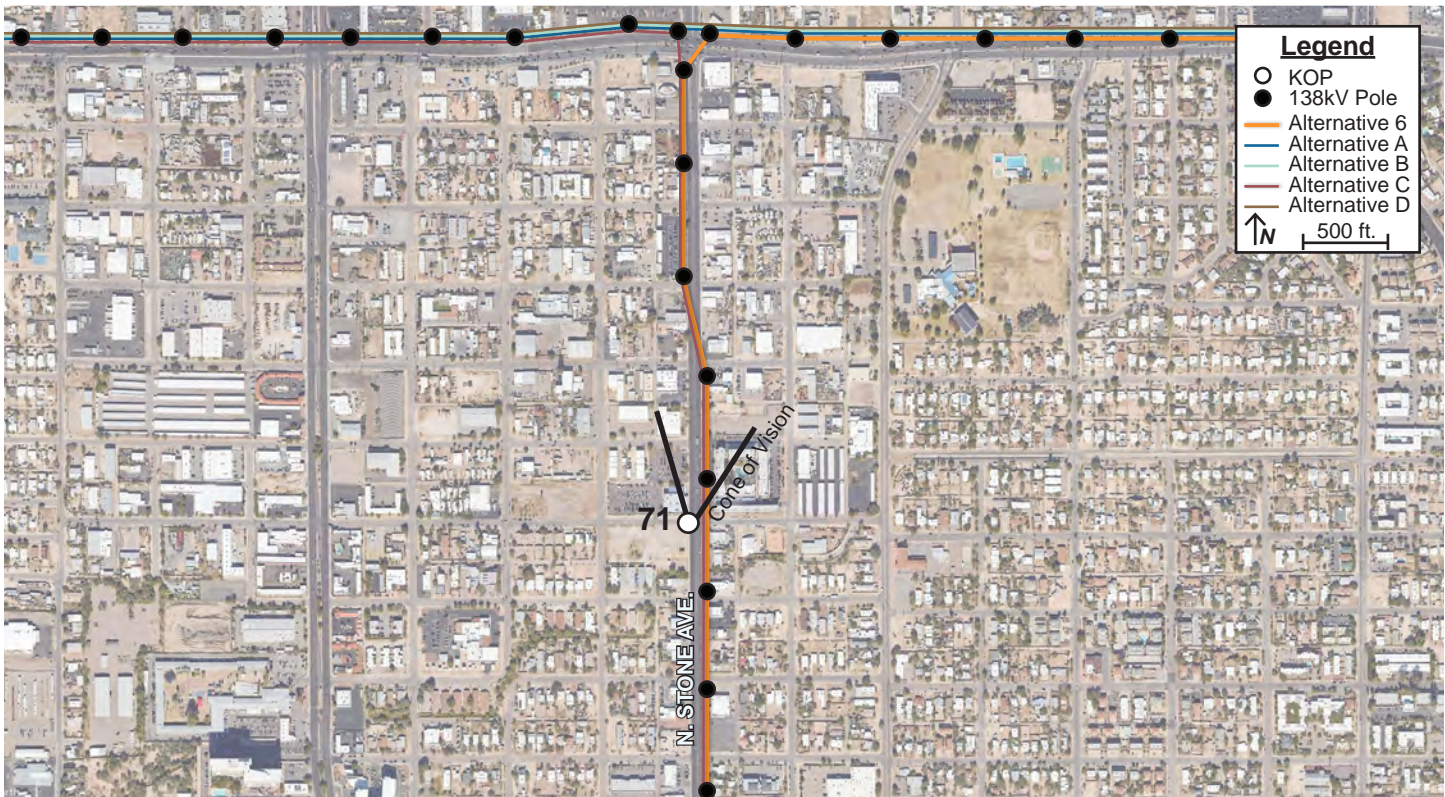
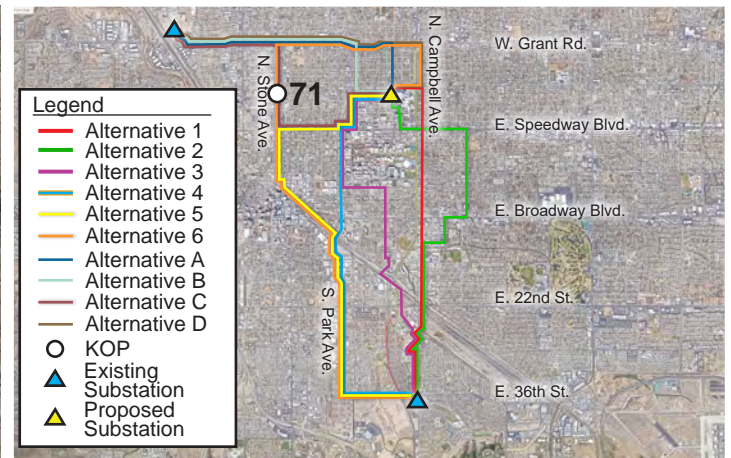


Simulated Condition

Alternative 6 or C - Mojave Sage Finish



**TEP** Tucson Electric Power  
Midtown Reliability Project  
Key Observation Point (KOP) # 71



**Notes:**

**Camera Information**

- Type: Canon EOS RP
- Sensor: CMOS (Full-Frame) 35.9mm x 24mm
- Lens: Canon RF 24-105mm f/4-7.1 IS STM
- Focal Length: 24mm | F-Stop: f/9 | ISO:100
- Dimensions in pixel: 6240 x 4160

**KOP**

- Representative View for: commercial traffic
- Location: 1750 N. Stone Ave.
- Latitude: 32.243617° N; Longitude: 110.971994° W
- View Point Elevation at Eye Level: 2,375ft.
- Looking: north
- Poles Visible: Alternative 6 or C structures
- Image File Name: IMG\_4104.JPG

**Simulation Notes**

- Photo Taken: March 4th, 2024 at 2:17pm
- The image is based on a single photo and represent approximately 73.7 degree horizontal field of view.
- This view is approximately 255 feet south of the nearest pole represented in the simulation.
- The simulation is based on the best information available and is preliminary. Final alignment and structure locations are subject to change based on final engineering and other factors.



## Key Observation Point (KOP) #71



Current Condition



Simulated Condition

Alternative 6 or C - Weathered Finish



## Key Observation Point (KOP) #71



Current Condition



Simulated Condition

Alternative 6 or C - Galvanized Finish



## Key Observation Point (KOP) #71



Current Condition



Simulated Condition



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## **EXHIBIT H**

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## EXHIBIT H: EXISTING PLANS

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As stated in Arizona Administrative Code R14-3-219 of the Rules of Practice and Procedure Before Power Plant and Transmission Line Siting Committee, Exhibits to Application, Exhibit H:

*To the extent applicant is able to determine, state the existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site or route.*

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H.3 Local Government Plans and Land Use Ordinances .....	H-2
H.3.1 Pima County Comprehensive Plan .....	H-2
H.3.2 Pima County Sonoran Desert Conservation Plan .....	H-2
H.3.3 City of South Tucson Zoning Code .....	H-3
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### H.1 Introduction

An analysis was conducted of the anticipated impacts of the Project on local government general and specific plans and zoning ordinances, and any known development plans in the Project study area. Land

use for the Project is mapped in Exhibit A-4. The entire study area is within the COT, City of South Tucson, and Pima County, Arizona.

## **H.2 Land Ownership and Jurisdiction**

The following review describes the impacts on local government general and specific plans and zoning ordinances within the Project study area.

Land use jurisdiction refers to the limits of administrative authority maintained by Federal, State, tribal, regional, or local government agencies responsible for land use planning and policies. The Project Study Area includes land under the jurisdiction of Pima County, COT, City of South Tucson, and the Pascua Yaqui Tribe. All route alternatives cross land under COT jurisdiction with existing land use plans and policies.

During Project outreach, TEP consulted with local agencies, government representatives, and stakeholders within the project study area and along the alternative routes in order to determine and understand existing plans. Outreach and public participation activities are detailed in Exhibit J.

## **H.3 Local Government Plans and Land Use Ordinances**

Local agency jurisdictions that will be traversed by the Project have adopted land use general and specific plans and zoning regulations that guide the type, time, and intensity of land use. An inventory of applicable land use plans was conducted to determine which land use plans may intersect with the Project. Local jurisdictions with land use policies in the study area include Pima County, COT, and the City of South Tucson.

### **H.3.1 Pima County Comprehensive Plan**

The Pima County Comprehensive Plan (“Plan”) (2009, as amended 2015) was updated via the “Pima Prospers: Pima County Comprehensive Plan Initiative.” The Plan assigns special designations (including parks, open space, and scenic road designations) and lays out policies for land uses within those unincorporated areas of Pima County; for incorporated areas, land use planning as specified in the municipalities’ general plan is applicable. The 2015 plan, as amended, is the current guiding plan. The Pima County Zoning Ordinance, Chapter 18.05, designates zoning districts and establishes land use intensity. There are no known conflicts between the Project and the Pima County Comprehensive Plan.

### **H.3.2 Pima County Sonoran Desert Conservation Plan**

Pima County maintains important biological, ecological, and natural resources under their 2012 Sonoran Desert Conservation Plan (“SDCP”). The 2012 SDCP provides guidance for conservation and protection of cultural and natural resources as well as Pima County’s efforts to maintain an economically vigorous and fiscally responsible community. As part of the SDCP, the associated Pima County Multi-Species Conservation Plan (“MSCP”) provides further guidance related to species protected under the ESA and their habitats. Further discussion of the SDCP and MSCP can be found in Exhibit B.

The SDCP designates a Conservation Lands System (“CLS”), which identifies lands within Pima County necessary to achieve the SDCP goals, while delineating areas suitable for development. The CLS land-use policies apply only to discretionary actions of, and lands owned and/or managed by, Pima County and the

Pima County Regional Flood Control District (“PCRFC”). The Project and construction activities, while adjacent to, do not impact CLS-designated lands.

Three Pima County Capital Improvement Projects (CIP)/Federal Section 10 impact project areas exist within or adjacent to the Project Study Area (see Table 14). The Project and construction activities, while adjacent to, do not impact these CIP project areas.

There are no known conflicts between the Project and the Pima County Sonoran Desert Conservation Plan.

**Table 14. Pima County CIP Project Areas in Project Area**

Name	Location	Description
Desert Haven Natural Resource Park	36 <sup>th</sup> and Campbell	14.8-acre CIP of community open space and habitat
22nd St I-10 to Tucson Blvd Improvements	22 <sup>nd</sup> St and Kino Pkwy Interchange	33.47-acre CIP
Portion of the Broadway Improvement Project	Broadway Blvd between Euclid and Campbell Ave	72.55-acre CIP

### H.3.3 City of South Tucson Zoning Code

A portion of the City of South Tucson falls within the Study Area. However, no route alternatives run through or adjacent to the City of South Tucson. The portion of the City of South Tucson that falls within the Study Area, including the northeast corner of the City between S 4<sup>th</sup> Avenue and the Union Pacific Railroad is predominately zoned residential, and local retail and commercial zones are on the perimeter. Utility land uses are permitted in both residential and commercial zones under the City of South Tucson Zoning Code. There are no known conflicts between the Project and the City of South Tucson Zoning Code.

### H.3.4 City of Tucson Plans

Plan Tucson, the COT’s General Plan, adopted in November 2013, presents guidance for the future growth and development of COT. Its scope is limited to the corporate limits of the COT. The General Plan does not include specific guidance for transmission line construction. The General Plan’s guidance for utility construction includes “improv[ing] the appearance of above-ground utilities and structures” and “[c]oordinat[ing] with utility companies and other public service providers for the planning of infrastructure, facilities, and services, making sure infrastructure and facility construction is sensitive in design and location to environmental and historic resources.” There are no known conflicts between the Project and the COT General Plan.

The COT has also adopted specific plans to implement the General Plan, and the specific plans that may relate to the Project and its planned routes are discussed further below. Many of the COT’s specific neighborhood plans incorporate or refer to the COT’s Major Streets and Route’s Plan (“MSRP”). The MSRP is discussed separately from the specific neighborhood plans. Specific plans are illustrated on Exhibit H-4.



### **City of Tucson Specific Plans Along Alternative Routes**

#### **Arroyo Chico Area Plan, 1986 (Alternative Routes 1, 2, and 3)**

The Arroyo Chico Area Plan was adopted by COT Mayor and Council in 1986, and provides guidance for development within the boundaries of the plan area, which is defined by Southern Pacific Railroad, Fairland Stravenue, 36th Street, and Aviation Highway on the south, Alvernon Way on the east, and Broadway Blvd on the north. Alternative Routes 1 and 2 cross a portion of the plan area at Campbell Avenue south of Broadway to the 22nd Street interchange. Alternative Route 3 intersects the Area Plan near the Park Avenue Detention Basin. The Arroyo Chico Area Plan includes the Reid Park/Randolph Recreation Center regional facility and is a mix of residential and industrial uses. Except as contained in the MSRP, the Arroyo Chico Area Plan includes no guidance or policies regarding utility construction. Nor does this Plan include guidance or policies regarding transmission lines. There are no known conflicts between the Project and the Arroyo Chico Area Plan.

#### **Blenman Vista Neighborhood Plan, 1986 (Alternative Routes 1, 2, and D)**

The Blenman Vista Neighborhood Plan was adopted by COT Mayor and Council in 1986, with the expressed goal of maintaining the viable low-density character of the historic neighborhood homes in relation to compatible future development. This area is comprised of two distinct but adjacent neighborhoods, Catalina Vista and Blenman-Elm, both of which are Single Family Residential neighborhoods. Alternative Route 2 runs adjacent and parallel to the area along East Speedway Boulevard on the southern boundary of the Neighborhood Plan. Alternative Routes 1, 6, and D run adjacent and parallel to the western boundary of the Neighborhood Plan on North Campbell Avenue from East Grant Road to East Speedway Boulevard. Except as contained in the MSRP, the Blenman Vista Neighborhood Plan includes no guidance or policies regarding utility construction. Nor does this Plan include guidance or policies regarding transmission lines. There are no known conflicts between the Project and the Blenman Vista Neighborhood Plan.

#### **Broadmoor-Broadway Village Neighborhood Plan, 1988 (Alternative Route 2)**

Captured within the geographic area of the Arroyo-Chico Area Plan, the Broadmoor-Broadway Village Neighborhood Plan aims to preserve the neighborhood character and concentrate commercial and office land uses on Broadway Boulevard and Tucson Boulevard. Alternative Route 2 reaches the northwest corner of the Broadmoor-Broadway Village neighborhood. This Plan provides that the neighborhood association shall pursue programs necessary or desired to improve the neighborhood, which the Plan states include the undergrounding of utilities. (Neighborhood Programs Section.) Except as stated in this policy, the Broadmoor-Broadway Village Neighborhood Plan includes no guidance or policies regarding utility construction. Nor does this Plan include guidance or policies regarding transmission lines. There are therefore no known conflicts between the Project and the Broadmoor-Broadway Village Neighborhood Plan. To the extent any conflicts may arise between the Project and the Broadmoor-Broadway Village Neighborhood Plan, including any interpretation of the Broadmoor-Broadway Village Neighborhood Plan as requiring undergrounding of the Project's transmission lines, this plan should be superseded by the Committee's CEC approval as it would be "unreasonably restrictive and compliance therewith [would be]

not feasible in light of the technology available” as provided in Arizona Revised Statutes (“ARS”) 40-360.06(D).

**Cragin-Keeling Area Plan, 1994 (Alternative Routes A, B, D, and 6)**

The Cragin-Keeling area is defined by two distinct areas of residential development, north and adjacent to Alternative Routes A, B, D, and 6 from Stone Avenue, on either side of North Campbell Ave, and bounded on the south by Grant Road. Along the major streets, the area consists of office, commercial, and high-density residential uses while interior neighborhood streets consist of low- to medium-density residential uses. Future land use guidance in this area plan focuses on compatibility of new development with existing land uses and impacts from planned higher intensity uses designed in harmony with existing uses by keeping higher intensity uses along major corridors as a buffer for the interior neighborhood. Among other policies, the Cragin-Keeling Area Plan includes the following policies related to placement of utility poles and power lines:

- As streets are widened, discourage the visual clutter caused by placing utility poles on both sides of the street with a crisscross of power lines over the street.
- The City Transportation Department and abutting property owners should work with utility companies for the placement of utilities underground.
- The City Transportation Department should work with utility companies for the placement of above ground utilities on one side of the street.

(Policy 11, Transportation Section).

These policies do not include specific guidance for undergrounding transmission lines and, in fact, anticipate above ground placement of utilities and power lines where appropriate. There are therefore no known conflicts between the Project and the Cragin-Keeling Area Plan. To the extent any conflicts may arise between the Project and the Cragin-Keeling Area Plan, including any interpretation of the Cragin-Keeling Area Plan as requiring undergrounding of the Project’s transmission lines, this plan should be superseded by the Committee’s CEC approval as it would be “unreasonably restrictive and compliance therewith [would be] not feasible in light of the technology available” as provided in ARS 40-360.06(D).

**Plan for Downtown Tucson, 1978 (Alternative Routes 5 and 6)**

The Plan for Downtown Tucson aims to encourage re-investing in the downtown area. Alternative Routes 5 and 6 run adjacent to the Downtown Plan’s eastern boundary along the Union Pacific Railroad. Apart from guidance related to the COT joining with downtown property owners to pursue undergrounding of utilities on property owners’ land, the Plan for Downtown Tucson includes no specific guidance or policies related to utility construction (Policy on Improvement of Visual Environment). Nor does the Plan for Downtown Tucson include any guidance or policies specifically related to transmission line construction that would affect the Project. There are therefore no known conflicts between the Project and the Plan for Downtown Tucson. To the extent any conflicts may arise between the Project and the Plan for Downtown Tucson, including any interpretation of the Plan for Downtown Tucson as requiring undergrounding of the Project’s transmission lines, this plan should be superseded by the Committee’s

CEC approval as it would be “unreasonably restrictive and compliance therewith [would be] not feasible in light of the technology available” as provided in ARS 40-360.06(D).

**Greater South Park Area Plan, 1984 (Alternative Routes 1, 2, 3, 4, 5, and 6)**

The Greater South Park Area Plan boundaries are the Union Pacific Railroad on the north, Campbell/Martin Avenue on the east, 36<sup>th</sup> Street and I-10 on the south, and South Pacific Railroad on the west. All Alternative Routes from Kino Substation to the planned upgraded Vine Substation fall within this Area Plan with Alternative Routes 3, 4, 5, and 6 within the plan area and Routes 1 and 2 on the eastern boundary on Martin Avenue. The Greater South Park Area Plan anticipates the need for “additional utility service as the plan area develops” and, except as provided in the MSRP, includes no guidance or policies regarding utility construction (Policy 1, Section I, Utilities). Nor does this Plan include guidance or policies regarding transmission lines. There are no known conflicts between the Project and the Greater South Park Area Plan.

**Jefferson Park Neighborhood Plan, 2008 (Alternative Routes A, B, D, 1, and 6)**

The Jefferson Park Neighborhood Plan is defined by three major goals: low-density residential neighborhood preservation, preservation of architectural styles, and the development of community. NPZ Design Guidelines, published in 2010 after the 2008 approval of the NPZ by Mayor and Council, encourage neighborhood landscape and streetscape revitalization and beautification using designed landscapes along neighborhood interior and border corridors; and development of community quality of life, safety and stewardship by partnering with adjacent jurisdictional agencies on community projects and outreach. Alternative Routes A, B, D, 1, and 6 lie adjacent to the Jefferson Park Neighborhood along Grant Road from Campbell Ave. Alternative Route A intersects the neighborhood by way of Park Avenue. Alternative Route B intersects the neighborhood on Vine Avenue, and Alternative Routes D, 1, and 6 intersect the neighborhood between Lester Street and Ring Road. Except for a policy regarding locating utility fixtures in alleys and the MSRP, the Jefferson Park Neighborhood Plan includes no guidance or policies regarding utility construction (Policy 1.2, Section 1.2.3). Nor does the Jefferson Park Neighborhood Plan include guidance or policies regarding transmission line construction. There are therefore no known conflicts between the Project and the Jefferson Park Neighborhood Plan. To the extent any conflicts may arise between the Project and the Jefferson Park Neighborhood Plan, this plan should be superseded by the Committee’s CEC approval as it would be “unreasonably restrictive and compliance therewith [would be] not feasible in light of the technology available” as provided in ARS 40-360.06(D).

**Kino Area Plan, 1980 (Alternative Routes 1 and 2)**

Alternative Routes 1 and 2 intersect the Kino Area Plan area at Kino Parkway and 36<sup>th</sup> Street, where the proposed transmission line meets the Kino Substation. The plan discusses the appropriateness of the Kino Area for industrial facilities as a result of existing zoning and large amounts of available vacant land. Except as provided in the MSRP, the Kino Area Plan includes no guidance or policies regarding utility construction. Nor does this Plan include guidance or policies regarding transmission lines. There are no known conflicts between the Project and the Kino Area Plan.



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### **Major Streets and Routes Plan, 1982 (All Alternative Routes)**

The Project is also subject to the MSRP (Resolution No. 12045, dated November 15, 1982). The MSRP is a set of policies that guide “balancing the need to minimize disruption to existing land uses while safely and efficiently providing the necessary capacity to our streets.” The MSRP also documents scenic and gateway routes. Alternative Routes 1, 6, and D, where located on North Campbell Avenue (north of Broadway Boulevard) are within a designated gateway route, as is Alternative Route 2 along Broadway Boulevard. The MSRP provides the following guideline for Public Improvements of Gateway Routes (Policy 5.A): “Utilities in the right-of-way or visible from the street should be placed underground, wherever possible (Policy 5, Section A.2.4). The MSRP similarly sets forth the development guideline for Public Improvements of Scenic routes stating that, “[w]henver possible, new utilities or relocated utilities in the right-of-way or adjacent easements should be placed underground.” Notably, the MSRP does not include any undergrounding recommendation for non-Scenic or Gateway routes. Instead, under the Plan’s “General Design and Development Guidelines,” the only direction on utilities is that “[w]henver possible, utility easements and rights-of-way shall be incorporated into the public rights-of-way.” The Project does not appear to conflict with these or any other guidance or policies in the MSRP, including because these policy statements are limited to instances where undergrounding of utilities is possible in light of surrounding circumstances. Further, the MSRP includes no guidance or policies related specifically to transmission lines. To the extent any conflict may arise between the Project and the MSRP, the MSRP should be superseded as “unreasonably restrictive and compliance therewith is not feasible in light of the technology available” as provided in ARS 40-360.06(D).

### **Miles Neighborhood Plan, 2009 (Alternative Routes 1 and 3)**

The Miles Neighborhood Plan area meets the Project on the south side of Broadway Blvd, along South Kino Parkway past Cherry Field to 15th Street. Alternative Route 3 runs through the Miles neighborhood on Highland Avenue. Alternative Route 1 borders a section of single-family residential and the open space of Cherry Field, which conjoins with Arroyo Chico Greenway in the vicinity of South Kino Parkway. Commercial development is concentrated at the corner of Broadway Blvd and South Kino Parkway. The Miles Plan emphasizes neighborhood stability, compatible infill, and supporting outdoor recreational facilities. Except as provided in the MSRP, the Miles Neighborhood Plan includes no guidance or policies regarding utility construction. Nor does this Plan include guidance or policies regarding transmission lines. There are no known conflicts between the Project and the Miles Neighborhood Plan.

### **Old Pueblo South Neighborhood Plan, 1979 (Alternative Route 5)**

The Old Pueblo South Neighborhood Plan consists of proposed improvements to the physical environment that result in a positive social impact for the five neighborhoods within the Old Pueblo South Neighborhood Plan boundary. Alternative Route 5 runs adjacent to the northeastern boundary of the Plan. Except as provided in the MSRP, the Old Pueblo South Neighborhood Plan includes no guidance or policies regarding utility construction. Nor does this Plan include guidance or policies regarding

transmission lines. There are no known conflicts between the Project and the Old Pueblo South Neighborhood Plan.

**Oracle Area Revitalization Project Plan, 2011 (Alternative Routes A, B, C, and D)**

The Oracle Area Revitalization Project Plan includes the Grant Road alignment (Alternative Routes A, B, C, and D) from Fairview Ave. to Stone Ave., encompassing Grant-bordering neighborhoods San Ignacio Yaqui, Miracle Manor, Balboa Heights, and Ocotillo Oracle, among others within the Oracle Area Revitalization Project Plan area. This project's focus has been to redirect traffic, increase room for public transit and pedestrians, visual improvements through public art, and to prepare the major traffic corridors for improved commercial districts and growth. Except as provided in the MSRP, the Oracle Area Revitalization Project Plan includes no guidance or policies regarding utility construction. Nor does this Plan include guidance or policies regarding transmission lines. There are no known conflicts between the Project and the Oracle Area Revitalization Project Plan.

**Sam Hughes Neighborhood Plan, 1985 (Alternative Routes 1 and 2)**

Alternative Route 1 runs parallel to the west boundary of the Sam Hughes Neighborhood Plan along North Campbell Avenue. Alternative Route 2 runs through the neighborhood along Tucson Blvd. The neighborhood is predominantly single-family residential with commercial concentrated along corridors Speedway Blvd., Broadway Blvd., and 6<sup>th</sup> Street, with the University of Arizona along the west side of the neighborhood boundary at North Campbell Ave. Goals in the Neighborhood Plan include preservation of the neighborhood character, improved traffic regulation, and safety. The Sam Hughes Neighborhood Plan includes the following policy regarding utilities: "Encourage that new or improved utilities be installed underground within the neighborhood and on the surrounding arterial streets and that repair work either maintains or improves hardscapes/landscapes including sidewalks and roadways" (Policy L, Neighborhood Preservation). This policy has no effect on the Project if constructed in this area, including because the Project's transmission lines would be placed along arterial streets. There is no known conflict between the Project and this plan. To the extent any conflicts may arise between the Project and the Sam Hughes Neighborhood Plan, this plan should be superseded by the Committee's CEC approval as it would be "unreasonably restrictive and compliance therewith [would be] not feasible in light of the technology available" as provided in ARS 40-360.06(D).

**Unit 6 Neighborhood Plan, 1976 (Alternative Routes A, B, C, and D)**

Alternatives A, B, C, and D all run parallel to the northern boundary of the Unit 6 Neighborhood Plan. The Plan goals include achieving a balance between commercial, industrial, and residential as well as improving circulation within the neighborhood. Industrial and commercial zoning and land uses fall on the borders of the neighborhood while residential zoning is within the neighborhood, setback from arterial streets. Except as provided in the MSRP, the Unit 6 Neighborhood Plan includes no guidance or policies

regarding utility construction. Nor does this Plan include guidance or policies regarding transmission lines. There are no known conflicts between the Project and the Unit 6 Neighborhood Plan.

**University Area Plan, 1989 (Alternative Routes A, B, C, D, 1, 2, 3, 4, 5, and 6)**

The University Area Plan is an update of the original University District Plan (1980) as a response to University of Arizona campus growth in the 1980s, and the Plan includes the Neighborhoods and Historic Districts that surround the University of Arizona. Guidance for compatible campus growth and development is the focus of this document. As the Plan is dated 1989, two discrete areas recommended for mixed use, commercial, and industrial uses have now expanded widely along major traffic routes in the area surrounding the University of Arizona. All Alternative Routes run through the Area Plan, and Route 6 runs along the boundary of the plan until turning south onto Campbell Avenue to reach the planned upgraded Vine Substation.

University Area Plan contains a policy that states, “[w]herever possible, place utility and service equipment underground or in other visually screened locations.” One of the stated goals for this section of the University Area Plan is to “[e]nsure an adequate supply of high quality public services to meet the current and projected needs of University Area residents and businesses.” (Policy 6, Section 6.) There is no known conflict between the Project and these or any other policies or guidance in the University Area Plan, including because while the Project would include the construction of aerial transmission lines, it would result in the net reduction of aerial utility lines within the University Area Plan area and the COT and would help ensure an adequate supply of high quality public services to meet the current and projected needs of University Area residents and businesses. To the extent any conflicts may arise between the Project and the University Area Plan, this plan should be superseded by the Committee’s CEC approval as it would be “unreasonably restrictive and compliance therewith [would be] not feasible in light of the technology available” as provided in ARS 40-360.06(D).

**Western Hills/Pueblo-Sunland Gardens Neighborhood Plan, 1978 (Alternative Routes 1 and 2)**

Adopted in 1978 and last amended in 2002, this Plan was developed to guide housing and redevelopment projects in the neighborhood. Routes 1 and 2 briefly run along the neighborhood’s northwestern border. Except as provided in the MSRP, this Plan includes no guidance or policies regarding utility construction. Nor does this Plan include guidance or policies regarding transmission lines. There are no known conflicts between the Project and this Plan.

**West University Neighborhood Plan, 1981 (Alternative Route 3, 4, 5, and 6)**

West University Plan area is bounded by Speedway Boulevard on the north, Park Avenue on the east, Sixth Street on the south, and Stone Avenue on the west, with proximity to Historic Fourth Avenue and commercial merchant’s district, Tucson Downtown District, and is immediately west of the University of Arizona. Alternative Routes 5 and 6 travel along Stone Avenue at the westernmost edge of the neighborhood plan, and Alternative Routes 3 and 4 run along Euclid Avenue through the neighborhood. Except as provided in the MSRP, this Plan includes no guidance or policies regarding utility construction.



Nor does this Plan include guidance or policies regarding transmission lines. There are no known conflicts between the Project and this Plan.

### **City of Tucson Zoning**

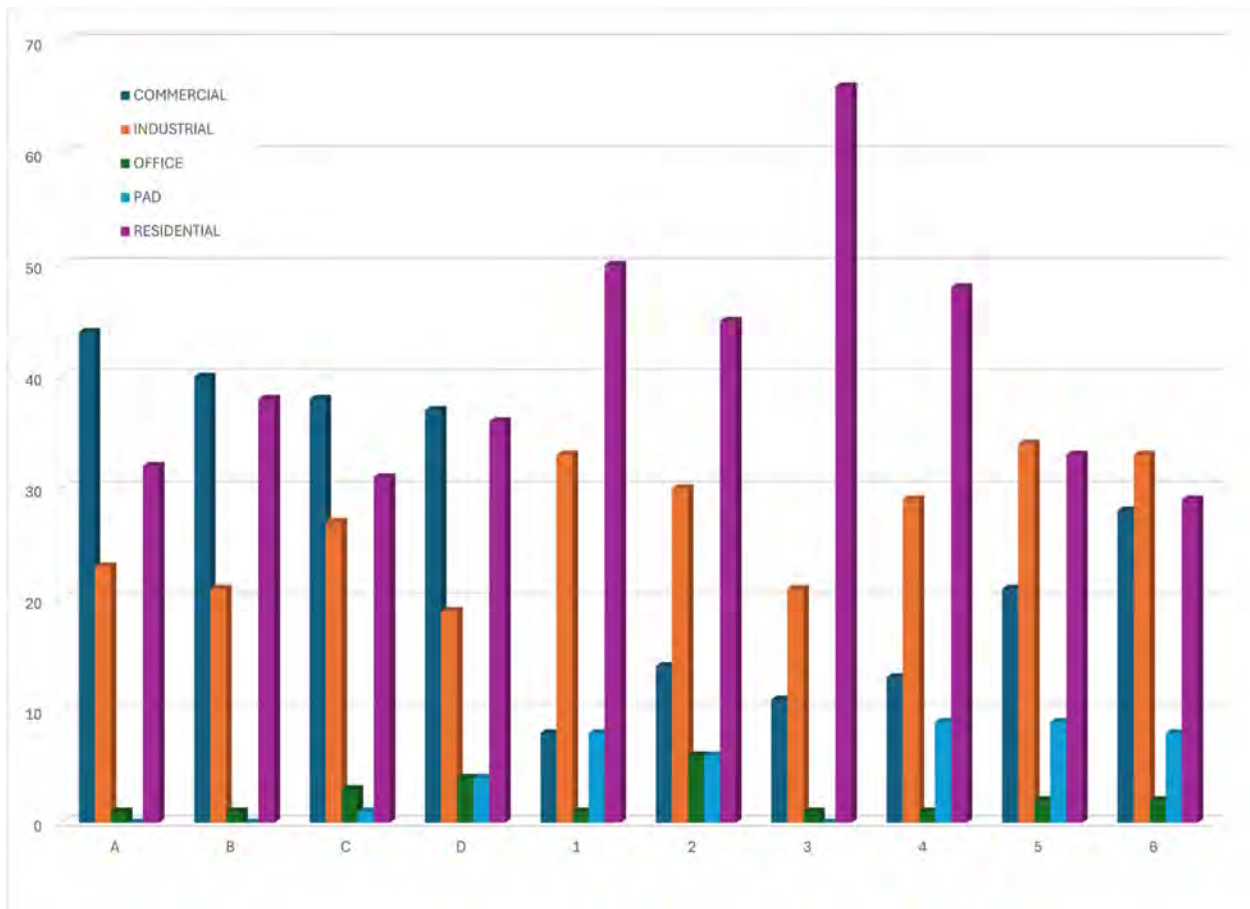
In the COT, the proposed ROWs for the Project's alternate routes cross multiple zoning classes as shown in Table 15. A description of zones follows the tables. To further examine residential, commercial and industrial zoning within the 300' buffer along the alternative transmission line routes, the percentages in Table 15 were calculated. Figure 4 illustrates the data in Table 15, and compares the percentages of Residential, Commercial, and Industrial among the alternatives.

