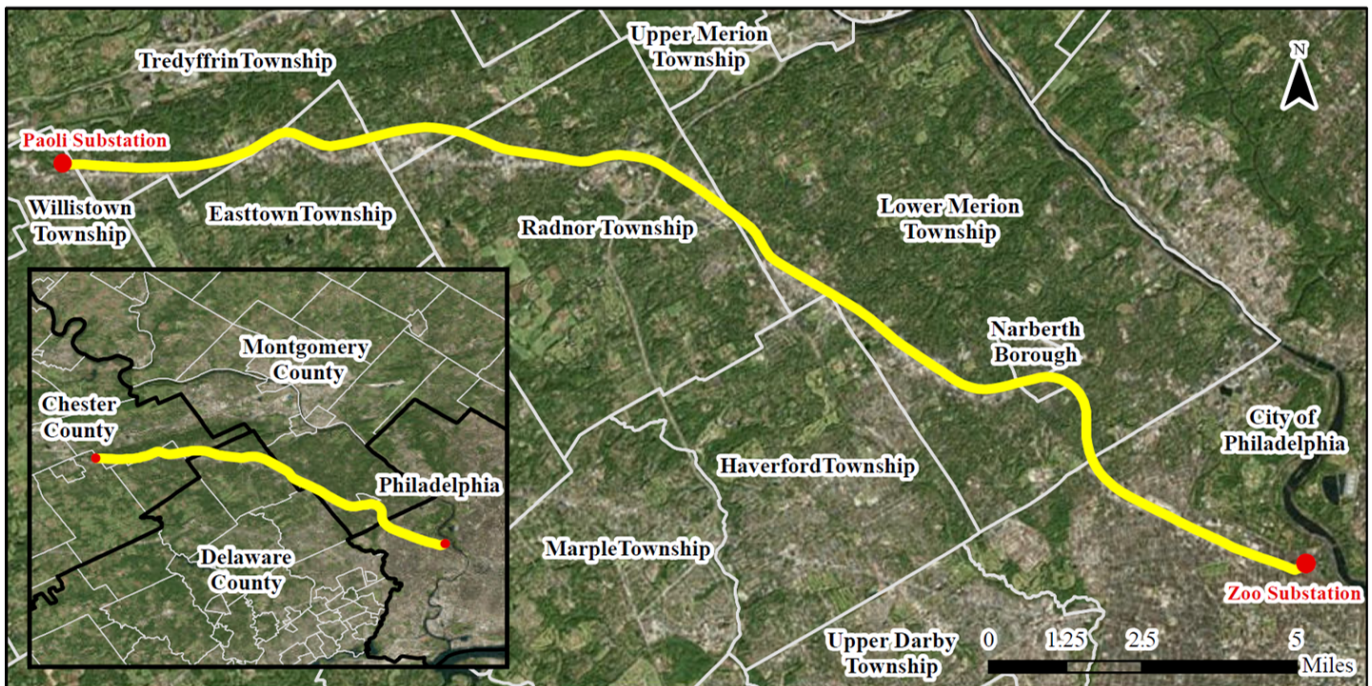


Finding of No Significant Impact for the Philadelphia Zoo to Paoli Transmission Line Project

September 2017



**U.S. Department of Transportation,
Federal Railroad Administration
FINDING OF NO SIGNIFICANT IMPACT
Philadelphia Zoo to Paoli Transmission Line Project
Philadelphia, Montgomery, Delaware, and Chester Counties, Pennsylvania**

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A. INTRODUCTION

The Federal Railroad Administration (FRA) prepared an Environmental Assessment (EA) and draft Section 4(f) Evaluation in March 2017 to evaluate the potential environmental impacts for the Philadelphia Zoo to Paoli Transmission Line Project (Proposed Action). The Proposed Action includes improvements to the deteriorated electrification system along the portion of the Keystone Corridor East, a rail route owned by the National Railroad Passenger Corporation (Amtrak) extending from Philadelphia to Harrisburg, Pennsylvania. The Proposed Action involves an 18-mile portion of the Keystone Corridor East within the existing Amtrak right-of-way between the Zoo Substation (Mile Post 2.5) in central Philadelphia and the Paoli Substation in Chester County, PA (Mile Post 20.5), as seen in **Figure 1**. The Proposed Action would cross through Philadelphia, Montgomery, Delaware, and Chester counties in Pennsylvania (see **Figure 2**). Proposed improvements include the construction of new transmission lines, replacement of 276 deteriorated catenary structures and addition of 49 catenary structures, construction of one additional gantry at Paoli Substation, and replacement of the obsolete substation at Bryn Mawr. FRA is the lead federal agency and Amtrak is providing engineering designs, acting in coordination with FRA.

Figure 1: Substations and Passenger Stations within the Proposed Action Route

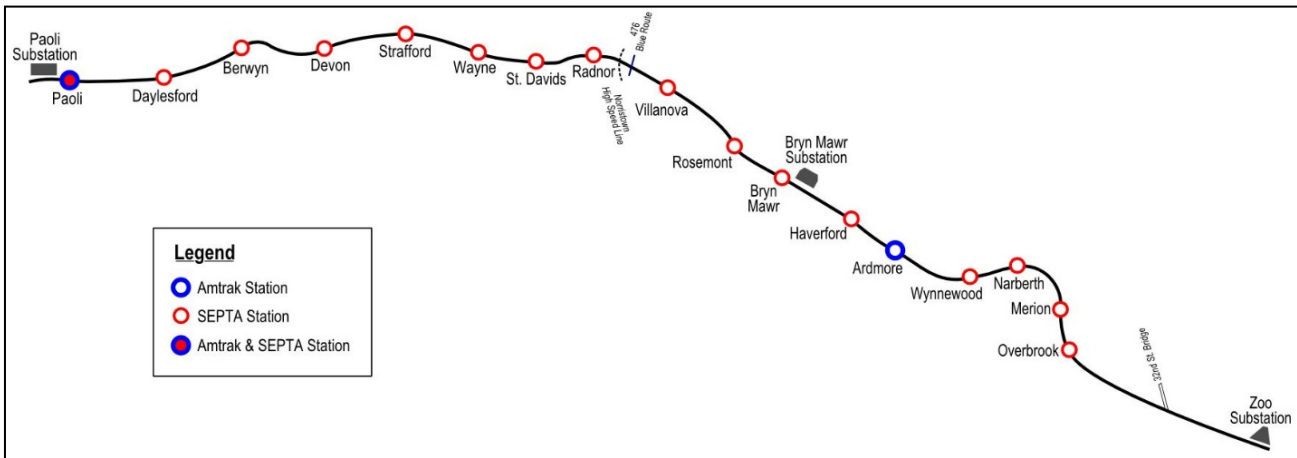
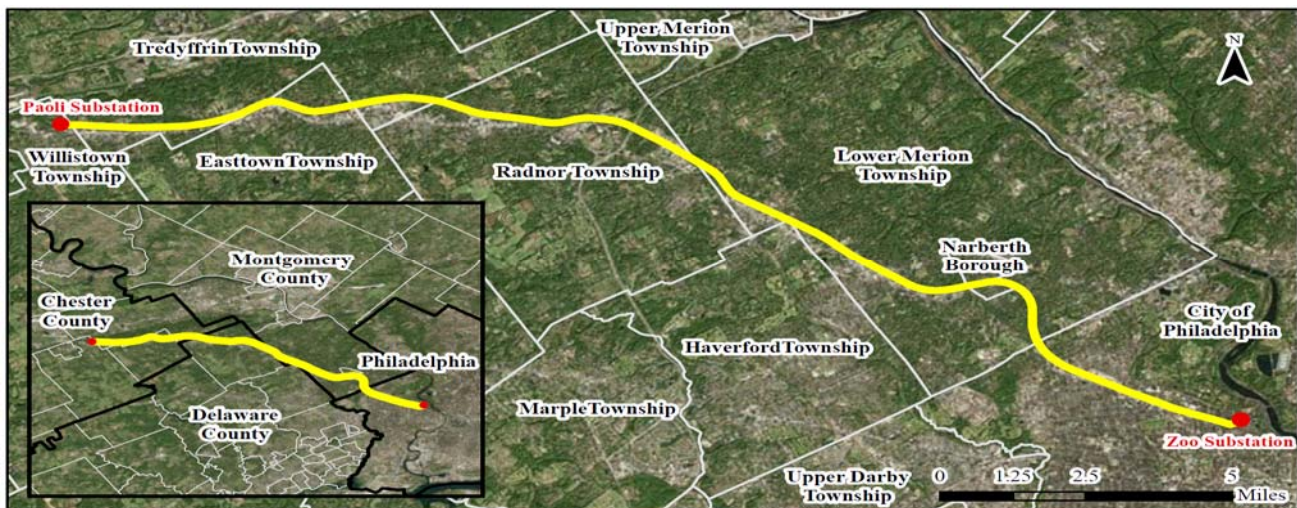


Figure 2: Municipalities within the Proposed Action Route



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Amtrak has proposed these improvements because the existing catenary structures are approaching 100 years in age and are beyond their useful life. Additionally, trains experience low voltage conditions in the middle of the 18-mile stretch between Zoo Substation and Paoli Substation, as this is the only portion of the Keystone Corridor East that has not had a traction power upgrade. Low voltage conditions result in slower, less reliable operation, hence the proposed construction of two new traction power substation buildings to replace the existing Bryn Mawr Substation. Finally, the existing transmission lines that feed electrical power to Amtrak's Keystone Corridor East overhead contact system are not located along Amtrak's Keystone Corridor East right-of-way, but are located along another former Pennsylvania Railroad right-of-way. The other former Pennsylvania Railroad right-of-way is difficult for Amtrak maintenance crews to access. There are no public access points, and vegetation along this abandoned rail line is overgrown.

FRA prepared the EA to comply with the National Environmental Policy Act (NEPA) of 1969 (42 USC § 4321 *et seq.*). FRA makes this Finding of No Significant Impact (FONSI) based on the information in the EA in compliance with NEPA, FRA's Procedures for Considering Environmental Impacts (64 FR 28545, May 26, 1999), and other related laws and regulations.

FRA signed the EA on March 24, 2017, and made the document and associated technical reports available for public comment and review on April 13, 2017. The Project Team posted the EA to the project website at <https://www.fra.dot.gov/Page/P0810>; circulated electronic copies to a broad mailing list; and distributed hard copies to review agencies, local libraries, and municipal buildings. The public comment period for the EA closed on May 12, 2017. FRA incorporated comments received on the EA into this FONSI and its appendices, as applicable.

B. PURPOSE AND NEED

The purpose of the Proposed Action is to maintain and improve passenger train service using electric-powered trains on the Keystone Corridor East between the Zoo Substation (Mile Post 2.5) in central Philadelphia and the Paoli Substation (Mile Post 20.5). In addition, a goal of the Proposed Action is to simplify maintenance, including maintenance access. The needs addressed by the Proposed Action include deteriorated catenary poles and related electrical equipment, insufficient traction power, and the location of transmission lines on another former Pennsylvania Railroad right-of-way that complicates maintenance of these lines.

C. ALTERNATIVES

The Project Team identified the Preferred Alternative, referred to as the Proposed Action, through a rigorous alternatives development and screening process. In addition to the Proposed Action and the No-Build Alternative, three other alternatives were considered but eliminated from detailed analysis (see Section 2.0 of the EA). FRA identified the Proposed Action as the only Build Alternative that would meet the stated purpose and need.

Proposed Action

As discussed, based on the alternatives development and screening process, the Project Team retained one Build Alternative, the Proposed Action, for detailed study in the EA. FRA identified the Proposed Action as the Preferred Alternative.

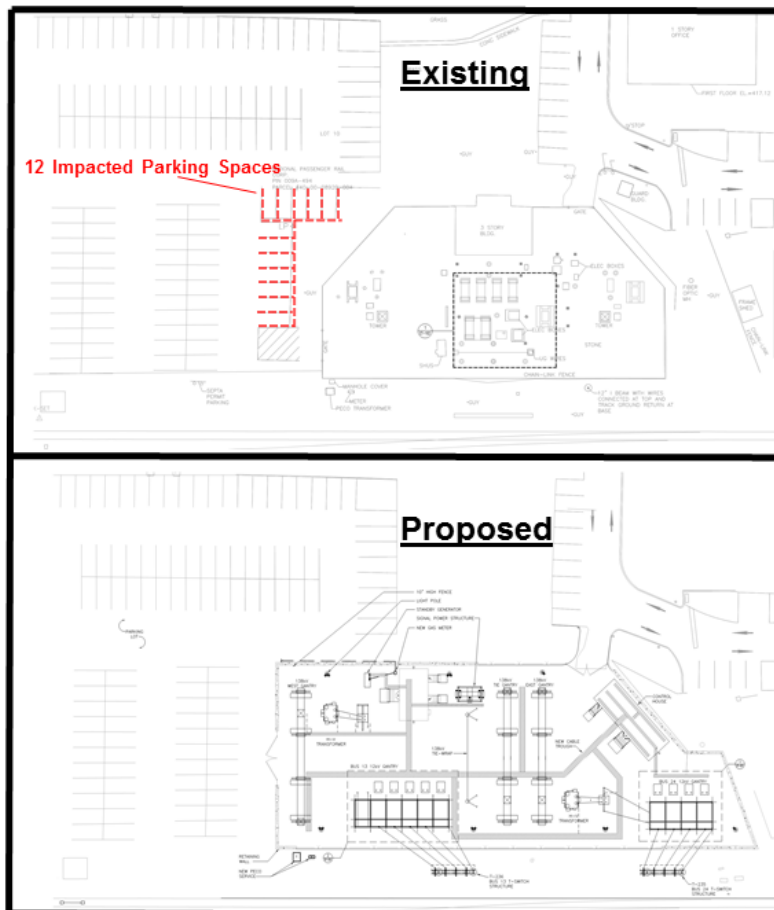
The Proposed Action involves improvements to the electrification system within the existing Amtrak right-of-way between the Zoo Substation and the Paoli Substation on the Keystone Corridor. Components include:

- Construction of new 138 kilovolt transmission lines within Amtrak right-of-way to replace aging and inaccessible transmission lines that are not on Amtrak right-of-way. The power feed to the

existing transmission lines would be deactivated, but the existing infrastructure would not be physically altered. To be clear, this means no alteration or removal of existing facilities along the other former Pennsylvania Railroad right-of-way.

- Replacement of 276 deteriorated catenary structures and construction of an additional 49 catenary structures within Amtrak right-of-way. The new catenary structures would carry both the catenary lines and the new transmission lines. The existing catenary structures consist of a pair of vertical poles on the field side of the outermost track that are joined together by wire head-spans. Only the catenary poles and head-spans would be replaced, because the existing overhead contact system is in good condition. An approximately 15-foot increase in catenary pole height is necessary to accommodate the new Amtrak transmission line and meet Amtrak and National Electric Safety Code required clearances. The 276 existing catenary structures would be replaced within 10 feet of their current locations, and 49 additional catenary structures would also be added at new locations for a proposed total of 325 catenary structures. The additional 49 structures are needed to reduce spacing, to avoid station canopies, and to add catenary structures adjacent to overhead bridges where there are currently none.
- Construction of an additional gantry (a structural framework for supporting high-voltage switches) at Paoli Substation.
- Demolition of the obsolete Bryn Mawr Substation and construction of two new traction power substation buildings on a footprint roughly 7,000 square feet larger than the current footprint, as seen in **Figure 3**.

Figure 3: Bryn Mawr Substation Footprint



No-Build Alternative

Under the No-Build Alternative, no catenary structures, catenary wires, and transmission lines would be upgraded. The existing Bryn Mawr Substation would be left standing without upgrades. There would be no change to the transmission lines within the other former Pennsylvania Railroad right-of-way.

The No-Build Alternative involves risks, including a breakdown of the system and loss of service, as the catenary structures, catenary wires, and transmission lines are showing signs of substantial deterioration and frequently require extensive repairs that increase safety risk for Amtrak's maintenance crews. Amtrak and the Southeastern Pennsylvania Transportation Authority (SEPTA), which both operate over this segment, would still experience low-voltage conditions in the middle section, which would likely worsen over time.

D. ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

In the short term, the No-Build Alternative would not adversely affect the existing social, economic, or environmental conditions in the Proposed Action study area.

In the long term, if left unaddressed, the catenary poles and related electrical equipment would continue to deteriorate, with breakdowns of the system and loss of service becoming more frequent. The No-Build Alternative would not provide any transportation benefits or meet the purpose and need of this Proposed Action.

Proposed Action

Based upon the EA, FRA has concluded that the Proposed Action, including mitigation measures, is not likely to result in significant adverse environmental impacts. The potential for environmental impacts with the Proposed Action is summarized for each resource category and outlined in **Table 1**. All associated environmental commitments are outlined in **Appendix A**.

Table 1: Proposed Action Impact Summary	
Resource	Effects
Location and Land Use	<ul style="list-style-type: none"> • No right-of-way acquisitions, or changes to land use type or zoning would be required
Cultural Resources	<ul style="list-style-type: none"> • Would not impact any known National Register of Historic Places (NRHP) - listed or -eligible archaeological properties • No Historic Properties Affected for 16 historic properties • No Adverse Effect on ten (10) historic properties • Adverse Effect on one (1) historic property • Memorandum of Agreement (MOA) developed to implement mitigation measures
Parks and Wildlife Refuges	<ul style="list-style-type: none"> • No temporary occupancy, permanent occupancy, or severe proximity impacts to the three publicly-owned parks and one publicly owned wildlife refuge
Transportation	<ul style="list-style-type: none"> • Improvements to rail service reliability resulting from an upgraded energy supply system • Permanent loss of 12 parking spaces from Bryn Mawr Substation replacement • No impacts to bus, bicycle, or pedestrian access and use
Noise and Vibration	<ul style="list-style-type: none"> • No change in train speed, rail line alignments, or type of train • No new noise and vibration impacts anticipated
Electric/Magnetic Fields	<ul style="list-style-type: none"> • Proposed electric and magnetic levels would be less than 10% of the level warranting concern, per the International Commission on Non-Ionizing Radiation Protection (ICNIRP)
Air Quality	<ul style="list-style-type: none"> • No impacts to air quality anticipated
Hazardous Materials and Waste	<ul style="list-style-type: none"> • No impacts from hazardous materials or wastes anticipated • Procedures for testing and draining transformers prior to disposal are in place • Procedures for managing excavated soil within areas of environmental concern are detailed in a Soil Management Plan
Property Acquisitions and Easements	<ul style="list-style-type: none"> • Permanent property acquisition or temporary construction easements are not required
Communities	<ul style="list-style-type: none"> • No major impacts to communities anticipated • Transit-oriented development could potentially increase as an indirect impact, potentially improving local economic vitality
Environmental Justice	<ul style="list-style-type: none"> • No disproportionately high impacts to minority or low-income populations, because all populations along the corridor would experience similar impacts • No variances in the receipt of Proposed Actions benefits
Visual	<ul style="list-style-type: none"> • Impacts of replacing historic Bryn Mawr Substation to be mitigated by incorporating characteristics of the original substation into the new design. • Increased catenary structure height minimized during design • Construction tree trimming plans and design modifications minimize impact of tree trimming/removal (all within Amtrak right-of-way) where trees would interfere with construction

Table 1: Proposed Action Impact Summary	
Resource	Effects
Floodplains	<ul style="list-style-type: none"> • No impacts on floodplains or floodways
Water Quality	<ul style="list-style-type: none"> • No direct impacts to waterways; no construction within waterways is required • Erosion and sedimentation during construction would be minimized
Endangered Species	<ul style="list-style-type: none"> • No impacts to threatened and endangered species anticipated • If applicable, FRA and the Project Team would update the coordination prior to construction
Public Safety	<ul style="list-style-type: none"> • Standard precautions to prevent the public from entering Amtrak right-of-way • A Soil Management Plan specifies waste management procedures and worker health and safety precautions in areas of environmental concern
Construction	<ul style="list-style-type: none"> • Most construction would be completed during temporary, overnight track outages, so no significant traffic or rail service impacts expected • Temporary construction easements not necessary • Temporary exhaust emissions and airborne dust from construction • Community Notification Plan would be developed and implemented to communicate construction timing and phasing to the community • Amtrak would follow the U.S. Environmental Protection Agency (U.S. EPA) restrictions if they use the Paoli Railyard Superfund site for a construction stockpile/staging area • Best management practices concerning noise, vibration, light emissions, and dust control would be followed • Minimal earth disturbance expected (other than Bryn Mawr substation) • Tree trimming/removal within existing Amtrak right-of-way • Permit to minimize erosion, sedimentation, and infiltration impacts • An Unanticipated Discoveries Plan and a Soil Management Plan have been created in case archaeological resources or contaminated soils are encountered
Indirect and Cumulative Impacts	<ul style="list-style-type: none"> • Improvements to service reliability could result in increased ridership and transit-oriented development. Positive transportation and economic development impacts could potentially result.
Section 4(f)	<ul style="list-style-type: none"> • No Section 4(f) use of the three publicly-owned parks and one publicly owned wildlife refuge • No Section 4(f) use of 21 historic resources • <i>De minimis</i> use for five (5) historic resources • Section 4(f) use of the Pennsylvania Railroad Main Line, due to replacement of catenary structures and demolition of the Bryn Mawr Substation • Avoidance alternatives and measures to minimize harm were considered as part of the Section 4(f) process, but analysis determined that there are no feasible and prudent avoidance alternatives • All possible planning to minimize harm incorporated into the Proposed Action to preserve the historic attributes of the railroad

Location and Land Use

The Proposed Action spans 18 miles along Amtrak's right-of-way between the Philadelphia Zoo Substation (Mile Post 2.5) in central Philadelphia and the Paoli Substation (Mile Post 20.5). As shown in **Figure 2**, this route passes through the City of Philadelphia (Philadelphia County), Lower Merion Township (Montgomery County), Narberth Borough (Montgomery County), Haverford Township (Delaware County), Radnor Township (Delaware County), Tredyffrin Township (Chester County), Easttown Township (Chester County), and Willistown Township (Chester County).

The Proposed Action passes through developed land consisting of urban and suburban uses. The majority of the surrounding land uses include residential and commercial properties, but several schools, universities, public parks, and one wildlife refuge are adjacent to the Amtrak right-of-way. In some cases, these residences and other facilities are as close as 100 feet (unobstructed by buildings) from the Proposed Action area. The Proposed Action is located within an existing railroad corridor, and all construction would occur in the existing Amtrak right-of-way. The Proposed Action does not require any right-of-way acquisitions, or changes to land use type or zoning. Accordingly, FRA anticipates that the Proposed Action would not impact current land use.

Cultural Resources

The Area of Potential Effects (APE) for archaeology was defined as the area in which the proposed construction activities may disturb existing soils and landforms and was contained within existing railroad right-of-way. One previously recorded historic archaeological site noted as adjacent to the existing Proposed Action right-of-way was field checked and determined to be located entirely outside the current APE. No other areas suitable for subsurface testing were found within the APE for archaeology. In consultation with the PA State Historic Preservation Office (PA SHPO), FRA determined that the Proposed Action would not impact any known NRHP-listed or -eligible archaeological properties. An Unanticipated Discoveries Plan has been appended to the MOA and stipulates that in the event that unanticipated archaeological resources are encountered during construction, Amtrak would cease work in the affected area and PA SHPO and FRA would be notified immediately.

FRA delineated the APE for historic resources to include properties for which there could be potential direct physical effects from the proposed construction work and properties for which there could be potential indirect effects (primarily visual) on historic properties. Desktop research and field survey identified 27 individually NRHP-eligible or -listed resources located within the APE. The assessment of effects resulted in a finding of:

- No Historic Properties Affected for sixteen (16) historic properties
- No Adverse Effect on ten (10) historic properties
- Adverse Effect on one (1) historic property

Amtrak has incorporated Consulting Party feedback into the Proposed Action to minimize effects, including keeping the height of the new catenary structures as low as possible while meeting electrical code requirements, locating new catenary structures near the existing ones, and producing tree trimming plans to indicate locations where overhanging tree limbs within the right-of-way would be trimmed to enable catenary structure replacement. However, the Proposed Action would still have an adverse effect on the NR-eligible Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) due to the removal and replacement of the catenary structures and the demolition of the Bryn Mawr Substation.

A MOA has been developed between the FRA, Amtrak, Railroad Museum of Pennsylvania, SEPTA, and the PA SHPO, which includes FRA and Amtrak's commitments to minimization and mitigation measures

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for potential adverse effects to the Pennsylvania Railroad Main Line and its contributing resources. The MOA is included as **Appendix B**.

FRA anticipates that the resulting Proposed Action effects would not be significant.

Parks and Wildlife Refuges

There are three publicly-owned parks and one publicly-owned wildlife refuge located adjacent to the Proposed Action area. The Merion Botanical Park (Mile Post 5.8) is located in Lower Merion Township, and Narberth Playground (Mile Post 7.1) is located in Narberth Borough, both owned by their respective municipalities. North Wayne Park (Mile Post 14.7) is owned by Radnor Township School District, but leased to Radnor Township. The Sharpe Park and Bird Sanctuary (Mile Post 9.2) is located in Lower Merion Township and is owned by the township.

There would be no temporary, permanent, or constructive use of the public parks or the public wildlife refuge resulting from temporary occupancy, permanent incorporation, or proximity impacts so severe that the protected activities, features, or attributes of the property would be substantially impaired. The Proposed Action is not anticipated to interfere with any current use of the parks/refuges and therefore the Proposed Action would not result in significant impacts to parks or refuges.

Transportation

The Proposed Action area is comprised of an 18-mile-long section of Amtrak's Keystone Corridor East and SEPTA's Paoli/Thorndale Regional Rail Line. The rail line contains 15 SEPTA stations, one Amtrak station, and one joint SEPTA-Amtrak station. Currently, the Bryn Mawr Station is not a stop for Amtrak, but it is a stop on SEPTA's Paoli/Thorndale Regional Rail Line. According to SEPTA's website, the Bryn Mawr Station has 46 daily parking spaces (full), 153 monthly permit spaces (full), and 55 spaces in the Lower Merion Municipal Parking Lot (not full, 45 available). All three lots are paid parking.

Replacement of the Bryn Mawr Substation would affect parking that Amtrak leases to SEPTA at the Bryn Mawr Train Station. Impact avoidance is not feasible, so the impact would be minimized by designing the substation to have the smallest possible footprint without losing the intended functionality. While this compact substation design would result in higher construction costs, it would reduce the number of affected parking spaces from 36 to 12.

Rail service would be improved by the Proposed Action. The installation of a more reliable energy supply would upgrade traction power and reduce the occurrence of low voltage conditions along the rail corridor. The improved service reliability could have an indirect impact of increasing ridership on the Keystone Corridor. In turn, additional train ridership could increase use of parking and roadways near train stations, while reducing vehicular traffic on arterial roadways. The Proposed Action would not include an increase in the speed or frequency of trains.

FRA does not consider the impacts to parking and rail service to be significant. No impacts to bus, bicycle, or pedestrian access and use are anticipated, including at the Bryn Mawr Station parking lot.

Noise and Vibration

Sensitive receptors (such as residences, parks, one wildlife refuge, churches, and schools) are present adjacent to the rail corridor along much of the Proposed Action area. Some sensitive receptors are as close as 100 feet (unobstructed by buildings) to the Proposed Action area. According to Amtrak's track charts, the maximum allowable speed between Mile Post 2.5 and Mile Post 20.2 varies between 30 mph and 80 mph. The maximum allowable speed between Mile Post 20.2 and 20.5 is 90 mph.

The Proposed Action would not increase maximum allowable train speeds, change the type of train, or shift rail lines. The proposed upgrades to the electrification system, all within the existing Amtrak right-

of-way, would not affect rail traffic noise and/or vibration levels throughout the Proposed Action area. Therefore, the Proposed Action would not have any long-term noise and vibration impacts.

Electric/Magnetic Fields

Land uses with sensitivity to electric and magnetic fields are present along the Proposed Action corridor. Residences are present adjacent to the rail corridor along much of the Proposed Action area, some as close as 100 feet (unobstructed by buildings) to the Proposed Action area. Facilities with sensitive medical equipment are also located near the Proposed Action area.

To evaluate electric and magnetic field impacts associated with the Proposed Action, AECOM Energy produced a “Report on Electric, Magnetic Fields and Radio Noise Along the Zoo-Paoli Rail Line” (October 21, 2011), in association with Burns Engineering. This study is appended to the EA. Based on modeling and a comprehensive review of the available scientific and medical literature, the study concluded that the fields expected from the Proposed Action would be below any level that is of concern. **Table 2** summarizes the findings of the study.

FRA anticipates that the resulting Proposed Action effects would not be significant.

Table 2: Electric and Magnetic Fields			
Field	Existing Level	Proposed Level	Level Warranting Concern
Electric	500 V/m (at 25 Hz)	804 V/m (at 25 Hz)	10,000 V/m (at 25-60 Hz)
Magnetic	24 mG (at 25 Hz)	65 mG (at 25 Hz)	2,000 mG (at 25-60 Hz)

Air Quality

All counties within the Proposed Action area are in attainment for all NAAQS criteria pollutants, with the following exceptions:

Non-attainment areas:

- Particulate matter (PM-2.5) (Delaware County)
- Ozone (Philadelphia, Montgomery, Delaware, and Chester counties)

Maintenance areas:

- Carbon monoxide (Philadelphia County)

No impacts to air quality are anticipated from operation of the new Bryn Mawr Substation and new transmission lines or from the replacement of deteriorated catenary structures within existing Amtrak right-of-way.

Hazardous Material and Waste

The Proposed Action would involve the use or handling of hazardous materials. Old electrical transformers, which may contain polychlorinated biphenyl (PCB) oil, would be removed and replaced as part of the Proposed Action. Amtrak has established procedures for testing and draining transformers prior to disposal. Amtrak also maintains contracts with multiple firms for emergency response and waste hauling services.

Additionally, the area near the Paoli Substation is part of the Paoli Railyard Superfund site. If Amtrak chooses to use this site for a construction stockpile/staging area, then Amtrak would need to coordinate with U.S. EPA and to follow their restrictions.

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As a precaution, in case hazardous waste is encountered at any location within the Proposed Action area during construction, a Soil Management Plan has been developed. The Soil Management Plan specifies waste management procedures and precautions for construction in areas of environmental concern within the construction zone.

With the appropriate measures/coordination specified above, FRA does not anticipate the Proposed Action would result in significant impacts related to hazardous material or waste.

Property Acquisitions and Easements

The Proposed Action would not require permanent property acquisition or temporary construction easements.

Communities

The Proposed Action area passes through developed land consisting of urban and suburban uses. Most of the surrounding land uses include residential and commercial properties, but several schools, universities, public parks, and one wildlife refuge are next to the Amtrak right-of-way. In some cases, these residences and other facilities are as close as 100 feet (unobstructed by buildings) from the Proposed Action area.

The Project Team considered community impacts in terms of the potential for destruction or disruption of community cohesion, economic vitality, and the availability of public or private facilities or services. Since no property acquisition or changes in vehicular or pedestrian access would occur, the Proposed Action would not displace or segment any communities and therefore would not affect community cohesion. Businesses would not be displaced and transit-oriented development could potentially increase as an indirect impact of the Proposed Action, which could potentially improve economic vitality for communities with train stations in the Proposed Action area. Because the Proposed Action would not increase service but only service quality, the potential for increased transit-oriented development is not anticipated to be significant. Accordingly, no significant impacts on communities are anticipated.

Environmental Justice

The Proposed Action was designed to avoid disproportionately high and adverse human health and environmental effects, including social and economic effects on minority and low income populations. Communication and outreach about the Proposed Action was designed to ensure full and fair participation by all potentially affected communities in the transportation decision making process and to prevent the denial of, reduction in, or delay in the receipt of benefits by minority and low-income populations.

The Proposed Action would cross through areas with above-average levels of minority and low income populations according to U.S. Census Bureau data from the 2010 American Community Survey. These populations are most evident where the Proposed Action affects census tracts in the City of Philadelphia, where minorities comprise 40-100% of the total population and poverty rates rise to 10-100%. However, there would be no disproportionately high impacts to minority or low-income populations, because all populations along the Proposed Action corridor would experience similar impacts (primarily minor, visual impacts).

Likewise, there would be no variances in the receipt of benefits across populations, as all Amtrak and SEPTA users would benefit equally from the Proposed Action. Outreach efforts for all affected populations are detailed in Section E. Public Involvement.

No significant, negative impacts on environmental justice populations are anticipated.

Visual Effects

The Proposed Action area passes through developed land consisting of urban and suburban uses. The majority of the surrounding land uses include residential and commercial properties, but several schools, universities, public parks, and one wildlife refuge are also adjacent to the Amtrak right-of-way. The buildings in the vicinity of the Bryn Mawr Substation appear to be commercial use.

Visual impacts caused by taller catenary poles, tree trimming, and the replacement of the Bryn Mawr Substation were identified as concerns during the public involvement process. The majority of the existing catenary poles are approximately 45 to 55 feet in height, while the majority of the proposed new catenary poles would be between 60 and 75 feet high. The catenary structures at overhead bridges would require an increased height, ranging between 82 feet and 95 feet. Trees line a majority of the Proposed Action corridor, and selected trees within existing Amtrak right-of-way would be trimmed or potentially removed where they would interfere with construction work.

As for visual impacts to historic resources, the catenary poles and tree trimming would not introduce visual elements that would diminish the integrity of the property's significant historic features. The Proposed Action would, however, remove historic catenary poles, demolish the existing Bryn Mawr Substation (a contributing resource) and introduce a new substation that would diminish the integrity of the setting and feeling of the railroad property at Bryn Mawr. Additionally, residences, parks, and a wildlife refuge would experience minor visual impacts from the increase in catenary structure height and the tree trimming.

While the MOA adopted under Section 106 serves to minimize and mitigate potential impacts to cultural resources, some of the same MOA minimization and mitigation measures serve to minimize and mitigate visual impacts. These minimization measures include:

- Limiting catenary structure heights (60-75 feet at most locations);
- Targeting tree trimming to avoid universal trimming or clear cutting;
- Locating new catenary structures as near as practicable to existing catenary structures;
- Designing the new Bryn Mawr Substation consistent with the materials, color, and texture of the existing Bryn Mawr Substation (e.g. buff brick exterior walls), but not mimicking the existing historic building to make it clear that the new buildings are non-historic and do not create a false sense of history; and
- Including an arborist on the construction team to direct trimming activities.

With the implementation of these minimization measures, FRA believes the Proposed Action would result in minimal impacts on visual resources.

Floodplains

There is one location within the corridor where the rail line crosses the 1-percent-annual-chance floodplain (Zone A floodplain without base flood elevations).

This floodplain is associated with the East Branch Indian Creek in Montgomery County, around Mile Post 7.1, where the creek travels under the rail line via a culvert. Additionally, Hardings Run crosses through a culvert underneath the Proposed Action area within Delaware County around Mile Post 12.5 but does not have a Federal Emergency Management Agency (FEMA)-designated floodplain.

The proposed improvements do not include the widening of existing railroad embankments, placement of fill or catenary structures within floodplains, or new or modified stream and floodplain crossings. The rail line is on a tall, steep embankment in the vicinity of the Zone A floodplain associated with East Branch

Indian Creek, and neither existing catenary structures nor proposed catenary structures would be located in the FEMA-designated floodplain. Therefore, the Proposed Action would have no direct or indirect permanent or temporary impacts on FEMA mapped floodplains or regulatory floodways.

Water Quality

East Branch Indian Creek passes through a culvert below the Proposed Action area within Montgomery County around Mile Post 7.1 and is a designated Warm Water Fishes stream. Hardings Run is a designated Cold Water Fishes stream, which crosses through a culvert below the Proposed Action area within Delaware County around Mile Post 12.5. There would be no direct impacts to these waterways, because there would be no construction within waterways. Impacts caused by erosion and sedimentation during construction activities and/or changes to infiltration, would be minimized through the implementation of an Erosion and Sediment Control Plan (ESCP) or National Pollutant Discharge Elimination System (NPDES) Permit, as applicable. Accordingly, FRA does not anticipate that the Proposed Action would have any significant impacts to water quality.

Endangered Species

The PA Game Commission, PA Department of Conservation and Natural Resources, and the PA Fish and Boat Commission indicated that threatened and endangered species are in the vicinity of the Proposed Action area, but that no threatened and endangered species are within the Proposed Action area. The U.S. Fish and Wildlife Service (USFWS) indicated that no federally listed species under USFWS jurisdiction are known or likely to occur in the Proposed Action area. All four agencies indicated that no impacts to threatened and endangered species are anticipated; therefore, FRA concludes that the Proposed Action would not result in significant impacts to threatened or endangered species.

The determinations from PA Game Commission, PA Department of Conservation and Natural Resources, PA Fish and Boat Commission, and USFWS are valid for two years from the date of response, with all responses dated August or September 2016. If necessary, FRA and the Project Team will update these clearances prior to construction.

Public Safety

The Proposed Action would occur within existing Amtrak right-of-way, and safety would be maintained through the standard regulations and precautions taken to prevent the public from entering the right-of-way during both construction and operation of the upgraded catenary system. Additionally, a Soil Management Plan was developed to specify waste management procedures and worker health and safety precautions for construction in areas of environmental concern within the construction zone.

No negative impacts to public safety are anticipated.

Construction

Depending on funding availability, construction may take place between Fall 2018 to Fall 2023.

The Proposed Action will likely be completed in three phases, potentially starting with the Bryn Mawr Substation, followed by the transmission line between Paoli and Bryn Mawr, and finally the transmission line between Bryn Mawr and Zoo.

The construction of the new Bryn Mawr Substation would be continuous and would take approximately 18 months.

The catenary structure replacements would be rolled out along the rail line. At each new structure location, it would take a few days or nights for foundation construction and then, later, a few nights for erection of the structures. These two activities could be weeks or months apart depending on track time

and final construction schedule. After all new structures are in place, a wire train would work its way along the route, detaching the overhead contact system from the old structures and attaching it to the new structures. The wire train would be able to cover multiple spans per day or night shift.

A similar process would occur for the installation of the new transmission line, which would also cover ground at a rate of multiple spans per shift. The old steel poles would then be torched at the base or in sections from the top down, and the foundations left in place.

Amtrak would develop and implement a Community Notification Plan to communicate construction timing and phasing to the community well in advance of any construction activities.

All construction would occur in the existing Amtrak right-of-way, so permanent right-of-way acquisition would not be necessary. Temporary construction easements would not be necessary for stockpiling, staging, or access.

Potential transportation impacts during construction would be minor. No parking spaces would be utilized during construction for construction stockpiling or by construction vehicles. Track-mounted equipment would be used for the catenary structure replacements, and traditional wheel-mounted construction equipment would be used only for the Bryn Mawr Substation replacement. Therefore, traffic from construction vehicles would result in minor disruption at Bryn Mawr, but no significant effect. Impacts to rail service would also be minimized. If track time is available, some work may be completed during the day, but most construction would be completed during temporary, overnight track outages. The impacts to parking and rail service are considered minor. No impacts to bus, bicycle, or pedestrian access and use are anticipated during construction, including at the Bryn Mawr Station parking lot.