All Alternative Routes from Kino Substation to the planned upgraded Vine Substation vary from running along small (2-lane) to large (4-lane or wider) road corridors. Alternative Routes 1, 2, and 3 all follow small road corridors (the 2-lane Martin Avenue). Routes 1 and 2 remain on small corridors until reaching Kino Parkway/Campbell Avenue (6 lanes). Route 3 remains on small road corridors until reaching Euclid Avenue. Alternative Routes 4, 5, and 6 all begin on 36<sup>th</sup> Street, a 4-lane road corridor with a fifth middle turning lane. Routes 5 and 6 run north onto smaller road corridors along Stone Avenue, and Route 4 continues north onto Euclid Avenue which remains 4 lanes wide.

Alternative Route A follows the Grant Road corridor (4 to 6 lanes wide) and North Vine Avenue, an unstriped 2-lane street, and bisects a residential area for about 7 city blocks. Alternative Route B also follows the Grant Road corridor, as well as Park (a two-lane, striped roadway with bike lanes), bisecting a residential zone for about 6 city blocks. Alternative Route D also follows the Grant Road corridor, and the Campbell Avenue Corridor, a two lane, striped roadway.

***Table 15. COT Zoning for Alternate Routes (% of acres in the route)***

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
COMMERCIAL	44	40	38	37	8	14	11	13	21	28
INDUSTRIAL	23	21	27	19	33	30	21	29	34	33
OFFICE	1	1	3	4	1	6	1	1	2	2
PAD	0	0	1	4	8	6	0	9	9	8
RESIDENTIAL	32	38	31	36	50	45	66	48	33	29
	100	100	100	100	101	100	100	104	100	106



**Figure 4. COT Zoning by Alternative Route**

The UDC (last revised April 6, 2021), Article 5.5 Gateway Corridor Zone (“GCZ”) outlines the policies for gateway corridors. The applicability of Article 5.5 is stated in section 5.5.2 as “the GCZ standards apply to the following uses on all property, any portions of which abuts or is adjacent to a street designated on the City’s or county’s MS&R Plan.”

Section 5.5.4.B provides the development standards for Utilities. This section reads:

“In addition to other applicable standards in other sections of the UDC, such as landscaping and screening, the following development standards are required of projects in the GCZ:

**A. Signs**

Signs as permitted by [Article 7A](#), *Sign Standards*, are allowed within the required landscaped area with the exception of billboards. Billboards are not permitted within 400 feet of the MS&R right-of-way line.

**B. Utilities**

**1. New Utilities**

- a. New utilities for development on private and on public right-of-way along Gateway Routes shall be underground.
- b. Existing poles shall be used to provide the required transition to underground service to new development adjacent to Gateway Routes. When necessary to serve new development, a new pole set in line with, but not extending, an existing overhead system used to serve new development is not considered a new utility.
- c. Upgrades and reinforcements of existing overhead facilities are allowed to the extent that the total number of electrical circuits or communication cables is not increased.

## **2. Existing Utilities**

Where an existing development is expanded in floor area or land area to any degree, new and existing utilities to all portions of the development shall be located underground. Additions to single-family dwellings are exempt from this provision.

## **3. Relocation of Utilities**

Relocation of overhead utility facilities required by public improvement districts along Gateway Routes shall conform with existing franchise requirements.”

(Am. Ord. 11803, 12/8/2020)

TEP’s position is that there is no portion of Sections 5.5.2 or 5.5.4.B of the UDC that applies to the Project that would require underground installation of those portions of the Project located within a Gateway Route. This conclusion is also consistent with other TEP transmission line projects that have been through the same line siting process in which portions of those transmission lines were located in Gateway Routes and were not required to be undergrounded by the COT. However, the COT has disagreed with TEP’s position.

TEP believes that no undergrounding is required for several reasons. First, the ordinance does not apply in street rights of way, which is where the Project would be located. Second, the Project is not “new utilities” because the Project is a replacement for the existing 46 kV sub-transmission system. Third, the Project is not “for development” because it serves the entire Midtown region, not a specific new development. Fourth, the Project is an exempt “upgrade” because the new 138 kV system is an upgrade of the sub-transmission system from the current 46 kV system. Fifth, the City previously stated that undergrounding was not required for this project, and further allowed the previous Irvington-to-Kino line in a Gateway Corridor. This issue is currently being litigated before the Pima County Superior Court

To the extent a conflict may arise, TEP requests that the Committee, in approving any route covered by the GCZ, include a finding that compliance with the GCZ is “unreasonably restrictive and compliance therewith is not feasible in light of the technology available” as provided in ARS 40-360.06(D). The preferred route, B4, would not require such a finding, because it does not include a gateway zone. However, route B1, which is preferable in some respects, and a number of other alternative routes would require such a finding.

The Project also intersects with the West University Historic Preservation Zone overlay, which defines Design Guidelines for development (updated in 2015). The UDC itself does not include a requirement for



undergrounding of utilities within Historic Preservation Zones, but the City’s Technical Design Manual, which supplements the Code includes the following non-binding guidance for Historic Preservation Zones: “[w]henever possible, utilities should be located underground or where they are not visible from public rights-of-way.” Manual § 9-02.4.4 (emphasis added). The guidance provided in the City’s Technical Design Manual does not appear to be in conflict with the Project, as the City’s guidance does not require undergrounding and is limited to instances where undergrounding is possible given surrounding circumstances.

**City of Tucson Planned Area Developments (“PAD”), Overlay Districts, and Other Zones**

Table 16 lists the COT PADs, Overlay Districts, and other COT zones within the Project study area. PADs allow for stand-alone zoning regulations for a specific project. The following table lists zoning and overlay designations along alternative routes in the project area. Overlay Districts set parameters for what is allowable for new development in order to preserve or incentivize.

***Table 16. COT Overlay Districts and Planned Area Developments in Project Study Area***

Name	PAD / Overlay	Location
1. The Bridges	PAD 15	The largest portion of the Bridges (approximately 284 acres) lies between Park Avenue and Kino Parkway south of 36th Street and north of Interstate 10. East of Kino, the remaining 26 acres is bounded by 36th Street on the north, Campbell Avenue on the east, and Duval Vista Road on the south (Alternative Routes 4, 5, 6)
2. Salpoint-Glenn St.	PAD 17	Salpoint PAD is within 33.5 acres in the SAMOS neighborhood, between Copper and Glenn Streets and Cherry and Mountain Avenues. (Not adjacent to alternative routes.)
3. Broadway Village	PAD 19	Southwest corner of Broadway Boulevard/Country Club Road. (Not adjacent to alternative routes.)
4. Casa de Los Ninos	PAD 20	3.45 acres at the northwest corner of Speedway Blvd and Fourth Avenue. (Alternative Route 5)
5. Banner University Medical Center, Tucson Campus	PAD 28	BUMC PAD District is comprised of approximately thirty-three (33) acres located on the west side of Campbell Avenue, approximately one-half mile north of Speedway Boulevard (Alternative Routes 1, 6, and D)
6. Trinity	PAD 31	Trinity Church PAD is between Third and Fourth Avenues and University Blvd. It’s designation as part of the Historic Preservation Zone was updated to reflect allowable height increase over 36 feet. (Not adjacent to alternative routes.)
7. Partners on Fourth	PAD 33	Within approximately 1.68 acres at the southwest corner of N. Fourth Avenue at E. Eighth Street, bordered on the west by N. Stevens Ave. (Alternative Routes 5 and 6)

Name	PAD / Overlay	Location
8. Speedway & Campbell Gateway	PAD 35	Northwest quadrant of the Speedway Boulevard/Campbell Avenue intersection (Alternative Routes 1 and 2)
9. Benedictine Monastery	PAD 37	South of Speedway along east side of Country Club Road. (Not adjacent to alternative routes.)
10. Welcome Broadway	PAD 39	Southwest quadrant of Broadway Boulevard/Park Avenue intersection. (Not adjacent to alternative routes.)
11. Medical Square	PAD 44	Southwest corner of Tucson Boulevard and Elm Street. (Not adjacent to alternative routes.)
12. Sixth at Campbell	PAD 48	Southwest corner of Campbell Avenue and Sixth Street. (Alternative Route 1)
Grant Road Investment District Urban Overlay District	Overlay	Along Grant Ave: West of 14 <sup>th</sup> Ave, east to N Park Ave (Alternative Routes A and D)
Gateway Corridor Zone	Overlay	Broadway Blvd Gateway Arterial, between Euclid and Country Club (Alternative Route 2)  Kino Parkway/Campbell Ave Gateway Arterial, between Benson Highway and River Rd (Alternative Routes 1, 6, and D)  Oracle Road, between Drachman Street and just north of River Road (Not adjacent to alternative routes.)
Sunshine Mile Overlay Zone	Overlay	Broadway Boulevard between Euclid and Country Club (Alternative Route 1, 2, 3, 4)
Feldman's NPZ	Overlay	Feldman's Neighborhood is a National Register Historic District (1989, expanded 2008) with a Neighborhood Preservation Zone ("NPZ") design manual as development guidance. The NPZ is bounded by Lee Street on the north, Park Avenue on the east, Speedway Boulevard on the south, and Stone Avenue on the west. The southern portion of the neighborhood reflects the expansion of University of Arizona campus, mixed use commercial development, and student housing seen along Speedway Boulevard, which includes both historic single-family homes and large commercial development. No Alternative Routes run through Feldman's NPZ, but Routes B, C, 3, 4, 5 and 6 do run along at least one of the NPZ boundaries.
Jefferson Park NPZ	Overlay	The Jefferson Park NPZ Overlay coincides with the residential zone boundaries for Jefferson Park Neighborhood and is subject to change in the future if properties within the study area are rezoned either to or from residential. (Alternative Routes A, B, D, 1, and 6)

Name	PAD / Overlay	Location
West University Historic Preservation Zone	Overlay	West University HPZ lies within a 60-block area between the University of Arizona and downtown Tucson, bounded by Speedway Boulevard (north), Park Avenue (east), Sixth Street (south), and Stone Avenue (west). (Alternative Routes 3 and 4)
Armory Park Historic Preservation Zone	Overlay	Armory Park HPZ is bounded on the north by Broadway Blvd, Tool Ave., and 12 <sup>th</sup> street; on the east by Third Ave., Union Pacific Ave., Southern Pacific Ave., and 2 <sup>nd</sup> Ave; on the west by Stone Ave. and Sixth Avenue; and on the south by 19 <sup>th</sup> street. (Not adjacent to alternative routes.)
Stone Pipe Zone Archaeological Sensitivity Zone	Zone	Between Grant Road and Speedway Boulevard, bounded by N 15 <sup>th</sup> Ave on the east and aligned with N Cuesta Ave on the West side of I-10/Santa Cruz River corridor. See Section H.5.4. (Alternatives A, B, C, and D)
Downtown Zone Archaeological Sensitivity Zone	Zone	Bounded by St. Marys/6 <sup>th</sup> Street on the north, Union Pacific Railroad and ~Toole Ave on the east, Star Pass Boulevard/22 <sup>nd</sup> Street on the south, and Greasewood Road on the west. (Alternative Routes 5 and 6)
Court Street Cemetery Zone Archaeological Sensitivity Zone	Zone	Bounded by Speedway Boulevard on the north, Stone Avenue on the east, 2 <sup>nd</sup> Street on the south, and Main Avenue on the west. (Alternative Routes 5 and 6)
Thrive in the 05 Initiative: Choice Neighborhoods and Community-Based Crime Reduction		Relevant to TEP alternative routes: Grant Road between I-10 and N 6 <sup>th</sup> Ave (Alternative Routes A, B, C, D, and 6)
Greater Infill Incentive Subdistrict		City-wide Infill Incentive District: Grant Road from N 15 <sup>th</sup> Av to N 11 <sup>th</sup> Av; Grant Rd from N 9 <sup>th</sup> Av to N 7 <sup>th</sup> Av (Alternatives A, B, C, D, and 6)

#### H.4 State (including Agencies) Government Plans

The University of Arizona 2020 Master Plan, currently on hold, has determined preliminary planning objectives that include campus future growth strategies, infrastructure, and gateways. A University Area Plan was developed in 1989 in coordination with University area neighborhood associations to address these and other issues pertaining to quality of life of residents of University neighborhoods.

#### H.5 Federal

##### H.5.1 Military

The Project is in the vicinity of Department of Defense (“DOD”) Lands, Military Training Routes (“MTR”), and Military Operations Areas (“MOA”). FAA policies (discussed below) that generally relate to MTR and MOA are military airspace designations that define military airspace use as separate from civilian airspace.



By coordinating with all pilots moving through those areas, the military may advise caution or give notice of military training activities. Davis-Monthan Air Force Base's ("DMAFB") proximity to the Project study area is illustrated in Exhibit A-4.1 Land Use Map. DMAFB and University Medical Center Hospital Heliport (Emergency Medical Services) maintain coordination within shared airspace.

#### H.5.2 Federal Aviation Administration ("FAA")

FAA jurisdiction within the southern portion of the study area extends out from DMAFB within a 3- to 5-mile radius, requiring obstruction evaluation based on height for new poles within that radius, as well as notice of construction. FAA jurisdiction also extends out to a 1-mile radius from the University Medical Center Hospital Heliport on North Campbell Avenue. The same obstruction evaluation was completed for the University Medical Center ("UMC") Heliport, noting that the FAA has collaborated extensively with Banner Hospital and adjacent neighborhoods to establish flight corridors as part of a "Fly Friendly" Zone. Fly Friendly flight paths, used most often, but with exceptions for extenuating circumstances including safety, are detailed in Banner's most recent annual Helipad Report 2016-2017.

#### H.5.3 US Army Corps of Engineers ("USACE")

Tucson Drainage Area Project ("TDAP") is a joint USACE and PCRFC project. TDAP is under a Federal Nexus established by USACE's local partnerships and approvals or permits required from TDAP may constitute a basis for environmental review required under the National Environmental Policy Act ("NEPA"), as defined by 40 CFR 1508.1; may require a Section 106 of the National Historic Preservation Act ("NHPA") review if Federal permitting is extended to TEP; and, if impacted, may require Section 408 permitting from the USACE in the case of alterations to a Civil Works project. An individual Section 404 permit is obtainable from the USACE, if required after their review of environmental criteria defined by the Clean Water Act ("CWA") Section 404 (b)(1) Guidelines for regulation of dredge or fill discharge into Waters of the United States, including wetlands. Based upon the nature of the project, TEP believes it is unlikely that TDAP will be impacted or required to issue approvals or permits, therefore the federal nexus for NEPA compliance would not exist.

#### H.6 Tribal

The Pascua Yaqui Tribe recently put land into trust adjacent to West Grant Road between I-10 and North Fairview Avenue.

The San Ignacio Yaqui Council, Pascua Park, and the Pascua Neighborhood Center (785 W. Saguaro St.) are recognized historic Pascua Yaqui properties located in COT Ward 3, in the area south of Grant Road between I-10 and Oracle Road, within an 800-ft buffer of Alternative Routes A, B, C, and D. This COT neighborhood is known as the Adelanto Neighborhood and as Old Pascua Community, and was an original area of settlement for Pascua Yaqui tribal members in the early 1900s. The neighborhood is located with the Archaeological Sensitivity Zone, Stone Pipe Zone, in the I-10 corridor area, between Grant Road and Speedway Blvd. Alternative Routes A, B, C, and D align with the Stone Pipe Zone Archaeological Sensitivity Zone from the intersection with Grant Road near N. Flowing Wells Rd, east to N. 15th Ave. Only poles located on the south side of Grant Road would be within the Sensitivity Zone boundary and would require archaeological monitoring during ground disturbing activities.

## H.7 Existing Land Use

TEP conducted a land use inventory and an assessment of potential impacts that may occur as a result of construction and operation of the Project. The study area is a mix of undeveloped land and heavy to moderate land uses (commercial and residential).

This land use was analyzed as part of the Project Siting Study (Exhibit B-1).

Overall, the Project study area is a developed urban area with all land uses present. The land use categories are described below and include the locations of identified sensitive receptors.

Residential: Residential land uses (which differ from residential zoning designations discussed previously) primarily include medium to high density single-family residential areas and apartment complexes throughout the study area. Exhibit H-2 depicts the locations of all residential use (as determined through Google aerial photo analysis). The percentages of residential use along the alternative routes are shown in Table 17. As can be seen, residential use comprises a large portion of the Project study area and ranges from 23 to 55 % across the alternative routes.

***Table 17. Percentage of Residential Use Along Alternative Routes***

<b>Alternative Route</b>	<b>Percent Residential Use</b>
1	43%
2	30%
3	42%
4	35%
5	30%
6	23%
A	55%
B	50%
C	42%
D	45%

Commercial: Commercial businesses including office/business parks, retail, motel, etc. are located throughout the study area, with concentrations of commercial development along major arterial routes including Campbell Ave., Kino Parkway, and Grant Road.

Industry/Light Industry: A few industrial locations are located in the study area in the vicinity of, and south of, Aviation Parkway and Kino.

Utilities: Electrical generating stations, substations, transmission and distribution lines, as well as telephone and cable lines are present in the study area.

Southwest Gas has active gas lines in the study area.

COT has active water lines and Pima County has active wastewater lines in the study area.

There are active cell towers in the study area, referenced in Exhibit I.

Public/Quasi-public:

Schools within 500 feet of the Routes are shown in Exhibit H-3 and outlined below:

**Table 18. Schools in Proximity to Routes**

Alternative Route	School
1	Saints Peter & Paul Catholic School
2	Edge High School – Himmel Park
3	Mansfeld Magnet Middle School Ha:San Preparatory & Leadership School Tucson International Academy – Broadway Miles Exploratory Learning Center Highland Free School Miles Elementary School
4	Borton Magnet School
5	First Southern Christian School Borton Magnet School
6	Ace Charter High School – Downtown Pima Partnership High School Pima Partnership Academy The Catholic University of America – Tucson Pima Community College Downtown Campus Borton Magnet School Jefferson Park School
A	Richey Elementary School
B	Richey Elementary School
C	Ace Charter High School – Downtown First Southern Christian School Pima Partnership High School The Catholic University of America – Tucson Pima Community College Downtown Campus Pima Partnership Academy Richey Elementary School
D	Jefferson Park School Richey Elementary School



Diamond Children’s Medical Center and Banner University Medical Center are located adjacent to Alternative Routes 1, 6, and D on East Elm Street/North Ring Road and Campbell Avenue, and on the University of Arizona campus

Transportation: Several arterial streets cross the study area, , including two gateway arterials, and a state route (COT, 1982; as amended 2016). A Union Pacific Railroad line is located along the SR 210/Aviation Parkway corridor.

Vacant/Undeveloped Land: Vacant land within the study area is sparse, mainly located south of SR 210/Aviation Parkway, near the Union Pacific Railroad Railyard. The Bridges development, at 36<sup>th</sup> St and Kino Parkway, is not yet fully developed. Other, small, vacant lots are scattered throughout the study area.

Municipal Parks: See Exhibit F.

## **H.8 Proposed Land Uses and Developments**

Proposed developments and other plans in the study area, such as PADs, were identified via an outreach email and supplemental letter to agencies within the study area. The letter requested development plans in the vicinity of route segments under review. Responses were received from the City of Tucson, Pima County, and private entities.

Proposed “future” land uses (Exhibit H-1) within the study area are expected to be similar to existing land uses, as the study area is nearly fully developed. Future development on privately owned lands under county or municipality planning jurisdiction will require approval by the respective jurisdiction’s planning and development departments.

Known proposed land uses in the study area were identified through discussions with Pima County, COT, and other stakeholders, and include:

### **Roadway and Infrastructure Projects**

- **Tucson Delivers**

Tucson Delivers is a general initiative covering three voter approved propositions (Prop 101, Prop 407, Prop 411) for improved parks, streets, and connections. Currently, no capital improvement projects (“CIP”) categorized as “Proposition 101: Tucson Delivers Safer City, Better Streets” are along a proposed route. A couple of planned bicycle boulevards funded via “Proposition 407: Tucson Delivers Parks + Connections” run parallel or perpendicular to a proposed route. Alternative Routes 1 and 2 run along a planned bicycle boulevard on 18th street. Alternative Routes 4, 5, and 6 run along Euclid Avenue where a bicycle boulevard is in pre-design. Alternative Routes A, B, C, and D overlap with a small portion of the planned 9th Avenue Bicycle Boulevard where the bike path crosses Grant Road. Alternative Routes 4, 5, and 6 run along two additional Prop 407 CIPs: the 36th Street Pedestrian Safety & Walkability project and the El Paso & Southwestern Greenway Project. Both CIPs are in the design phase, and no negative impacts to these projects are anticipated for the proposed transmission line due to existing TEP infrastructure on 36th street. The planned bicycle boulevards on 9th street and 18th street also

have a “Proposition 411: Tucson Delivers Better Streets | Safe Streets” element to the planned work. Typically, this includes residential street improvements such as adding traffic calming measures and wayfinding signage.

- **Broadway Improvement Project & the Sunshine Mile District**

Alternative Routes 1 and 2 will intersect the completed Broadway Improvement Project at Campbell Avenue and Broadway Boulevard. Broadway was widened to six lanes and underground drainage beneath the east/west roadway was improved.

The Sunshine Mile District along Broadway Blvd from Euclid to Country Club achieved status as an NRHP historic district in June 2020, as part of the Rio Nuevo improvements overlay zone. Pedestrian and bike route improvement, improved signalization, and streetscape improvements are some of the planned implementations at this location, in coordination with the Broadway Improvement Project.

- **Grant Road Improvement Project**

The Grant Road Improvement Project is currently in Phase III and IV. A segment along Grant Road from Palo Verde Boulevard to Venice Place and temporarily extending to Edith Boulevard is outside the range of TEP alternative routes. Phase I, Oracle Intersection, was completed in 2013; Phase II, Stone and Park, was completed in 2018; Phases V and VI, Campbell and Country Club, are anticipated to begin in 2026. Other plans associated with the Grant Road Improvement Project are the Public Art Master Plan, which provides for planning and funding of public art installations within or adjacent to the public ROW along the Grant Road project, and the 2016 Columbus Wash Drainage Improvement which does not occur near TEP alternative routes.

- **22nd Street Project – Phase 2 (RTA# 19)**

Phase 2 of the 22<sup>nd</sup> Street Project is the section of the 22<sup>nd</sup> Street roadway between Kino Parkway and Tucson Blvd that will undergo a bridge re-design and reconstruction, widening to 3 lanes in both directions to align with the 2015 completed intersection at Kino Parkway and 22<sup>nd</sup> Street. No construction time frame has been determined, but will require coordination with Union Pacific Railroad.

- **22nd Street Project – Phase 3 (RTA# 19)**

Phase 3 of the 22<sup>nd</sup> Street Project is expected to advance in the fourth period (FY 2022-2026) of the RTA plan schedule. This section will extend from the 2015 Kino Parkway redesigned intersection with 22<sup>nd</sup> Street to I-10, and widen 22<sup>nd</sup> Street to 3 lanes in both directions.

- **Streetcar Expansion**

Kino/Campbell is planned to hold an expansion of the streetcar, outlined in Move Tucson: Delivering Mobility Choices long-range transportation master plan. Since Spring 2020, COT Department of Transportation and Mobility (“DTM”) has held community conversations and online forums to identify improved transportation options. The public has weighed in on the need for central to east side light rail. The existing light rail, or Sun Link, terminus on the University of Arizona campus is located near Campbell Ave. and Helen Street at Warren Ave., UMC College of Medicine. Move Tucson is developing recommendations based on public feedback and analysis, after which implementation phases will begin. It is possible that within the next decade, Sun Link

may determine a route through midtown from the UMC College of Medicine on Campbell Ave; however, no plan for that exists at this time.

- **Bicycle Boulevard Master Plan**

Alternative Route 1 will intersect RTA fully funded future road and infrastructure improvements for a bicycle boulevard on 9<sup>th</sup> Street at Campbell Blvd. as described in the Bicycle Boulevard Master Plan.

Alternative Routes A, B, C, and D will intersect RTA fully funded future road and infrastructure improvements for a bicycle boulevard on 9<sup>th</sup> Avenue at Grant Road which continues along Castro Avenue at Grant Road.

- **The Green Stormwater Infrastructure (“GSI”) Proposal**

The GSI proposal was approved by COT Mayor and Council September 4, 2019, Ordinance 11726, and funds city-wide GSI projects in coordination with DTM or other COT departments. The Neighborhood Scale Stormwater Harvesting Program assists neighborhoods with grants for implementing sustainable stormwater infrastructure projects within their neighborhood boundaries. The program may coordinate with COT Council Ward offices, DTM, and COT Parks and Recreation.

Alternative Routes 4, 5, and 6 run along the same street as the Stone Avenue Complete Street project—a planned GSI capital project part of the Storm to Shade program. The road improvements of the Stone Avenue GSI project include roadway resurfacing and new curb ramps. Installation of a transmission line is unlikely to affect the GSI project.

- **Tucson Water**

Tucson Water shared upcoming water modification projects within the Study Area. Alternative Routes 4, 5, and 6 run through the Downtown Links project. This project is currently under construction and is enhancing multi-modal transportation along with roadway drainage systems. DTM and Tucson Water are also working together on a CIP at 22<sup>nd</sup> Street and Aviation Parkway. Alternative Routes 1 and 2 may require coordination with both departments to align designs and construction.

### **Tribal Development**

- The Pascua Yaqui Tribe has plans to develop a new casino and associated facilities near Grant and I-10.

### **Other Development**

- Build out of the Bridges, which includes a University of Arizona biotech park, hotel, commercial and residential development
- A rezoning from commercial and residential to PAD for a mixed-use redevelopment area: “The Village at Sam Hughes.” The PAD would be located on the northeastern corner and smaller portions on the southeastern and southwestern portion of the 6<sup>th</sup> Street/Tucson Blvd intersection. Alternative Route 2 runs adjacent to the planned PAD.
- The City’s Housing & Community Development plans include four new affordable housing developments under the “Thrive in the 05” neighborhood and two neighborhood improvement projects on Drachman Street and 15th Avenue. Alternative Routes 5 and 6 run adjacent to an



upcoming affordable housing project on the southwest corner of Stone and Speedway. Alternative Routes 6 and C also run adjacent to an affordable housing development at 1910 N Stone Avenue. No alternatives will affect the neighborhood improvement projects.

- University of Arizona Planning, Design and Construction project map indicates several projects in design and under construction within the study area, however only one is in proximity to Alternative Routes: Arizona Public Media Facility at East 36<sup>th</sup> Street and South Kino Parkway.

Additional proposed land uses and developments are mapped on Exhibit H-1.

## H.9 Potential Effects

Land use impacts may be defined as 1) incompatibility with existing plans or proposed land uses, plans, or developments or 2) restrictions on a land use that would result from the construction or operation of the Project. Potential effects on future or planned land use are generally associated with Project construction rather than operation, as once construction is completed, no further land use changes are anticipated. Potential effects of the Project on adjacent land use within the study area would be negligible, as the Project is compatible with existing land use plans.

Typically, restrictions on land use would result from ROW or easement acquisition across a property. The project has existing fixed termini at Kino Substation (south) and DMP Substation (north) with a planned interconnection at the planned upgraded Vine Substation. The majority of this Project would be built within existing road ROW, with a variety of existing infrastructure corridors available for co-location with the new transmission line. These corridors include Gateway arterial, arterial and collector streets, and existing TEP 46 kV transmission line corridors.

A summary of the existing plans and proposed developments applicable to, and potentially affected, by each alternative route is included in Table 19.

**Table 19. Existing and Proposed Developments Affected by Alternative Routes**

	Plan or Proposed Development	A	B	C	D	1	2	3	4	5	6
Plans	Pima County Comprehensive Plan										
	Pima County Sonoran Desert Conservation Plan					x	x	x			
	City of Tucson General Plan "Plan Tucson"	x	x	x	x	x	x	x	x	x	x
	Arroyo Chico Area Plan					x	x	x	x	x	x
	Cragin-Keeling Area Plan	x	x	x	x						
	Greater South Park Area Plan					x	x	x	x	x	x
	Kino Area Plan					x	x	x	x	x	x
	University Area Plan	x	x	x	x	x	x	x	x	x	x
	Plan for Downtown Tucson									x	x

Plans	Blenman Vista Neighborhood Plan				x	x	x				
	Broadmoor-Broadway Village Neighborhood Plan						x				
	Jefferson Park Neighborhood Plan	x	x		x	x					x
	Miles Neighborhood Plan					x		x			
	Sam Hughes Neighborhood Plan					x	x				
	Unit 6 Neighborhood Plan	x	x	x	x						x
	Western Hills/Pueblo-Sunland Gardens Neighborhood Plan					x	x	x	x	x	x
	West University Neighborhood Plan			x				x	x	x	x
	Old Pueblo South Neighborhood Plan										
Zoning	City of South Tucson Zoning Code										
	City of Tucson Zoning	x	x	x	x	x	x	x	x	x	x
	Planned Area Development			x	x	x	x	x	x	x	x
	City of Tucson Gateway Overlay Zone				x	x	x				
	City of Tucson Historic Preservation Zone			x				x	x	x	
	City of Tucson Neighborhood Preservation Zone	x	x	x	x	x		x	x	x	x
	City of Tucson Urban Overlay District	x	x	x	x	x	x	x	x	x	x
	City of Tucson Archaeological Sensitivity Zone	x	x	x	x				x	x	x
Development Proposals	Roadway and Infrastructure Projects			x	x	x	x	x	x	x	x
	Tribal Development Projects										
	Other Development Projects	x	x	x	x	x	x	x	x	x	x

## H.10 Conclusion

TEP believes that all alternative routes are consistent with local, state, and federal land use plans. The majority of all alternative routes can be constructed within road ROW. Land use impacts are anticipated to be none to minor depending on the alternative route selected. To the extent the COT takes the position that certain routes conflict with its land use plan, TEP requests that the Committee, in approving any route covered by such plan, include a finding that compliance with that plan is “unreasonably restrictive and compliance therewith is not feasible in light of the technology available” as provided in ARS 40-360.06(D) because of the extraordinary cost to construct the Project below ground.

Plan Tucson includes Land Use, Transportation, & Urban Policies that guide COT's desire for growth. Policies for land use mentioned in this plan include supporting development opportunities where "existing or upgraded public facilities and infrastructure provide required levels of service" (COT, 2013).

The Project supports the COTs land use plans, benefits all existing land uses in the study area, as well as future land uses.

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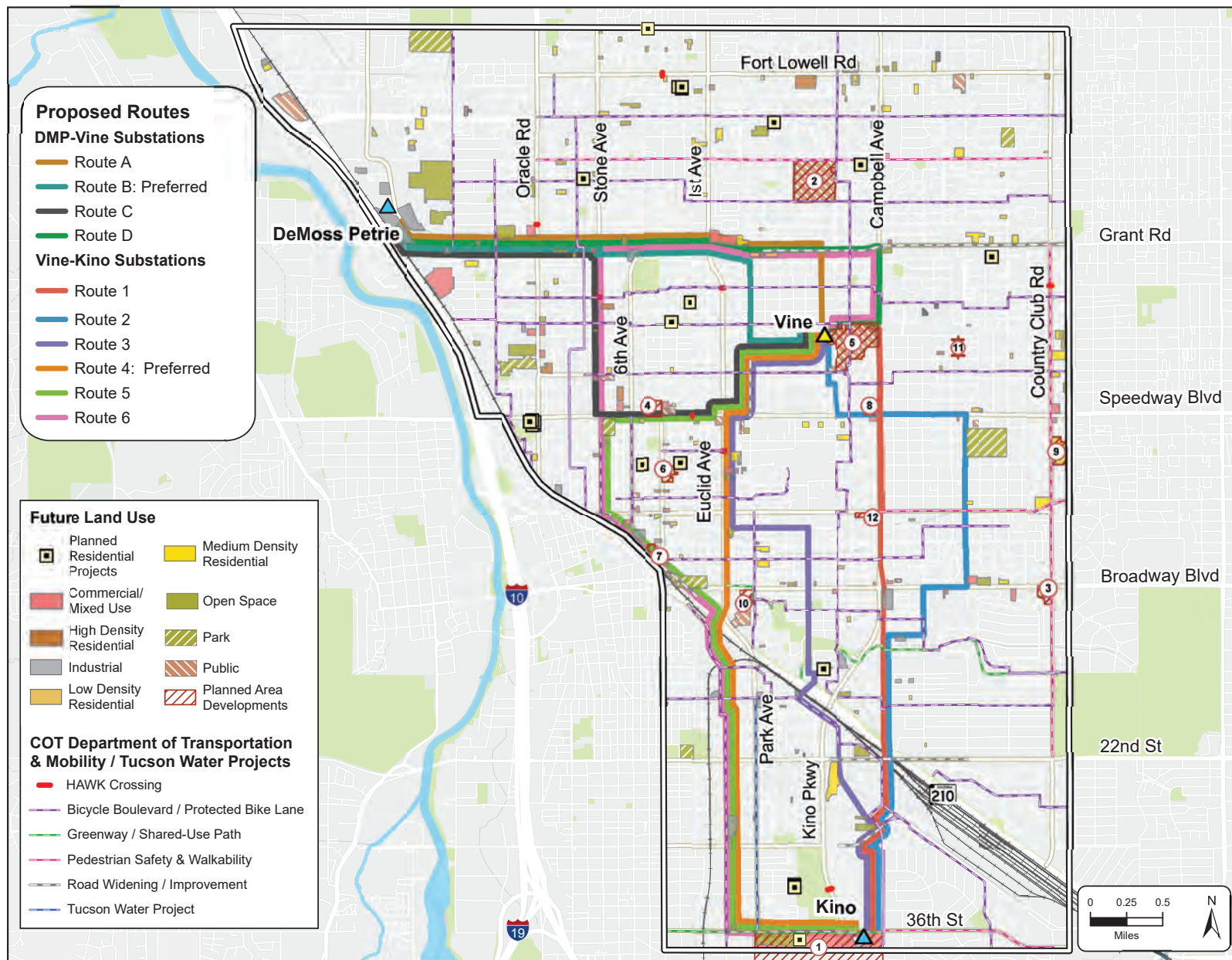
# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit H-1**

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## Exhibit H-1

### Midtown Reliability Project

#### Future Land Use

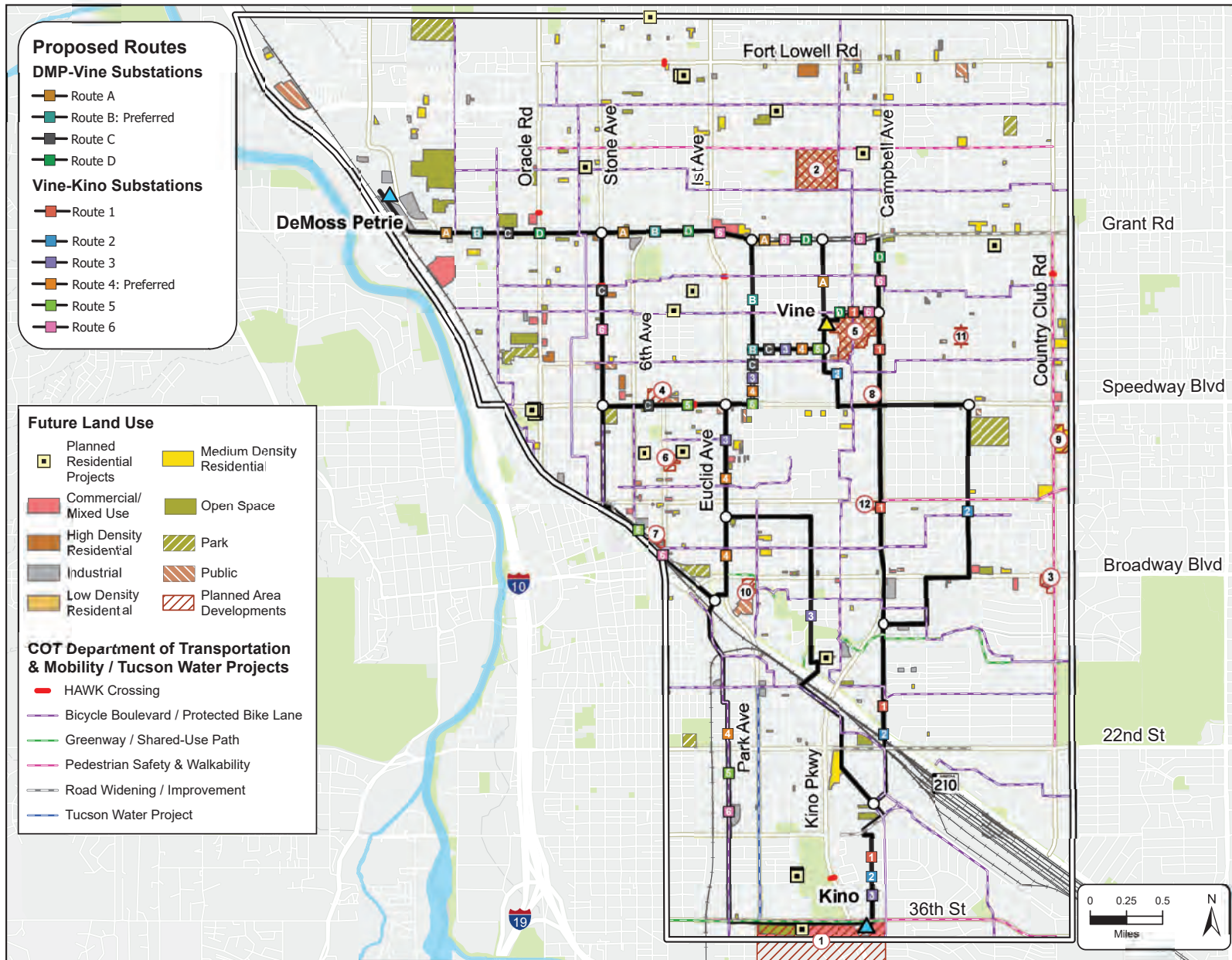
- In-Service 138kV Substation
- Proposed 138kV Substation
- Study Area

Sources: TEP, Pima County GIS, COT GIS  
 Projection: NAD 1983 UTM Zone 12 N  
 Basemap: TEP/ESRI Custom Basemap 2024

This map is for planning purposes only.  
 TEP makes no warranty of its accuracy.



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## Exhibit H-1

### Midtown Reliability Project

#### Future Land Use

- In-Service 138kV Substation
- Proposed 138kV Substation
- Route Alternative Nodes
- Study Area

Sources: TEP, Pima County GIS, COT GIS  
 Projection: NAD 1983 UTM Zone 12 N  
 Basemap: TEP/ESRI Custom Basemap 2024

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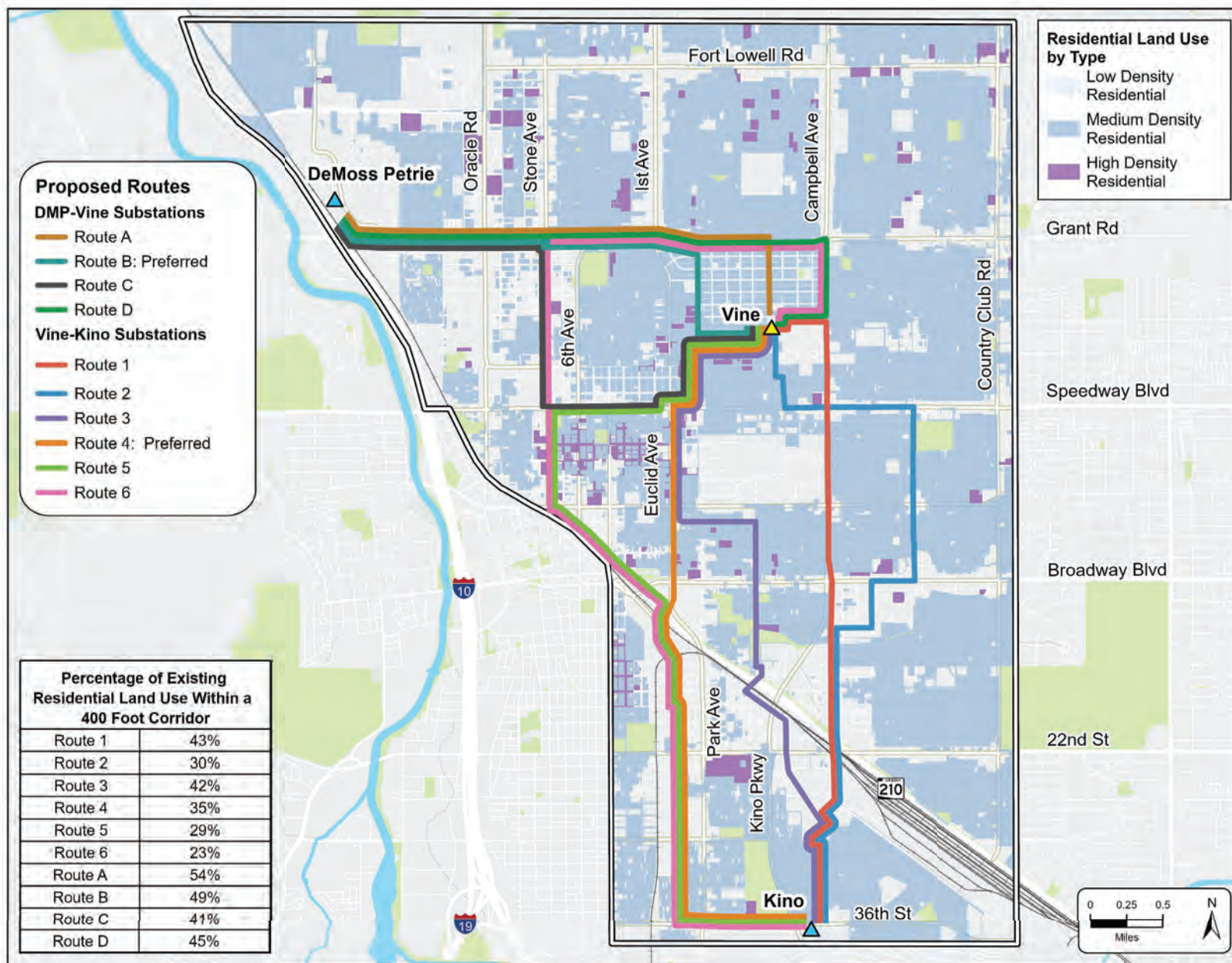
# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit H-2**

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## Exhibit H-2

### Midtown Reliability Project

#### Residential Land Use

- In-Service 138kV Substation
- Proposed 138kV Substation
- Study Area

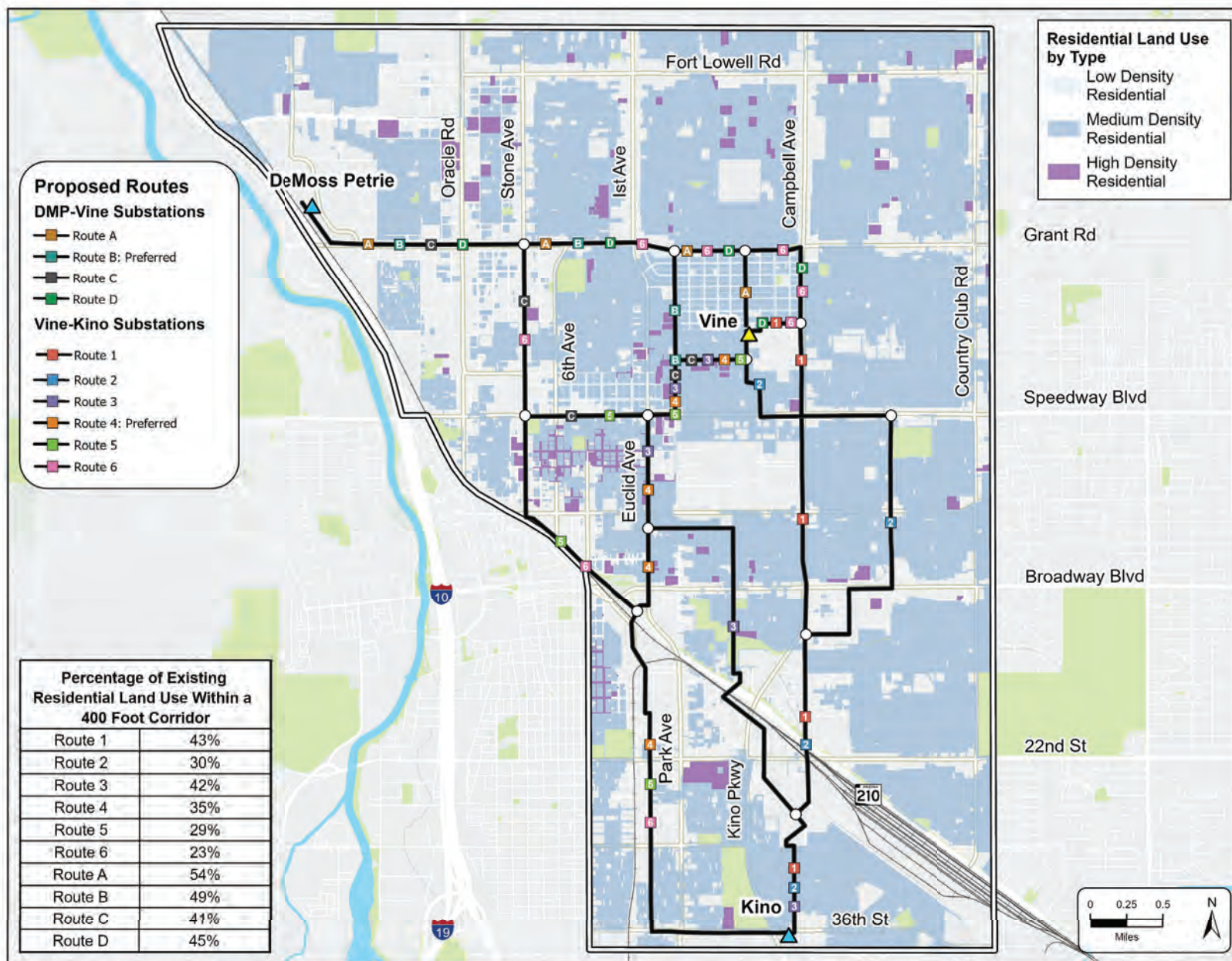
Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: TEP/ESRI Custom Basemap 2024

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## Exhibit H-2

### Midtown Reliability Project

#### Residential Land Use

- In-Service 138kV Substation
- Proposed 138kV Substation
- Route Alternative Nodes
- Study Area

Sources: TEP, Pima County GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: TEP/ESRI Custom Basemap 2024

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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit H-3**

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## Proposed Routes

### DMP-Vine Substations

- Route A
- Route B: Preferred
- Route C
- Route D

### Vine-Kino Substations





- Route 1
- Route 2
- Route 3
- Route 4: Preferred
- Route 5
- Route 6

Schools					
Map ID	Name	Type	Class	ADDRESS	
1	INTERNATIONAL SCHOOL OF TUCSON	PRIVATE	OTHER	1701 E SENECA ST	
2	TUCSON INTERNATIONAL ACADEMY-BROADWAY	CHARTER	OTHER	1230 E BROADWAY BL	
3	HIGHLAND FREE SCHOOL	CHARTER	ELEMENTARY SCHOOL	510 S HIGHLAND AV	
4	ACE CHARTER HIGH SCHOOL-DOWNTOWN	CHARTER	HIGH SCHOOL	1929 N STONE AV	
5	FIRST SOUTHERN CHRISTIAN SCHOOL	PRIVATE	ELEMENTARY SCHOOL	445 E SPEEDWAY BL	
6	DESERT ROSE ACADEMY SCHOOL	CHARTER	HIGH SCHOOL	326 W FORT LOWELL RD	
7	SAINTS PETER & PAUL CATHOLIC SCHOOL	PRIVATE	OTHER	1436 N CAMPBELL AV	
8	KEELING ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	2857 N LOS ALTOS AV	
9	PRESIDIO SCHOOL	CHARTER	OTHER	1695 E FORT LOWELL RD	
10	SAM HUGHES ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	700 N WILSON AV	
11	PIMA PARTNERSHIP HIGH SCHOOL	CHARTER	HIGH SCHOOL	25 E DRACHMAN ST	
12	TUCSON HIGH MAGNET SCHOOL	PUBLIC	HIGH SCHOOL	400 N 2ND AV	
13	AMERISCHOOLS ACADEMY-COUNTRY CLUB	CHARTER	OTHER	1150 N COUNTRY CLUB RD	
14	PAULO FREIRE FREEDOM SCHOOL UNIVERSITY CAMPUS	CHARTER	MIDDLE SCHOOL	300 E UNIVERSITY BL	
15	CRAGIN ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	2945 N TUCSON BL	
16	MONTESSORI SCHOOLHOUSE	CHARTER	ELEMENTARY SCHOOL	1301 E FORT LOWELL RD	
17	HA-SAN PREPARATORY AND LEADERSHIP SCHOOL	CHARTER	HIGH SCHOOL	1333 E 10TH ST	
18	SOUTHERN ARIZONA COMMUNITY ACADEMY	CHARTER	HIGH SCHOOL	2470 N TUCSON BL	
19	MILES EXPLORATORY LEARNING CENTER	PUBLIC	OTHER	1400 E BROADWAY BL	
20	TUCSON UNIFIED VIRTUAL ACADEMY	PUBLIC	OTHER	1010 E 10TH ST	
21	ROSKRUGE BILINGUAL MAGNET K-8 SCHOOL	PUBLIC	OTHER	501 E 6TH ST	
22	BLENNAN ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	1695 N COUNTRY CLUB RD	
23	THE CATHOLIC UNIVERSITY OF AMERICA-TUCSON	PUBLIC	POSTSECONDARY SCHOOL	1255 N STONE AV	
24	PIMA COMMUNITY COLLEGE DOWNTOWN CAMPUS	PUBLIC	POSTSECONDARY SCHOOL	1255 N STONE AV	
25	EDGE HIGH SCHOOL-HIMMEL PARK	CHARTER	HIGH SCHOOL	2555 E 1ST ST	
26	UNIVERSITY OF ARIZONA	PUBLIC	POSTSECONDARY SCHOOL	1200 E UNIVERSITY BL	
27	SAINT AMBROSE CATHOLIC SCHOOL	PRIVATE	OTHER	300 S TUCSON BL	
28	NASH ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	515 W KELSO ST	
29	MANSFELD MAGNET MIDDLE SCHOOL	PUBLIC	MIDDLE SCHOOL	1300 E 6TH ST	
30	TEENAGE PARENT HIGH SCHOOL	PUBLIC	HIGH SCHOOL	102 N PLUMER AV	
31	PROJECT MORE HIGH SCHOOL	PUBLIC	HIGH SCHOOL	440 S PARK AV	
32	PIMA PARTNERSHIP ACADEMY	CHARTER	MIDDLE SCHOOL	1346 N STONE AV	
33	SOUTHSIDE COMMUNITY SCHOOL	CHARTER	OTHER	2701 S CAMPBELL AV	
34	ROBISON ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	2745 E 18TH ST	
35	PUEBLO GARDENS PRE K-8 SCHOOL	PUBLIC	OTHER	2210 E 33RD ST	
36	DOUGLAS ELEMENTARY SCHOOL	PUBLIC	OTHER	3802 N FLOWING WELLS RD	
37	SALPOINTE CATHOLIC HIGH SCHOOL	PRIVATE	HIGH SCHOOL	1545 E COPPER ST	
38	YOUTHWORKS CHARTER HIGH SCHOOL	CHARTER	HIGH SCHOOL	1515 E 36TH ST	
39	BORTON MAGNET SCHOOL	PUBLIC	ELEMENTARY SCHOOL	700 E 22ND ST	
40	DOOLEN MIDDLE SCHOOL	PUBLIC	MIDDLE SCHOOL	1300 N COUNTRY CLUB RD	
41	HOLLADAY FINE ARTS MAGNET ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	1110 E 33RD ST	

## Exhibit H-3

### Midtown Reliability Project

#### Schools

-  In-Service 138kV Substation
-  Proposed 138kV Substation
-  Study Area
-  School

Sources: TEP, Pima County GIS, COT GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: TEP/ESRI Custom Basemap 2024

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TEP makes no warranty of its accuracy.



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## Proposed Routes DMP-Vine Substations

- Route A
- Route B: Preferred
- Route C
- Route D

## Vine-Kino Substations

- Route 1
- Route 2
- Route 3
- Route 4: Preferred
- Route 5
- Route 6

Schools					
Map ID	Name	Type	Class	ADDRESS	
1	INTERNATIONAL SCHOOL OF TUCSON	PRIVATE	OTHER	1701 E SENECA ST	
2	TUCSON INTERNATIONAL ACADEMY-BROADWAY	CHARTER	OTHER	1230 E BROADWAY BL	
3	HIGHLAND FREE SCHOOL	CHARTER	ELEMENTARY SCHOOL	510 S HIGHLAND AV	
4	ACE CHARTER HIGH SCHOOL-DOWNTOWN	CHARTER	HIGH SCHOOL	1929 N STONE AV	
5	FIRST SOUTHERN CHRISTIAN SCHOOL	PRIVATE	ELEMENTARY SCHOOL	445 E SPEEDWAY BL	
6	DESERT ROSE ACADEMY SCHOOL	CHARTER	HIGH SCHOOL	326 W FORT LOWELL RD	
7	SAINTS PETER & PAUL CATHOLIC SCHOOL	PRIVATE	OTHER	1436 N CAMPBELL AV	
8	KEELING ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	2857 N LOS ALTOS AV	
9	PRESIDIO SCHOOL	CHARTER	OTHER	1695 E FORT LOWELL RD	
10	SAM HUGHES ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	700 N WILSON AV	
11	PIMA PARTNERSHIP HIGH SCHOOL	CHARTER	HIGH SCHOOL	25 E DRACHMAN ST	
12	TUCSON HIGH MAGNET SCHOOL	PUBLIC	HIGH SCHOOL	400 N 2ND AV	
13	AMERISCHOOLS ACADEMY-COUNTRY CLUB	CHARTER	OTHER	1150 N COUNTRY CLUB RD	
14	PAULO FREIRE FREEDOM SCHOOL UNIVERSITY CAMPUS	CHARTER	MIDDLE SCHOOL	300 E UNIVERSITY BL	
15	CRAGIN ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	2945 N TUCSON BL	
16	MONTESSORI SCHOOLHOUSE	CHARTER	ELEMENTARY SCHOOL	1301 E FORT LOWELL RD	
17	HA-SAN PREPARATORY AND LEADERSHIP SCHOOL	CHARTER	HIGH SCHOOL	1333 E 10TH ST	
18	SOUTHERN ARIZONA COMMUNITY ACADEMY	CHARTER	HIGH SCHOOL	2470 N TUCSON BL	
19	MILES EXPLORATORY LEARNING CENTER	PUBLIC	OTHER	1400 E BROADWAY BL	
20	TUCSON UNIFIED VIRTUAL ACADEMY	PUBLIC	OTHER	1010 E 10TH ST	
21	ROSKRUGE BILINGUAL MAGNET K-8 SCHOOL	PUBLIC	OTHER	501 E 6TH ST	
22	BLENNMAN ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	1695 N COUNTRY CLUB RD	
23	THE CATHOLIC UNIVERSITY OF AMERICA-TUCSON	PUBLIC	POSTSECONDARY SCHOOL	1255 N STONE AV	
24	PIMA COMMUNITY COLLEGE DOWNTOWN CAMPUS	PUBLIC	POSTSECONDARY SCHOOL	1255 N STONE AV	
25	EDGE HIGH SCHOOL-HIMMEL PARK	CHARTER	HIGH SCHOOL	2555 E 1ST ST	
26	UNIVERSITY OF ARIZONA	PUBLIC	POSTSECONDARY SCHOOL	1200 E UNIVERSITY BL	
27	SAINT AMBROSE CATHOLIC SCHOOL	PRIVATE	OTHER	300 S TUCSON BL	
28	NASH ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	515 W KELSO ST	
29	MANSFELD MAGNET MIDDLE SCHOOL	PUBLIC	MIDDLE SCHOOL	1300 E 6TH ST	
30	TEENAGE PARENT HIGH SCHOOL	PUBLIC	HIGH SCHOOL	102 N PLUMER AV	
31	PROJECT MORE HIGH SCHOOL	PUBLIC	HIGH SCHOOL	440 S PARK AV	
32	PIMA PARTNERSHIP ACADEMY	CHARTER	MIDDLE SCHOOL	1346 N STONE AV	
33	SOUTHSIDE COMMUNITY SCHOOL	CHARTER	OTHER	2701 S CAMPBELL AV	
34	ROBISON ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	2745 E 18TH ST	
35	PUEBLO GARDENS PRE K-8 SCHOOL	PUBLIC	OTHER	2210 E 33RD ST	
36	DOUGLAS ELEMENTARY SCHOOL	PUBLIC	OTHER	3802 N FLOWING WELLS RD	
37	SALPOINTE CATHOLIC HIGH SCHOOL	PRIVATE	HIGH SCHOOL	1545 E COPPER ST	
38	YOUTHWORKS CHARTER HIGH SCHOOL	CHARTER	HIGH SCHOOL	1515 E 36TH ST	
39	BORTON MAGNET SCHOOL	PUBLIC	ELEMENTARY SCHOOL	700 E 22ND ST	
40	DOOLEN MIDDLE SCHOOL	PUBLIC	MIDDLE SCHOOL	1300 N COUNTRY CLUB RD	
41	HOLLADAY FINE ARTS MAGNET ELEMENTARY SCHOOL	PUBLIC	ELEMENTARY SCHOOL	1110 E 33RD ST	

## Exhibit H-3

### Midtown Reliability Project

#### Schools

- In-Service 138kV Substation
- Proposed 138kV Substation
- Route Alternative Nodes
- Study Area
- School

Sources: TEP, Pima County GIS, COT GIS  
Projection: NAD 1983 UTM Zone 12 N  
Basemap: TEP/ESRI Custom Basemap 2024

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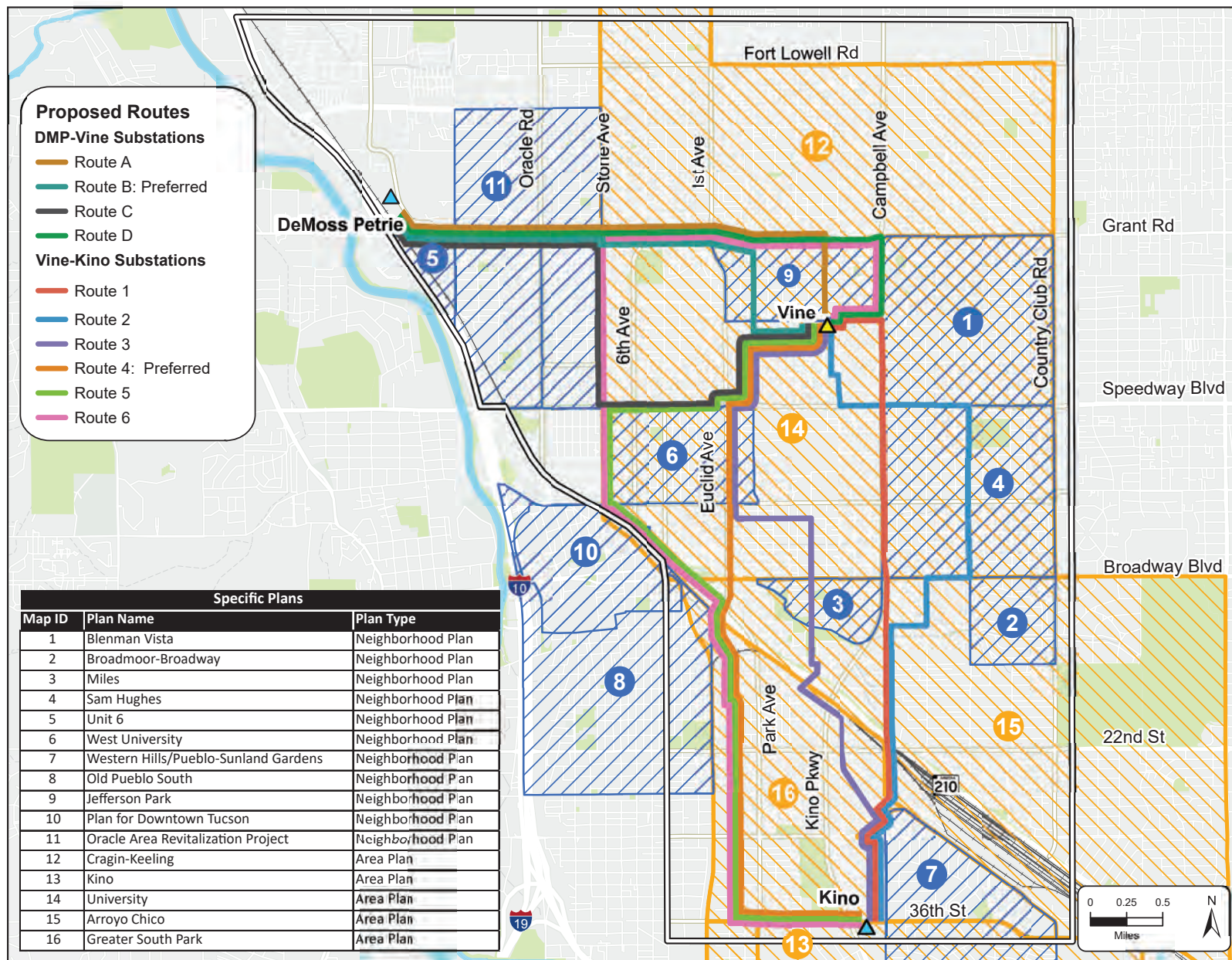
# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit H-4**

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## Exhibit H-4

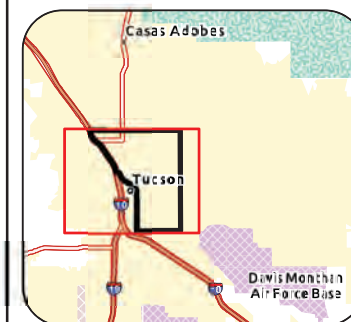
### Midtown Reliability Project

#### Specific Plans

- In-Service 138kV Substation
- Proposed 138kV Substation
- Study Area
- Neighborhood Plans
- Area Plans