During construction, Amtrak would be responsible for conforming to all applicable best management practices concerning construction activities including, noise, vibration, light emissions, and dust control. Track-mounted equipment would be used for the catenary structure replacements, which would prevent vibrations that traditional wheel-mounted construction equipment creates when driving past residences. Blasting would not be allowed.

Construction may temporarily result in exhaust emissions of particulate matter and nitrogen oxides, in addition to generation of airborne dust. Except for the work at Bryn Mawr substation, minimal earth disturbance and dust is expected. It is not anticipated that the construction would cause violations of the NAAQS or exceed the general conformity *de minimis* levels.

No trees outside Amtrak right-of-way would be removed or trimmed as part of the Proposed Action. However, selected trees within existing Amtrak right-of-way would be trimmed or potentially removed where they would interfere with construction work. Tree trimming plans were generated by the design team in order to minimize impacts and illustrate the minimum amount of tree trimming required prior to constructing the Proposed Action. The construction team will also include an arborist to direct trimming activities.

Impacts caused by erosion and sedimentation during construction activities and/or changes to infiltration, would be minimized through the implementation of an ESCP or NPDES Permit, as applicable.

FRA concludes that construction impacts related to the Proposed Action would not be significant.

Indirect and Cumulative Impacts

The Proposed Action's improvements would improve service reliability and could have an indirect impact of increasing ridership on the Keystone Corridor. Additional ridership could increase use of parking and roadways near train stations. An increase in train ridership could also reduce vehicular traffic on arterial roadways with corresponding benefits by reducing traffic congestion and gasoline consumption.

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The Proposed Action could also indirectly cause expansion in transit-oriented development around train stations with strong ridership. Some of the stations are already in highly developed areas, while others currently have green space in the immediate vicinity. Local review boards would assess potential environmental impacts related to any new development on land use, water, sewer, and traffic. Because the Proposed Action would not increase service but only service quality, the potential for increased transit-oriented development is not anticipated to be significant.

Several rail projects have been recently completed or are underway throughout Amtrak's Keystone Corridor East (Philadelphia to Harrisburg). Infrastructure, signal system, at-grade crossing, interlocking, and Philadelphia Zoo to Paoli Transmission Line projects would improve reliability, speed, and/or safety on the Keystone Corridor East (Philadelphia to Harrisburg). The station projects will bring facilities into Americans with Disabilities Act compliance and will enhance customer amenities. These improvements are expected to encourage the transit-oriented development already occurring around stations and to increase ridership. These projects, including the proposed Philadelphia Zoo to Paoli Transmission Line Project, are anticipated to have positive cumulative transportation and economic development impacts.

A NEPA document, or the state equivalent, was completed or will be required for each of the above-referenced projects. This process requires that any adverse impacts be considered and minimized and mitigated, to the extent possible. Therefore, it is concluded that any adverse cumulative impacts from these projects on Amtrak's Keystone Corridor East will be minor.

Final Section 4(f) Evaluation and Determination

The EA included a Draft Section 4(f) Evaluation, pursuant to the requirements of Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966.¹ FRA did not receive any comments on the Draft Section 4(f) Evaluation following release of the EA and, as discussed below, received concurrence on its analysis from relevant entities. Accordingly, FRA incorporates by reference the analysis included in the Draft Section 4(f) Evaluation and deems this analysis the Final Section 4(f) Evaluation for the Proposed Action. Based on this Evaluation, FRA makes the following determination:

FRA determines that the Proposed Action would not result in any temporary, permanent, or constructive use of public parks or public wildlife refuges resulting from temporary occupancy, permanent incorporation or easement, or proximity impacts so severe that the protected activities, features, or attributes of the property are substantially impaired.

FRA determines that the removal and replacement of the catenary structures and the demolition of the Bryn Mawr Substation would cause a use of the Pennsylvania Railroad Main Line Historic District. Through Section 106 consultation, FRA made a finding of adverse effect for the Pennsylvania Railroad Main Line Historic District due to the removal and replacement of the catenary structures and the demolition of the Bryn Mawr Substation, both of which are contributing resources to the district. PA SHPO has concurred with this finding. Because the Proposed Action would result in a use of the Pennsylvania Railroad Main Line, avoidance alternatives and measures to minimize harm were considered as part of the Draft Section 4(f) Evaluation. The analysis indicated that there are no feasible and prudent avoidance alternatives, but all possible planning to minimize harm would be incorporated into the Proposed Action to preserve the historic attributes of the railroad. FRA and the official with jurisdiction over the Section 4(f) resource (the PA SHPO) have agreed to measures to minimize harm in accordance with the consultation process under 36 CFR Part 800. The U.S. Department of Interior

¹ In 1983, Section 4(f) of the USDOT Act was codified as 49 U.S.C. § 303(c), but this law is still commonly referred to as Section 4(f).

provided concurrence on June 14, 2017. Therefore, FRA determines that there is no feasible and prudent alternatives that would avoid use of all Section 4(f) resources and the Proposed Action includes all possible planning to minimize harm.

In addition, FRA determines that the Section 4(f) use of five individually eligible or listed historic resources (Merion Station, Haverford Station, Villanova Station, Wayne Station, and Strafford Station) would result in *de minimis* impacts. The PA SHPO concurred with FRA’s Section 106 finding of no adverse effect on these five historic properties within the boundaries of the Proposed Action work area. Consulting Parties were involved in the effects determination. FRA made this *de minimis* impact determination after providing the opportunity for review through the Section 106 process. PA SHPO concurred with this Section 4(f) *de minimis* use finding on March 7, 2017, and the U.S. Department of Interior concurred with this finding on June 14, 2017.

PA SHPO also concurred with FRA’s finding of no adverse effect on an additional 5 historic properties and no historic properties affected for 16 historic properties, all outside of the Proposed Action work area. There is no Section 4(f) use of these 5 resources with findings of no adverse effect or the 16 historic properties with findings of no historic properties affected, because these properties are outside of the Proposed Action work area.

E. PUBLIC INVOLVEMENT

The Project Team has undertaken public and community outreach efforts for the Proposed Action, along with federal, state, and local agency coordination. Numerous meetings informed the public, stakeholders and agencies about Proposed Action milestones and sought public and agency input. The Project Team created a website for the Proposed Action: <https://www.fra.dot.gov/Page/P0810>. Public notices, postcards, and email blasts notified stakeholders prior to public outreach information sessions. All meetings included an opportunity for attendees to comment on the Proposed Action and ask questions of the Project Team. **Table 3** outlines all public involvement and Section 106 meetings and their purpose:

Table 3: Public Involvement and Section 106 Meetings		
Date	Event	Purpose
4/25/2012	Public Officials and Stakeholders Meeting	Introduce the Proposed Action, discuss and receive input on the Proposed Action from the community.
4/30/2012	Public Officials and Stakeholders Meeting	Introduce the Proposed Action, discuss and receive input on the Proposed Action from the community.
6/6/2012	General Public Meeting	Introduce the Proposed Action, discuss and receive input on the Proposed Action from the general public.
5/28/2013	Public Officials and Stakeholders Meeting	Inform attending parties of Proposed Action summary, status, and updates.
5/29/2013	Public Officials and Stakeholders Meeting	Inform the public of Proposed Action summary, status, and updates.
6/6/2013	General Public Meeting	Inform the general public of Proposed Action summary, status, and updates.
6/6/2013	Section 106 Consulting Parties Meeting #1	Review and discuss archaeology investigation, historic resources data collection, and mitigation options.

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Table 3: Public Involvement and Section 106 Meetings		
Date	Event	Purpose
9/15/2014	Section 106 Consulting Parties Meeting #2	Review and discuss revised APE, eligibility, and potential effects.
6/1/2015	Section 106 Consulting Parties Meeting #3	Provide an update of the Final Determination of Eligibility report, discuss the <i>Draft Determination of Effects Report</i> , and discuss potential mitigation options for impacts to historic resources.
8/14/2015	Public access provided to cultural resources reports	Publish draft Determination of Effects report and draft MOA, and notify consulting parties of document availability for review and comment.
9/2/2015	HARB/ Section 106 Consulting Parties Meeting #4	Review and discuss the Draft MOA.
7/20/2016	Public access provided to cultural resources reports	Publish the Effects Report and the Addendum to the Effects Report on the FRA website for public access.
4/13/2017	Public access provided to the EA and Draft Section 4(f) Evaluation	Publish the EA and Draft Section 4(f) Evaluation on the FRA website and post hard copies for public access. The EA included the revised draft MOA. Distribute notices of EA and Draft Section 4(f) Evaluation and public meeting to Consulting Parties, Tribes, stakeholders, and the general public.
5/4/2017	Public Meeting	Present the EA and Draft Section 4(f) Evaluation to the public and provide opportunity for comment.

In addition to notifying the public, the Project Team sent letters to elected officials with constituents within the Proposed Action study area to inform them of project updates and meetings.

The EA was available for public review and comment from April 13, 2017 to May 12, 2017. The Project Team posted the EA to the Project webpage (<https://www.fra.dot.gov/Page/P0810>) and distributed hard copies to the following 22 repositories:

- Lower Merion Township Municipal Building
- Tredyffrin Township Municipal Building
- Delaware County Courthouse
- Montgomery County Courthouse
- Philadelphia City Planning Commission
- Chester County Planning Commission
- Bryn Mawr's Ludington Library
- Tredyffrin Public Library
- Paoli Library
- Easttown Library & Information Center

- Ardmore Library
- Bala Cynwyd Library
- Penn Wynne Library
- Charles L. Durham Branch Library
- Wynnefield Branch Library
- Overbrook Park Branch Library
- Philadelphia City Hall
- Narberth Borough Municipal Building
- Haverford Township Municipal Building
- Radnor Township Municipal Building
- Easttown Township Municipal Building
- Willistown Township Municipal Building

Members of the public attended the final public meeting held on May 4, 2017. See **Appendix C** for these meeting materials. Themes and inquiries from the informal question-and-answer period during the May 4, 2017 meeting included:

- Tree trimming
- Access through private property
- Construction schedule and timing
- Project funding
- Electromagnetic impacts
- Past public involvement

See **Appendix D** for comment submittals. Responses to written comments on the EA received from the public are included in **Appendix E**.

F. AGENCY AND PUBLIC COMMENTS

See **Appendix D** “Comments Received,” and **Appendix E** “Response to Comments.”

G. FINDINGS

FRA finds that the Philadelphia Zoo to Paoli Transmission Line Project Environmental Assessment satisfies the requirements of NEPA (42 USC § 4321 *et seq.*), the Council on Environmental Quality (CEQ) regulations (40 CFR parts 1500-1508), FRA’s Procedures for Considering Environmental Impacts (64 FR 28545, May 26, 1999), and FRA’s Update to NEPA Implementing Procedures (78 FR 2713, January 14, 2013).

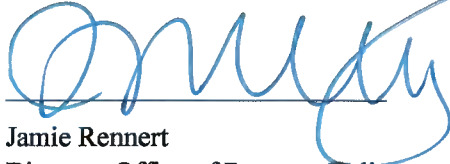
If constructed, the Proposed Action would maintain and improve passenger train service on the Keystone Corridor East between the Zoo Substation (Mile Post 2.5) in central Philadelphia and the Paoli Substation (Mile Post 20.5), while simplifying maintenance access.

The main impacts of the Proposed Action would be visual impacts and an adverse effect on the National Register eligible Pennsylvania Railroad Main Line (Philadelphia to Harrisburg). Numerous mitigation

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measures and environmental commitments would minimize impacts. FRA, Amtrak, Railroad Museum of Pennsylvania, SEPTA, and the PA SHPO have all signed an MOA to address impacts to historic properties. Therefore, FRA finds that the Project would have no foreseeable significant adverse impact on the quality of the human or natural environment.

This FONSI is based on the EA, which FRA determined adequately and accurately presents the Purpose and Need, areas of environmental consideration, potential environmental impacts, and mitigation measures.



Jamie Rennert
Director, Office of Program Delivery
Federal Railroad Administration

9/25/17

Date

This document has been prepared in accordance with FRA's Procedures for Considering Environmental Impacts and NEPA by the FRA's Office of Railroad Policy and Development, with assistance from FRA's Office of Chief Counsel. This document was prepared in September 2017. For further information regarding this document contact:

Brandon Bratcher

Environmental Protection Specialist
Office of Railroad Policy and Development
USDOT Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

The following organizations assisted the Program Office in the preparation of the March 2017 Environmental Assessment:

Amtrak
Burns Engineering, Inc.
Stell Environmental
Michael Baker International



Appendix A

Environmental Commitments

Appendix A

Environmental Commitments

- Amtrak would comply with the cultural resources MOA, which includes minimization and mitigation measures that require documentation, interpretation, and design elements to be included as part of the Proposed Action and in the Proposed Action Design Plan Notes. The signed MOA is enclosed in Appendix B of this FONSI.
- The MOA includes an Unanticipated Discoveries Plan that Amtrak would implement if any archaeological resources are encountered during construction.
- Tree trimming plans have been included in the Proposed Action's Design Plans. The tree trimming plans identify specific tree trimming locations, to avoid universal tree trimming or clearcutting throughout the Proposed Action area prior to construction. The tree trimming plans are enclosed in Appendix C of the Environmental Assessment, as drawings C-0200 through C-0232 of the Paoli to Bryn Mawr plans and drawings C-0217 through C-0232 of the Bryn Mawr to Zoo plans.
- Amtrak would develop and implement a Community Notification Plan to communicate construction timing and phasing to the community.
- Applicable best management practices concerning construction activities including, but not limited to, vibration, noise, and light emissions would be incorporated into the Proposed Action's Design Plan Notes, as appropriate. Design plan notes would prohibit blasting construction activities. The contractor would be responsible for conforming to all plan note requirements during construction.
- Threatened and endangered species clearances with the PGC, the PA DCNR, the PFBC, and the U.S. FWS would be re-coordinated by Amtrak, as needed or required by state and federal regulations prior to construction.
- The construction contractor would follow Amtrak's established hazardous materials and waste procedures during the Proposed Action. Old electrical transformers, which may contain polychlorinated biphenyl (PCB) oil, would be removed and replaced as part of the Proposed Action. Amtrak's established procedures for testing and draining transformers prior to disposal would be implemented. Amtrak maintains contracts with multiple firms for emergency response and waste hauling services.
- In case hazardous waste may be encountered during construction, a Soil Management Plan has been created (Appendix F of Environmental Assessment). This plan specifies waste management procedures and precautions for construction activities within areas of environmental concern within the construction zone.



Appendix B

Memorandum of Agreement

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY, AND THE
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE
REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
CHESTER COUNTIES, PENNSYLVANIA**

WHEREAS, the National Railroad Passenger Corporation (Amtrak) proposes the Amtrak Zoo to Paoli Electrification Transmission Line Project (Project) to modernize and upgrade the electrification system on a 20-mile section of Amtrak’s Keystone Corridor between the Philadelphia Zoo Substation (Zoo Substation) in Philadelphia and the Paoli Substation in Paoli, extending through portions of Philadelphia, Montgomery, Delaware, and Chester Counties, Pennsylvania; and

WHEREAS, Amtrak has determined that implementation of the Project requires upgrades or replacement of the 80- to-100-year-old system elements with approximately 325 new catenary structures, transmission lines, signal power lines, and replacement of the existing 100-year-old Bryn Mawr Substation; and

WHEREAS, the Federal Railroad Administration (FRA) provided funding for design and review of the Project pursuant to the National Environmental Policy Act (42 U.S.C. § 4321 *et. seq.*) (NEPA), and anticipates providing financial assistance for construction of the Project; and

WHEREAS the Project would be an “Undertaking” under Section 106 of the National Historic Preservation Act, as amended (54 U.S.C. § 306108) (Section 106) if FRA provides financial assistance for construction of the Project; and

WHEREAS, FRA, and Amtrak on behalf of FRA, has consulted with the Pennsylvania Historical and Museum Commission, which acts as the State Historic Preservation Office (PA SHPO), pursuant to authority provided by the Advisory Council on Historic Preservation (ACHP) regulations implementing Section 106 (36 CFR Part 800), including participating in the consultation process; and

WHEREAS, in a letter dated February 9, 2012, FRA and Amtrak invited 41 organizations, institutions, governmental agencies, elected officials, and individuals to participate as Consulting Parties for the purposes of Section 106, including the resolution of adverse effects of the Project, and the following Consulting Parties actively participated in consultation:

Preservation Alliance for Greater Philadelphia
Delaware Valley Association of Rail Passengers, Inc.
Haverford Township Historical Commission
Lower Merion Township Historic Architectural Review Board
Radnor Township Historic Architectural Review Board
National Railway Historical Society, Philadelphia Chapter, Inc.
Haverford Station Historic District Neighborhood Coalition
Railroad Museum of Pennsylvania; and

WHEREAS, in a letter dated August 26, 2015, FRA invited potentially interested Native American Tribes to consult and sought comments from the following Tribes for the purposes of complying with Section 106 and the requirements of government-to-government consultation: Absentee-Shawnee Tribe of Oklahoma; Delaware Nation; Delaware Tribe of Indians; Eastern Shawnee Tribe of Oklahoma; Onondaga Nation; St. Regis Mohawk Tribe; Shawnee Tribe; and the Stockbridge-Munsee Band of the Mohican Nation of Wisconsin; and only the Delaware Tribe provided comments; and

WHEREAS, the Railroad Museum of Pennsylvania (RRMPA) and Southeastern Pennsylvania Transportation Authority (SEPTA), the latter of which is the lessee of the Bryn Mawr Station from Amtrak pursuant to that certain Lease Agreement between National Railroad Passenger Corporation and Southeastern Pennsylvania Transportation Authority dated January 1, 1987, as amended, participated in the consultation and have been invited to be Signatories to this Memorandum of Agreement (MOA) because they will be responsible for executing portions of the mitigation stipulations herein; and FRA, Amtrak, and PA SHPO are also Signatories to this MOA; and

WHEREAS, FRA is the lead federal agency for the Project under NEPA and is preparing an Environmental Assessment for the Project, and under 36 C.F.R. § 800.8 FRA has coordinated the Section 106 and NEPA processes; and

WHEREAS, FRA and Amtrak have established the Area of Potential Effects (APE), as defined in 36 CFR § 800.16(d), to include the segment of the right-of-way (roughly 100 feet in width) from its point of departure from Amtrak's Zoo Substation in Philadelphia, Pennsylvania, to Paoli Substation, in Paoli (Tredyffrin and Willistown Townships), Pennsylvania, for a distance of approximately 20 miles, as described and shown in the report entitled *Historic Resources Study/Determination of Eligibility, Zoo to Paoli Electrification Transmission Line Project, Chester, Delaware, Montgomery, and Philadelphia Counties, Pennsylvania, E.R. #2012-0005-42* dated February 2015, and PA SHPO concurred with Amtrak's efforts to identify historic properties within this APE on April 24, 2015; and

WHEREAS, FRA and Amtrak have identified 27 historic properties in the APE, and the PA SHPO concurred with this identification on March 16, 2015, and April 24, 2015; and

WHEREAS, one of the identified historic properties in the APE is the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) (Key No. 105675), which was determined eligible for listing in the National Register of Historic Places (NRHP) by the PA SHPO on September 14, 1993, and again on November 16, 2007; and

WHEREAS, the existing catenary structures and the Bryn Mawr Substation building are Contributing Resources to the NRHP-eligible Pennsylvania Railroad Main Line (Philadelphia to Harrisburg); and

WHEREAS, through consultation, FRA determined that the Project will have an Adverse Effect on one historic property within the APE, namely, the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg), because of the removal of the existing catenary structures and the Bryn Mawr Substation building, as discussed in the *Determination of Effects Report*, dated August 2015; and the same report describes the no adverse and no effect findings regarding other historic properties in the APE; and the PA SHPO concurred with these findings on October 8, 2015; and

WHEREAS, through consultation, FRA determined that revisions to the design of certain

catenary structures associated with the Project would have no additional adverse effects on historic properties, as discussed in an *Addendum to the Determination of Effects Report*, dated June 2016, and the PA SHPO concurred with this finding on July 19, 2016; and

WHEREAS, FRA and Amtrak have explored options to avoid the adverse effect to the Pennsylvania Railroad Main Line and concluded that such options are not practicable, as discussed in the August 2015 Determination of Effects Report; and

WHEREAS, all actions necessary to implement the Project will occur in areas disturbed by previous construction, as documented in the *Phase IA Geomorphology/Archaeology Reconnaissance Survey Report* dated December 2012 and in a subsequent letter to PA SHPO dated December 22, 2015; and FRA determined and PA SHPO concurred on January 25, 2013 and January 7, 2016, respectively, that no archaeological investigations are necessary for the Project; and

WHEREAS, FRA and Amtrak conducted public involvement meetings from 2012 through 2015, which included meetings with public officials, general public meetings, and meetings with the Section 106 Consulting Parties; and

WHEREAS, FRA received a request for additional information from the Delaware Tribe of Indians in a letter dated October 2, 2015 and FRA submitted the requested information on December 22, 2015, which included a copy of the *Phase IA Geomorphology/Archaeology Reconnaissance Survey Report*, the Unanticipated Discoveries Plan, and mapping showing the proposed footprint and construction entrance at the Bryn Mawr Substation; and no other tribes provided comments or requested additional information regarding the Project; and

WHEREAS, on June 21, 2016 FRA notified the ACHP of the determination of adverse effect in accordance with 36 CFR § 800.6(a)(1), and in a letter dated June 27, 2016, the ACHP declined to participate in the consultation process;

NOW, THEREFORE, FRA, Amtrak, RRMPA, PA SHPO, and SEPTA, only to the extent these stipulations are applicable to SEPTA, (each, a Signatory and together the Signatories) agree that the Project, if it becomes an Undertaking, will be implemented in accordance with the following stipulations in order to minimize impacts and mitigate adverse effects on historic properties, and that these stipulations will govern the Undertaking and all of its parts until this MOA expires or it is terminated.