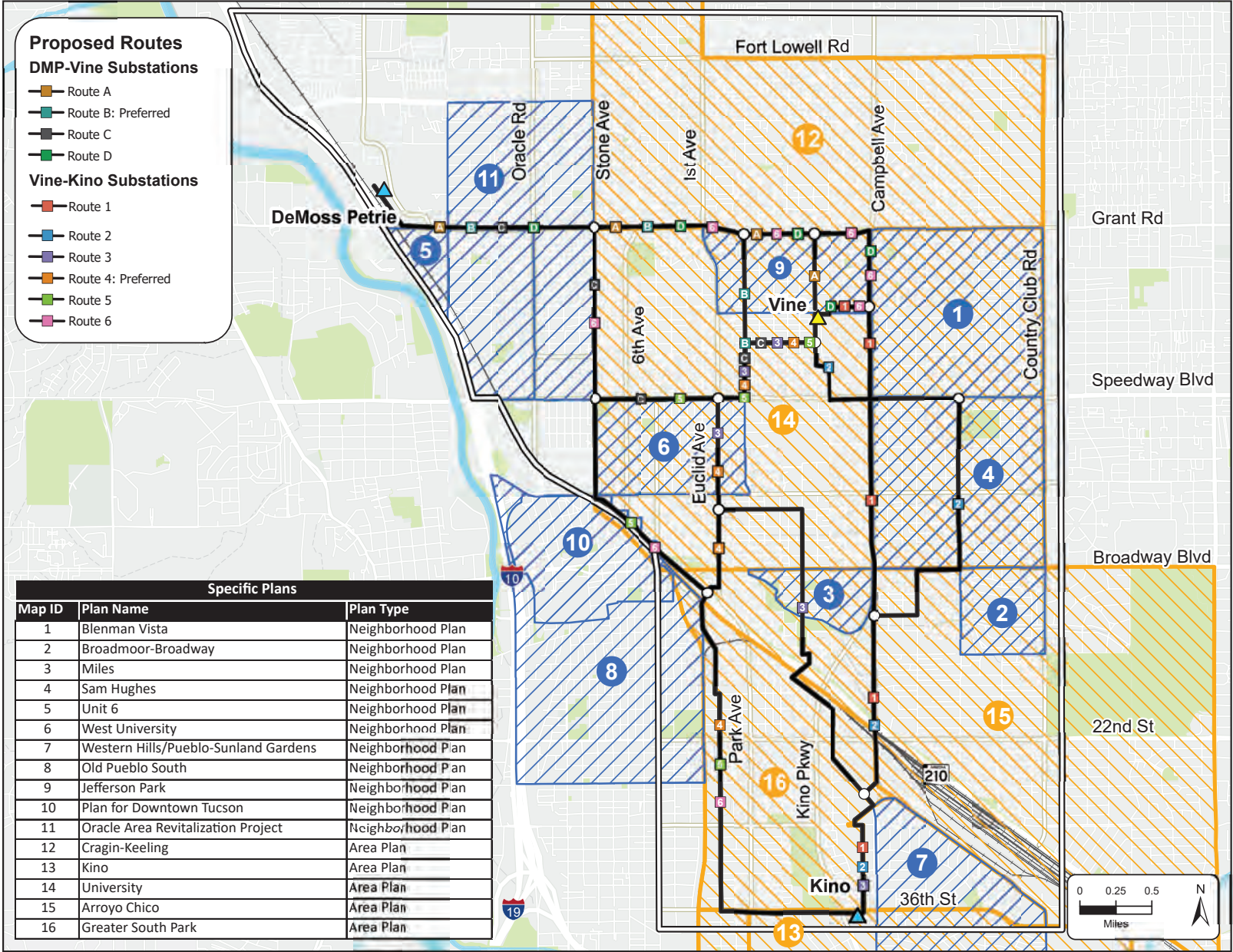
Sources: TEP, Pima County GIS, COT GIS  
 Projection: NAD 1983 UTM Zone 12 N  
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## Exhibit H-4

### Midtown Reliability Project

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*Specific Plans*

- ▲ In-Service 138kV Substation
- ▲ Proposed 138kV Substation
- Route Alternative Nodes
- Study Area
- Neighborhood Plans
- Area Plans

Sources: TEP, Pima County GIS, COT GIS  
 Projection: NAD 1983 UTM Zone 12 N  
 Basemap: TEP/ESRI Custom Basemap 2024

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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit H-5**

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**From:** [Priscilla Thompson](#)  
**To:** [Tallorin, Keri](#); [Bryner, Clark](#)  
**Subject:** [EXTERNAL E-Mail] Re: Existing Plans – TEP Midtown Reliability Project  
**Date:** Friday, February 16, 2024 1:48:10 PM

---

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---

**Michelle Garza**  
**South Central Permits | Permit Supervisor**  
1221 S. 2nd Ave MD T100  
Tucson, AZ 85713-1602  
520.388.4232 office  
520.307.5893 cell  
[MGarza@azdot.gov](mailto:MGarza@azdot.gov)

**Ms. Rossio Araujo**

**Project Development Specialist**

1221 S. 2nd Ave., MD T100  
Tucson, AZ 85713  
520.603.9816 (C)  
520.388.4209 (O)  
[raraujo@azdot.gov](mailto:raraujo@azdot.gov)

Clark,

You can reach out to the Permits office to gather asbuilts and/or permits in your project area to see what is in the ADOT right of way. I would suggest reaching out to Michelle Garza the Permits Supervisor to get direction on getting this information. Her contact information is above.

You can also reach out to Rossios Araujo to check on any upcoming ADOT projects in your project area. Her contact information is above.

In each case, it would be best if you had very specific locations to discuss that are near or will be in the ADOT right of way. A reminder is that if there is work to be done in the ADOT right of way an Encroachment Permit will have to be obtained and that would be done starting with Michelle.

Thanks,  
Priscilla

**Priscilla F. Thompson, PE**  
**Utility Engineering Coordinator**  
ADOT-Utility and Railroad Engineering  
1221 S. 2nd Ave MD T100  
Tucson, AZ 85713-1602  
520-221-0783  
[pthompson@azdot.gov](mailto:pthompson@azdot.gov)



On Mon, Jan 29, 2024 at 1:45 PM Tallorin, Keri <[Keri.Tallorin@tep.com](mailto:Keri.Tallorin@tep.com)> wrote:

Good afternoon Priscilla,

I hope you had a lovely weekend.

As part of the Midtown Reliability Project, TEP is reaching out to various agencies within the project study area to gather information regarding development plans in the vicinity of the route segments under review that should be considered as part of the line siting process. Please find attached a request for plans from TEP.

We respectfully request your response in writing. The information you provide with ADOT's upcoming development plans will help inform the development of alternative routes to be included in the CEC application.

**Please respond to Clark Bryner by Friday, February 9** either by email at [cbryner@tep.com](mailto:cbryner@tep.com), or by physical mail: Tucson Electric Power, Attn: Midtown Reliability, P.O. Box 711, Mail Stop CB200, Tucson, AZ 85701-0711.

Thank you for your time and input.

Sincerely,  
Keri Tallorin

Keri Tallorin  
Environmental & Land Use Planner II  
Tucson Electric Power  
(425) 633-7431

**From:** [Watkins, Kristian D.](#)  
**To:** [Bryner, Clark](#)  
**Cc:** [Barkenbush, Mark J](#)  
**Subject:** [EXTERNAL E-Mail] Existing Plans – TEP Midtown Reliability Project  
**Date:** Monday, February 5, 2024 8:39:18 AM  
**Attachments:** [Pages from 2016-0816\\_banner\\_uamc\\_pad - reduced.pdf](#)

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---

Clark –

This email is in response to TEP's request for information regarding future development plans in the vicinity of the potential route segments for the Midtown Reliability Project.

Banner University Medical Center – Tucson currently has an approved Planned Area Development with the City of Tucson, and within the PAD we have several proposed development options as the needs of the community continue to evolve. Below is a list of key developments.

- Phase 2 / West Tower Expansion
- South Parking Garage
- Tower 1 / New Hospital Levels 10 and 11
- North Retention Basin Expansion

I have attached the Pad District Site Plan. Please let us know if you have any questions.

**Kristian Watkins**

Sr Director – Facilities, Development & Construction  
520-429-2737 mobile  
[kristian.watkins@bannerhealth.com](mailto:kristian.watkins@bannerhealth.com)

*Legend for Email Categories:*

***ACTION:** This means that there is an action required for you to take in some form.*

***INFORM:** This means that this email contains information that will update you or 'keep you in the loop.'*

***DEADLINE SENSITIVE:** This means that this email has a deadline you are to meet.*

***READ:** This is the FYI – interesting article, link, abstract, etc. that is to be done when you have the available time.*

***CONFIDENTIAL:** This is just another way to emphasize or identify when the email is for your eyes only – please do not print or forward*

***IF YOU ARE CC'ED:** You are CC'ed since you may be interested in the topic, no reply is expected*

---

**From:** Tallorin, Keri <Keri.Tallorin@tep.com>  
**Sent:** Monday, January 29, 2024 1:52 PM  
**To:** Watkins, Kristian D. <Kristian.Watkins@bannerhealth.com>



**Subject:** [EXTERNAL] Existing Plans – TEP Midtown Reliability Project

Good afternoon Kristian,

I hope you had a lovely weekend.

As part of the Midtown Reliability Project, TEP is reaching out to various agencies within the project study area to gather information regarding development plans in the vicinity of the route segments under review that should be considered as part of the line siting process. Please find attached a request for plans from TEP.

We respectfully request your response in writing. The information you provide with Banner's upcoming development plans will help inform the development of alternative routes to be included in the CEC application.

**Please respond to Clark Bryner by Friday, February 9** either by email at [cbryner@tep.com](mailto:cbryner@tep.com), or by physical mail: Tucson Electric Power, Attn: Midtown Reliability, P.O. Box 711, Mail Stop CB200, Tucson, AZ 85701-0711.

Thank you for your time and input.

Sincerely,  
Keri Tallorin

Keri Tallorin  
Environmental & Land Use Planner II  
Tucson Electric Power  
(425) 633-7431

JOB NO.	4072.000
SCALE	1" = 200'-0"
DRAWN	MM
DATE	08/13/15

**From:** [Bakken, Erik](#)  
**To:** [Kristina Swallow](#)  
**Cc:** [Kimberly Merson](#); [Bryner, Clark](#)  
**Subject:** RE: [EXTERNAL E-Mail] Fw: Opportunities for Comment (002).pptx  
**Date:** Monday, December 4, 2023 11:44:45 AM

---

Great, thank you for the feedback. I've copied Clark Bryner, Manager of our siting efforts, for his information, as well. We'll reach out if we have any further questions. Thanks again.

---

**From:** Kimberly Merson <Kimberly.Merson@tucsonaz.gov> **On Behalf Of** Kristina Swallow  
**Sent:** Monday, December 4, 2023 8:55 AM  
**To:** Bakken, Erik <ebakken@tep.com>  
**Cc:** Kimberly Merson <Kimberly.Merson@tucsonaz.gov>  
**Subject:** [EXTERNAL E-Mail] Fw: Opportunities for Comment (002).pptx

You don't often get email from [kristina.swallow@tucsonaz.gov](mailto:kristina.swallow@tucsonaz.gov). [Learn why this is important](#)

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On behalf of Kristina Swallow, Director of Planning & Development Services for the City of Tucson, please see our feedback below.

1. Specific plans of the city within the study area

- o **Area Plans:**

- o Alvernon-Broadway
- o Arroyo Chico
- o Grant-Alvernon
- o Greater South Park
- o University

- o **Neighborhood Plans:**

- o Blenman Vista
- o Broadmoor-Broadway
- o Miles
- o Jefferson Park
- o Old Pueblo South
- o Sam Hughes
- o West University



- Western Hills/Pueblo-Sunland Gardens
2. Specific private development plans the city is aware of within the study area
    - Suggest reviewing Map Tucson layer with permit data – can view major projects/development underway
  3. Applicable ordinances we should be aware of
    - **Applicable Overlay Zones:**
    - Airport Environs Zone
    - Gateway Corridor Zone – Kino, Campbell, Broadway, Oracle
    - Grant Road Improvement District
    - Historic Preservation Zone – Armory Park, Barrio Historico, El Presidio, West University
    - Infill Incentive District
    - Major Streets and Routes Plan
    - Neighborhood Preservation Zone – West University, Jefferson Park
    - Rio Nuevo Area
  4. Areas of concern/conflict
    - Major areas of concern – Gateway Corridor Zone, Historic Preservation Zones, Neighborhood Preservation Zones
  5. Opportunities the city may see for the transmission line, possibly in combination with furthering some of the City's goals and objectives
    -
  6. Members of the public or groups the City is aware of that we should reach out to
    - **Potential contacts/outreach:**
    - All neighborhood associations
    - Metropolitan Pima Alliance
    - Southern Arizona Homebuilders Alliance
    - Tucson Association of Realtors
    - Tucson Chamber of Commerce
    - Tucson Young Professionals
    - Ward Offices – Ward 1, 2, 5, 6

Thank you,

Kim Merson for  
Kristina Swallow

---

**From:** Bakken, Erik <[EBakken@Tep.com](mailto:EBakken@Tep.com)>  
**Sent:** Wednesday, November 15, 2023 4:47 PM  
**To:** Michael Ortega <[Michael.Ortega@tucsonaz.gov](mailto:Michael.Ortega@tucsonaz.gov)>; Mike Rankin <[Mike.Rankin@tucsonaz.gov](mailto:Mike.Rankin@tucsonaz.gov)>  
**Cc:** Hixon, Todd <[THixon@tep.com](mailto:THixon@tep.com)>  
**Subject:** [EXTERNAL] Opportunities for Comment (002).pptx

Per our conversation, we'd really like to hear any input the City has on the project. A public open house is scheduled for tomorrow to lay out the possible segments that may be considered. More detail about that and the project can be found here [Midtown Reliability Project – Tucson Electric Power \(tep.com\)](#). If the timing doesn't work for comments in that forum, written comments sometime within the next couple of months would be helpful in the process as we start to narrow things down. Potential areas to consider include:

- Specific plans of the city within the study area
- Specific private development plans the city is aware of within the study area
- Applicable ordinances we should be aware of
- Areas of concern/conflict
- Opportunities the city may see for the transmission line, possibly in combination with furthering some of the City's goals and objectives
- Members of the public or groups the City is aware of that we should reach out to

Thanks and good to reconnect.

**From:** [Tallorin, Keri](#)  
**To:** [Bryner, Clark](#)  
**Subject:** DTM Response RE: Existing Plans – TEP Midtown Reliability Project  
**Date:** Tuesday, February 13, 2024 12:41:35 PM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.jpg](#)  
[image005.jpg](#)  
[image006.jpg](#)  
[image007.jpg](#)  
[image008.jpg](#)  
[2-13-24 DTM Response - TEP Midtown Reliability Project.pdf](#)

---

FYI

---

**From:** Helen Wheeler <Helen.Wheeler@tucsonaz.gov>  
**Sent:** Tuesday, February 13, 2024 12:10 PM  
**To:** Tallorin, Keri <Keri.Tallorin@tep.com>  
**Cc:** Sam Credio <Sam.Credio@tucsonaz.gov>; Robin Raine <Robin.Raine@tucsonaz.gov>; Alfred Zuniga <Alfred.Zuniga@tucsonaz.gov>; Jorge Riveros <Jorge.Riveros@tucsonaz.gov>; Helen Wheeler <Helen.Wheeler@tucsonaz.gov>  
**Subject:** [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project

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---

Good afternoon Keri,

On behalf of City of Tucson Department of Transportation and Mobility Director Samuel A. Credio, please find the attached letter in reference to Existing Plans – TEP Midtown Reliability Project.

Respectfully,

**Helen Wheeler**

*Executive Assistant*

*Director's Office*

**Transportation and Mobility | City of Tucson**

[helen.wheeler@tucsonaz.gov](mailto:helen.wheeler@tucsonaz.gov)

**main** 520.791.3154 | **mobile** 520.549.7125



---

**From:** Sam Credio <Sam.Credio@tucsonaz.gov>



**Sent:** Friday, February 2, 2024 4:14 PM

**To:** Tallorin, Keri <Keri.Tallorin@tep.com>

**Cc:** Alfred Zuniga <Alfred.Zuniga@tucsonaz.gov>; Robin Raine <Robin.Raine@tucsonaz.gov>; Helen Wheeler <Helen.Wheeler@tucsonaz.gov>

**Subject:** RE: Existing Plans – TEP Midtown Reliability Project

Hello Keri,

Confirming receipt of your message. We are working on a response that will be sent to you next week.

Thank you,

Sam



**Samuel A. Credio, PE, MBA, CPM**

*Director*

**Transportation and Mobility | City of Tucson**

[Sam.credio@tucsonaz.gov](mailto:Sam.credio@tucsonaz.gov)

main 520.791.3154



---

**From:** Tallorin, Keri <[Keri.Tallorin@tep.com](mailto:Keri.Tallorin@tep.com)>

**Sent:** Monday, January 29, 2024 8:15 AM

**To:** Sam Credio <[Sam.Credio@tucsonaz.gov](mailto:Sam.Credio@tucsonaz.gov)>

**Subject:** [EXTERNAL] Existing Plans – TEP Midtown Reliability Project

Good morning Sam,

I hope you had a lovely weekend.

As part of the Midtown Reliability Project, TEP is reaching out to various agencies within the project study area to gather information regarding development plans in the vicinity of the route segments under review that should be considered as part of the line siting process. Please find attached a request for plans from TEP.

We respectfully request your response in writing. The information you provide with the city's upcoming transportation plans will help inform the development of alternative routes to be included in the CEC application.

Please respond to Clark Bryner by Friday, February 9 either by email at [cbryner@tep.com](mailto:cbryner@tep.com), or by physical mail: Tucson Electric Power, Attn: Midtown Reliability, P.O. Box 711, Mail Stop CB200, Tucson, AZ 85701-0711.

Thank you for your time and input.

Sincerely,  
Keri Tallorin

Keri Tallorin  
Environmental & Land Use Planner II  
Tucson Electric Power  
(425) 633-7431



# CITY OF TUCSON

## TRANSPORTATION & MOBILITY

**Samuel A. Credio, P.E.**

Director

(520) 791-3154

[Sam.Credio@tucsonaz.gov](mailto:Sam.Credio@tucsonaz.gov)

February 13, 2024

**Clark Bryner, AICP**

Manager, Transmission Line Siting, Tucson Electric Power

P.O. Box 711, Mail Stop CB200, Tucson, AZ 85701

**RE: Existing Plans – TEP Midtown Reliability Project**

Dear Mr. Bryner,

Thank you for the opportunity to make comments regarding the subject project. The Department of Transportation (DTM) received TEP's January 29, 2024, email requesting information about development plans within the project study area and in the vicinity of the route segments under review and consideration as part of the transmission line siting process. DTM staff cross-referenced TEP's Draft Refined Segments against its current/upcoming RTA projects and Tucson Delivers project (Propositions 101, 407, and 411).

After reviewing the proposed TEP segments, there could be a possible conflict with the Grant Road RTA project. Grant Road, Phases 5 and 6, between Campbell Rd. and Country Club Rd., are still in design. DTM anticipates on-going utility coordination with TEP as part of the design process. At this time, we do not have an anticipated construction date.

For project tracking and reports related to the Tucson Delivers program, please visit: <https://experience.arcgis.com/experience/d27da45cb874439496f3619c1588f572>. This link contains the most current, mapped information related to all Proposition 101, 407, and 411 projects. For further information about Tucson Delivers, please visit: <https://tucsondelivers.tucsonaz.gov>.

For a list of DTM's projects that are currently defined/funded, please visit: <https://cotgis.maps.arcgis.com/apps/dashboards/c10dbf19ae2442a59629c549859828df>.

Once again, thank you for giving DTM the opportunity to provide comments that help deliver successful projects through continued partnership with TEP. If you have any further questions, please do not hesitate to contact us.

Sincerely,

Samuel A. Credio, P.E.

Director, Transportation and Mobility

cc: Robin Raine, P.E., Deputy Director, DTM  
Alfred Zuniga, P.E., City Engineer, DTM  
Jorge Riveros, P.E., Engineering Manager, DTM



**From:** [Carla Blackwell](#)  
**To:** [Bryner, Clark](#)  
**Cc:** [Tallorin, Keri](#)  
**Subject:** [EXTERNAL E-Mail] Existing plans- TEP Midtown Reliability Project  
**Date:** Monday, January 29, 2024 9:43:51 AM

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Clark and Keri,

This project lies within the boundaries of the City of Tucson. Pima County has no jurisdiction over the lands within the project boundaries and would not have any development plans for private development within the city. Pima County does own land that will have development projects such as 75 E Broadway and the Mosaic project however those projects lie outside of the project boundaries depicted on your map.

Thanks  
Carla

Carla Blackwell, Director  
Pima County Development Services  
520-724-9516  
[Carla.blackwell@pima.gov](mailto:Carla.blackwell@pima.gov)

**From:** [Kathryn Skinner](#)  
**To:** [Bryner, Clark](#)  
**Cc:** [John Hurley](#)  
**Subject:** [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project  
**Date:** Wednesday, January 31, 2024 9:05:16 AM

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---

Greetings Mr. Bryner,

Pima County Transportation has reviewed route segments that remain under consideration in the TEP Midtown Reliability Project. These segments are all within incorporated areas of the county and we do not have any planned projects within the vicinity of these routes.

Sincerely,  
Kathryn

**Kathryn Skinner, P.E.**

Director

Pima County Department of Transportation

201 N Stone Ave, 4<sup>th</sup> Fl

Tucson, AZ 85701

phone: (520) 724-6410

---

**From:** Tallorin, Keri <Keri.Tallorin@tep.com>  
**Sent:** Monday, January 29, 2024 7:27 AM  
**To:** Kathryn Skinner <Kathryn.Skinner@pima.gov>  
**Subject:** Existing Plans – TEP Midtown Reliability Project

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Good morning Kathryn,

I hope you had a lovely weekend.

As part of the Midtown Reliability Project, TEP is reaching out to various agencies

within the project study area to gather information regarding development plans in the vicinity of the route segments under review that should be considered as part of the line siting process. Please find attached a request for plans from TEP.

We respectfully request your response in writing. The information you provide with the county's upcoming transportation plans will help inform the development of alternative routes to be included in the CEC application.

Please respond to Clark Bryner by Friday, February 9 either by email at [cbryner@tep.com](mailto:cbryner@tep.com), or by physical mail: Tucson Electric Power, Attn: Midtown Reliability, P.O. Box 711, Mail Stop CB200, Tucson, AZ 85701-0711.

Thank you for your time and input.

Sincerely,  
Keri Tallorin

Keri Tallorin  
Environmental & Land Use Planner II  
Tucson Electric Power  
(425) 633-7431



**From:** [Tallorin, Keri](#)  
**To:** [Bryner, Clark](#)  
**Subject:** PC Energy Manger & Development Services Response RE: Existing Plans – TEP Midtown Reliability Project  
**Date:** Wednesday, January 31, 2024 7:34:37 AM

---

Good morning Clark,

Please see below for responses from Eric Wilson, PC's Energy Manager, and Anita McNamara/Mark Holden, PC's Development Services team.

Thanks,  
Keri

---

**From:** Tallorin, Keri <Keri.Tallorin@tep.com>  
**Sent:** Wednesday, January 31, 2024 7:31 AM  
**To:** Anita McNamara <Anita.McNamara@pima.gov>; Eric Wilson <Eric.Wilson@pima.gov>; Mark Holden <Mark.Holden@pima.gov>  
**Subject:** Re: [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project

Good morning all,

Thank you for your input. I'll share this with the transmission line siting manager, and we'll be sure to reach out if we think of datasets or other information pertinent to this project that we may have an inquiry on.

Hope you have a great rest of your week,  
Keri

Keri Tallorin  
Environmental & Land Use Planner II  
Tucson Electric Power  
(425) 633-7431

---

**From:** Anita McNamara <Anita.McNamara@pima.gov>  
**Sent:** Tuesday, January 30, 2024 3:44 PM  
**To:** Eric Wilson <Eric.Wilson@pima.gov>; Tallorin, Keri <Keri.Tallorin@tep.com>; Mark Holden <Mark.Holden@pima.gov>  
**Subject:** [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project

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Keri,

The study area is mostly within the City of Tucson's jurisdiction, with a portion of the southwestern area in South Tucson's jurisdiction. You may want to contact their Development Services departments directly for any projects in the study area.

I hope this helps.

Please let me know if you have any questions.

Thanks,  
Anita

---

**From:** Eric Wilson <Eric.Wilson@pima.gov>  
**Sent:** Tuesday, January 30, 2024 3:18 PM  
**To:** Tallorin, Keri <Keri.Tallorin@tep.com>; Mark Holden <Mark.Holden@pima.gov>; Anita McNamara <Anita.McNamara@pima.gov>  
**Subject:** Re: Existing Plans – TEP Midtown Reliability Project

Keri,

Thank you for reaching out, I've tagged the team from County Development Services to see if they have any projects to note surrounding. I can't think of any. We're currently collaborating with UA on the 10-year plan for the county, so we'll be sure to keep the channels open. We're working on a data share this Friday with TEP Procurement Director Lauren Briggs to help with the analysis with the UA. If you can think of datasets or have ideas I'm always available for them.

Thank you kindly,

*Eric Wilson*

Eric Wilson, Pima Energy Program Manager  
**Pima County Facilities Management Department**  
Cell (520) 301-9254 Monday-Friday 08:00 to 17:00

---

**From:** Tallorin, Keri <[Keri.Tallorin@tep.com](mailto:Keri.Tallorin@tep.com)>  
**Sent:** Monday, January 29, 2024 07:40  
**To:** Eric Wilson <[Eric.Wilson@pima.gov](mailto:Eric.Wilson@pima.gov)>  
**Subject:** Existing Plans – TEP Midtown Reliability Project

---

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Good morning Eric,

I hope you had a lovely weekend.

As part of the Midtown Reliability Project, TEP is reaching out to various agencies within the project study area to gather information regarding development plans in the vicinity of the route segments under review that should be considered as part of the line siting process. Please find attached a request for plans from TEP.

We respectfully request your response in writing. The information you provide with the county's upcoming plans will help inform the development of alternative routes to be included in the CEC application.

**Please respond to Clark Bryner by Friday, February 9** either by email at [cbryner@tep.com](mailto:cbryner@tep.com), or by physical mail: Tucson Electric Power, Attn: Midtown Reliability, P.O. Box 711, Mail Stop CB200, Tucson, AZ 85701-0711.

Thank you for your time and input.

Sincerely,  
Keri Tallorin

Keri Tallorin  
Environmental & Land Use Planner II  
Tucson Electric Power  
(425) 633-7431



**From:** [Elisa Hamblin](#)  
**To:** [Bryner, Clark](#)  
**Cc:** [Tallorin, Keri](#); [Liz Morales](#); [Kristina Swallow](#); [Lynne Birkinbine](#); [Koren Manning](#)  
**Subject:** [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project  
**Date:** Wednesday, February 28, 2024 9:57:24 AM  
**Attachments:** [image001.png](#)  
[permits\\_plans\\_TEPMidtownReliabilityProject\\_2020-2024.xlsx](#)

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---

Clark and Keri,

I apologize for the delayed reply. I had to coordinate responses from multiple staff in Planning and Development Services. Please find the attached spreadsheet that identifies significant development projects within the study area. Please let me know if you have any questions.

Best,



**Elisa Hamblin, AICP**  
*Zoning Administrator*  
[Elisa.Hamblin@tucsonaz.gov](mailto:Elisa.Hamblin@tucsonaz.gov)  
**direct** 520.823.4966 | **cell** 520.633.3020

---

**From:** Tallorin, Keri <Keri.Tallorin@tep.com>  
**Sent:** Monday, January 29, 2024 9:06 AM  
**To:** Elisa Hamblin <Elisa.Hamblin@tucsonaz.gov>  
**Subject:** [EXTERNAL] Existing Plans – TEP Midtown Reliability Project

Good morning Elisa,

I hope you had a lovely weekend.

As part of the Midtown Reliability Project, TEP is reaching out to various agencies within the project study area to gather information regarding development plans in the vicinity of the route segments under review that should be considered as part of the line siting process. Please find attached a request for plans from TEP.

We respectfully request your response in writing. The information you provide with the

city's upcoming development plans will help inform the development of alternative routes to be included in the CEC application.

**Please respond to Clark Bryner by Friday, February 9** either by email at [cbryner@tep.com](mailto:cbryner@tep.com), or by physical mail: Tucson Electric Power, Attn: Midtown Reliability, P.O. Box 711, Mail Stop CB200, Tucson, AZ 85701-0711.

Thank you for your time and input.

Sincerely,  
Keri Tallorin

Keri Tallorin  
Environmental & Land Use Planner II  
Tucson Electric Power  
(425) 633-7431





**From:** [Kent McRae](#)  
**To:** [Tallorin, Keri](#)  
**Cc:** [RWRD Utility Coordinator](#); [Bryner, Clark](#)  
**Subject:** [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project  
**Date:** Monday, January 29, 2024 7:59:06 AM

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---

Hi Kerri.

We will make sure you have shape files representing existing sewer infrastructure along the routes indicated. The shape files will show RWRD manholes and sewer lines in the generally correct position. TEP's actual design should include survey services that pick up manholes and other relevant features.

Your message below refers to development plans, so I wanted to confirm with you the shape files referenced above will meet your needs, and as-builts can be downloaded by TEP engineering staff as routing is finalized and the design progresses.

Tom Porter, included in the group email address used, will be the primary point of contact with RWRD for your planning and engineering efforts.

*Kent*

*724-6372  
PCRWRD TS&E*

---

**From:** Tallorin, Keri <Keri.Tallorin@tep.com>  
**Sent:** Monday, January 29, 2024 7:32 AM  
**To:** RWRD Utility Coordinator <RWRDUtilityCoord@pima.gov>  
**Subject:** Existing Plans – TEP Midtown Reliability Project

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Good morning Kent,

I hope you had a lovely weekend.

As part of the Midtown Reliability Project, TEP is reaching out to various agencies within the project study area to gather information regarding development plans in the vicinity of the route segments under review that should be considered as part of the line siting process. Please find attached a request for plans from TEP.

We respectfully request your response in writing. The information you provide with the county's upcoming wastewater reclamation plans will help inform the development of alternative routes to be included in the CEC application.

**Please respond to Clark Bryner by Friday, February 9** either by email at [cbryner@tep.com](mailto:cbryner@tep.com), or by physical mail: Tucson Electric Power, Attn: Midtown Reliability, P.O. Box 711, Mail Stop CB200, Tucson, AZ 85701-0711.

Thank you for your time and input.

Sincerely,  
Keri Tallorin

Keri Tallorin  
Environmental & Land Use Planner II  
Tucson Electric Power  
(425) 633-7431

**From:** [David Godlewski](#)  
**To:** [Bryner, Clark](#)  
**Subject:** [EXTERNAL E-Mail] Midtown Reliability Project  
**Date:** Wednesday, February 7, 2024 10:39:53 AM  
**Attachments:** [image001.jpg](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)

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We received a letter from TEP dated 1/26 inquiring about development plans in the vicinity of the route segments under review that should be considered as part of the line siting process. SAHBA has no future development plans.

Our members, however, may have such plans. If this is something you would be interested in our assistance in determining, please reach out to me.



**DAVID GODLEWSKI**, President & CEO

**Southern Arizona Home Builders Association**

2840 N. Country Club Road | Tucson, AZ 85716

**d:** 520.918.2364 **m:** 520.548.7267 **e:** [david@sahba.org](mailto:david@sahba.org) **w:** [sahba.org](http://sahba.org)

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**From:** [Alison Miller](#)  
**To:** [Bryner, Clark](#)  
**Cc:** [Jeremiah Dean](#)  
**Subject:** [EXTERNAL E-Mail] HCD/Thrive in the 05 Comments on TEP Reliability Project  
**Date:** Monday, February 12, 2024 11:30:50 AM  
**Attachments:** [Outlook-1a0pngb1.jpg](#)

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Hi Clark,

Thank you for the opportunity to comment on the TEP Reliability Project. Apologies this is a bit late.

The City of Tucson recently received a \$50 million Choice Neighborhoods Implementation (CNI) Grant from HUD for the "Thrive in the 05" neighborhood that overlaps with this project. With that funding, there are several projects along multiple route segments under review. Please see the list below and let me know if you need any other information. Due to anticipated City projects along Oracle, Drachman, and Stone, our preferred route would go along Grant Road through the Thrive in the 05 area.

Housing Development: HCD is currently under construction or in design phases for multiple affordable housing projects in the area.

- Milagro on Oracle - Under construction just north of Oracle and Grant Rds
- Tucson House - 17-story public housing building at Oracle and Drachman will be rehabilitated and under construction for 2-3 years beginning in early 2025.
- Sugar Hill on Stone - A new affordable housing project is in design phase at 1910 N Stone Ave, with construction anticipated to begin summer 2025.
- Stone and Speedway - Another new affordable housing project is in the design phase at the SW corner of Stone Ave and Speedway Blvd, with construction anticipated to begin summer 2027. Will be working with the Tucson Rapid Transit project to make sure this is a transit-oriented development.

Neighborhood Improvement Projects: The CNI grant funding will also provide funding for several neighborhood infrastructure projects.

- Drachman Right-of-way improvements - Placemaking improvements proposed along Drachman Street between Oracle Road and Stone Ave.
- 15<sup>th</sup> Ave Enhancements - Investments in bike and pedestrian improvements along 15<sup>th</sup> Avenue between Glenn St and Speedway Blvd. Glad to see that the corridor is no longer under consideration.

**Alison Miller (she/her)**

*Community Services Manager*

*Strategic Planning and Community Engagement (SPACE)*

**Housing & Community Development | City of Tucson**

**direct**

520.837.5345

**mobile**

520.403.1795

**email** [alison.miller@tucsonaz.gov](mailto:alison.miller@tucsonaz.gov)



**From:** [Terry Majewski](#)  
**To:** [Tallorin, Keri](#)  
**Cc:** [Bryner, Clark](#); [carlos@vanishingtucson.com](mailto:carlos@vanishingtucson.com); [MayorRomero](#); [ward1@tucsonaz.gov](mailto:ward1@tucsonaz.gov); [Ward2](#); [ward3@tucsonaz.gov](mailto:ward3@tucsonaz.gov); [ward4@tucsonaz.gov](mailto:ward4@tucsonaz.gov); [ward5@tucsonaz.gov](mailto:ward5@tucsonaz.gov); [Steve Kozachik](#); [citymanager@tucsonaz.gov](mailto:citymanager@tucsonaz.gov); [Paul Diaz](#); [bflagg@southtucson.org](mailto:bflagg@southtucson.org); [Jorge Castillo2](#); [Josue Licea](#); [courtney.rose@pima.gov](mailto:courtney.rose@pima.gov); [Ian Milliken](#); [elisa.hamblin@tucsonaz.gov](mailto:elisa.hamblin@tucsonaz.gov); [DSD Zoning Administration](#); [Jodie Brown](#); [cnance@azcc.gov](mailto:cnance@azcc.gov); [imarquezpetererson-web@azcc.gov](mailto:imarquezpetererson-web@azcc.gov)  
**Subject:** RE: [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project  
**Date:** Thursday, February 15, 2024 12:02:00 PM  
**Attachments:** [TPCHC comment on TEP Midtown Reliability Existing Plans 20240215.pdf](#)  
**Importance:** High

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Dear Keri,

Please find attached the Tucson-Pima County Historical Commission's letter on the existing plans for the TEP Midtown Reliability Project. Please continue to share with us the plans for this project as they develop and inform us of future opportunities to comment.

If Mr. Bryner has any questions about our response, Mr. Carlos Lozano and I are available to discuss.

Regards,

Terry Majewski  
Chair, TPCHC

**Teresita Majewski, Ph.D., RPA, FSA | Executive Vice President**  
**Statistical Research, Inc. | 3170 East Fort Lowell Road, Tucson, AZ 85716**  
**Cell (520) 907-9677 (preferred) | Office (520) 721-4309 | [www.srcrm.com](http://www.srcrm.com)**

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---

**From:** Tallorin, Keri <[Keri.Tallorin@tep.com](mailto:Keri.Tallorin@tep.com)>  
**Sent:** Thursday, February 1, 2024 2:57 PM



**To:** Terry Majewski <tmajewski@srircrm.com>  
**Cc:** Bryner, Clark <CBryner@tep.com>; carlos@vanishingtucson.com  
**Subject:** Re: [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project

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No worries, Terry.

Yes, an additional day is fine. Please provide comments by the end of day February 15.

Thanks,  
Keri

---

**From:** Terry Majewski <tmajewski@srircrm.com>  
**Sent:** Thursday, February 1, 2024 2:32 PM  
**To:** Tallorin, Keri <Keri.Tallorin@tep.com>  
**Cc:** Bryner, Clark <CBryner@tep.com>; carlos@vanishingtucson.com <carlos@vanishingtucson.com>  
**Subject:** RE: [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project

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Hi Keri,

I am so sorry. In my haste I meant for the second mention of February 14 to be February 16. Because our commission meeting won't end until mid-afternoon on Wednesday February 14, it will take us a bit to retrieve the motion from the recording and fully compile all comments from the discussion that I'm sure we'll have. If you can't wait until February 16 for comments, could we at least have until February 15? I think that date is tight but doable.

Again, I apologize for sending off my previous email in haste without noting my mistake with the second date.

Terry

**Teresita Majewski, Ph.D., RPA, FSA | Executive Vice President**  
**Statistical Research, Inc. | 3170 East Fort Lowell Road, Tucson, AZ 85716**  
**Cell (520) 907-9677 (preferred) | Office (520) 721-4309 | [www.srircrm.com](http://www.srircrm.com)**

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**From:** Tallorin, Keri <[Keri.Tallorin@tep.com](mailto:Keri.Tallorin@tep.com)>  
**Sent:** Thursday, February 1, 2024 2:16 PM  
**To:** Terry Majewski <[tmajewski@srcrm.com](mailto:tmajewski@srcrm.com)>  
**Cc:** Bryner, Clark <[CBryner@tep.com](mailto:CBryner@tep.com)>; [carlos@vanishingtucson.com](mailto:carlos@vanishingtucson.com)  
**Subject:** Re: [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project

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Good afternoon Terry,

Thanks for checking in. Certainly, please provide your comments by end of day February 14.

Thanks,  
Keri

Keri Tallorin  
Environmental & Land Use Planner II  
Tucson Electric Power  
(425) 633-7431

---

**From:** Terry Majewski <[tmajewski@srcrm.com](mailto:tmajewski@srcrm.com)>  
**Sent:** Thursday, February 1, 2024 1:40 PM  
**To:** Tallorin, Keri <[Keri.Tallorin@tep.com](mailto:Keri.Tallorin@tep.com)>  
**Cc:** Bryner, Clark <[CBryner@tep.com](mailto:CBryner@tep.com)>; [carlos@vanishingtucson.com](mailto:carlos@vanishingtucson.com) <[carlos@vanishingtucson.com](mailto:carlos@vanishingtucson.com)>  
**Subject:** [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project

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Dear Keri and Clark,

I am writing because our next commission meeting isn't until 2/14. Would it be possible to have until Friday 2/14 to respond in writing, or if the 2/9 deadline firm? Please let me know as soon as you can.

Thank you in advance for your response.

Regards,  
Terry

**Teresita Majewski, Ph.D., RPA, FSA | Executive Vice President**  
**Statistical Research, Inc. | 3170 East Fort Lowell Road, Tucson, AZ 85716**  
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**From:** Tallorin, Keri <[Keri.Tallorin@tep.com](mailto:Keri.Tallorin@tep.com)>  
**Sent:** Monday, January 29, 2024 2:16 PM  
**To:** Terry Majewski <[tmajewski@sricrm.com](mailto:tmajewski@sricrm.com)>  
**Subject:** Existing Plans – TEP Midtown Reliability Project

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Good afternoon Terry,

I hope you had a lovely weekend.

As part of the Midtown Reliability Project, TEP is reaching out to various agencies within the project study area to gather information regarding development plans in the vicinity of the route segments under review that should be considered as part of the line siting process. Please find attached a request for plans from TEP.

We respectfully request your response in writing. The information you provide with the historical commission's upcoming plans will help inform the development of alternative routes to be included in the CEC application.

**Please respond to Clark Bryner by Friday, February 9** either by email at [cbryner@tep.com](mailto:cbryner@tep.com), or by physical mail: Tucson Electric Power, Attn: Midtown Reliability, P.O. Box 711, Mail Stop CB200, Tucson, AZ 85701-0711.



Thank you for your time and input.

Sincerely,  
Keri Tallorin

Keri Tallorin  
Environmental & Land Use Planner II  
Tucson Electric Power  
(425) 633-7431

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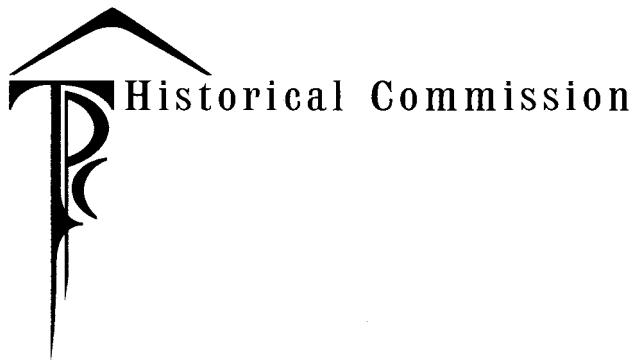
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February 15, 2024

Clark Bryner, AICP  
Manager, Transmission Line Siting  
Tucson Electric Power (TEP)  
ATTN: Midtown Reliability  
P.O. Box 711  
Mail Stop CB200  
Tucson, AZ 85701-0711  
Via e-mail: cbryner@tep.com

RE: Existing Plans - Midtown Reliability Project

Dear Mr. Bryner:

Thank you for your recent letter requesting comment on Existing Plans - Midtown Reliability Project (MRP), and for extending your deadline for our comment to February 15. At our soonest scheduled meeting of February 14, the Tucson-Pima County Historical Commission (TPCHC) passed a motion to submit comment on the MRP and its potential adverse effects on historic resources in the City of Tucson, and City of South Tucson.

The TPCHC has carefully reviewed the online Interactive Map detailing suggested routes through the MRP Study Area and can find no route that does not pass through, or is not directly adjacent to districts, landscapes, commercial corridors, or landmarks that are historic or potentially historic.

An obvious and proven alternative to overhead power lines exists. We strongly encourage TEP to continue exploring ways to underground the MRP. We urge TEP to consider strategies employed by other municipalities such as Paradise Valley, Anaheim, San Diego, and many others, outlined in "Reclaiming Visual Stewardship in Tucson, Arizona: Is it Possible?" by Ellen Barth Alster, Senior Landscape Architect, [former] Pima County Department of Transportation, available from the United States Forest Service.

<https://www.fs.usda.gov/research/treesearch/57557>

Virtually any aboveground installation route through the MRP Study Area (Interactive Map, January 2024) will have unacceptable and practically irreversible adverse visual effects on cherished historic/cultural resources. Please make sure that your Phase 3 Suitability Assessment, and Phase 4 Compatibility Analysis includes, but is not limited to the following newly revised list of resources:

Alvina Himmel Park, 1936, Historic American Landscapes Survey (HALS) NO. AZ-20)  
 Armory Park Historic Preservation Zone  
 Arroyo Chico riparian ecosystem  
 Barrio Blue Moon  
 Barrio San Antonio  
 Blenman Elm National Historic District  
 Cannon House, City Historic Landmark, 1906  
 Catalina Vista National Historic District  
 City of South Tucson (numerous potentially historic and cultural resources)  
 Coronado Hotel, City Historic Landmark, 1928  
 Downtown Archaeological Sensitivity Zone  
 Downtown Tucson National Historic District  
 Feldmans National Historic District  
 Fourth Avenue National Historic District  
 Fourth Avenue Underpass, 1916, HABS/HAER, NRHP MPD “Vehicular Bridges in Arizona”  
 Hotel Congress, City Historic Landmark, 1919, and Heritage Landmark Sign, 1940  
 Iron Horse National Historic District  
 Jefferson Park National Historic District  
 John Spring National Historic District  
 Mansfield Heights\*  
 Miracle Mile National Historic District  
 Pasqua Yaqui lands  
 Pie Allen National Historic District  
 Pima Community College Neon Art Walk (4 Heritage Landmark Signs, circa 1950s)  
 Pueblo Gardens, 1948, Quincy Jones, architect\*  
 Rialto Theater, City Historic Landmark, 1919  
 Rincon Heights National Historic District  
 Sam Hughes National Historic District  
 Sixth Avenue Underpass, 1930, HABS/HAER, NRHP MPD “Vehicular Bridges in Arizona”  
 Smith House, City Historic Landmark, 1904  
 Southern Pacific Railroad Locomotive No 1673, City Historic Landmark (at Transportation Museum)  
 Stone Avenue Underpass, 1936, HABS/HAER, NRHP MPD “Vehicular Bridges in Arizona”  
 Sunshine Mile National Historic District  
 U of A Campus National Historic District, including 3 City Historic Landmarks  
 University Heights Elementary School, City Historic Landmark, 1917  
 Warehouse National Historic District  
 West University Historic Preservation Zone

\*listed as “Highest Priority” in POST-WORLD WAR II RESIDENTIAL SUBDIVISION  
 DEVELOPMENT in TUCSON, ARIZONA 1945-1975, National Register of Historic Places Eligibility  
 Assessment, 2016.

In closing, we believe that undergrounding is the best course of action, and is consistent with  
 TEP’s Mission Statement “...to care for our planet.” Undergrounding is the only way to avoid  
 marring the visual integrity of Tucson’s distinctive, carefully preserved historic resources.  
 Remember it is Tucson’s unique sense of place that attracts tourists, new residents, filmmakers,  
 and other power consumers to our picturesque city.

Please do not hesitate to reach out to me if you have any questions about this comment letter. My  
 e-mail address is [tmajewski@srcrm.com](mailto:tmajewski@srcrm.com), and my telephone is (520) 907-9677.



Sincerely,

A handwritten signature in cursive script, appearing to read "Teresa Majewski".

Teresita Majewski, Ph.D., RPA, FSA  
Chair, Tucson-Pima County Historical Commission

cc: Ms. Regina Romero, City of Tucson (COT) Mayor; City of Tucson Councilmembers; Michael Ortega, City of Tucson City Manager; Mr. Paul Diaz, City of South Tucson Mayor; Mr. Josué Licea, City of South Tucson Planning and Zoning Director; Mr. Brian Flagg, City of South Tucson Council Member; Ms. Jodie Brown, COT Historic Preservation Officer; Ms. Courtney Rose and Mr. Ian Milliken, Pima County Office of Sustainability, Conservation, Cultural Resources and Historic Preservation; Mr. Jorge Castillo, Compliance Coordinator, COT Department of Transportation and Mobility; Ms. Elisa Hamblin, City of Tucson Zoning Administrator & Board of Adjustment, re: Case #C10-21-09; Mr. Cameron Nance, Executive Consultant, Arizona Corporation Commission; Lea Márquez Peterson, Commissioner, Arizona Corporation Commission; TPCHC Commissioners

**From:** [Kathryn Gerber](#)  
**To:** [Tallorin, Keri](#)  
**Cc:** [Bryner, Clark](#)  
**Subject:** [EXTERNAL E-Mail] RE: Existing Plans – TEP Midtown Reliability Project  
**Date:** Monday, January 29, 2024 9:32:20 AM  
**Attachments:** [image001.png](#)

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You don't often get email from [kathryn.gerber@tucsonaz.gov](mailto:kathryn.gerber@tucsonaz.gov). [Learn why this is important](#)

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**\*\*\* REPORT ANYTHING SUSPICIOUS \*\*\***

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Hi Keri,

Thank you for reaching out. I am following up to determine what you need. Are you looking for maps of existing water mains, a map of our existing wells and boosters and their energy needs, a map of our CIP planned construction projects, or a map of pipes to be constructed for new development? Feel free to call me at the number below, my normally packed schedule is free today, so I can better understand what you need to support your project.

Thank you,

**Kathryn Gerber, PE**  
Engineering Manager | System Planning  
Office (520) 837-2212  
[Kathryn.Gerber@tucsonaz.gov](mailto:Kathryn.Gerber@tucsonaz.gov)



---

**From:** Tallorin, Keri <Keri.Tallorin@tep.com>  
**Sent:** Monday, January 29, 2024 9:10 AM  
**To:** Kathryn Gerber <Kathryn.Gerber@tucsonaz.gov>  
**Subject:** [EXTERNAL] Existing Plans – TEP Midtown Reliability Project

Good morning Kathryn,

I hope you had a lovely weekend.

As part of the Midtown Reliability Project, TEP is reaching out to various agencies within the project study area to gather information regarding development plans in the vicinity of the route segments under review that should be considered as part of the line siting process. Please find attached a request for plans from TEP.

We respectfully request your response in writing. The information you provide with the city's upcoming plans will help inform the development of alternative routes to be

included in the CEC application.

**Please respond to Clark Bryner by Friday, February 9** either by email at [cbryner@tep.com](mailto:cbryner@tep.com), or by physical mail: Tucson Electric Power, Attn: Midtown Reliability, P.O. Box 711, Mail Stop CB200, Tucson, AZ 85701-0711.

Thank you for your time and input.

Sincerely,  
Keri Tallorin

Keri Tallorin  
Environmental & Land Use Planner II  
Tucson Electric Power  
(425) 633-7431



**From:** [Kimberly Rowling](#)  
**To:** [Bryner, Clark](#)  
**Cc:** [Scott Schladweiler](#); [John Kmiec](#); [John Van Winkle](#)  
**Subject:** [EXTERNAL E-Mail] TEP Midtown Reliability Project  
**Date:** Monday, February 12, 2024 12:35:51 PM  
**Attachments:** [Outlook-lvq2xsym.png](#)  
[TEP Midtown Reliability Response\\_021224.pdf](#)

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**\*\*\* REPORT ANYTHING SUSPICIOUS \*\*\***

---

Good afternoon,

On behalf of Tucson Water Director John Kmiec, please see the attached letter regarding the TEP Midtown Reliability Project.

Respectfully,

*Kimberly Rowling*

Management Assistant  
Tucson Water Director's Office  
Office 520.837.6090

"Great things are done by a series of small things brought together." ~ Vincent Van Gogh



February 12, 2024

Mr. Clark Bryner  
Tucson Electric Power  
Attn: Midtown Reliability  
PO Box 711, Mail Stop CB200  
Tucson, AZ 85701-0711

*Delivered Via Electronic Mail: [cbryner@tep.com](mailto:cbryner@tep.com)*

**Subject: Tucson Water Response - TEP Midtown Reliability Project**

Dear Mr. Bryner,

Tucson Water has reviewed the proposed routes for TEP's Midtown Reliability Project for conflicts with existing infrastructure and proposed construction.

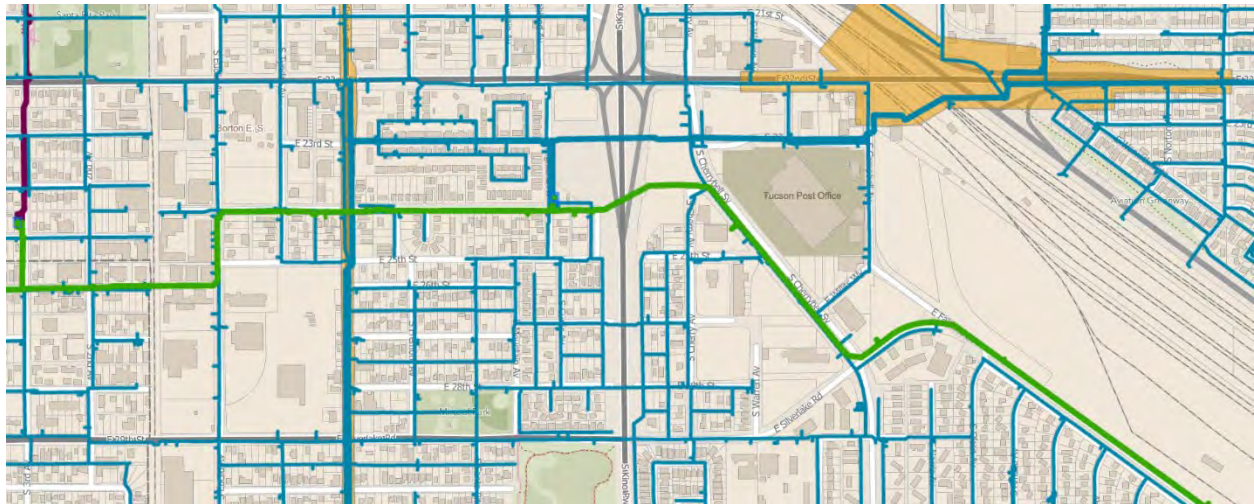
For existing infrastructure, Tucson Water does not have any pumping facilities or other vertical infrastructure along your proposed routes. However, there are buried water mains along most streets which must be considered during any design or construction activities. Potential conflicts with the proposed alignment are described below.

1. A 78-inch diameter water main will have potential conflicts with segments 31, 32, 90, and 116. A map showing the route of our large diameter main in green is shown below. Smaller diameter mains are shown in blue. If segments 31, 32, 90, and 116 stay under consideration, please contact Tucson Water to discuss.
2. A 48-inch water main running north along 3<sup>rd</sup> Avenue for the full length of your project area.

For proposed construction, Tucson Water does have a few projects in the area, mostly water modification projects being performed in conjunction with the City of Tucson's Department of Transportation and Mobility (DTM). Those projects include:

1. The Grant Road widening project, phases 5 and 6. This will include DTM and Tucson Water work along segments 67, 68, 97, and 108. This is currently under design.
2. The Downtown Links Project along your segment 17 is currently under construction.
3. A DTM and Tucson Water project along Park Avenue from 18<sup>th</sup> Street to 36<sup>th</sup> Street will conflict with segments 47, 48, 51, 53 and 49 and is currently under design.
4. DTM and Tucson Water work at 22<sup>nd</sup> Street and Aviation Parkway (in design) may interfere with segments 85, 101, and 120. Most of the work will be done by DTM but water work includes the relocation of a 30-inch water main along 22<sup>nd</sup> Street. The 30-inch water main currently crosses the tracks south of the road alignment, as can be seen in Figure 1.

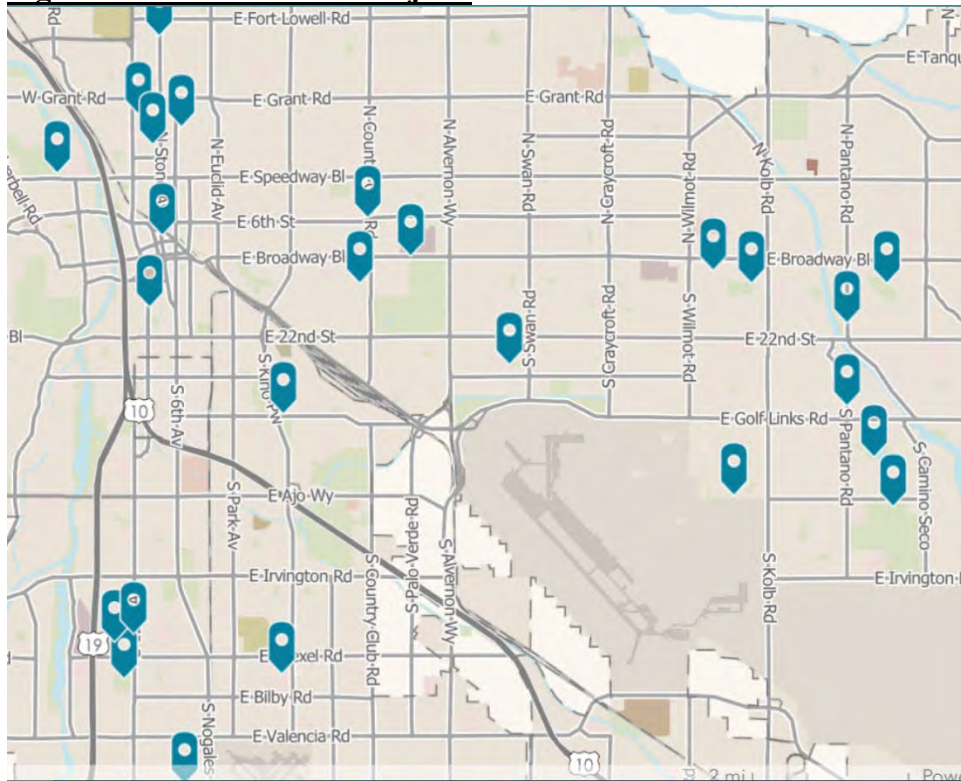
**Figure 1: Location Map of 78-inch water main (in green) with other water mains**



Additionally, Tucson Water's Storm to Shade (S2S) program has several roadside green stormwater infrastructure projects either planned or in construction within the footprint of the Midtown Reliability Project. A map displaying active and proposed projects is shown below and can be found at <https://climateaction.tucsonaz.gov/pages/gsi>. Project-specific information is limited on this map but can be provided by contacting S2S Program Manager, Blue Baldwin, directly for plan details: [blue.baldwin@tucsonaz.gov](mailto:blue.baldwin@tucsonaz.gov). Further, this GIS layer can be shared with a designated point of contact at TEP. Please reach out to Blue Baldwin for this information.



**Figure 2: Storm to Shade Projects**



All proposed designs of TEP's Midtown Reliability Project should be submitted to [tw\\_ddplanreview@tucsonaz.gov](mailto:tw_ddplanreview@tucsonaz.gov) for review. If you have any questions, please do not hesitate to reach out to John VanWinkle at [John.VanWinkle@tucsonaz.gov](mailto:John.VanWinkle@tucsonaz.gov).

Sincerely,

John Kmiec, MPA  
Director  
Tucson Water

## **EXHIBIT I**

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## EXHIBIT I: ANTICIPATED NOISE AND INTERFERENCE WITH COMMUNICATION SIGNALS

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As stated in R14-3-219 of the Rules of Practice and Procedure Before Power Plant and Transmission Line Siting Committee Exhibits to Application, Exhibit I:

*“Describe the anticipated noise emission levels and any interference with communication signals which will emanate from the proposed facilities.”*

---

I.1 Introduction .....	I-1
I.2 Audible Noise .....	I-1
I.3 Corona Noise .....	I-4
I.4 Radio Interference .....	I-5
I.5 Television Interference .....	I-6
I.6 Electric and Magnetic Field (“EMF”) Effects .....	I-6
I.7 Conclusion .....	I-10
I.8 References .....	I-10

### **I.1 Introduction**

The following describes the anticipated noise impacts and interference with communication signals within the study area. The study area for noise is 1 mile on either side of the Project centerline (2 miles in total width). The entire study area is within COT, Pima County, Arizona. The Project will generate both audible noise during the construction and maintenance phases, and minor corona noise during operation.

### **I.2 Audible Noise**

Baseline ambient noise levels in the project area were estimated using the relationship between population density and noise levels. Populations for the majority of the area immediately adjacent to the proposed route alternatives are urban, with a population density of 1,000 to 6,000+ people per square mile. Typical ambient noise levels for these population densities range from 40 to 70 A-weighted decibels (“dBA”). Sources of noise along the alternative routes primarily relate to transportation sources and include local access traffic, aircraft from DMAFB and Tucson International Airport, and noise from Union Pacific Railroad. Existing land use also contributes to noise levels. Sensitive noise receptors such as schools, libraries, parks, sports facilities, and hospital/health care facilities are located in the study area and discussed in more detail in Exhibit H.

Some level of audible noise will result from transmission line construction, operation, and maintenance. During construction, equipment used for assembly and erection of structures, wire pulling and splicing

activities, as well as construction equipment and vehicles used to transport crews and materials will generate noise. Noise from construction activities would be audible, particularly to the closest residents. This construction noise, however, would not be considered to be a major impact because construction would occur during daytime hours when tolerance to noise is higher, and would be temporary, lasting only a few days at a time in any one location. Long-term audible noise impacts from transmission line operation and maintenance activities are expected to be minimal.

Uncontrolled noise levels for typical construction equipment are displayed in Table 20. The maximum noise levels will range between 80 to 85 dBA at 50 feet from construction equipment. As a general rule of thumb, noise levels drop 6 dBA every time the distance from a point source is doubled.

**Table 20. Typical Noise Levels for Construction Equipment**

Equipment	Typical Maximum Levels (dBA at 50 feet)
Front loader	80
Backhoe, excavator	80
Tractor, dozer	85
Grader, scraper	85
Dump truck	84
Pick-up truck	55
Concrete mixer truck	85
Crane (movable)	85
Pump	77
Generator	82
Compressor (air)	80
Pneumatic tools	85
Compactor (ground)	80
Auger drill rig	85
Source: FHWA 2017	

Construction criteria for acceptable noise limits for nearby residents as established by the U.S. Department of Transportation (“USDOT”) were used to assess impacts from construction noise related to the Project (Table 21). These criteria are not standardized, but they are considered reasonable guidelines for determining construction noise impacts (USDOT 2012). The acceptability standards are given in terms of the 1-hour equivalent noise level (“Leq”), the 8-hour Leq, and the weighted day night average (“Ldn”) noise level.

**Table 21. General Construction Noise Assessment Criteria Acceptable Limits**

Land use	One-hour $L_{eq}$ (dBA)		8-hour $L_{eq}$ (dBA)		Weighted $L_{dn}$ (dBA)
	Day	Night	Day	Night	30-day average*, **
Residential	90	80	80	70	75
Commercial	100	100	85	85	80
Industrial	100	100	90	90	85
* Note: In urban areas with very high ambient noise levels ( $L_{dn} > 65$ dBA), $L_{dn}$ from construction should not exceed existing ambient plus-10 decibels.					
** Note: 24 hour $L_{eq}$ , not $L_{dn}$					
Source: USDOT 2012					

Based on typical usage factors, the average construction noise level is conservatively estimated to be 83 dBA at 50 feet from the centerline of the transmission line. Thus, from 0 to approximately 75 feet from the transmission line, construction noise levels would slightly exceed the USDOT 8-hour  $L_{eq}$  standards for construction in residential areas. Construction in some areas will be occurring in commercial areas and areas that experience one-hour traffic volumes that can exceed 2,000 cars per hour (Table 22). Traffic volumes of 2,000 cars per hour can generate 70.4 dBA at 40 miles per hour traffic speed (Table 23) (PAG, 2021).

**Table 22. Traffic on Roads in the Project Area**

ROAD	SPEED LIMIT (mph)	Average vehicles/hour mid-day
Campbell	35	2138
Grant	35/40	2716

(PAG, 2021)

**Table 23. Noise Generated by Traffic (dBA) at 50 feet**

Vehicles /hour	SPEED (MILES/HOUR)				
	35	40	45	50	55
500	63.2	64.4	65.6	66.8	67.9
1000	66.2	67.4	68.6	69.8	70.9
2000	69.2	70.4	71.6	72.8	73.9
3000	71.0	72.2	73.4	74.6	75.7

(WSDOT, 2020)

Noise levels associated with the transmission line construction are anticipated to decrease according to typical point source distance attenuation (Table 24). As such, at a distance of approximately 75 feet and beyond, noise is expected to be within suitable limits. Construction noise impacts will be temporary, and since construction is focused around structure location, noise will not be present along the length of the transmission line at any given time.



Construction activity related to one transmission line structure with a concrete foundation is typically completed in three days total. It takes one to two consecutive days to drill the foundation and pour the concrete, and another day at a later time to set the pole. It takes less than a day to erect a typical direct embed pole. This makes the duration of noise impacts within 100 feet of noise receptors brief, and therefore direct impacts are expected to be temporary. To reduce noise impacts whenever a receptor is within approximately 100 feet of the active transmission construction area, any idling equipment should be parked as far away from the receptor as reasonable and turned off when possible.