STIPULATIONS

FRA will ensure that the following measures are carried out:

I. Applicability

- A. This MOA would apply to FRA's Undertaking and would only bind FRA if FRA provides financial assistance for the construction of the Project.
- B. This MOA may apply should another Federal agency have an Undertaking as part of the Project; that agency may agree to comply with the terms of this MOA and become a Signatory to fulfill its Section 106 responsibilities as provided for in Stipulation V.E.

II. Professional Qualification Standards

Amtrak will ensure that all historic preservation and documentation work carried out pursuant to this MOA will be done by or under the direct supervision of a qualified professional or qualified professionals in the discipline of architectural history who meet[s] the relevant standards outlined in the *Secretary of the Interior's Professional Qualification Standards for Architectural Historians* (48 FR 44738-9).

III. Minimization Measures

- A. As a result of consultation, Amtrak has decreased the proposed catenary structure heights to the extent feasible without adversely impacting railroad safety and operations.
- B. Amtrak commits to a tree trimming program to facilitate Project construction in lieu of removing multiple trees. Selected trees may be removed within Amtrak's right-of-way. Trimming will adhere to the program outlined in tree trimming plans dated March 17, 2016, and appended to this MOA as Attachment 1.
- C. Amtrak commits to the placement of new catenary structures as near as practicable to the existing structures, and that existing catenary structures will be removed, to minimize visual effects.
- D. Amtrak commits to avoiding physical impacts to the following historic train stations located along the Project corridor: Overbrook, Merion, Wynnewood, Haverford, Villanova, Radnor, Wayne, and Stafford.

IV. Mitigation Measures

- A. Documentation
 - 1. Amtrak will record the existing Bryn Mawr Substation and related catenary system to Historic American Engineering Record (HAER) Documentation Level II, as outlined in the publication, *Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation: HABS/HAER Standards*, available at <http://www.nps.gov/hdp/standards/standards.pdf>. Documentation Level II includes a narrative with the history and description of the resource, archival photographs, and copies of selected existing historic drawings. Amtrak's current existing conditions drawings may be supplemented with new measured drawings, to the extent that it is necessary to sufficiently document the resources. The documentation will describe the design of the existing Bryn Mawr Substation as well as the design of the catenary system in the Project APE, including all four types of catenary structures present along the railroad right-of-way. Amtrak will consult with PA SHPO to determine the extent of the documentation (e.g., format and length of narrative, quantity of

photographs, and extent of documentation using historic or new measured drawings) prior to beginning the work. Prior to beginning field documentation, Amtrak will consult with RRMPA to use its collections and expertise as described in Stipulation IV.A.2. Amtrak will provide the draft documentation to PA SHPO for review and comment as described in Stipulation V.B. Amtrak will complete the agreed-upon photographic documentation prior to beginning demolition activities. Amtrak will deposit the final documentation of the existing Bryn Mawr Substation and related catenary system at RRMPA, the State Museum of Pennsylvania, and the Lower Merion Historical Society.

2. RRMPA will provide Amtrak with access to its collections and technical expertise to inform the content of the documentation effort described in Stipulation IV.A.1, including important views or details to capture in photographs and drawings. RRMPA may, at its discretion, provide historic images or drawings to Amtrak for inclusion in the documentation package.

B. Interpretation

1. Interpretive Signage - Amtrak will provide an interpretive sign inside the Bryn Mawr Station building that focuses on the history of the Pennsylvania Railroad Main Line, with particular attention to the importance of the electrification of the route. Amtrak will submit the draft content of the sign to PA SHPO, SEPTA, and Lower Merion Township Historic Architectural Review Board for review and comment as described in Stipulation V.B. Amtrak will address any comments received as described in Stipulation V.B., and circulate the revised draft sign content to the aforementioned parties for review and comment. Once the content of the sign is agreed upon and finalized, Amtrak will provide it in electronic PDF format to FRA, PA SHPO, SEPTA, and Lower Merion Township. Amtrak will install the agreed-upon sign in the Bryn Mawr Station in a specific location that is agreed upon by SEPTA, and Amtrak will be responsible for the maintenance of the sign, and the replacement or repair of the sign should it be damaged for any reason or vandalized after installation for a period of five years after Project construction is complete. SEPTA has no responsibility for sign maintenance or replacement.
2. Equipment Donation - Amtrak will donate materials and elements of the catenary system that Amtrak or its contractors remove from the existing Bryn Mawr Substation to RRMPA for use in their upcoming new exhibits about the history of railroad electrification or for other exhibits, or to achieve other preservation purposes, as RRMPA may determine at its discretion. To the extent available, and at its discretion, Amtrak may also donate other materials, such as a pantograph, hangers, insulators, signage, and digital photographs for use in RRMPA exhibits. Acceptance of materials will be at the discretion of the RRMPA. RRMPA will appropriately credit all photographs and other

donations provided by Amtrak. The donation of documents, photographs, and other corporate records will be governed by Amtrak's Records Management and other applicable policies. Amtrak will accompany RRMPA staff on a tour of the existing Bryn Mawr Substation prior to demolition so that RRMPA can identify materials it would like to receive as donations. Amtrak will make items available and RRMPA will retrieve them from the existing Bryn Mawr Substation property at its own expense. Because the construction schedule for the Project is uncertain, Amtrak will work with RRMPA and FRA to coordinate the timing of Project activities and donations for exhibits to the extent possible. All donated materials will be provided to RRMPA on an "as-is, where-is" basis. Prior to removal of any materials, RRMPA will provide Amtrak with a full release from all claims, suits, damages, costs, etc. for the donated materials.

3. Conservation Allowance - Once the nature and extent of donated materials is determined as set forth in Stipulation IV.B.2 above, FRA, Amtrak, RRMPA, and PA SHPO will consult to determine an appropriate one-time financial contribution from Amtrak to RRMPA dedicated to the conservation of donated materials.
4. Oral History Opportunity - Amtrak will make reasonable efforts to identify and provide to RRMPA contact information for current or former Amtrak Electric Traction Department employees who are willing to participate in oral history interviews. RRMPA will provide to Amtrak a description of the oral history process and proposed discussion topics for Amtrak to share with potential interviewees so that they can make an informed decision about their participation in an interview. Amtrak does not guarantee the participation of any current or former employee in the interviews. Amtrak retains the right to screen contents of the interviews intended for public access to ensure that sensitive security and operations information is not shared with the public. RRMPA will deposit transcripts and other relevant documentation of the interviews, subject to Amtrak security approval, at RRMPA, the PA State Archives, and Amtrak.

C. Design

1. Amtrak will replace the existing Bryn Mawr Substation building with two new substation buildings. Amtrak will design the exterior of these two new buildings with buff brick walls consistent with the brick of the existing Bryn Mawr Substation building. The design will be consistent with the materials, color, and texture of the existing Bryn Mawr Substation building, but will not mimic the historic building to make it clear that the new buildings are non-historic and do not create a false sense of history. Amtrak will submit the proposed design to PA SHPO for review and comment as described in Stipulation V.B. Design documents will be shared at 30%, 60%, and 90% design.

2. Amtrak will incorporate the “Bryn Mawr Substation” sign currently on the existing Bryn Mawr Substation building into a new retaining wall or other landscape feature adjacent to the new Bryn Mawr Substation site. Amtrak will submit its proposed conceptual design to PA SHPO and the Lower Merion Township Historic Architectural Review Board for review and comment, and Amtrak will address any comments received, as described in Stipulation V.B.
3. Amtrak will offer the bricks from the existing Bryn Mawr Substation building for salvage upon removal of the building. Amtrak will notify Consulting Parties and the public when the bricks will be available and will take requests for the materials. Amtrak will not deliver the brick, but will make it available for pick-up for a specified, reasonable period of time. Amtrak cannot guarantee the amount or number of salvageable bricks. Amtrak will provide all materials for salvage on an “as-is, where-is” basis, and will make no warranty as to condition, suitability, serviceability, or degree of contamination for any intended subsequent use. Amtrak will prepare and deliver a written receipt to that effect to every recipient for their review and signature, and the receipts will become a part of the official Project record. Recipients will sign a release indemnifying Amtrak and Signatories of this Agreement against any and all claims arising from the acquisition and use of salvaged materials. At the end of the retention period, Amtrak may sell or dispose of the remaining unused materials in accordance with applicable statutes and regulations.

V. General Provisions

A. Effective Date

This MOA will be effective as of the date of obligation of Federal financial assistance to construct the improvements and upgrades required for the Project following execution of this MOA by all Signatories.

B. Document Review

Unless otherwise stated in the stipulations, the Signatories and Consulting Parties, where applicable, will provide comments on the documents they review as set forth below:

1. The Signatories and Consulting Parties specified in each item under Stipulation IV above will have up to thirty (30) calendar days from the date of receipt to review and provide written comments to Amtrak on documents stipulated in this MOA.
2. Amtrak will ensure any written comments received within the timeframe are considered and incorporated, as appropriate, into the documentation.
3. If the specified Signatories and Consulting Parties do not submit written comments to Amtrak within thirty (30) calendar days of receipt of any document, it is understood the non-responding parties have no comments on the submittal.

4. If the Signatories and Consulting Parties object to or recommend extensive revisions to submissions stipulated in the MOA, Amtrak will work expeditiously to respond to the recommendations and resolve disputes.
5. If Amtrak cannot resolve a dispute, and if further consultation is deemed unproductive by any party, the parties will adhere to the dispute resolution procedures detailed under Stipulation V.G.
6. The Signatories and Consulting Parties acknowledge the timeframes set forth in this MOA will be the maximum allowed under normal circumstances. In exigent circumstances (e.g., concerns over construction suspensions or delays), all parties agree to expedite their respective document review and dispute resolution obligations.

C. Project Changes

If Amtrak proposes changes to the Project that may result in additional or new effects on historic properties, Amtrak will notify FRA and the PA SHPO of such changes. Before Amtrak takes any action that may result in additional or new effects on historic properties, Amtrak, FRA and PA SHPO will consult to determine the appropriate course of action.

D. Amendment

Any Signatory to this MOA may request that it be amended. The amendment will be effective on the date a copy signed by all of the Signatories is filed with the ACHP.

E. Use of this MOA by Other Federal Agencies

In the event that a Federal agency other than FRA is considering financial assistance, permits, licenses, or approvals for the Project, such Federal agency may become a Signatory to this MOA as a means of complying with Section 106. To become a Signatory to this MOA, the agency official must provide written notice to the Signatories that the agency agrees to the terms of the MOA, specifying the extent of the agency's intent to participate in the MOA, and identifying the lead Federal agency for the Undertaking. The participation of the agency is subject to approval by the Signatories, who must respond to the written notice within 30 days or the approval will be considered implicit. Any other modifications to the MOA will be considered in accordance with Stipulation V.D.

F. Termination

If any Signatory to this MOA determines that its terms will not or cannot be carried out, that Signatory will immediately consult with the other Signatories to attempt to develop an Amendment per Stipulation V.D. If within thirty (30) days (or another time period agreed to by all Signatories) an amendment cannot be reached, any Signatory may terminate the MOA upon written notification to the other Signatories.

Once the MOA is terminated, and prior to work continuing or initiating on the Undertaking, FRA must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. FRA will notify the Signatories as to the course of action it will pursue.

G. Dispute Resolution

Should any Signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented by providing written notice of such objection to FRA, FRA will consult with the Signatory to resolve the objection. If FRA determines that the objection cannot be resolved, FRA will:

1. Forward all documentation relevant to the dispute, including the FRA's proposed resolution, to the ACHP and request that the ACHP provide FRA with its advice on the resolution of the objection within thirty (30) calendar days of receiving the documentation. FRA will prepare a written response to the objection, which will constitute the FRA's decision regarding the objection, that takes into account any timely advice or comments regarding the dispute from the ACHP and the Signatories and provide the ACHP and Signatories with a copy of this written response. FRA will then proceed according to its decision.
2. If the ACHP does not provide its advice regarding the dispute within the thirty (30) calendar day time period, FRA may make a decision on the dispute and proceed accordingly. FRA will document this decision in a written response to the objection that takes into account any timely comments regarding the dispute from the Signatories and provide the ACHP and Signatories with a copy of such written response.
3. The Signatories remain responsible for carrying out all other actions subject to the terms of this MOA that are not the subject of the dispute.

H. Duration

This MOA will be valid for five (5) years following the Effective Date, or when the Signatories have agreed to terminate the MOA, whichever comes first. If the terms of this MOA have not been implemented within five years of its Effective Date, this MOA will be considered null and void. In such event, FRA or Amtrak will notify the other Signatories to this Agreement, and if FRA chooses to continue with the Undertaking, will reinitiate review of the Undertaking in accordance with 36 CFR Part 800. Prior to such time, FRA may consult with the other Signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation V.D above.

I. Monitoring and Reporting

Each year following the Effective Date of this MOA until it expires or is terminated,

Amtrak will provide all Signatories to this MOA a summary report detailing work undertaken pursuant to its terms. Such report will include any scheduling changes proposed, any problems encountered, and any disputes and objections received in FRA's efforts to carry out the terms of this MOA.

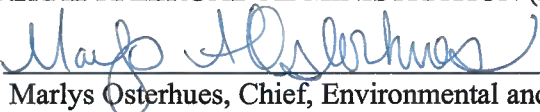
J. Unanticipated Discoveries Plan

In consultation with FRA, Amtrak has developed an Unanticipated Discoveries Plan for human and non-human archaeological resources in the event that any unanticipated archaeological resources are encountered during construction of the Project. The Unanticipated Discoveries Plan is appended to this MOA as Attachment 2. In the event of the Unanticipated Discovery of human or non-human archaeological resources, Amtrak will cease work in the affected area and implement the Unanticipated Discoveries Plan.

EXECUTION of this MOA, and implementation of its terms, evidences that FRA, Amtrak, and PA SHPO have taken into account the effects of the Project on historic properties, and that FRA and Amtrak have satisfied their responsibilities under Section 106 of the Act and implementing regulations codified in 36 CFR Part 800 with regard to a future Undertaking.


**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY, AND THE
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE
REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
CHESTER COUNTIES, PENNSYLVANIA**

FEDERAL RAILROAD ADMINISTRATION (FRA)

By:  Date: 8/21/2017
Marlys Osterhues, Chief, Environmental and Corridor Planning Division

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY, AND THE
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE
REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
CHESTER COUNTIES, PENNSYLVANIA**


NATIONAL RAILROAD PASSENGER CORPORATION (AMTRAK)

By:  for RHA Date: 8/14/2017

Print Name and Title:

FOR RICHARD H ANDERSON, PRESIDENT & CO-CEO

APPROVED AS TO FORM:

BY: 
Counsel for National Railroad Passenger Corporation

MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY, AND THE
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REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
CHESTER COUNTIES, PENNSYLVANIA

RAILROAD MUSEUM OF PENNSYLVANIA

By: Brenda Reigle Date: 7/31/2017
Brenda Reigle, Director, Bureau of Historic Sites and Museums
Pennsylvania Historical and Museum Commission

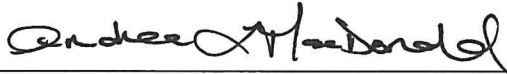
MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
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REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
CHESTER COUNTIES, PENNSYLVANIA

SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY (SEPTA)

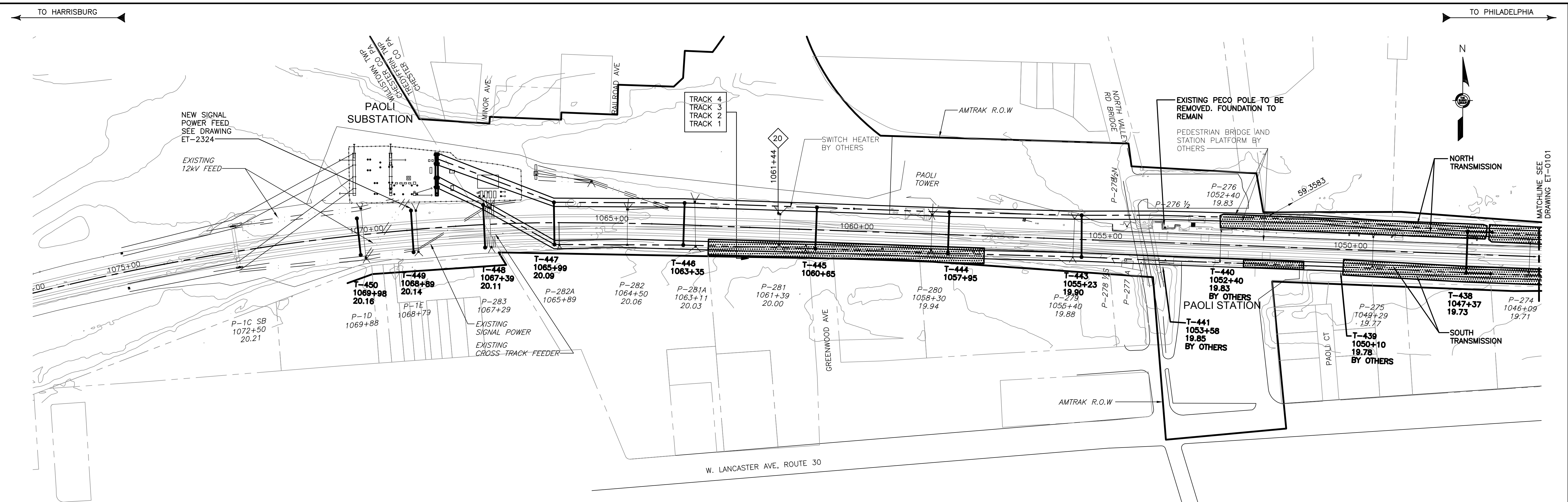
By: *Robert L. Lund for R.L.* Date: *8/1/17*
Robert L. Lund, Assistant General Manager, EM&C