**Table 24. Construction Noise Level Estimates\***

Distance from centerline (feet)	Estimated Construction Noise Levels Leq (dBA)	Estimated Ldn (dBA)
50	83	78
100	77	72
150	74	69
200	71	67
300	68	64
400	65	61
800	59	57

\*Note: A background nighttime noise level of 45 dBA is assumed.

The majority of construction noise impacts (i.e., those beyond 100 feet) are expected to have minor short-term impacts. Typical noise levels for construction beyond 100 feet are below the USDOT acceptable limits. The majority of the work is planned to occur during the daytime period in accordance with local guidelines. No nighttime work is planned, but in the event nighttime work is necessary, TEP will notify residents who would be affected in advance. In order to further limit construction noise impacts in general, equipment not in use for a reasonable amount of time would be turned off when possible.

### **I.3 Corona Noise**

Noise emanating from a transmission line is caused by corona. Corona is the electrical ionization of the air that occurs near the surface of the energized conductor and suspension hardware due to electric field strength. Certain electromagnetic effects are inherently associated with overhead transmission of electrical power at high voltage. These effects are produced by the electric and magnetic fields (EMF) of the transmission line with one of the primary effects being corona discharge. Corona effects are manifested as audible noise (“AN”), radio interference, and television interference. These particular effects will be minimized by line location, line design, and construction practices. Results presented in this exhibit are based on consideration of the various possible construction configurations along the alternative routes. Corona may result in AN being produced by a transmission line. Corona noise levels are typically 40 to 50 dBA at the edge of the ROW (Aspen, 2009). In comparison, a vacuum cleaner typically produces 60 to 80 dBA.

The amount of corona produced by a transmission line is a function of the voltage of the line, the diameter of the conductors, the locations of the conductors in relation to each other, the elevation of the line above sea level, the condition of the conductors and hardware, and the local weather conditions. Corona

typically becomes a design concern for transmission lines at 345 kV and above and is less noticeable from lines that are operated at lower voltages, such as the proposed 138 kV transmission line.

The electric field gradient is greatest at the surface of the conductor. Large-diameter conductors have lower electric field gradients at the conductor surface; hence, lower corona than smaller conductors, everything else being equal. The conductors for the Project will be selected to have large diameters, and thus a reduced potential to create audible noise. Irregularities (such as nicks and scrapes on the conductor surface or sharp edges on suspension hardware) concentrate the electric field at these locations, increasing the electric field gradient and the resulting corona at these spots. Similarly, foreign objects on the conductor surface, such as dust or debris can cause irregularities on the surface that are a source for corona.

Corona also increases at higher elevations where the density of the atmosphere is less than at sea level. AN varies with elevation with the relationship of  $A/300$ , where A is the elevation of the line above sea level measured in meters (EPRI 2005). AN at a 600-meter (1,968.5 feet) elevation would be twice the AN at 300 meters (984.25 feet) all other things being equal.

Raindrops, snow, fog, hoarfrost, and condensation accumulated on the conductor surface are also sources of surface irregularities that can increase corona. During fair weather, the number of these condensed water droplets or ice crystals is usually small and the corona effect is also small. However, during wet weather, the number of these sources increases (e.g., due to rain drops standing on the conductor) and corona effects are therefore greater. During wet or foul weather conditions, the conductor would produce the greatest amount of corona noise; yet noise generated by heavy rain hitting the ground would typically be greater than the noise generated by corona, thus masking the AN from the transmission line.

Corona produced on a transmission line can be reduced by the design of the transmission line and the selection of hardware and conductors used for the construction of the line; for instance, the conductor hardware used to support the conductors have rounded rather than sharp edges and recessed bolts to reduce sharp edges that can contribute to corona. The conductors themselves will be installed under tension to prevent damage to the conductor and retain a smooth surface without causing nicks, burrs, or scrapes in the conductor strands.

The transmission line proposed for the Project will be designed to reduce corona generation.

#### **I.4 Radio Interference**

Corona-generated radio interference is most likely to affect the amplitude modulation ("AM") radio broadcast band (535 to 1,605 kilohertz); frequency modulation ("FM") radio is rarely affected. Only AM receivers located very near to transmission lines that are tuned to a weak station have the potential to be affected by radio interference. An example is the humming noise on an AM radio that happens when the radio is near a power line and diminishes as the radio moves away from the line. FM radio is rarely affected by transmission lines. FM radio receivers usually do not pick up interference from transmission lines, because corona-generated radio frequency noise currents decrease in magnitude with increasing frequency and are quite small in the FM broadcast band (88 to 108 megahertz). In addition, the excellent interference rejection properties inherent in FM radio systems make them virtually immune to amplitude-type disturbances.

Residential areas located in the vicinity of the Project’s alternative routes are in close proximity to other existing power lines; therefore, additional radio interference as a result of the Project’s implementation is not expected. Some of these lines are distribution lines that will be relocated underground following construction of the new 138 kV line, thus reducing the potential for impact.

TEP has identified 10 active communications towers registered with the FCC, and one telecommunications antenna within 1,000 feet of the alternative routes (Exhibit I-1). TEP has notified the tower owners of the Project via letter (Exhibit I-2). No radio interference is anticipated from the Project. Potential impacts will be further assessed following design and any impacts mitigated as needed.

### **I.5 Television Interference**

Interference with traditional television reception affects only over-the-air signals of local television stations and does not impact Cable or satellite stations. Any impacts from the transmission line’s corona effects may occur during periods of bad weather, but is usually only a concern for transmission lines of 345 kV or greater and only for receivers within 500 feet of the line. Because the voltage would not exceed 138 kV, television interference is not expected.

### **I.6 Electric and Magnetic Field (“EMF”) Effects**

#### **Existing EMFs Along the Alternative Routes**

There are existing electrical facilities within all of the alternative routes (Table 25).

***Table 25. Existing Electric Facilities Along Routes***

<b>Alternative Route</b>	<b>Electrical Facilities Present</b>	<b>Notes</b>
1	13.8 kV, 4.16 kV, 46 kV	
2	13.8 kV, 4.16 kV, 46 kV	
3	13.8 kV, 4.16 kV, 46 kV	
4	13.8 kV, 4.16 kV, 46 kV, 138 kV	138kV present along 36th Street between Campbell and Euclid
5	13.8 kV, 4.16 kV, 46 kV, 138 kV	138kV present along 36th Street between Campbell and Euclid
6	13.8 kV, 4.16 kV, 46 kV, 138 kV	138kV present along 36th Street between Campbell and Euclid
A	13.8 kV, 4.16 kV, 46 kV, 138 kV	138kV is only present as the line is leaving the DMP sub
B	13.8 kV, 4.16 kV, 46 kV, 138 kV	138kV is only present as the line is leaving the DMP sub
C	13.8 kV, 4.16 kV, 46 kV, 138 kV	138kV is only present as the line is leaving the DMP sub
D	13.8 kV, 4.16 kV, 46 kV, 138 kV	138kV is only present as the line is leaving the DMP sub

Two devices were used to record measurements of existing EMFs directly under some of the existing electrical facilities. The two devices used were:



- Latnex model MG-2000 TD Triple Axis Pro EMF Meter with Datalogger
- Magnum 310 Triple Axis Digital Gaussmeter

Measurements were taken at the centerline of the existing electrical facilities. They were taken on July 9, 2021, at 1:30 pm with a city load of approximately 2100 megawatts (“MW”) and a temperature of 100°F. At the time the measurements were taken the city load does not represent a peak load and therefore the EMF readings taken do not represent the maximum EMFs produced by the existing electrical facilities. The measured values EMFs was measured as:

- 46-kv & 13.8-kV on Park Avenue / Alleyway: Ranged between 10.2mG and 13.4mG
- 4-kV on Campbell Avenue: 0.56mG

### **Electric and Magnetic Fields Background**

EMFs are everywhere; they occur naturally in every atom of matter. The Earth’s surface has a natural electric field which is created by electric charges in the upper atmosphere. The Earth also has a strong magnetic field, which is evidenced by the use of compasses for navigation. The magnetic field is created by electric currents in the magma of the Earth’s core.

EMFs are also produced by power lines. These fields would induce voltages and currents on nearby conductive objects. Electric fields are produced whenever a conductor is connected to a source of electrical voltage. An example of this is the plugging of a lamp into a wall outlet in a home. When the lamp is plugged in, a voltage is induced in the cord to the lamp, which causes an electric field to be created around the cord. Magnetic fields are produced whenever an electrical current flows in a conductor. In the lamp example, if the lamp is turned on (allowing electricity to flow to the lamp), a magnetic field is created around the lamp cord in addition to the electric field. These fields exist around overhead and underground power lines, house wiring, computers, power tools, appliances, and anything that carries or uses electricity, and EMF strength is typically measured in milligauss (“mG”).

Table 26 displays the magnetic field strength from various electrical sources. Information about EMFs was available at open house meetings and on TEP's website and project webpage. It is general practice to consider both electric and magnetic fields together in assessing the amount of effect at the outer edge of a transmission line's ROW.

**Table 26. EMF Strength of Various Electrical Sources at Various Distances**

EMF Source <sup>1</sup>	Distance	Strength	Distance	Strength	Distance	Strength
Microwave Oven	0.5 feet	200 mG	1.0 feet	4 mG	4.0 feet	2 mG
Vacuum Cleaner	0.5 feet	300 mG	1.0 feet	60 mG	4.0 feet	1 mG
Hair Dryer	0.5 feet	300 mG	1.0 feet	1 mG	4.0 feet	0 mG
Electric Shaver	0.5 feet	100 mG	1.0 feet	20 mG	4.0 feet	0 mG
138-kV Transmission Line, vertical <sup>2</sup>	0 feet	16.4 mG	50 feet	6.9 mG	500 feet	<0.14 mG

<sup>1</sup> Appliance magnetic field strengths are median values in milliGauss (mG) for typical 60 Hz electrical current (source: USNIEHS 1999, DOE 1995)

<sup>2</sup> Irvington – East Loop Transmission Line EMF Analysis Rev. 0, November 26, 2019, prepared by Power Engineers. Location 2 from study was used as this represents a configuration and current on the line similar to that expected for the Project

Although researchers and scientists have heavily studied this issue since the 1970s, they have not confirmed that any adverse health effects have been caused by exposure to low-level EMFs.

- After a recent review of scientific literature about the issue, the World Health Organization (“WHO”) called for continued research but concluded that, “...current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields.”
- In 1997, a National Research Council committee studying the issue concluded, “...the current body of evidence does not show that exposure to these fields presents a human-health hazard. Specifically, no conclusive and consistent evidence shows that exposures to residential EMF produce cancer, adverse neurobehavioral effects, or reproductive and developmental effects.”
- Similarly, in 1999, the National Institute of Environmental Health Sciences (“NIEHS”) reported to the U.S. Congress that, “No consistent pattern of biological effects from exposure to EMF had emerged from laboratory studies with animals or with cells.”
- According to the National Cancer Institute: “No consistent evidence for an association between any source of non-ionizing EMF and cancer has been found, despite numerous epidemiologic studies and comprehensive reviews of scientific literature.”

This research has been performed through epidemiological, animal, biological and clinical studies.

The EMFs associated with power lines and electrical devices are much weaker than those associated with other sources such as microwaves or radio waves. These EMFs, at the low end of the electromagnetic spectrum, are described as “non-ionizing” because they are not known to damage DNA or cells directly (WHO, 2021).

Past studies on 138 kV transmission lines have yielded results where maximum calculated magnetic fields were less than or equivalent to the median magnetic field produced by a food processor from 6 inches away, 30 mG.

From these studies, at the edge of ROW, calculated magnetic fields were found to be weaker than the median magnetic field while standing 6 inches away from a conventional video display terminal for a



personal computer (Power Engineers 2019). A hair dryer or microwave oven from a half foot away can be found to produce stronger magnetic fields than were calculated at any of the locations analyzed along similar routes (POWER, 2019). It is anticipated that the EMFs from this Project will be less than or equal to those for 138 kV transmission lines with similar properties.

## **I.7 Conclusion**

Based upon past studies for 138 kV transmission lines similar to the Project, the EMF values associated with this Project are expected to be comparable to other 138 kV transmission lines in the state, and are expected to have EMF values at the edge of ROW that are less than or equal to that of common household appliances. Furthermore, using engineering judgement, the EMFs emitted by the Project will be comparable to some corridors with existing facilities.

## **I.8 References**

- American Cancer Society: [www.cancer.org/cancer/cancer-causes/radiation-exposure/extremely-low-frequencyradiation.html](http://www.cancer.org/cancer/cancer-causes/radiation-exposure/extremely-low-frequencyradiation.html).
- Aspen Environmental Group: Transmission Line Noise Fact Sheet.  
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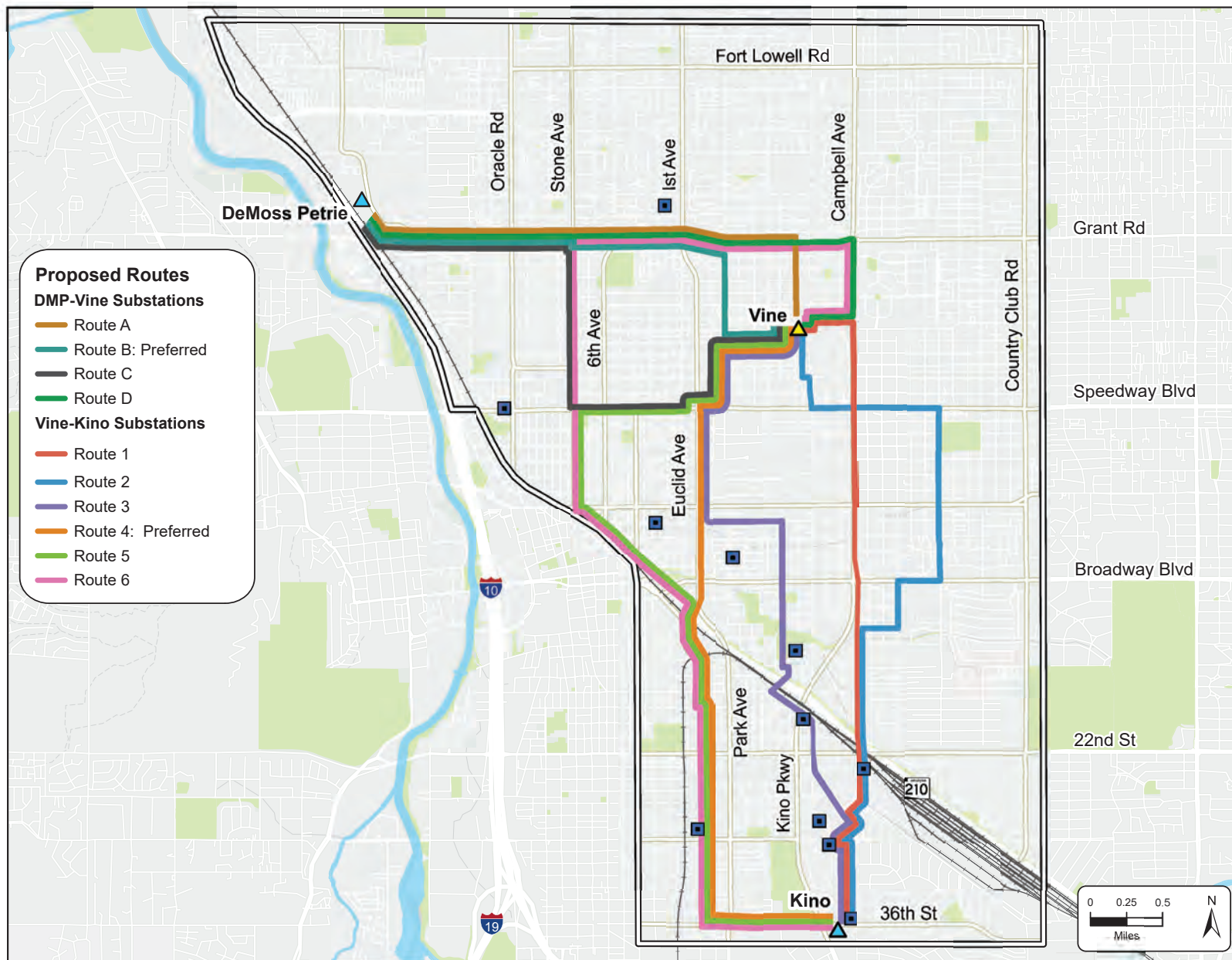


# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit I-1**

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## Exhibit I-1

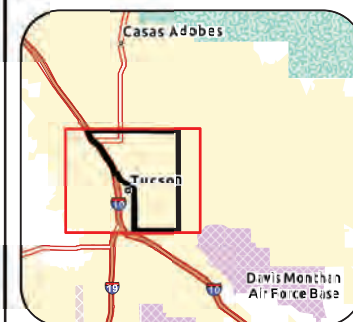
### Midtown Reliability Project

#### Federal Communication Commission Towers

- In-Service 138kV Substation
- Proposed 138kV Substation
- FCC Licensed Towers
- Study Area

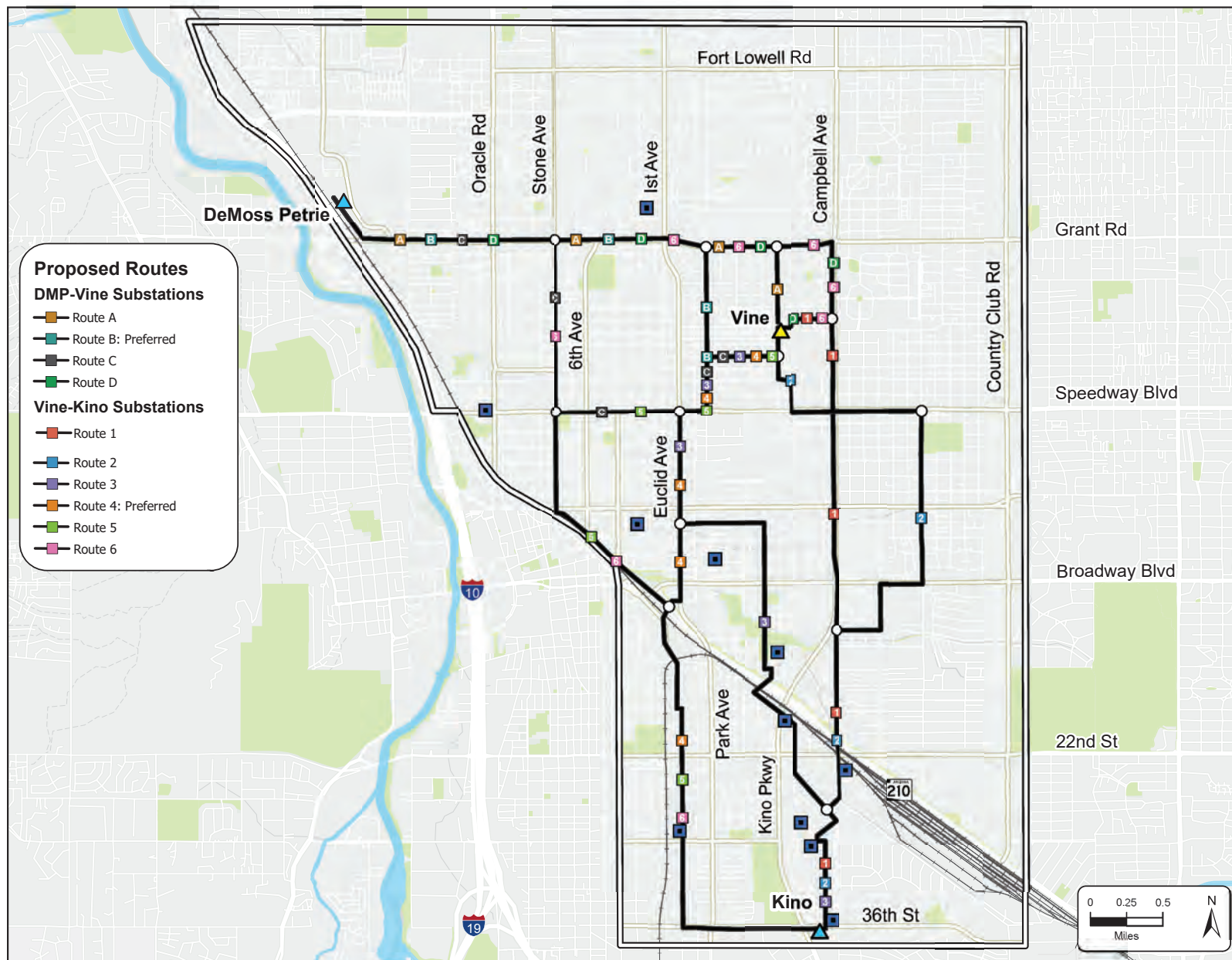
Sources: TEP, Pima County GIS  
 Projection: NAD 1983 UTM Zone 12 N  
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## Exhibit I-1

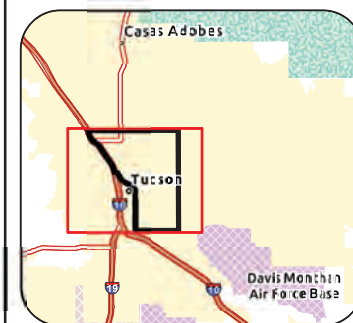
### Midtown Reliability Project

#### Federal Communication Commission Towers

- In-Service 138kV Substation
- Proposed 138kV Substation
- Route Alternative Nodes
- Study Area
- FCC Licensed Towers

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# **Application for a Certificate of Environmental Compatibility**

## **Midtown Reliability Project**

### **Exhibit I-2**

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P.O. Box 711, Mail Stop CB200  
Tucson, AZ 85702

Telephone: 520-918-8254

May 21, 2024

Leanne Wasilition  
American Towers LLC  
10 Presidential Way  
Woburn, MA 01801

**Subject: Proposed Midtown Reliability Project**

Dear Leanne Wasilition,

Tucson Electric Power (TEP) is preparing plans for new transmission facilities that will improve electric reliability in midtown Tucson. The Midtown Reliability Project will connect TEP's existing 138 kilovolt (kV) transmission DeMoss Petrie Substation to the planned upgraded Vine Substation, and connect the Vine Substation to the existing 138 kV Kino Substation.

You have been identified through the Federal Communications Commission website as owning a tower or an antenna structure in the vicinity of the project. As part of TEP's line siting application with the Arizona Corporation Commission, we are soliciting comments from parties that may be affected. We invite you to share feedback by sending comments to [midtownreliability@tep.com](mailto:midtownreliability@tep.com), or calling 1-833-523-0887 and leaving a voicemail. For more information about the project, please visit [tep.com/midtown-reliability-project/](http://tep.com/midtown-reliability-project/).

Respectfully,

A handwritten signature in black ink, appearing to read "Clark Bryner", is written over a light blue horizontal line.

Clark Bryner, AICP  
Manager, Siting, Outreach and Engagement  
Tucson Electric Power





Enclosure: Map of proposed route



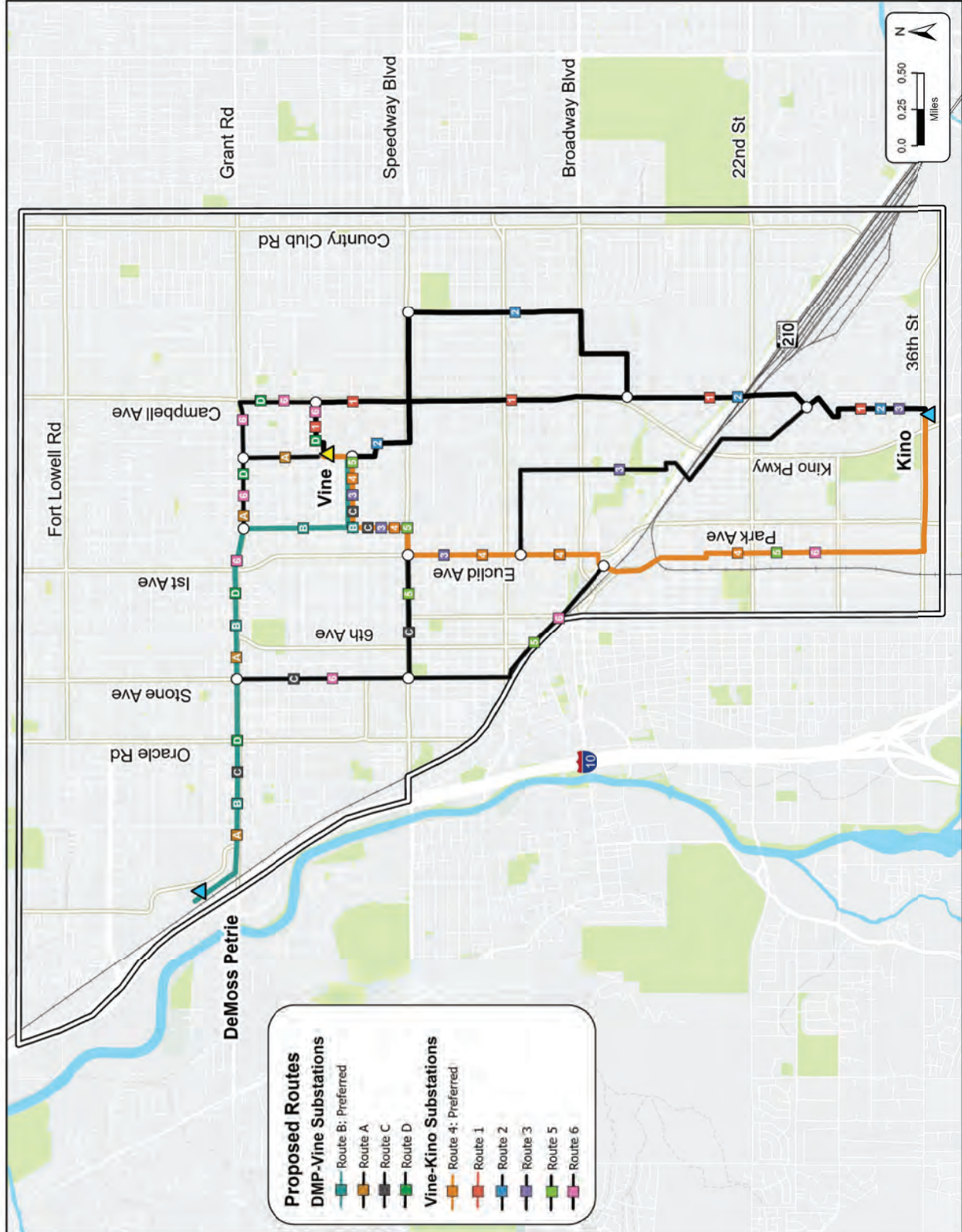
## Exhibit B-2

### Midtown Reliability Project

#### Preferred Routes

-  In-Service 138kV Substation
-  Proposed 138kV Substation
-  Route Alternative Nodes
-  Study Area

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P.O. Box 711, Mail Stop CB200  
Tucson, AZ 85702

Telephone: 520-918-8254

May 21, 2024

Paul Alvarez  
APC Towers, LLC  
8601 Six Forks Road  
Raleigh, NC 27615

**Subject: Proposed Midtown Reliability Project**

Dear Paul Alvarez,

Tucson Electric Power (TEP) is preparing plans for new transmission facilities that will improve electric reliability in midtown Tucson. The Midtown Reliability Project will connect TEP's existing 138 kilovolt (kV) transmission DeMoss Petrie Substation to the planned upgraded Vine Substation, and connect the Vine Substation to the existing 138 kV Kino Substation.

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Tucson Electric Power





Enclosure: Map of proposed route



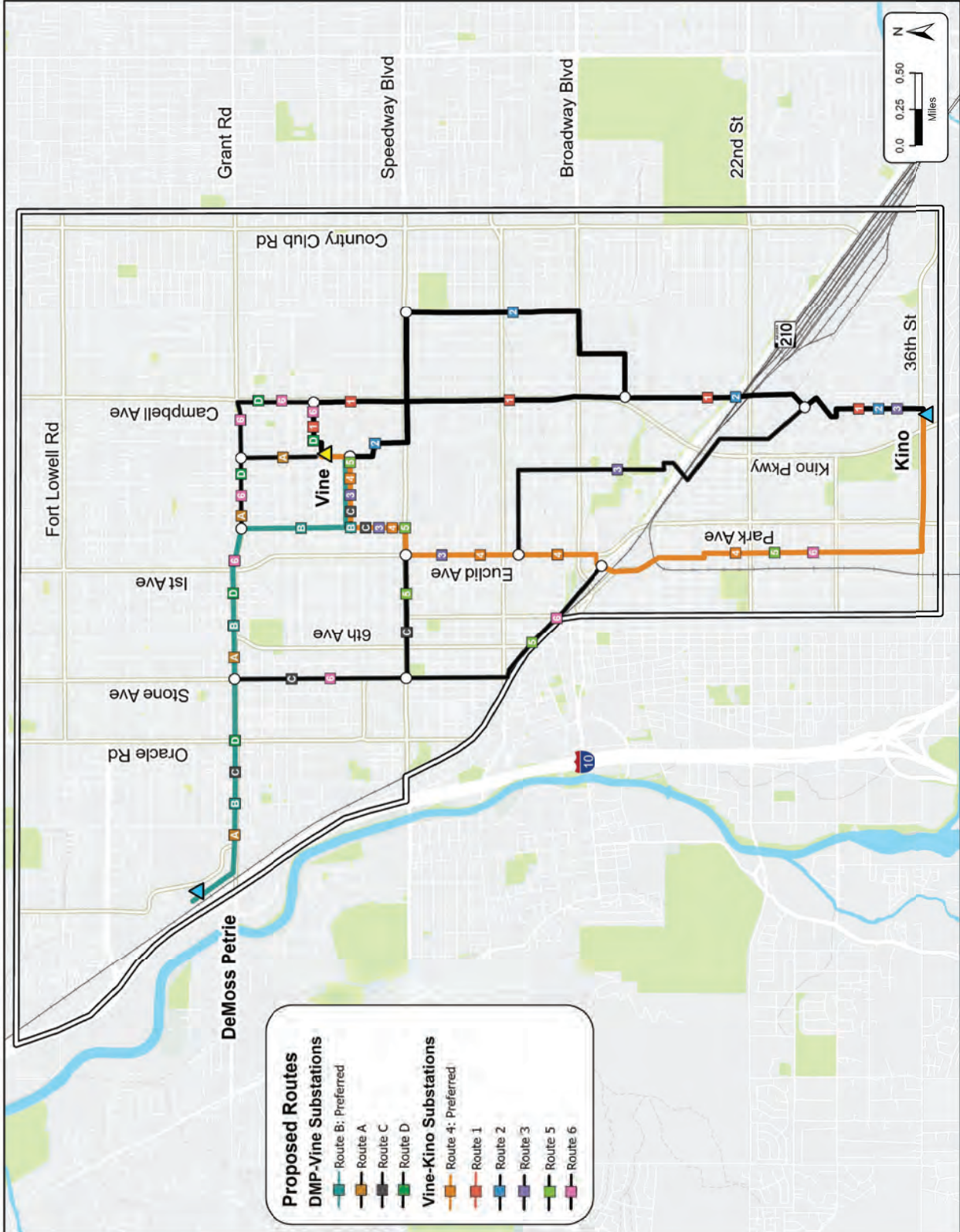
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### Midtown Reliability Project

#### Preferred Routes

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-  Study Area

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P.O. Box 711, Mail Stop CB200  
Tucson, AZ 85702

Telephone: 520-918-8254

May 21, 2024

Jessica Dunk  
AT&T Mobility Spectrum, LLC  
50 Royal Little Drive  
Providence RI 02904

**Subject: Proposed Midtown Reliability Project**

Dear Jessica Dunk,

Tucson Electric Power (TEP) is preparing plans for new transmission facilities that will improve electric reliability in midtown Tucson. The Midtown Reliability Project will connect TEP's existing 138 kilovolt (kV) transmission DeMoss Petrie Substation to the planned upgraded Vine Substation, and connect the Vine Substation to the existing 138 kV Kino Substation.