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY, AND THE
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REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
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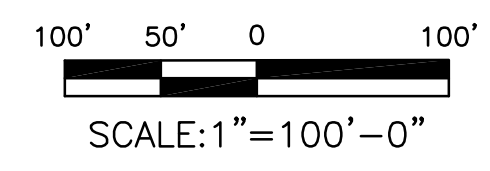
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE (PA SHPO)

By:  Date: 8/9/2017
Andrea MacDonald, Director, Pennsylvania State Historic Preservation Office, and
Deputy State Historic Preservation Officer

**ATTACHMENT 1:
TREE TRIMMING PLANS**

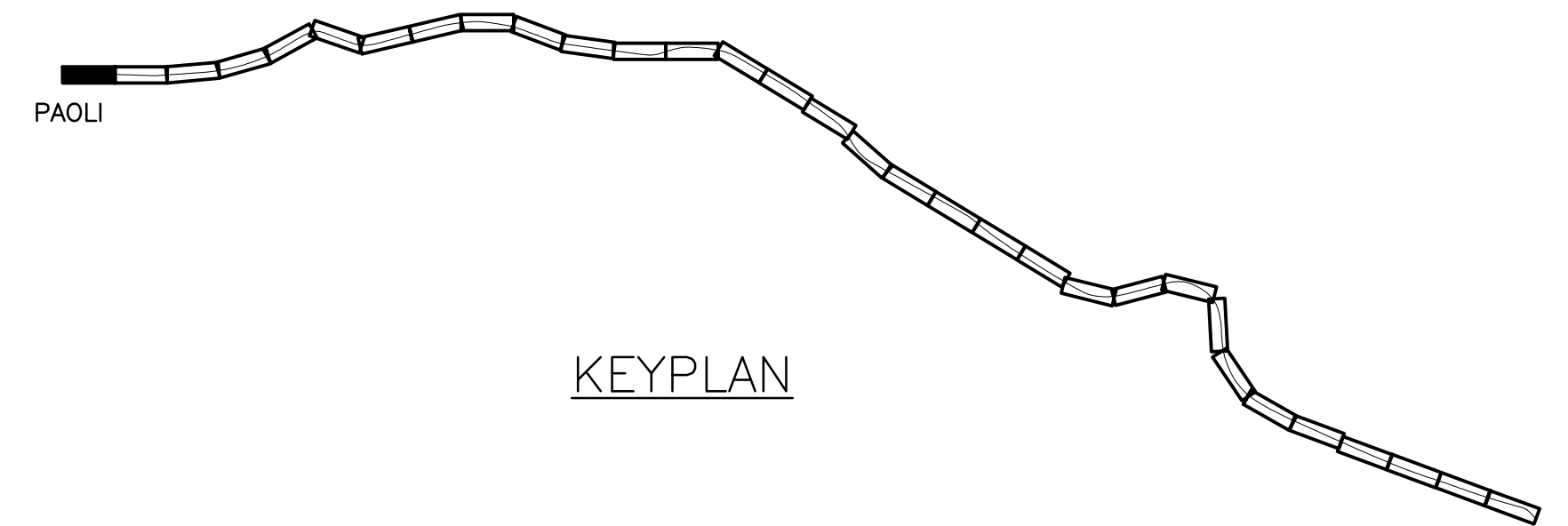


TREE PRUNING SITE PLAN



PROPOSED LIMITS OF TREE TRIMMING. SEE DETAIL ON SHEET C-0232 FOR MORE INFORMATION.

- NOTES:**
1. THE PURPOSE OF THESE PLANS IS TO SHOW THE LOCATION AND LIMITS OF TREE PRUNING AND TREE FELLING TO PROVIDE SAFE ELECTRICAL CLEARANCES TO NEW AERIAL TRANSMISSION LINES.
 2. TWO WEEKS PRIOR TO ANY TREE PRUNING OR TREE FELLING WORK, CONTACT OWNERS OF PROPERTY ADJACENT TO AMTRAK RIGHT-OF-WAY WHERE WORK WILL BE PERFORMED.
 3. PERFORM TREE PRUNING AND TREE FELLING IN ACCORDANCE WITH ANSI-A300, STANDARDS FOR TREE MAINTENANCE. PRUNE TREES FOR ELECTRICAL LINE CLEARANCE BY DIRECTIONAL PRUNING; DO NOT "TOP" OR "ROUND" TREES. PERFORM TREE PRUNING AND TREE FELLING BY MECHANICAL MEANS ONLY, I.E. SAWING OR CLIPPING. DO NOT USE DEFOLIANTS OR HERBICIDES.
 4. ALL WORK IS TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF A FULL-TIME, INTERNATIONAL SOCIETY OF ARBORCULTURE (ISA) CERTIFIED ARBORIST.
 5. ALL DEBRIS GENERATED BY TREE PRUNING AND TREE FELLING OPERATIONS IS TO BE REMOVED FROM AMTRAK'S RIGHT-OF-WAY AND DISPOSED OF LEGALLY OFF AMTRAK PROPERTY.
 6. ALL WORK IS TO BE PERFORMED FROM AMTRAK RIGHT-OF-WAY.
 7. LIMITS SHOWN ON PLAN ARE FOR CLEARANCE TO 138KV TRANSMISSION LINE. TREE PRUNING OR TREE FELLING FOR INSTALLATION OF NEW CATENARY STRUCTURES IS NOT SHOWN.



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No	Revisions	Date	By



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National Railroad Passenger Corporation
30TH Street Station-Philadelphia, Pennsylvania 19104

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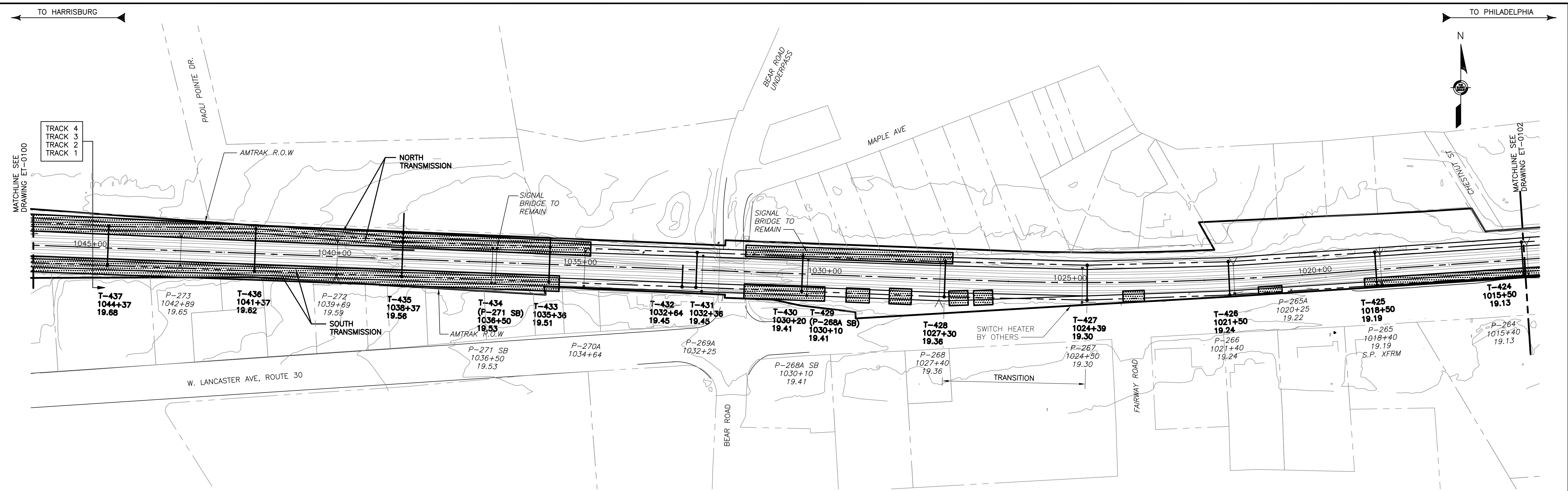
100% DESIGN SUBMISSION

PAOLI TO BRYN MAWR TRANSMISSION
ELECTRIFICATION
TREE PRUNING
STA. 1075+00 TO 1046+00

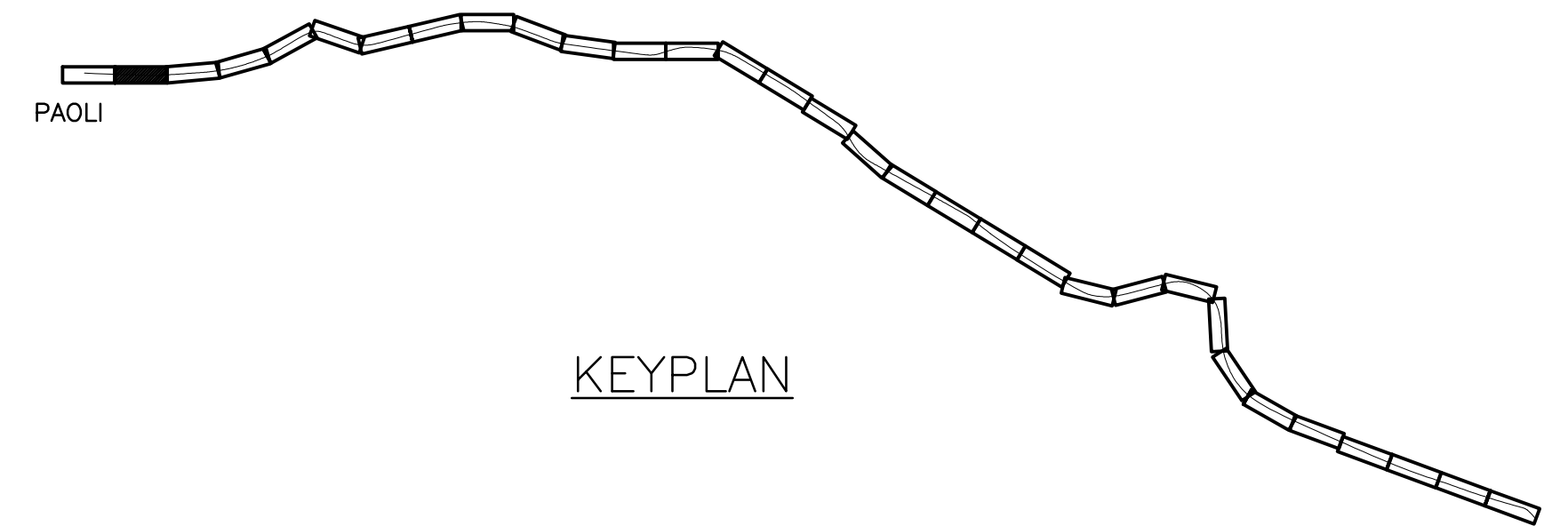
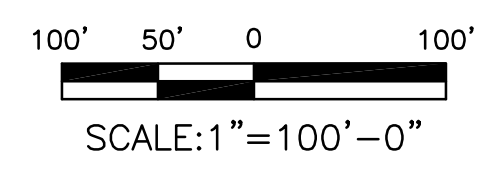
Recommended: DP Drawn: WJC Checked: MJM Date: 03/17/16

File No.:	C-0200/ING
Ref. No.:	2011-059
Sheet No.:	547 OF 565
C-0200	

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TREE PRUNING SITE PLAN



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PAOLI TO BRYN MAWR TRANSMISSION
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TREE PRUNING
STA. 1046+00 TO 1015+45

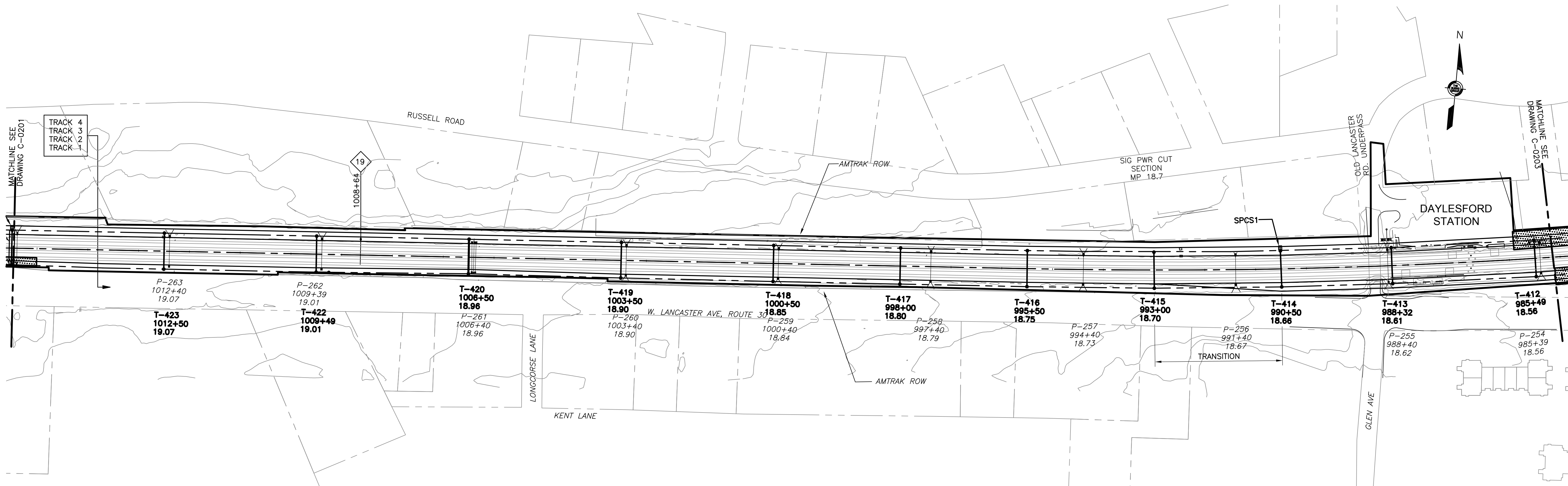
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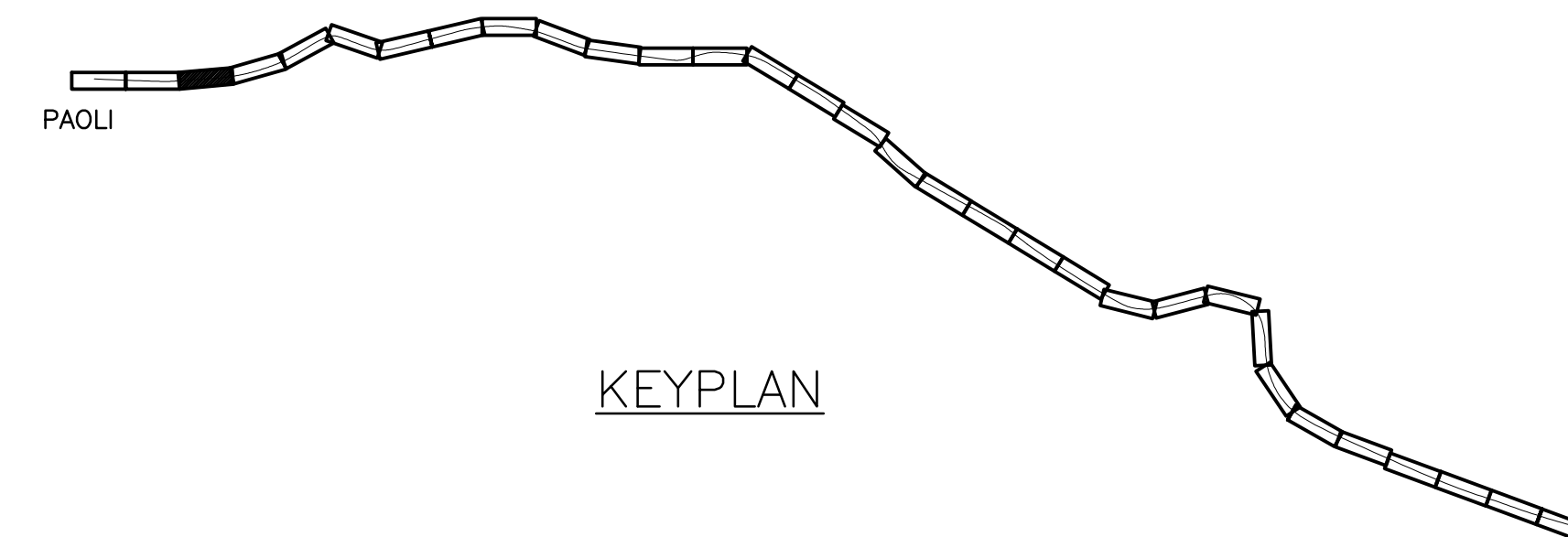
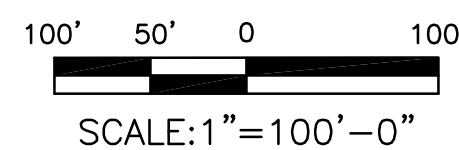
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TO HARRISBURG

TO PHILADELPHIA



TREE PRUNING SITE PLAN



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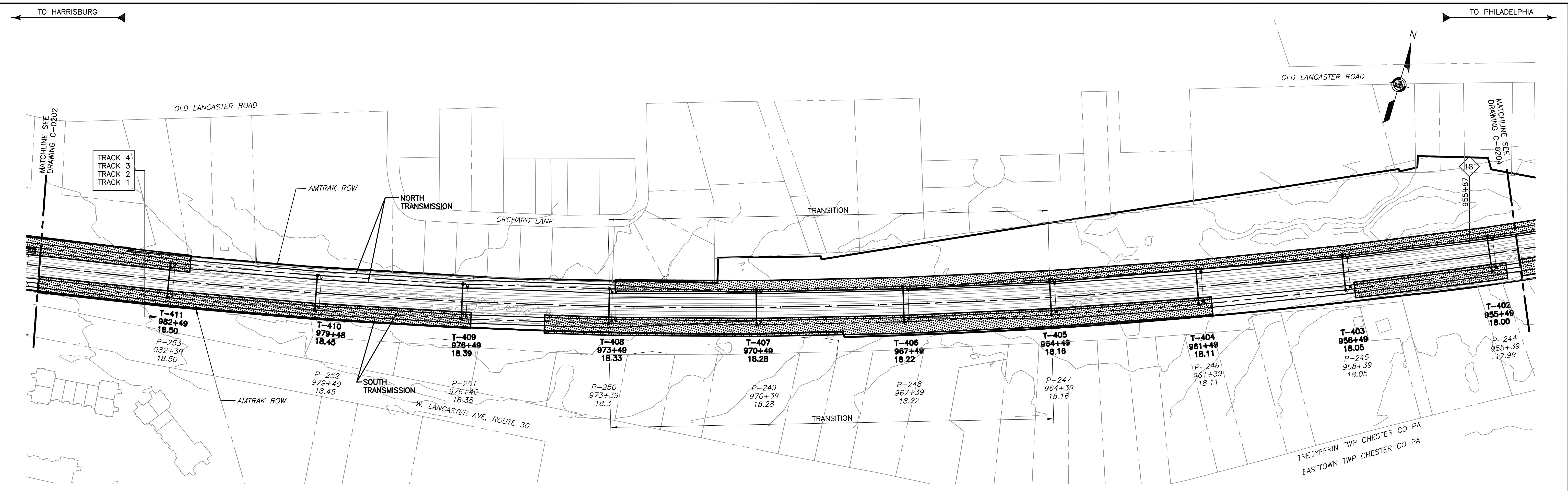