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Clark Bryner, AICP  
Manager, Siting, Outreach and Engagement  
Tucson Electric Power

Enclosure: Map of proposed route

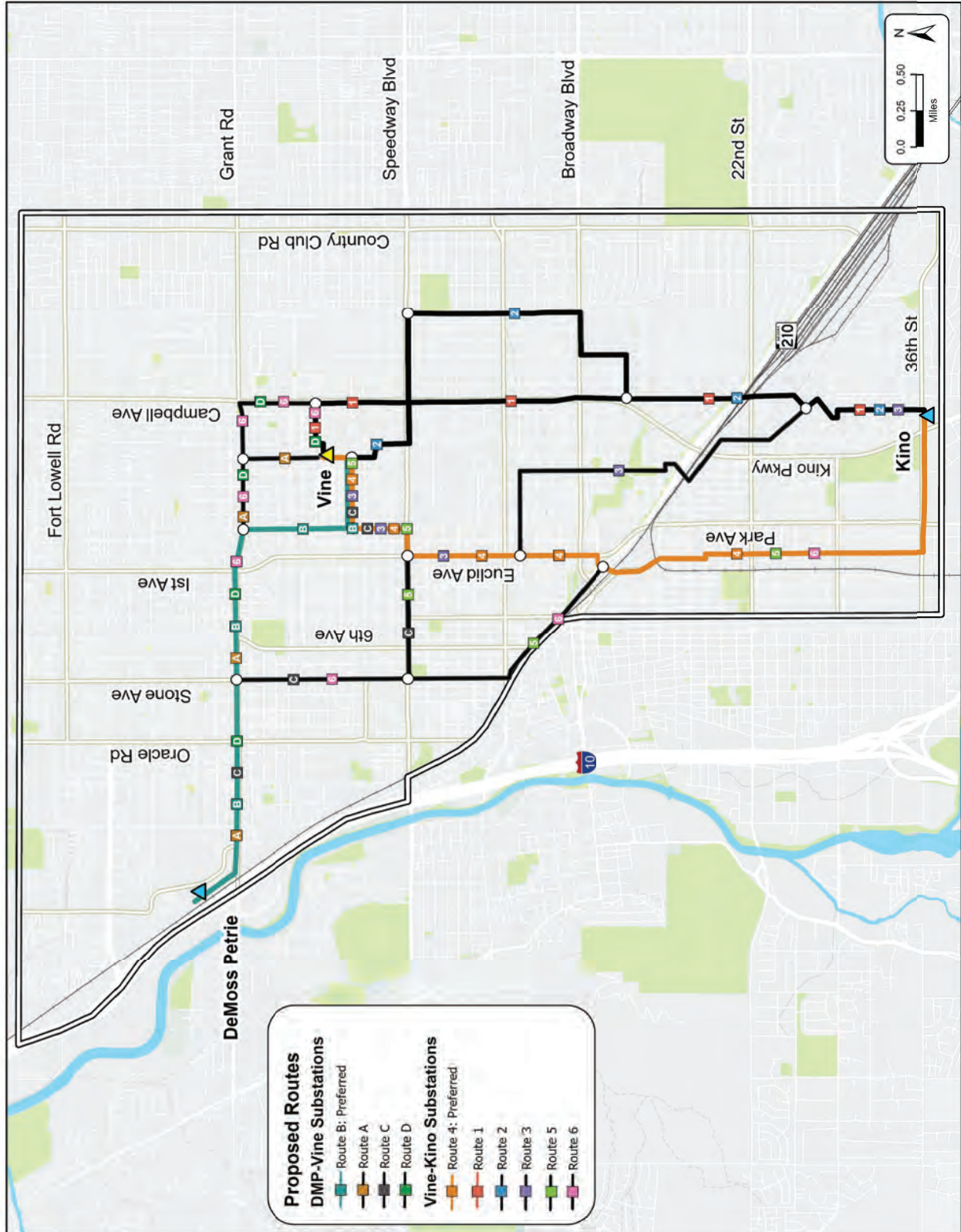
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### Midtown Reliability Project

#### Preferred Routes

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P.O. Box 711, Mail Stop CB200  
Tucson, AZ 85702

Telephone: 520-918-8254

May 21, 2024

Stephen Davis  
iHeartMedia Entertainment, Inc.  
7136 S. Yale Avenue  
Tulsa, OK 74136

**Subject: Proposed Midtown Reliability Project**

Dear Stephen Davis,

Tucson Electric Power (TEP) is preparing plans for new transmission facilities that will improve electric reliability in midtown Tucson. The Midtown Reliability Project will connect TEP's existing 138 kilovolt (kV) transmission DeMoss Petrie Substation to the planned upgraded Vine Substation, and connect the Vine Substation to the existing 138 kV Kino Substation.

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Clark Bryner, AICP  
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Tucson Electric Power





Enclosure: Map of proposed route



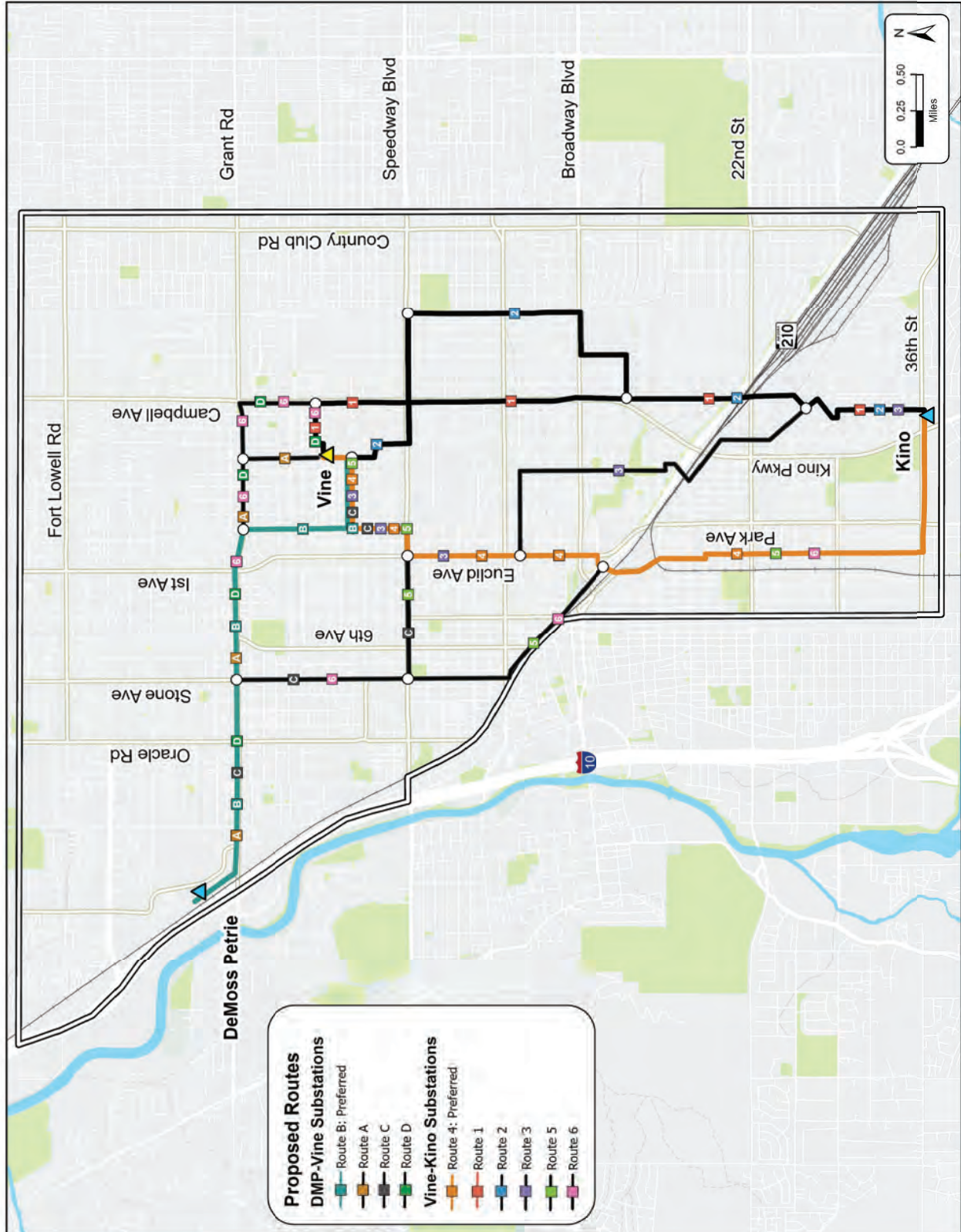
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### Midtown Reliability Project

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P.O. Box 711, Mail Stop CB200  
Tucson, AZ 85702

Telephone: 520-918-8254

May 21, 2024

Edward G. Roach  
SBA Towers X, LLC  
8051 Congress Ave  
Boca Raton, FL 33487

**Subject: Proposed Midtown Reliability Project**

Dear Edward G. Roach,

Tucson Electric Power (TEP) is preparing plans for new transmission facilities that will improve electric reliability in midtown Tucson. The Midtown Reliability Project will connect TEP's existing 138 kilovolt (kV) transmission DeMoss Petrie Substation to the planned upgraded Vine Substation, and connect the Vine Substation to the existing 138 kV Kino Substation.

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Tucson Electric Power





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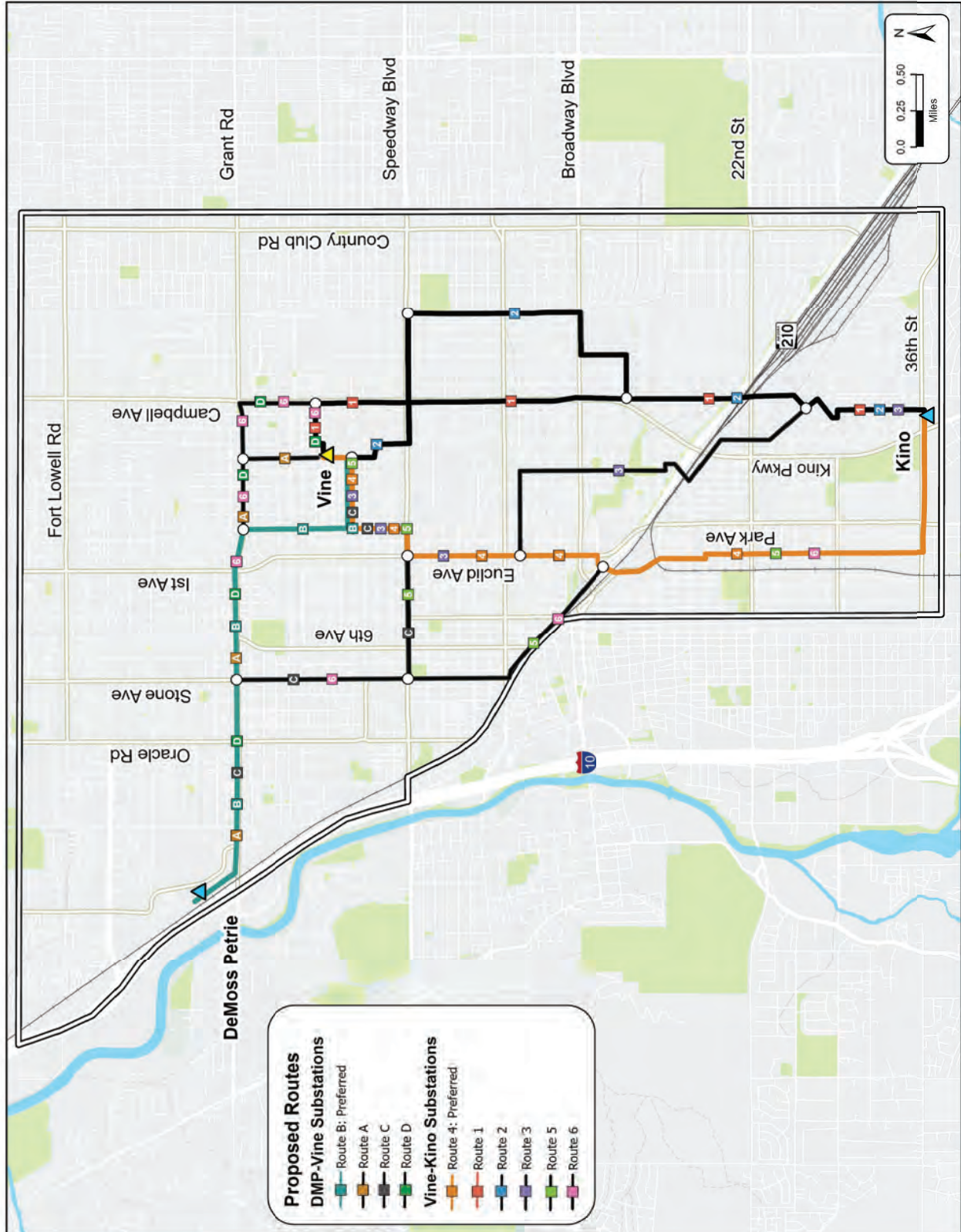
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P.O. Box 711, Mail Stop CB200  
Tucson, AZ 85702

Telephone: 520-918-8254

May 21, 2024

Don Snyder  
T-Mobile West Tower LLC  
12920 SE 38th Street  
Bellevue, WA 98006

**Subject: Proposed Midtown Reliability Project**

Dear Don Snyder,

Tucson Electric Power (TEP) is preparing plans for new transmission facilities that will improve electric reliability in midtown Tucson. The Midtown Reliability Project will connect TEP's existing 138 kilovolt (kV) transmission DeMoss Petrie Substation to the planned upgraded Vine Substation, and connect the Vine Substation to the existing 138 kV Kino Substation.

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Clark Bryner, AICP  
Manager, Siting, Outreach and Engagement  
Tucson Electric Power

Enclosure: Map of proposed route

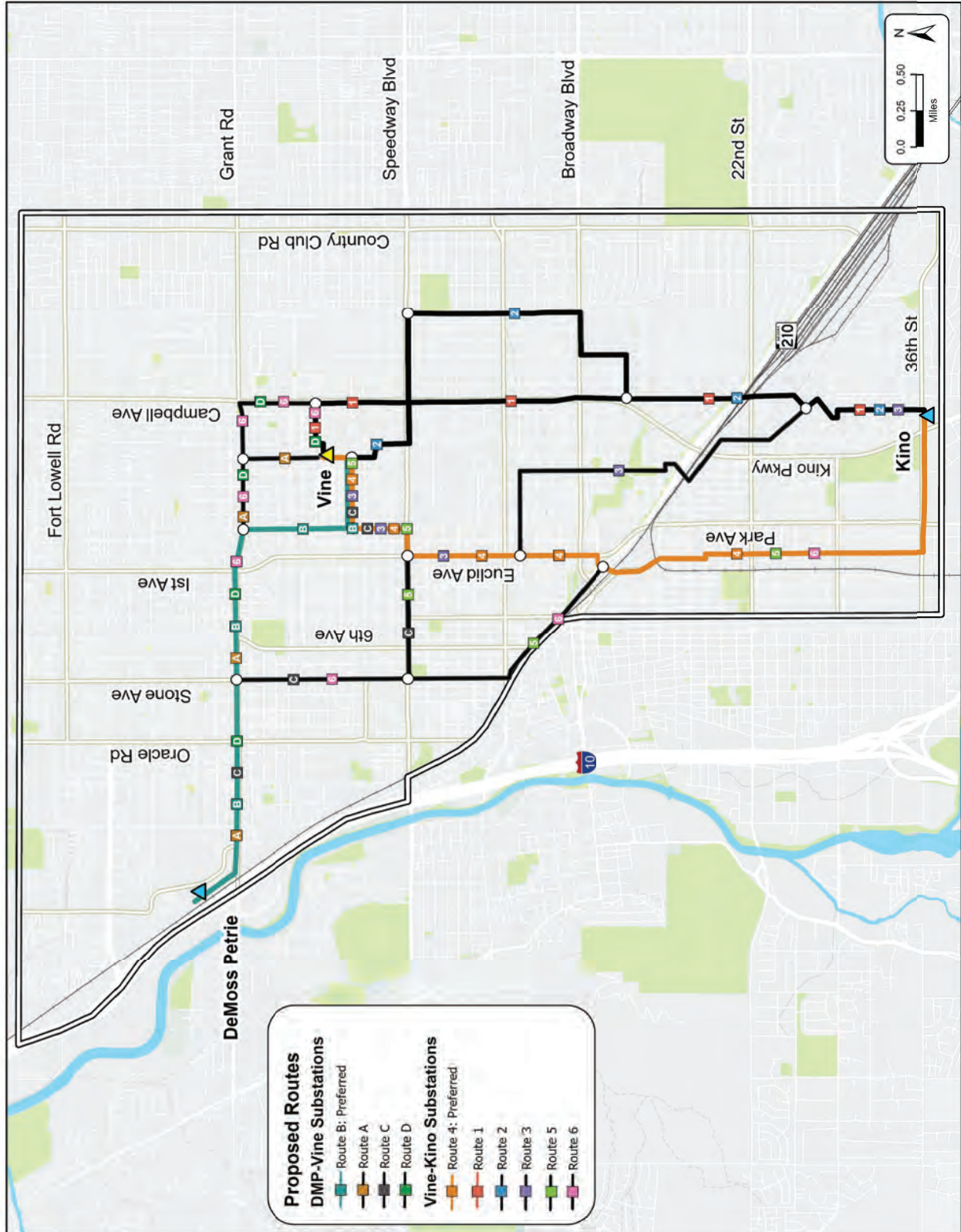
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P.O. Box 711, Mail Stop CB200  
Tucson, AZ 85702

Telephone: 520-918-8254

May 21, 2024

Brad Zielie  
Union Pacific Railroad  
1400 Douglas St., Stop 0650  
Omaha, NE 68179

**Subject: Proposed Midtown Reliability Project**

Dear Brad Zielie,

Tucson Electric Power (TEP) is preparing plans for new transmission facilities that will improve electric reliability in midtown Tucson. The Midtown Reliability Project will connect TEP's existing 138 kilovolt (kV) transmission DeMoss Petrie Substation to the planned upgraded Vine Substation, and connect the Vine Substation to the existing 138 kV Kino Substation.

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Enclosure: Map of proposed route



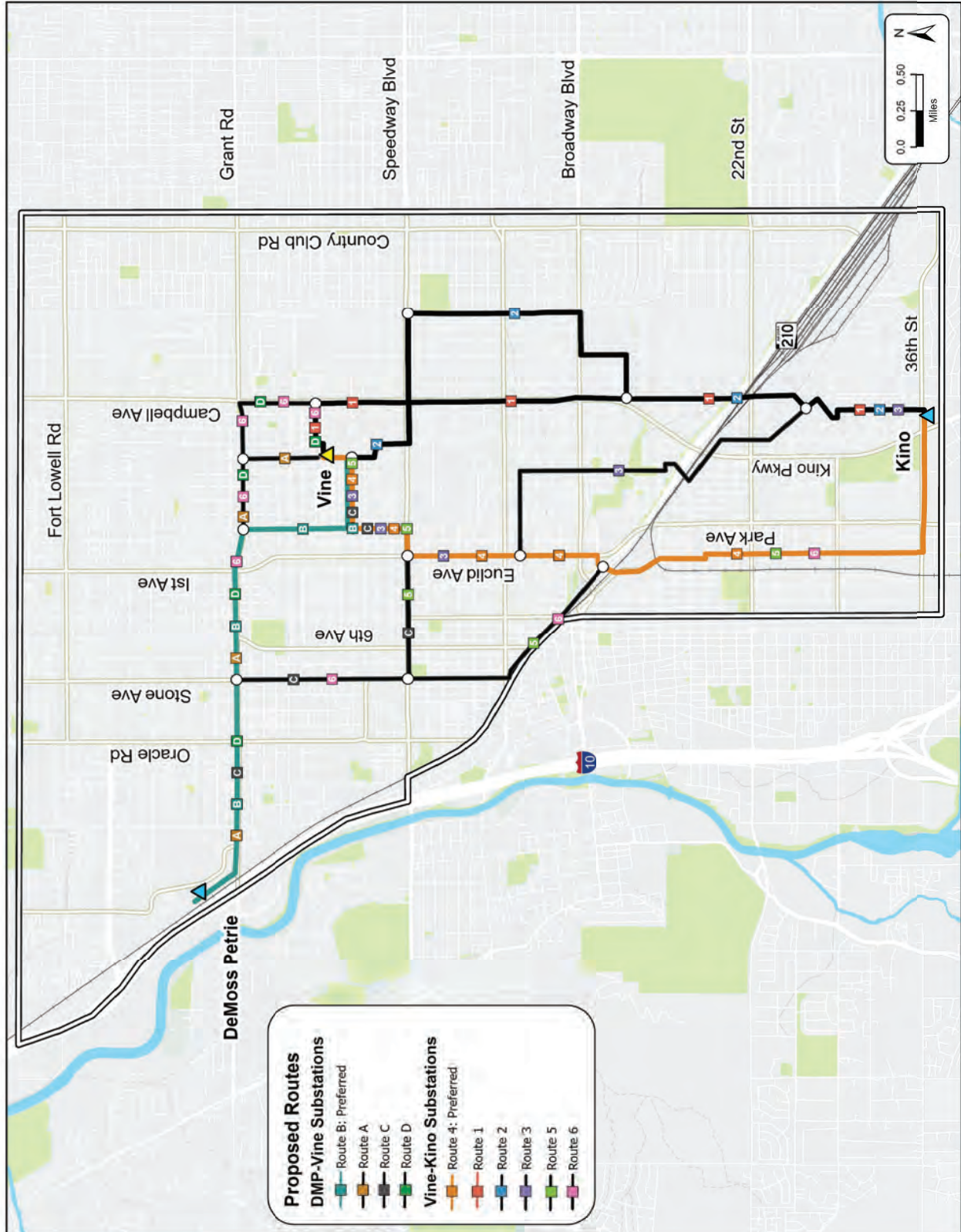
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### Midtown Reliability Project

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**EXHIBIT J**

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## EXHIBIT J: SPECIAL FACTORS

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

J.1 Introduction .....	J-1
J.2 Public Involvement Program Summary .....	J-2
J.3 Meetings and Briefings .....	J-4
J.3.1 Public Open Houses .....	J-4
J.3.2 Agency Briefings .....	J-5
J.3.3 Public Officials Briefings.....	J-5
J.3.4 Neighborhood Advisory Group Meetings.....	J-6
J.3.5 Neighborhood Listening Sessions .....	J-6
J.3.6 Miscellaneous Meetings .....	J-7
J.4 External Communication .....	J-8
J.4.1 Newsletters.....	J-8
J.4.2 Public Notice .....	J-8
J.4.3 Street Signage .....	J-9
J.4.4 Flyers .....	J-9
J.4.5 Door Hangers .....	J-9
J.4.6 Webpage.....	J-10
J.4.7 Email Updates .....	J-10
J.4.8 Social Media.....	J-10
J.4.9 Ways to Comment .....	J-11
J.4.10 Survey .....	J-12
J.5 Environmental Justice.....	J-13
J.6 References .....	J-17

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### J.1 Introduction

TEP initiated a robust public engagement plan in August 2023 that will continue beyond the filing of this application in May 2024 to notify and inform the public, agencies, public officials, community leaders, and other affected stakeholders about the Project (Exhibit J-1). A Master List of Stakeholders is included in

Exhibit J-2. This outreach builds upon the extensive outreach done for the previously proposed Kino to DMP 138 kV Transmission Line Project, which engaged many of the same stakeholders and informed some of the outreach techniques used for this Project.

## **J.2 Public Involvement Program Summary**

Public participation and engagement is an important part of TEP's environmental planning and line siting process. The Company developed and implemented a comprehensive public involvement and communications plan to ensure effective and timely communication with the public and project stakeholders, and to encourage input throughout Project development. Additionally, several bilingual public outreach efforts were used to inform and engage affected Spanish-speaking community members within the study area. The engagement efforts included (Figure 5):

- Meetings and Briefings (49)
  - Public Open Houses (4)
  - Agency Briefings (4)
  - Public Officials Briefings (13)
  - Neighborhood Advisory Group Meetings (4)
  - Neighborhood Listening Sessions (13)
  - Miscellaneous Meetings with Community Partners (14)
- External Communication
  - Newsletters\*
  - Door Hangers\*
  - Social Media\*
  - Flyers\*
  - Street Signage\*
  - Webpage\*
  - Public Notice\*
  - Email Updates
- Ways to Comment
  - Paper Comment Form\*
  - Online Comment Form\*
  - Project Phone Line\*
  - Project Email\*
  - Mail\*
  - Survey

*\*Bilingual*

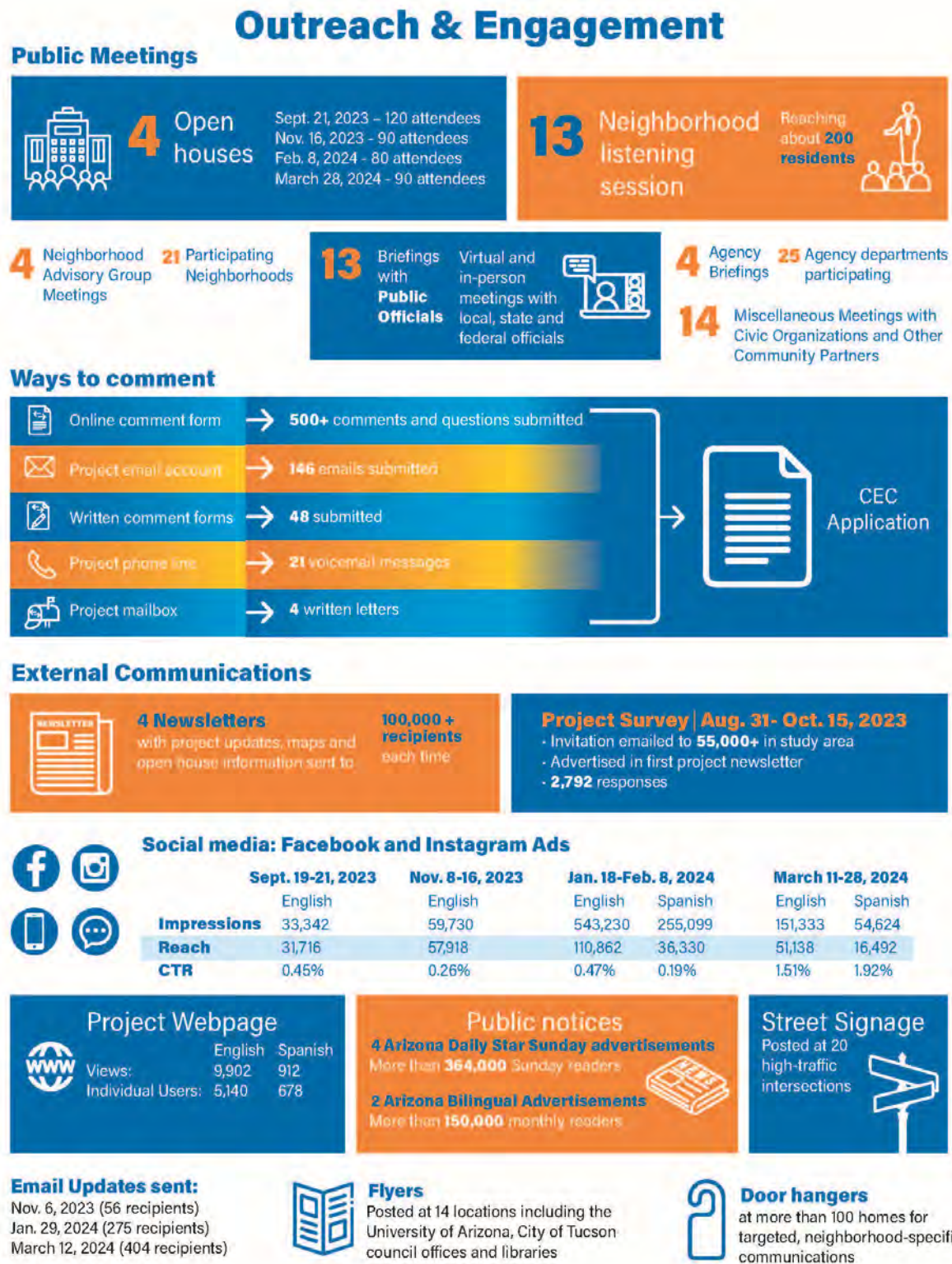


Figure 5. Outreach and Engagement Infographic



### **J.3 Meetings and Briefings**

#### **J.3.1 Public Open Houses**

Four open house meetings were held at the Double Tree Reid Park Tucson from 6 to 8 p.m. The meetings were in an open house format with stations representing different aspects of the siting process and the Project. Each open house also contained a large-group presentation with general updates about the Project. All public open house events were noticed to the public via a newsletter (Exhibit J-7), public notice (Exhibit J-6), and social media (Exhibit J-11). Each meeting drew 80-120 members of the public and project stakeholders, some of whom attended multiple meetings, for a total of 380 participants.

A Spanish interpreter was available at each open house with translation headsets to translate the public meeting presentation and question-and-answer session. Five to six bilingual team members were also available to engage with the public and answer questions. There was one predominately Spanish-speaker who attended the third open house; that individual spoke to a Spanish-speaking team member but did not use the Spanish interpreter.

##### **Open House No. 1 – Sept. 21, 2023**

The purpose of the first public open house was to inform the community of the need for and benefits of the Project, the project study area and scope, and to encourage public engagement and comment. Approximately 120 individuals attended, and 77 individuals signed in. See Exhibit J-8.1 through 8.4 for the presentation and display boards from the first open house.

##### **Open House No. 2 – Nov. 16, 2023**

The purpose of the second open house was to inform the public of identified opportunities and constraints within the project study area, gather input on proposed evaluation criteria, and encourage public engagement and comment. Approximately 90 individuals attended, and 55 individuals signed in. See Exhibit J-8.5 through 8.8 for the presentation and display boards from the second open house.

##### **Open House No. 3 – February 8, 2024**

The purpose of the third open house was to present the Project's suitability assessment, refined segments, and preliminary visual simulations of the transmission line, and to encourage public engagement and comment. Approximately 80 individuals attended, and 60 individuals signed in. See Exhibit J-8.9 through 8.13 for the presentation and display boards from the third open house.

##### **Open House No.4 – March 28, 2024**

The purpose of the fourth open house was to present the results of the compatibility analysis, introduce route alternatives, discuss design elements, show an interactive map with visual simulations, and encourage public engagement and comment. Approximately 90 individuals attended, and 58 individuals signed in. See Exhibit J-8.14 through 8.16 for the presentation and display boards from the fourth open house.

### J.3.2 Agency Briefings

Four virtual agency briefings were held prior to each open house to gather input from agency stakeholders from federal, state, and local agencies; the business community; other utilities; and community partners. Each meeting drew 23-46 stakeholder representatives, some of whom attended multiple meetings, for a total of 117 participants. A summary of the attendance, presentation, and the Q & A session is included in Exhibit J-3.

### J.3.3 Public Officials Briefings

The project team held 13 public official briefings with representatives from tribal, federal, state and local entities with jurisdiction within the project study area. A list of those briefings is provided below, with a detailed summary of each included in Exhibit J-5.1.

- Tribal
  - Pascua Yaqui Tribal Council
    - April 4, 2024
- Federal
  - Southern Arizona Staff for Senator Mark Kelly
    - Aug. 16, 2023
- State
  - State Senators Priya Sundareshan (District 18) & State Representative (District 21) Stephanie Stahl-Hamilton
    - Aug. 15, 2023
  - State Senator Rosanna Gabaldon
    - Oct. 19, 2023
  - Southern Arizona Staff for Governor Hobbs
    - March 20, 2024
- Local (Elected Offices)
  - Staff of Pima County Supervisor Matt Heinz
    - Aug. 16, 2023
  - City of South Tucson Vice Mayor Herman Lopez
    - Aug. 14, 2023
  - City of South Tucson Mayor and Council
    - Sept. 5, 2023
  - COT Vice Mayor Steve Kozachik
    - Sept. 11, 2023
  - COT Council Member Richard Fimbres
    - April 1, 2024
- Local (Agencies)
  - COT Planning and Development Services (“PDSD”)
    - Jan. 29, 2024
  - COT DTM
    - Feb. 9, 2024
  - COT Community Engagement Policy Advisor to Mayor Romero
    - Jan. 31, 2024

All elected officials with jurisdiction within the project study area were also emailed regular project updates and offered individual briefings.