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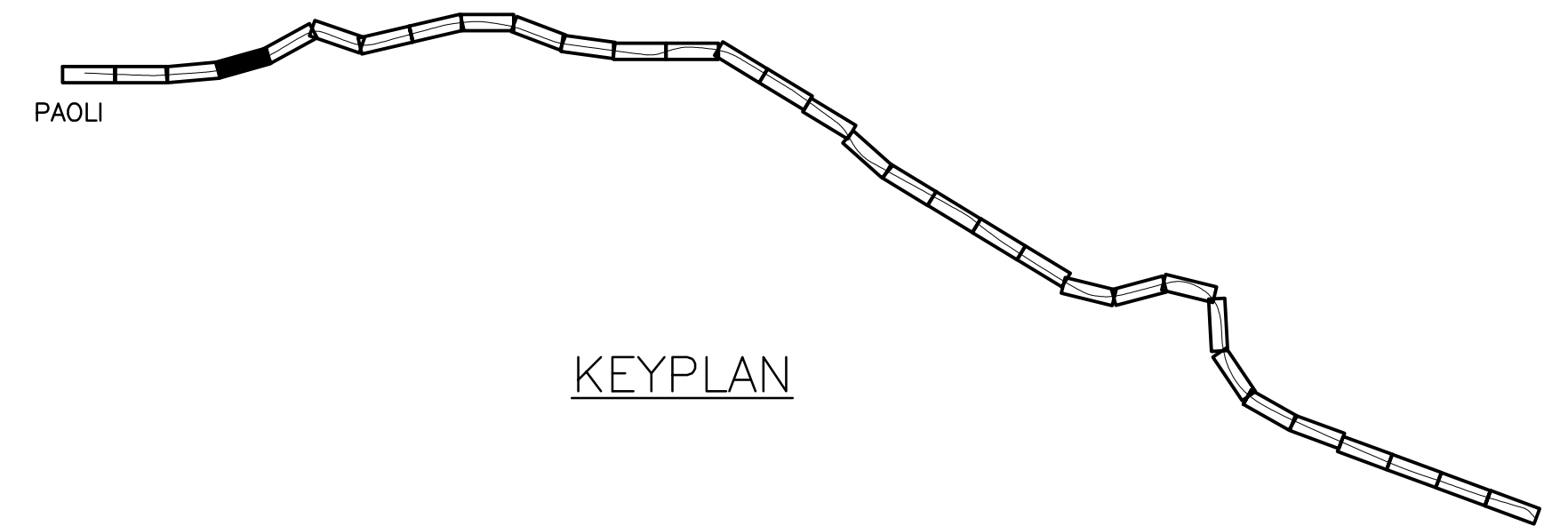
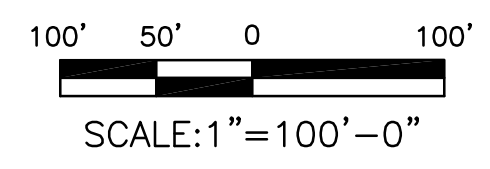
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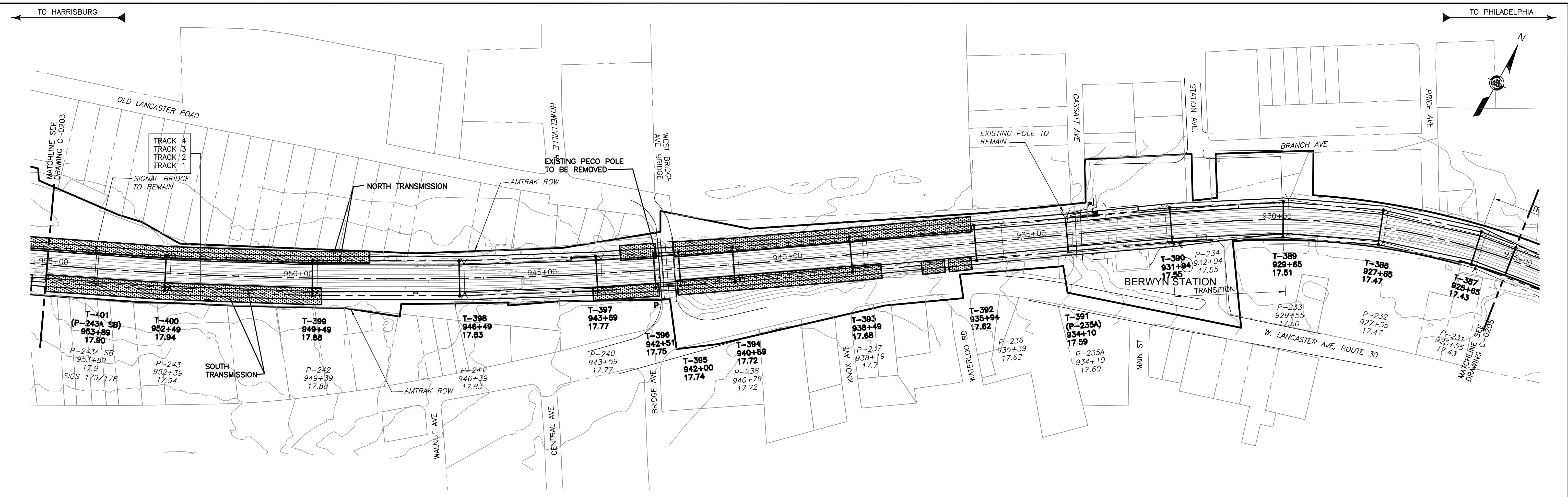


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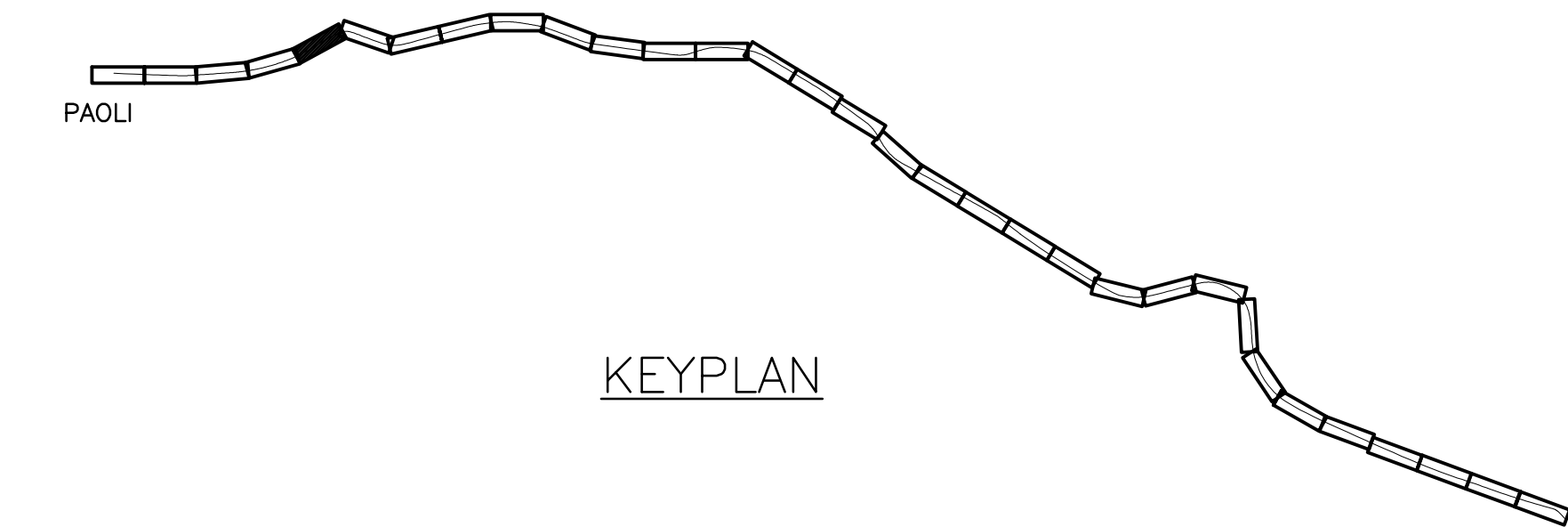
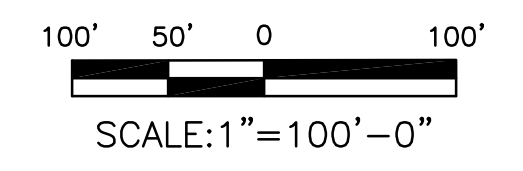
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C-0203	

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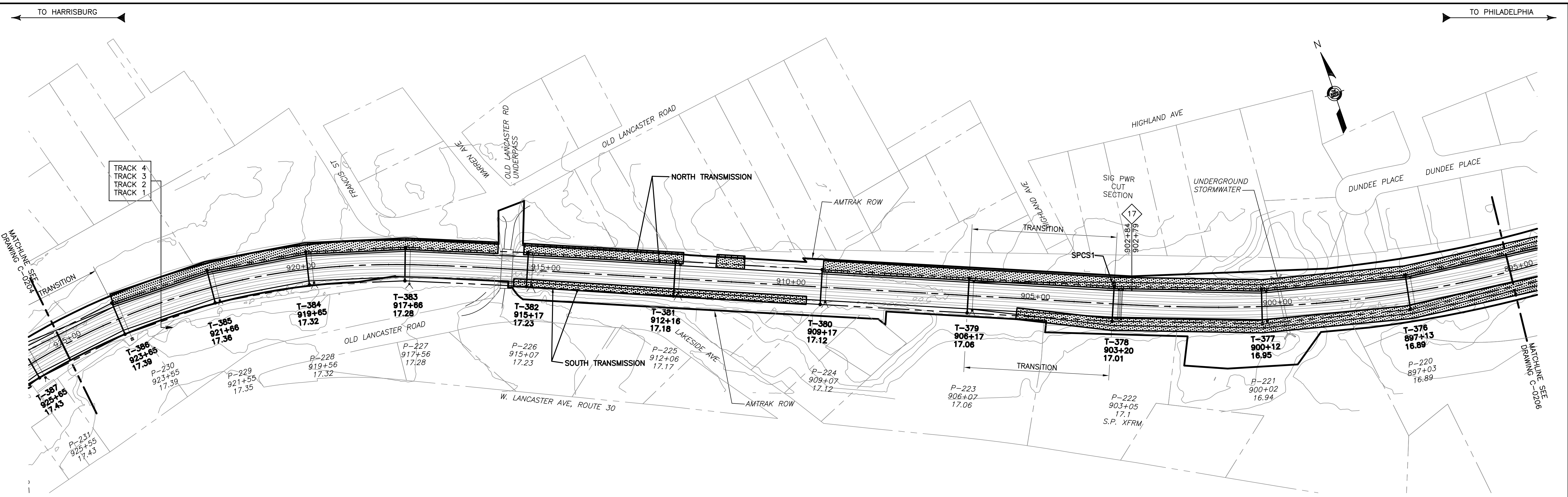
Burns IN ASSOCIATION WITH **Baker**
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCIAL SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

AECOM

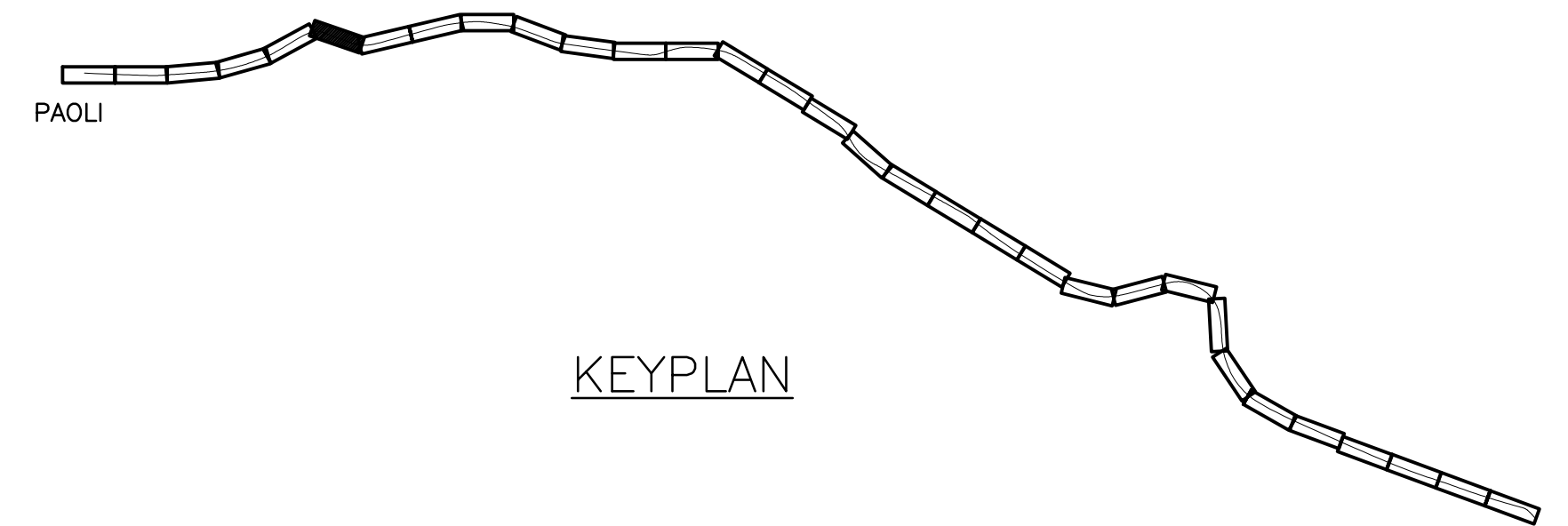
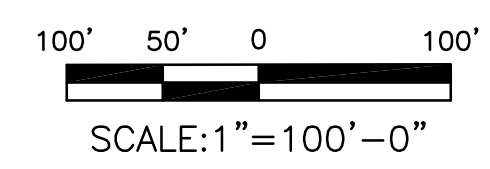
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ELECTRIFICATION
TREE PRUNING
STA. 955+00 TO 925+00**

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C-0204	



TREE PRUNING SITE PLAN



KEYPLAN

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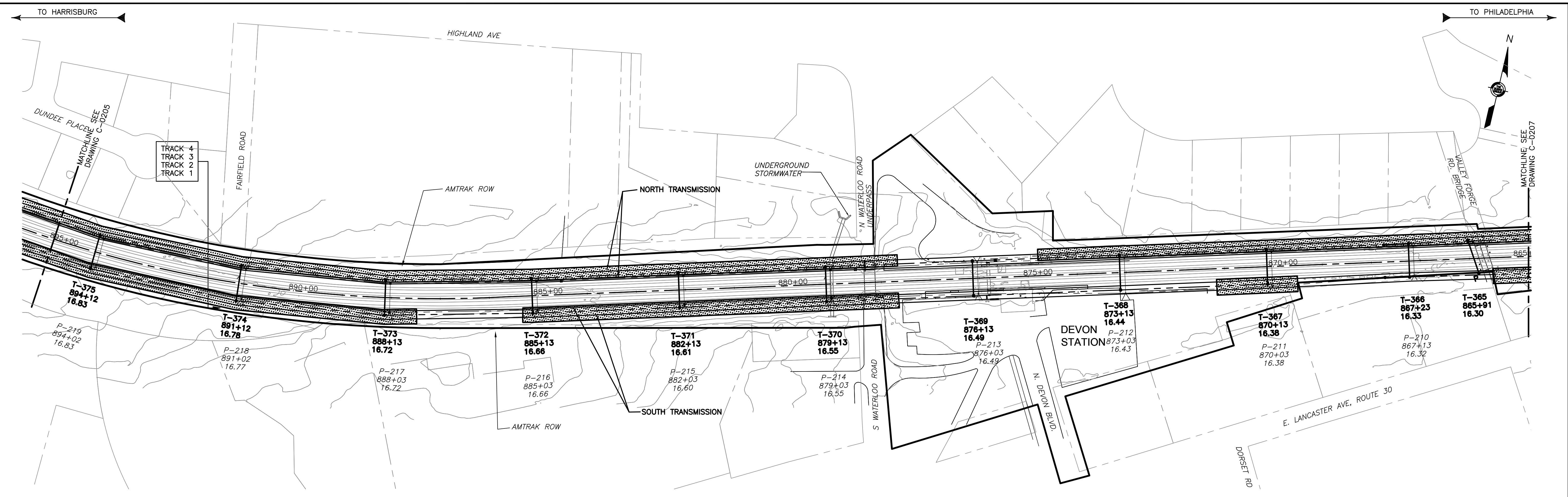


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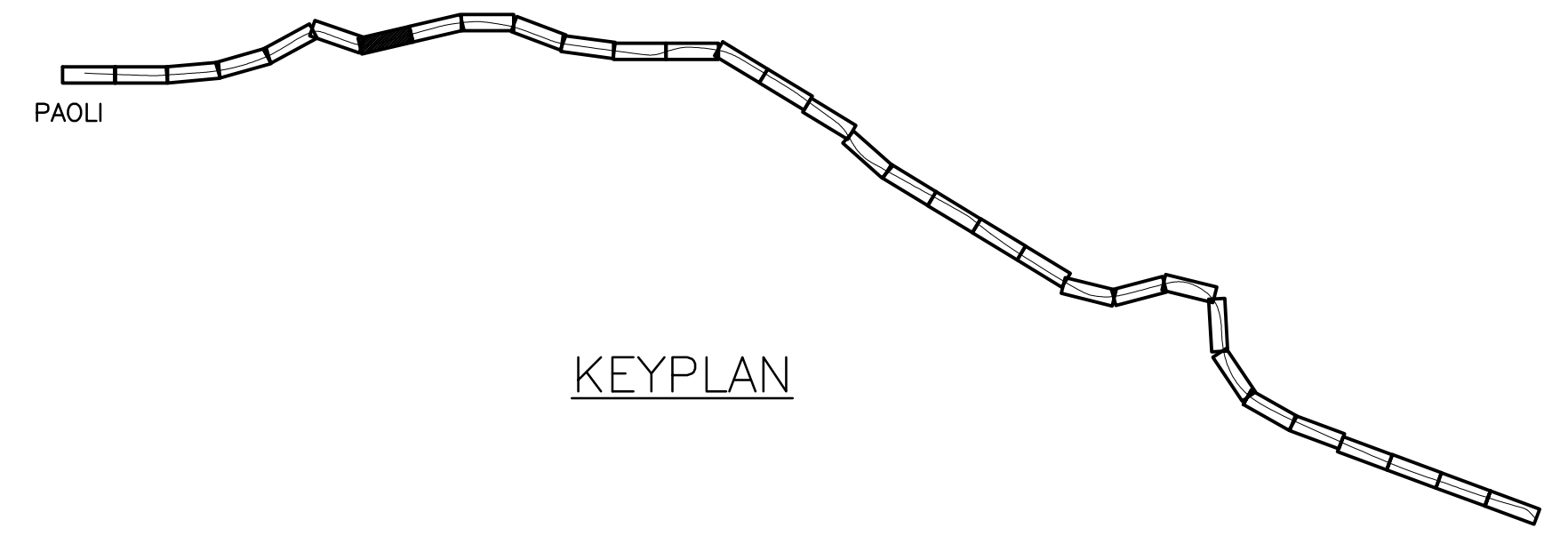
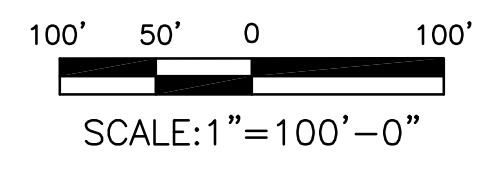
**PAOLI TO BRYN MAWR TRANSMISSION
ELECTRIFICATION
TREE PRUNING
STA. 925+00 TO 895+00**

Recommended: DP Drawn: WJC Checked: MJM Date: 03/17/16

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C-0205	



TREE PRUNING SITE PLAN



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30TH Street Station—Philadelphia, Pennsylvania 19104

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PHILADELPHIA, PA 19103

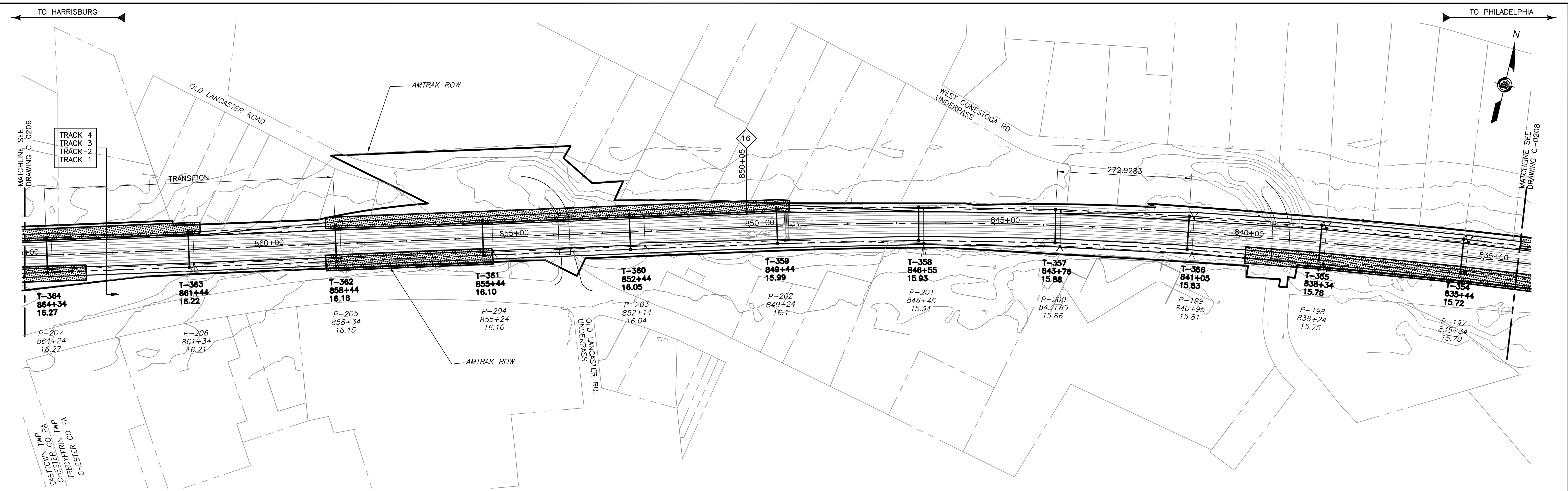
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**PAOLI TO BRYN MAWR TRANSMISSION
ELECTRIFICATION
TREE PRUNING
STA. 895+00 TO 865+00**

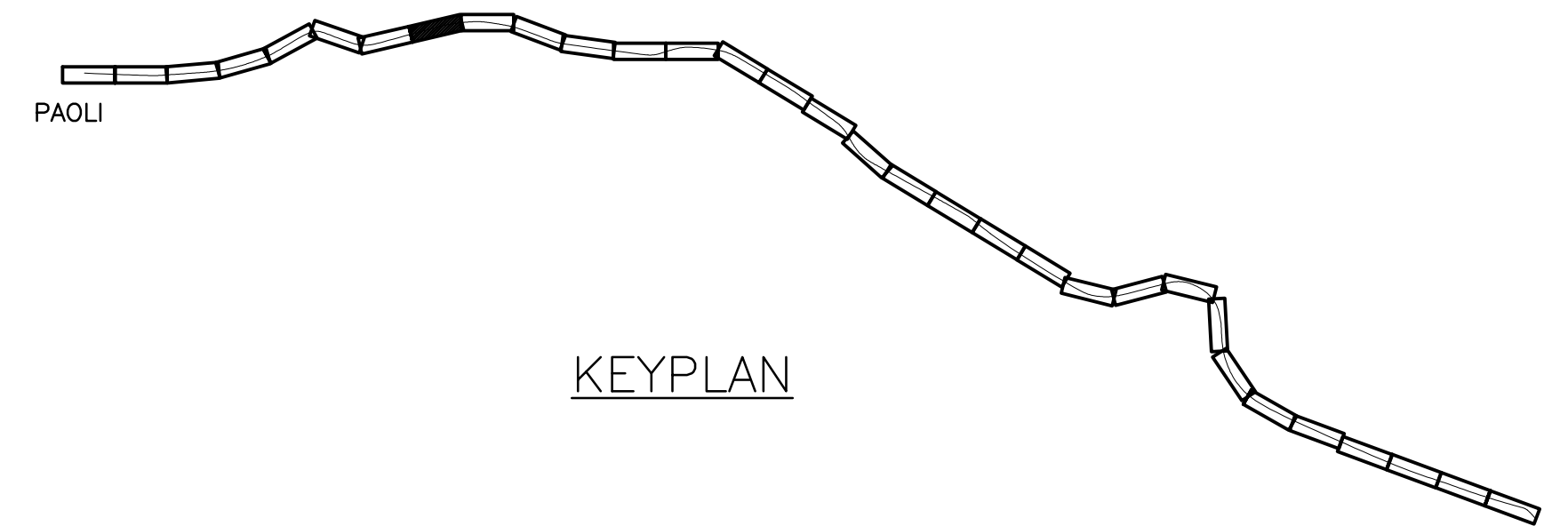
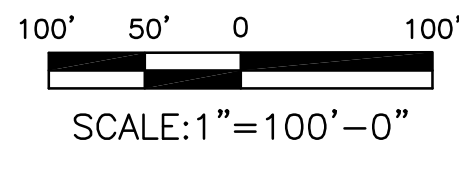
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File No.:	C-0206.DWG
Ref. No.:	2011-059
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C-0206	

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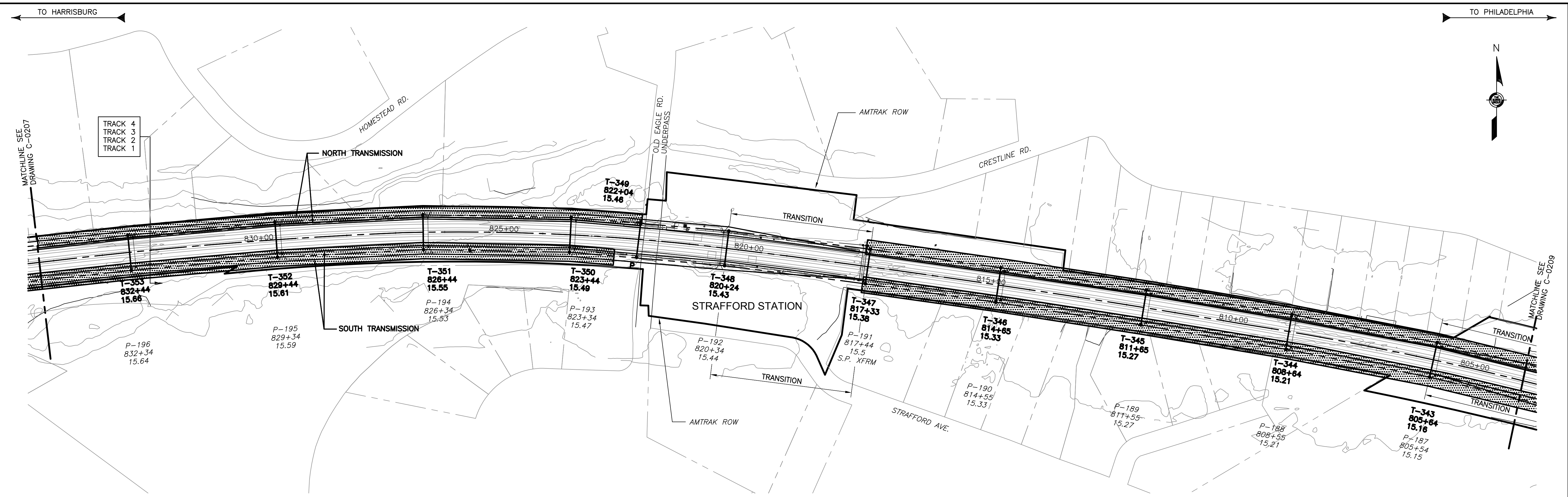
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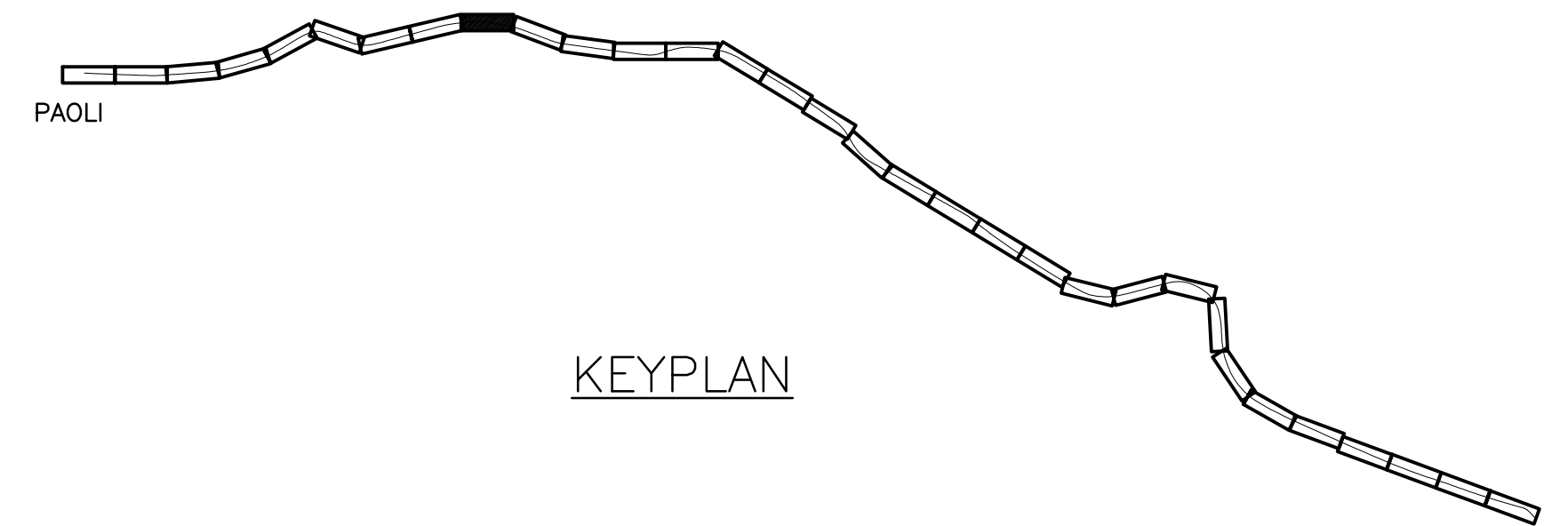
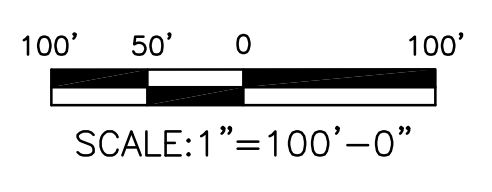
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ELECTRIFICATION
TREE PRUNING
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File No.:	C-0207.DWG
Ref. No.:	2011-059
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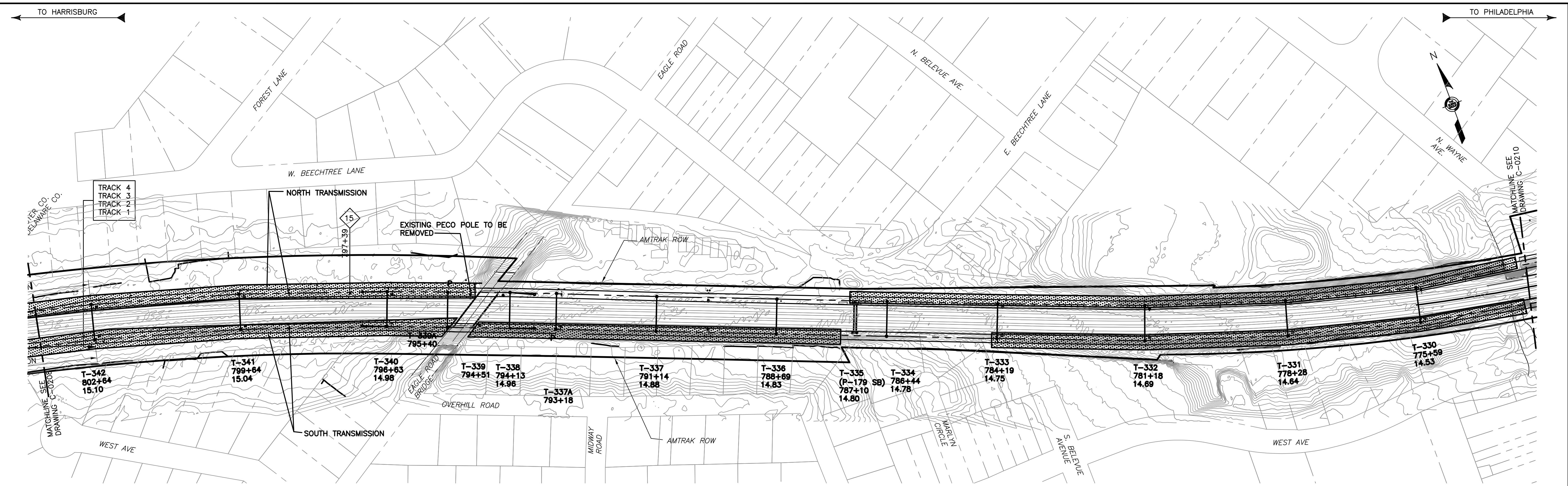