#### J.3.4 Neighborhood Advisory Group Meetings

Four (4) Neighborhood Advisory Group meetings were held prior to each open house to gather input from representatives of neighborhoods within the project study area. Each of the 62 registered Neighborhood Associations within the study area was invited to participate and designate one person to represent their neighborhood in the group. Twenty-one (21) neighborhoods (listed below) participated in the group, with eight (8) to 13 advisory group members participating at each meeting. A list of advisory group members, and summary of the attendance, presentation, conversation, and questions at each meeting is included in Exhibit J-9.

- Armory Park
- Arroyo Chico
- Blenman-Elm
- Broadmoor-Broadway
- Bronx Park
- Catalina Vista
- Country-Glenn
- Dunbar Spring
- Feldman's
- Iron Horse
- Jefferson Park
- Keeling
- Miles
- North University
- Palo Verde
- Richland Heights East
- Rincon Heights
- Sam Hughes
- Samos
- South Park
- West University

#### J.3.5 Neighborhood Listening Sessions

The project team also asked neighborhood associations if the team could attend neighborhood associations' regularly scheduled meetings to give a presentation on the project. Each session, or "listening session," was tailored to the neighborhood's request for information. Time was also set aside at each meeting to answer questions and listen to neighborhood concerns. The thirteen (13) neighborhoods identified in the table below participated, with 3-40 attendees at each meeting. About 199 residents received project updates and asked questions during the following listening sessions. A list of those meetings is included below in Table 27, and a detailed summary of the presentation, conversation, and questions at each meeting is included in Exhibit J-9.1.

**Table 27. Neighborhood Listening Sessions**

Neighborhood	Date	No. of Residents
South Park	Sept. 11, 2023	10
Broadmor-Broadway Village	Sept. 20, 2023	33
Palo Verde	Oct. 9, 2023	5
North University	Oct. 11, 2023	3



Neighborhood	Date	No. of Residents
Miles	Oct. 18, 2023	18
Iron Horse	Oct. 19, 2023	16
Jefferson Park	Nov. 15, 2023	13
Sam Hughes	Nov. 21, 2023	16
Blenman-Elm	Dec. 14, 2023	40
Downtown Neighborhoods and Residents Council	Feb. 5, 2024	5
Pueblo Gardens	Feb. 20, 2024	15
Pie Allen	March 6, 2024	13
El Presidio	March 19, 2024	12

Email updates, multiple invitations for participation in the advisory group, and listening session requests were offered to all active (52) neighborhood associations registered with the COT.

#### J.3.6 Miscellaneous Meetings

Fourteen miscellaneous meetings with community leaders and stakeholders were also held with the following entities. A detailed summary of the meetings is included in Exhibit J-9.2.

- University of Arizona
  - May 23, 2023
  - May 30, 2023
  - June 14, 2023
- Banner Health
  - June 6, 2023
  - March 26, 2024
  - May 16, 2024
- Public Service New Mexico
  - November 21, 2023
- Tucson/Pima County Historical Commission
  - Dec. 13, 2023
- Underground Coalition
  - Dec. 18, 2023
  - March 8, 2024
- Tucson Metro Chamber of Commerce
  - Jan. 31, 2024 (staff)
  - March 5, 2024 (members)
- Boys and Girls Club of Tucson
  - Feb. 8, 2024
- Resident Pam Homan
  - March 27, 2024

## **J.4 External Communication**

The following communication methods were used to inform the public and project stakeholders of Project developments (see Figure 5 for a diagram of outreach methods).

### **J.4.1 Newsletters**

Four (4) bilingual newsletters, each mailed to more than 100,000 recipients, provided a project update and encouraged the public to attend upcoming open houses. Recipients included residents, businesses, property owners and other stakeholders within a notification area extending one (1) mile beyond the project study area.

- Advertising the Sept. 21, 2023, Open House
  - Placed in mail to arrive by Thursday, Sept. 7
- Advertising the Nov. 16, 2023, Open House
  - Placed in mail to arrive by Saturday, Nov. 4
- Advertising the Feb. 8, 2024, Open House
  - Placed in mail to arrive by Saturday, Jan. 20
- Advertising the March 28, 2024, Open House
  - Placed in mail to arrive by Saturday, March 16, 2024.

The entire Midtown Reliability Project notification area is located within TEP's service area. Because TEP continually updates mailing addresses for residential, commercial, and other customers, it compiled a mailing list of current residents, small businesses and other customers located within the notification area. This list was updated periodically to account for new service addresses and addresses where electric service was disconnected. Publicly available data from the Pima County Assessor's Office was used to capture mailing addresses for property owners or property managers who might be located outside the notification area. Mailing list data was manually inspected, and duplicate addresses were removed to ensure data quality and minimize returns.

Spanish-only newsletters were available on the Spanish project webpage and to be mailed at an individual's request, although no requests were received. Additionally, Spanish-only newsletters were printed and readily available to attendees at the open houses.

The newsletters are available in Exhibit J-7.

### **J.4.2 Public Notice**

A total of six bilingual advertisements ran in the Arizona Daily Star and Arizona Bilingual. Four (4) of the meeting advertisements ran in the Arizona Daily Star on the Sunday prior to each public meeting, with more than 364,000 Sunday readers. Beginning in February 2024, fully bilingual public notices also ran in Arizona Bilingual, with more than 150,000 monthly readers. Public notices are available in Exhibits J-6.1, 6.2, 6.3, and 6.4.

Arizona Daily Star

- Sun. Sept. 27, 2023
- Sun. Nov. 12, 2023

- Sun, Feb. 4, 2024
- Sun, March 24, 2024

#### Arizona Bilingual

- Tuesday, Jan. 30, 2024
- Tuesday, Feb. 27, 2024

#### J.4.3 Street Signage

Twenty (20) temporary bilingual signs were placed at major intersections within the project study area advertising the February 2024 and March 2024 public open house meetings. The signs and a representative photo of sign placement are included in Exhibits J-6.5 and 6.6.

#### J.4.4 Flyers

Bilingual flyers were displayed at 14 public locations including the University of Arizona, City of Tucson council offices and libraries two weeks prior to the February 2024 and March 2024 public open house meetings. A list of locations is provided below. The flyers and a representative photo of flyer placement are included in Exhibits J-6.7 and 6.8.

- Tucson City Hall (Mayor and Admin)
- City Ward Offices (Wards 1, 3, 5, 6)
- Donna Liggins Center
- Quincie Douglas Center
- Armory Park Center
- Joel Valdez Downtown Library
- Himmel Park Library
- Sam Lena South Tucson Library
- Pima Community College
- University of Arizona

Attempts were made to provide flyers to the Old Pascua community at the Richey Resource Center and Old Pascua Museum, but the facilities were closed. TEP provided flyers to the tribal Attorney General for distribution within the community, and a briefing with the tribal council followed.

Attempts were also made to display flyers at County Administrative offices, but offices were closed due to renovations.

#### J.4.5 Door Hangers

As part of Phase 1 of the Planning and Siting Process, existing 46kV lines were identified as opportunities for the proposed 138kV transmission line. In many cases, these 46kV lines were carried forward as preliminary segments and refined segments in Phase 3 of the siting process. However, after detailed analysis, it was determined that new 138kV facilities could not be safely constructed in some alleyways where 46kV facilities are currently installed due to building encroachment. As a result, during Phase 4 of the siting study, the locations of these alternative segments were moved to adjacent streets on East



Adams Street, East 7<sup>th</sup> Street, and within a corridor between East Lester Street and North Ring Road (see Exhibits J-6.12 – map from 4<sup>th</sup> newsletter).

TEP recognized this change as a deviation from what had been communicated to the public to that point. To ensure residents were aware of the modification, TEP identified the change in its newsletter map mailed to the public and project stakeholders in March. Additionally, because the change primarily impacted residents closest to the adjacent streets, TEP left over one-hundred targeted door hangers along the newly proposed corridors to inform residents of the new routes. The door hangers were left at residences on East Lester, between North Vine Avenue and North Campbell Avenue; East Adams Street, between North Vine Avenue and North Park Avenue; and East 7<sup>th</sup> Street, between East Euclid and North Highland Avenue. A copy of the door hanger and a photo of its placement is available in exhibit J-6.9.

#### J.4.6 Webpage

English and Spanish webpages were established at the inception of the Project and were continually updated throughout the Project's development. The pages included information about the need and benefits of the Project, project newsletters and updates, outreach materials, a project video, an interactive map, details about upcoming open houses, and required approvals and timing. Public comment was also encouraged through email, phone, mail and by electronic comment form submission. Printed materials including the project newsletter and public notice advertisements in local newspapers included QR codes that directed visitors to the English and Spanish webpages. Printouts of the webpages are in Exhibit J-12, with a screenshot of the interactive map in Exhibit J-12.1.

As of April 30, 2024, the English webpage had 9,902 English-speaking viewers and 912 Spanish-speaking viewers, with 5,140 individual English-speaking users and 678 individual Spanish-speaking users.

The webpages, [www.tep.com/midtown-reliability-project](http://www.tep.com/midtown-reliability-project) and [www.tep.com/proyecto-de-confiabilidad-del-centro-de-la-cuidad](http://www.tep.com/proyecto-de-confiabilidad-del-centro-de-la-cuidad), will remain live until the Project is in-service.

#### J.4.7 Email Updates

Project comment forms and meeting sign-in sheets included an option for participants to opt-in to the project email distribution list and receive project updates. Updates were sent:

- Nov. 6, 2023 (56 recipients)
- Jan. 29, 2024 (275 recipients)
- March 13, 2024 (404 recipients)

These emails are included in Exhibit J-6.10.

#### J.4.8 Social Media

Facebook and Instagram targeted ads were also used to notify residents and other stakeholders of upcoming open house meetings. The ads were targeted to reach platform users within the study area and ran during the dates identified in Figure 6. Examples of social media ads are in Exhibit J-11.1, and reports of social media results are in Exhibits J-11.2 and 11.3.



**Figure 6. Social Media Ads**

#### J.4.9 Ways to Comment

The public was encouraged to provide feedback on the Project through the following bilingual options.

- Filling out a paper comment form
- Filling out an online comment form
- Sending email comments to [midtownreliability@tep.com](mailto:midtownreliability@tep.com)
- Calling 1-833-523-0887 and leaving a voicemail message
- Mailing a letter with comments to:

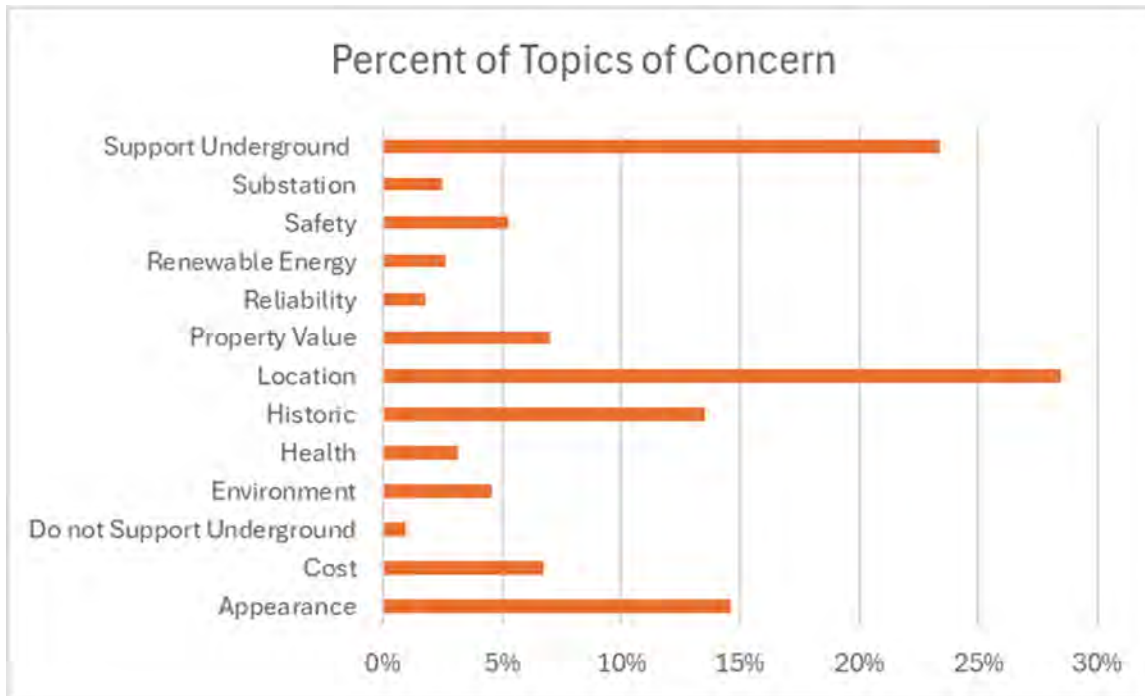
TEP  
Midtown Reliability  
P.O. Box 711  
Mail Stop CB200  
Tucson, AZ 85701-0711

As a result, the public provided a total of 423 comments and questions, via the methods shown in Table 28. The redacted comments are provided in Exhibit J-13.

**Table 28. Comment Methods**

COMMENT METHOD	NUMBER	PERCENT
Online comment form	203	50
Voicemail (Toll-free Number)	21	4
Letter	4	0.75
Comment Form (paper)	48	13
Other	1	0.3

The most common topics of concern covered location, undergrounding, appearance, and historic impacts. Figure 7 shows the percent of the topics of concern.



**Figure 7. Topics of Concern from Public Comment**

#### J.4.10 Survey

A survey was developed to gain public feedback on evaluation criteria and aesthetics, such as pole height and color. The survey link was emailed to about 55,000 customers within the project study area, with an email on record to TEP, and advertised in the August 2023 newsletter sent to 102,000 residents, businesses, property owners, and stakeholders within the project study area. It was available on the project webpage from August 31 to October 15, 2024.

- Based on the 2,792 responses:
  - The project's potential impact on low income and disadvantaged communities and its cost, as recovered through electric bills, were determined to be the two most important factors of six presented.
  - Taller poles with longer spans of wire between them were preferred over shorter poles with shorter spans. Use of shorter poles would require more poles to be installed.
  - Poles with a 'rusted' weathering steel finish, which TEP typically uses throughout its service territory, were preferred over poles with a galvanized metallic finish. The survey was designed to provide the project team with a closer look at the opinions and preferences of customers and other stakeholders.
  - Participants identified additional criteria to consider including:
    - Public health and safety
    - Reliability and maintenance
    - Impacts to pedestrian walkways, public transit, and vehicular traffic
    - Use of existing utility corridors
    - Avoidance of Gateway Corridor Zones
    - Impact on future land uses
    - Impact on Native lands
    - Impact on water



- Length of the project
- Overall environmental impact
- Radio/communications interference

This feedback helped TEP's project team evaluate potential route segments with these criteria and others required under Arizona law.

The survey did not ask participants about underground installation because it is not under consideration due to significantly higher installation and maintenance costs, shorter lifespan and other factors.

A more detailed summary of the survey results is available in Appendix A of the Transmission Line Siting Study (Exhibit B-1).

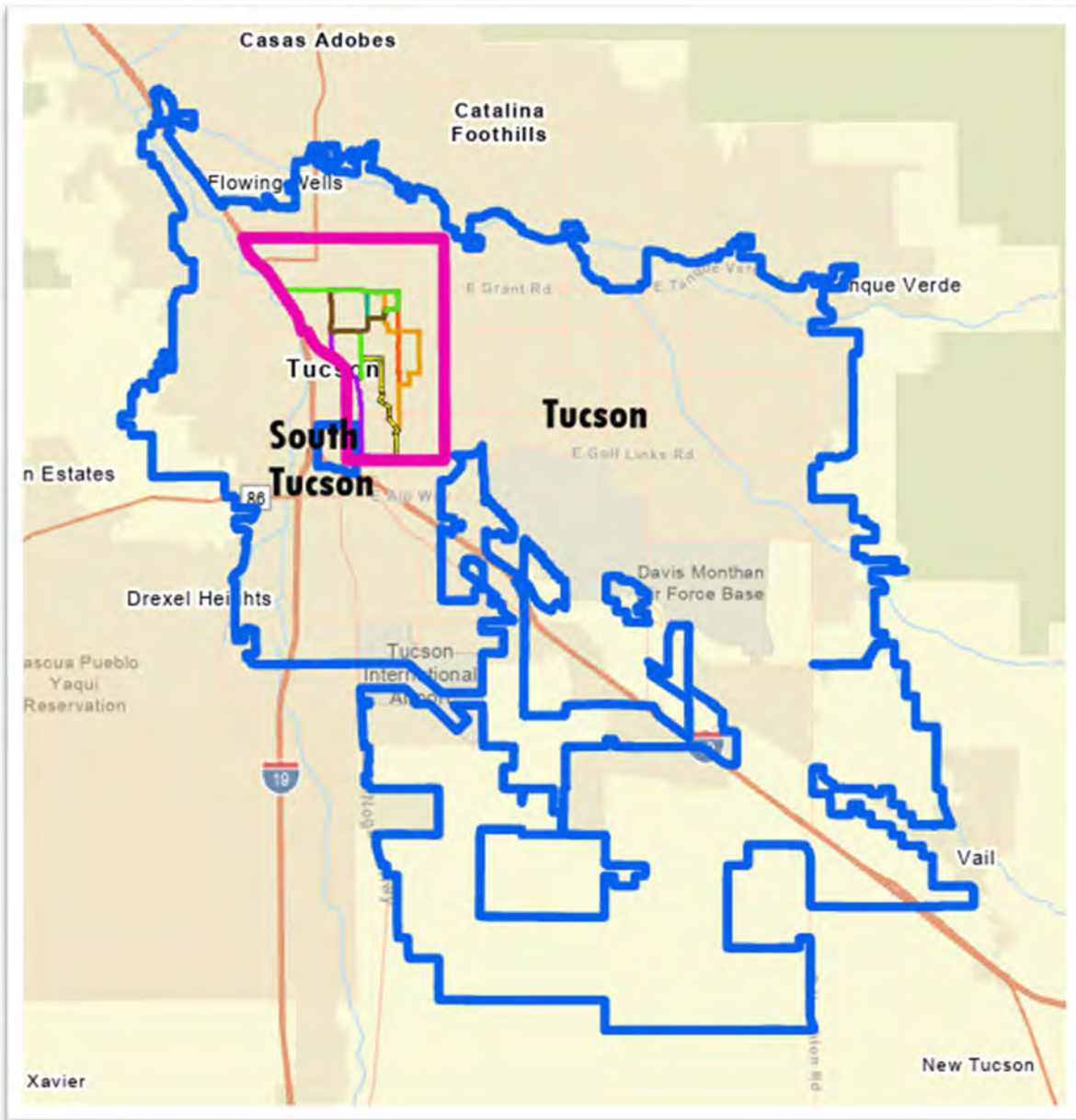
### **J.5 Environmental Justice**

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was signed on February 16, 1994. It focuses attention on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities. The Office of Environmental Justice under the Environmental Protection Agency ("EPA") works to address disproportionately adverse human health and environmental impacts in overburdened or disadvantaged communities.

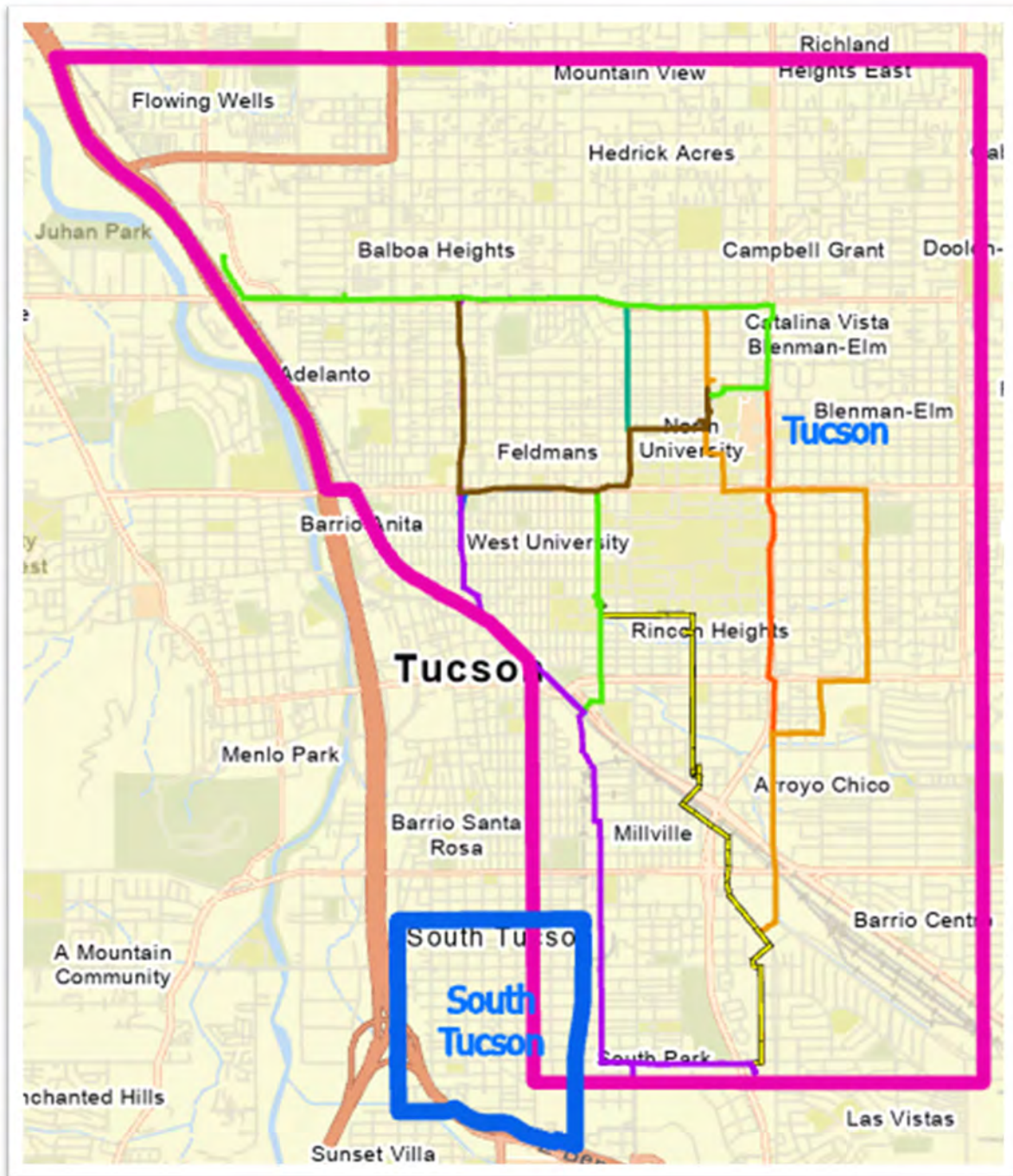
TEP has reviewed the proposed project and evaluated the Project area to determine if low-income or minority populations are being disproportionately impacted by the Proposed Route. Review of Census data indicates that the Study Area is within Census Designated Place ("CDP") Tucson. CDP South Tucson overlaps the southwest corner of the Study Area, but no Alternative Routes are located within the South Tucson DCP. CDP Tucson includes the entirety of the City of Tucson (Figure 8). All Alternative Routes are entirely within CDP Tucson.

CDP South Tucson has a lower income than CDP Tucson or Pima County (Figure 9), and the racial composition is more heavily Hispanic (USCB, 2024) (Figure 11). A report was also generated on the EPA's Environmental Justice Screening and Mapping Tool, Version 2.1 – EJScreen (EPA, 2024) (Figure 12, Exhibit J-14).

TEP has concluded that since the Proposed Route is in CDP Tucson, the lower income, minority community of CDP South Tucson would not be disproportionately impacted by the Project.

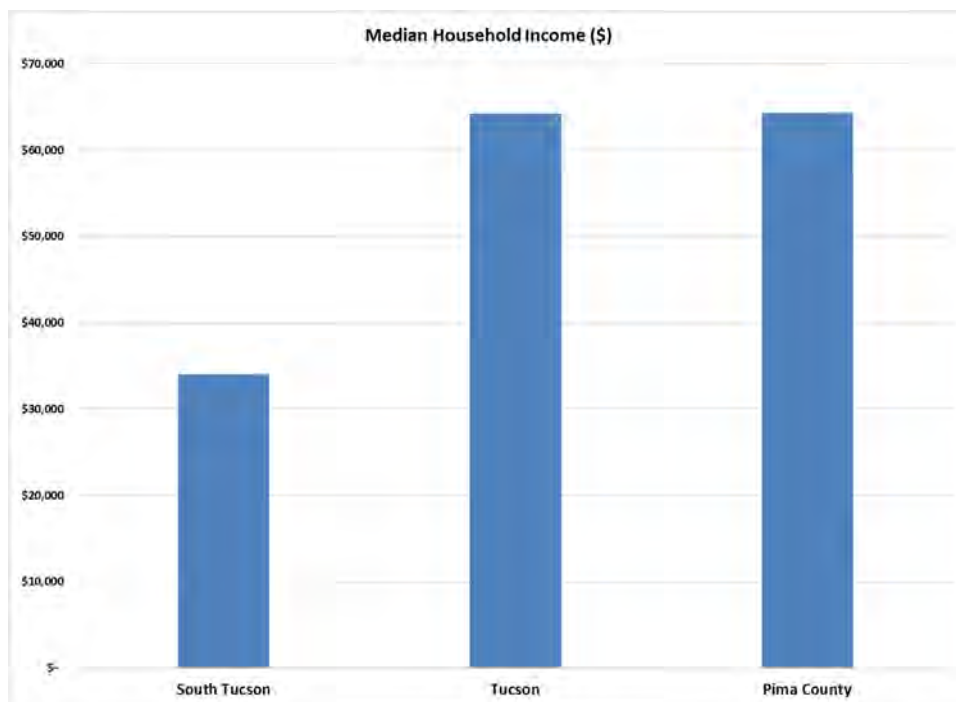


*Figure 8. The Entirety of CDP Tucson*

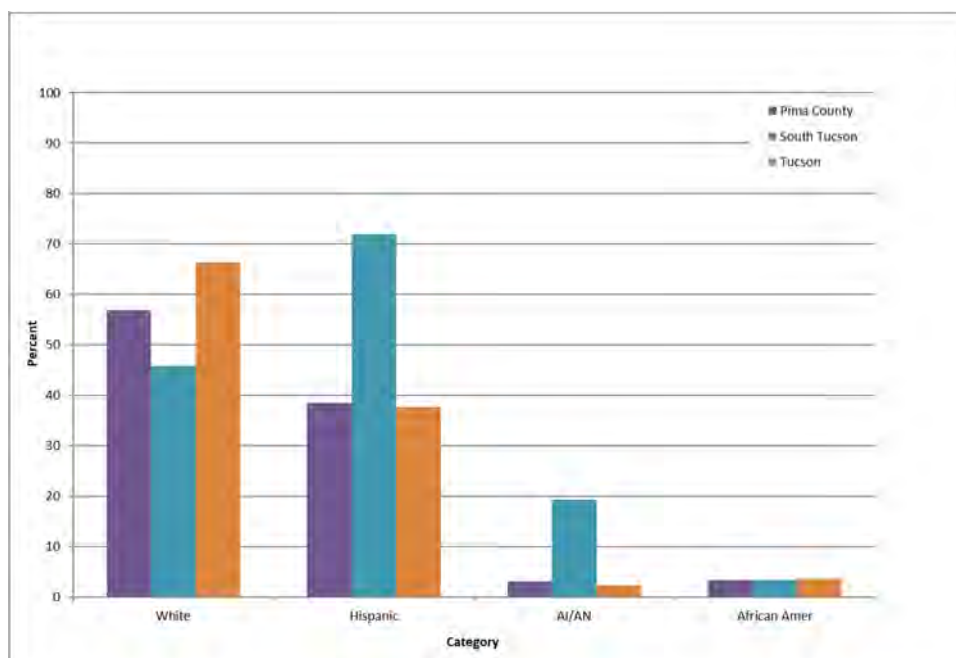


*Figure 9. Census Places in the Project Area*

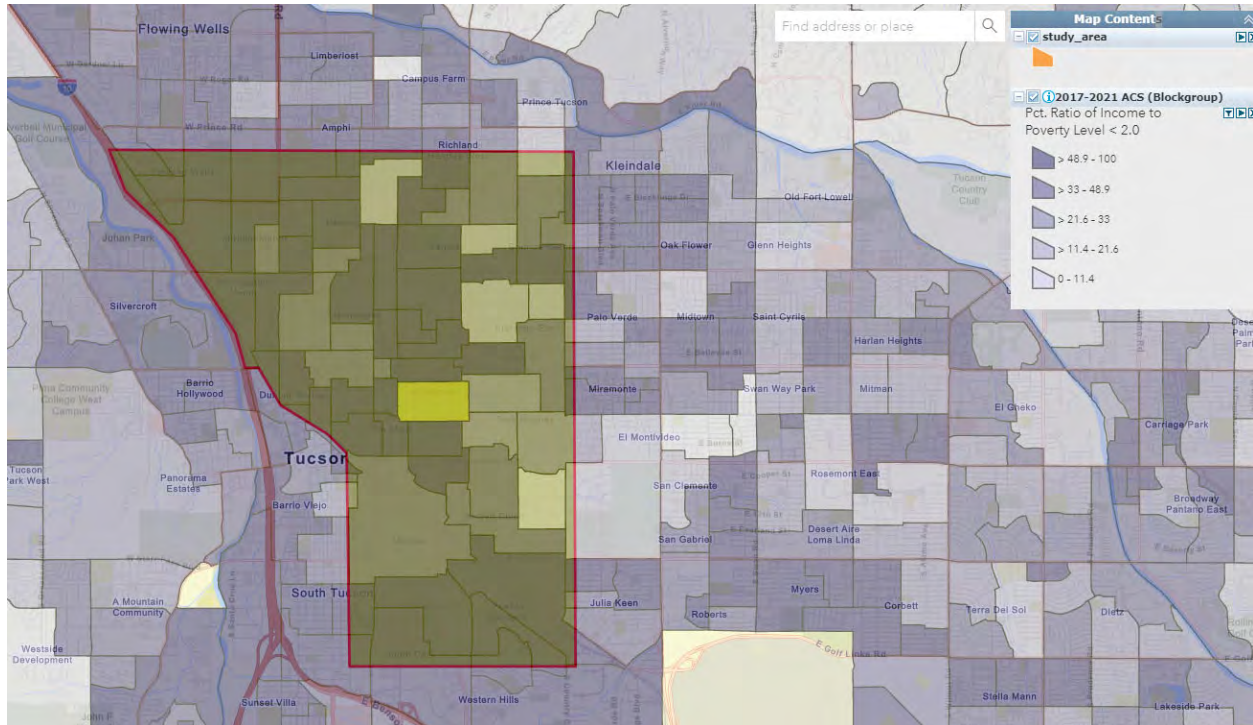




**Figure 10. Median Household Income in Census Places in Project Area**



**Figure 11. Race Percentages in Census Places in Project Area**



**Figure 12. EJSscreen Comparison of Poverty Level Census Places**

## J.6 References

EPA. (2024). *EJSscreen Environmental Justice Screening and Mapping Tool (v 2.2)*. Retrieved from EPA: <https://ejscreen.epa.gov/mapper/>

USCB. (2024). *Census Tables*. Retrieved from US Census Bureau: <https://data.census.gov/table>

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