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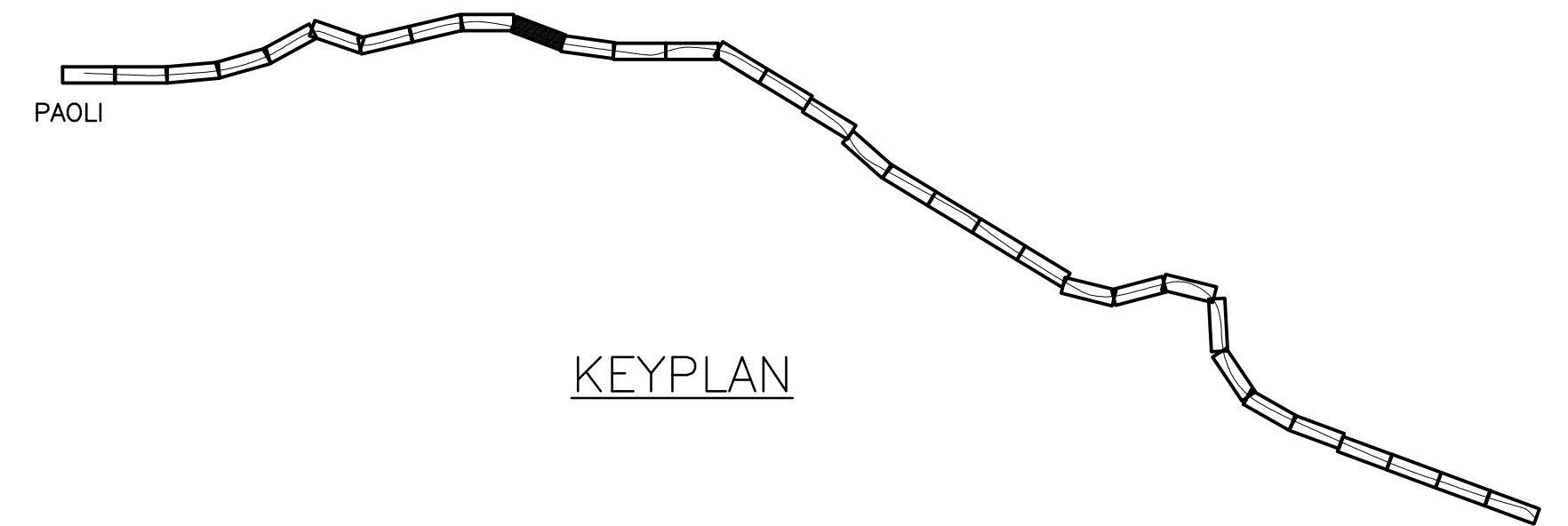
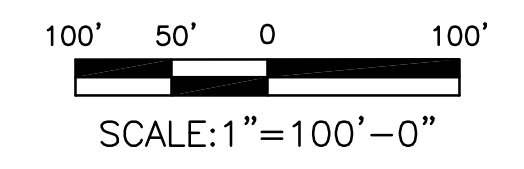
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TREE PRUNING
STA. 835+00 TO 804+00**
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File No.:	C-0208.DWG
Ref. No.:	2011-059
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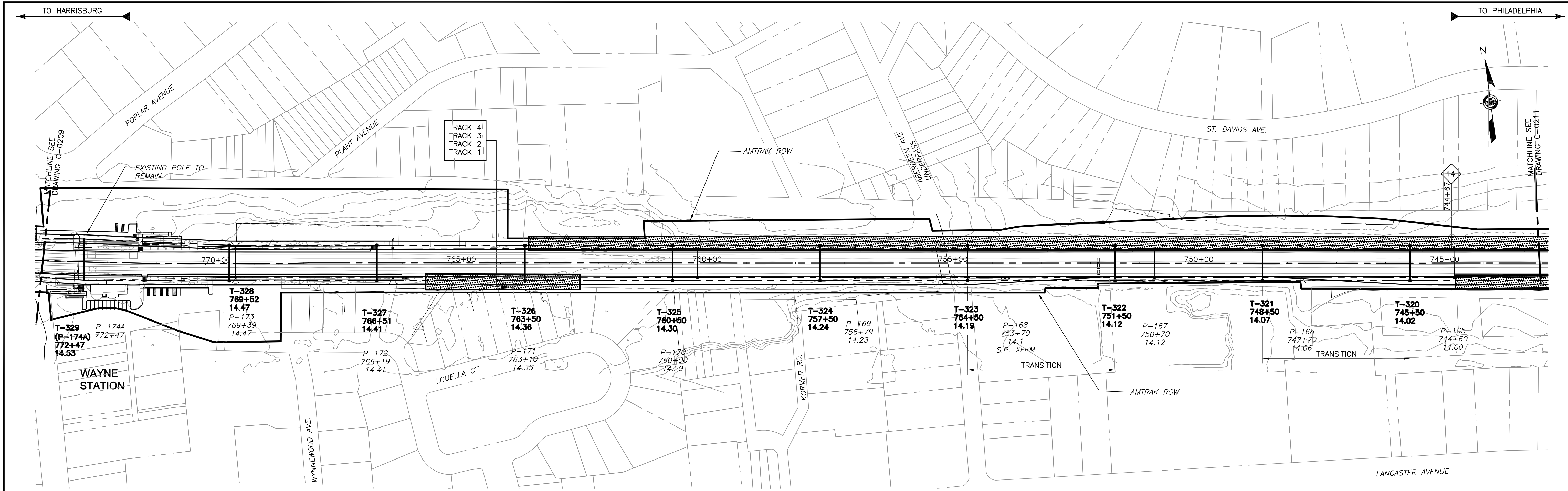
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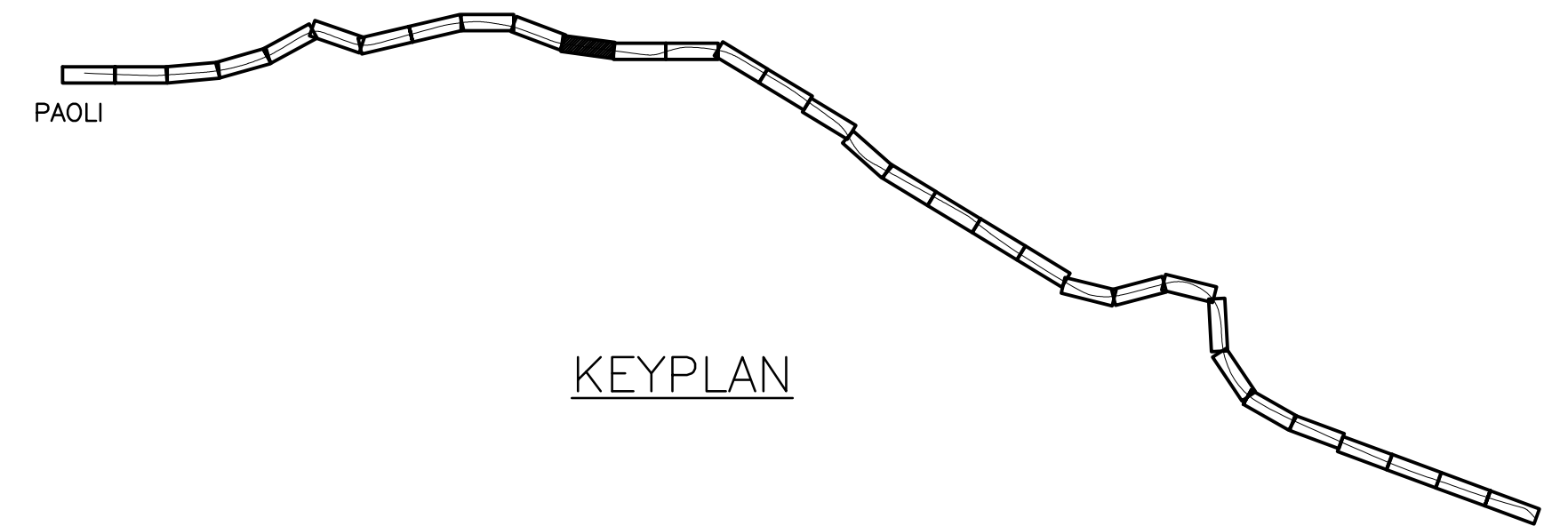
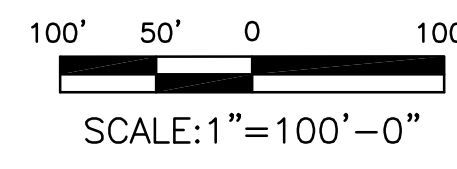
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File No.:	C-0209.DWG
Ref. No.:	2011-059
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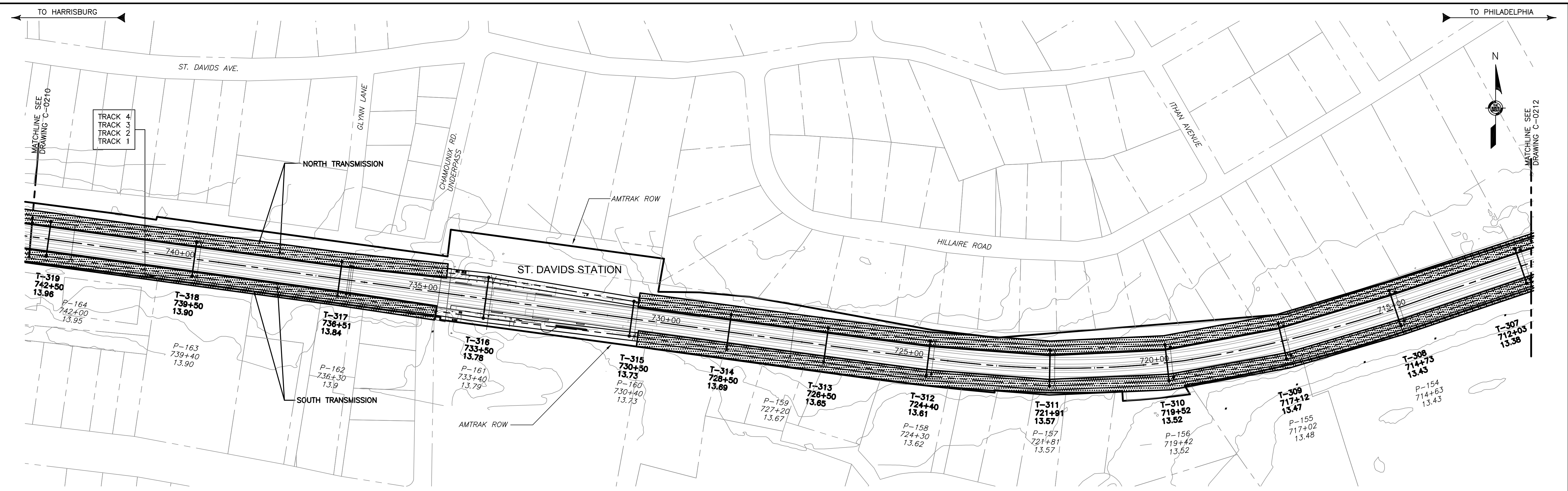
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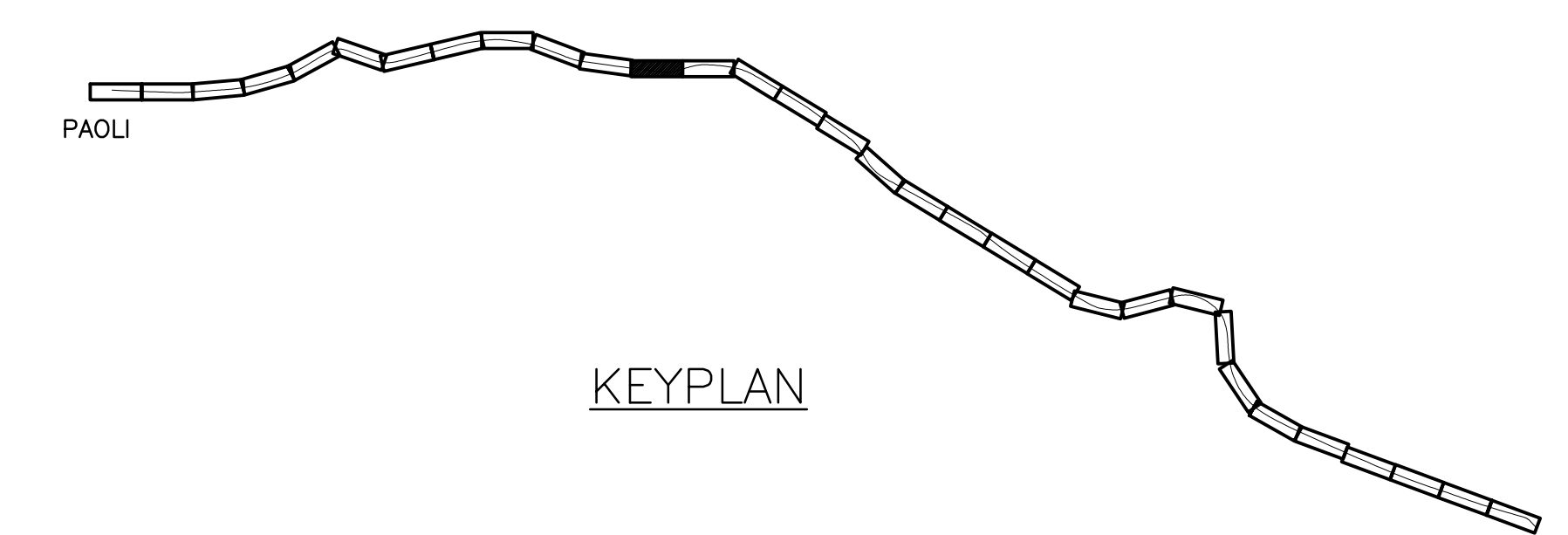
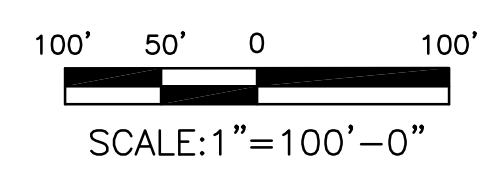
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STA. 774+00 TO 744+00**

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File No.:	C-0210.DWG
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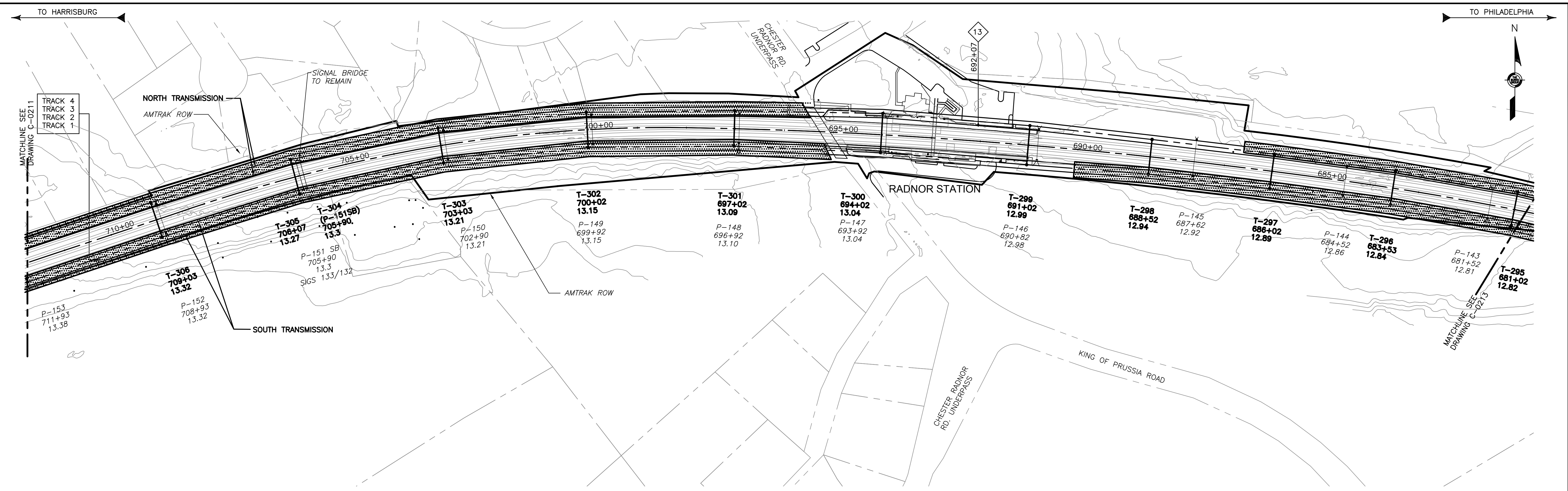


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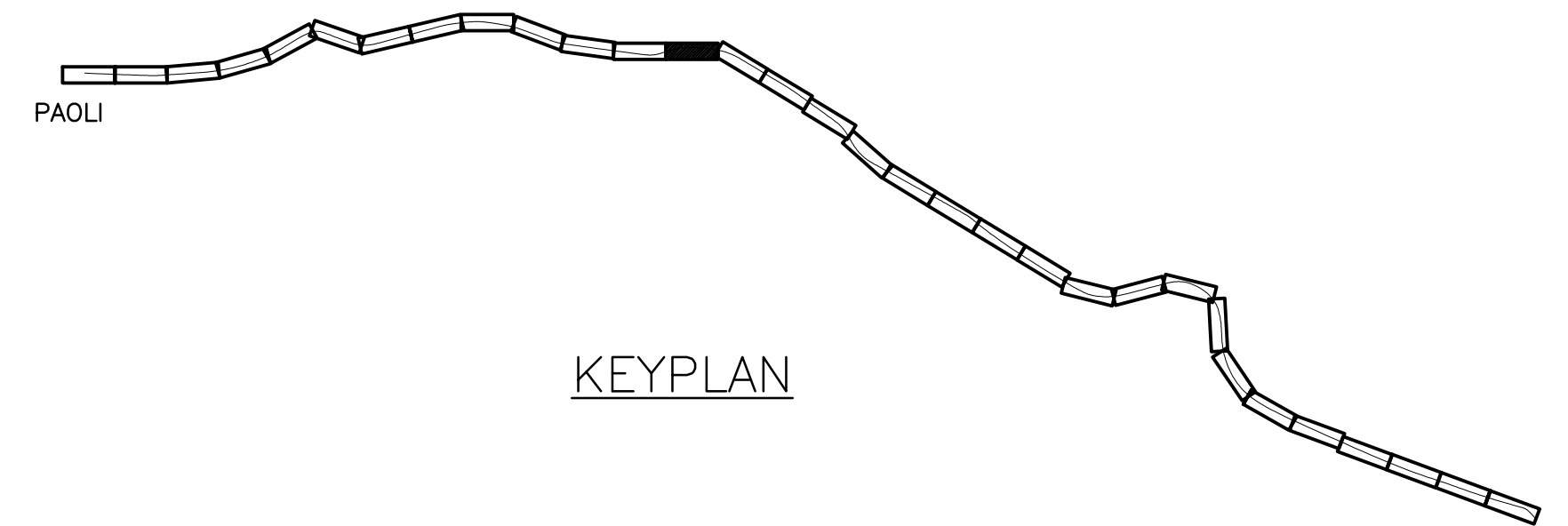
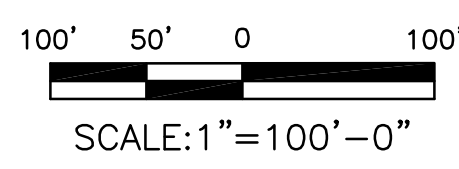
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Ref. No.:	2011-059
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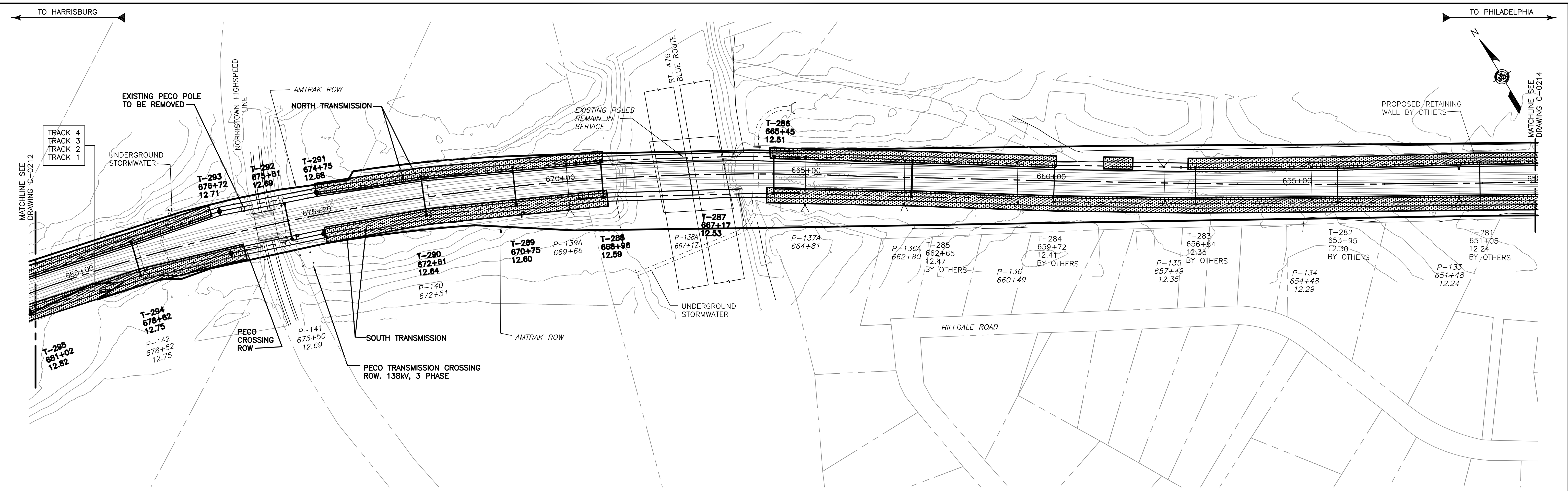


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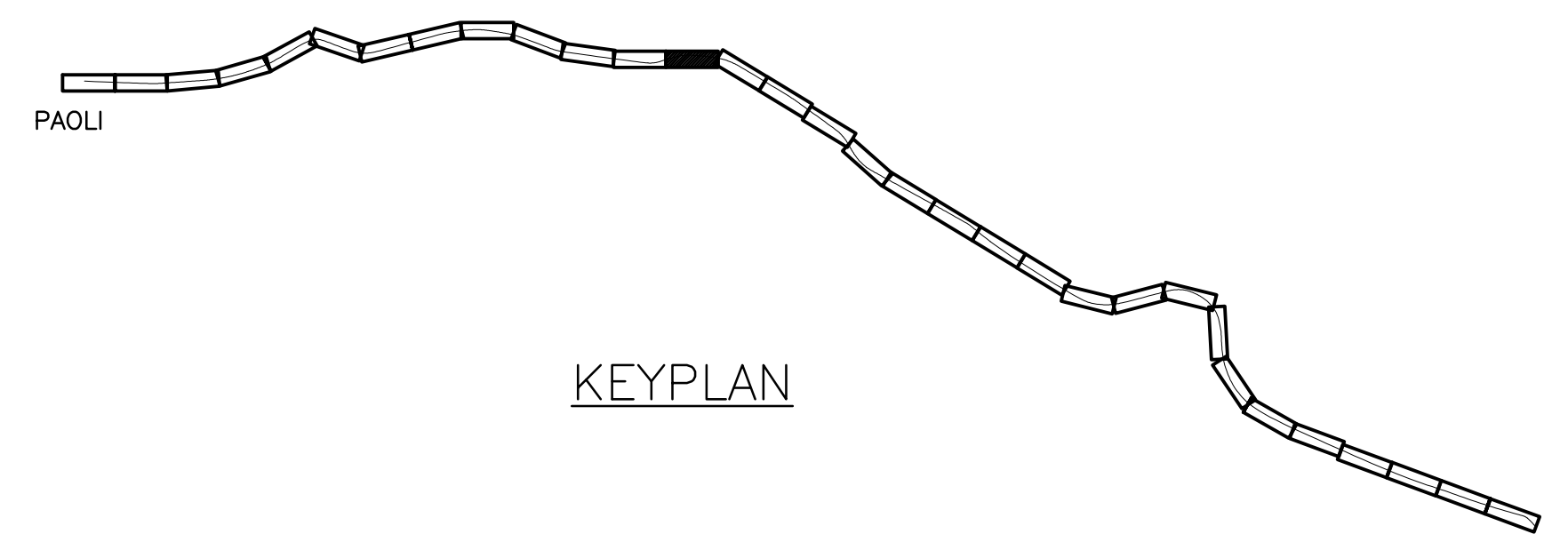
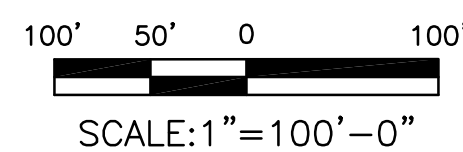
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Date: 12/19/14		Sheet No: 559 OF 936	
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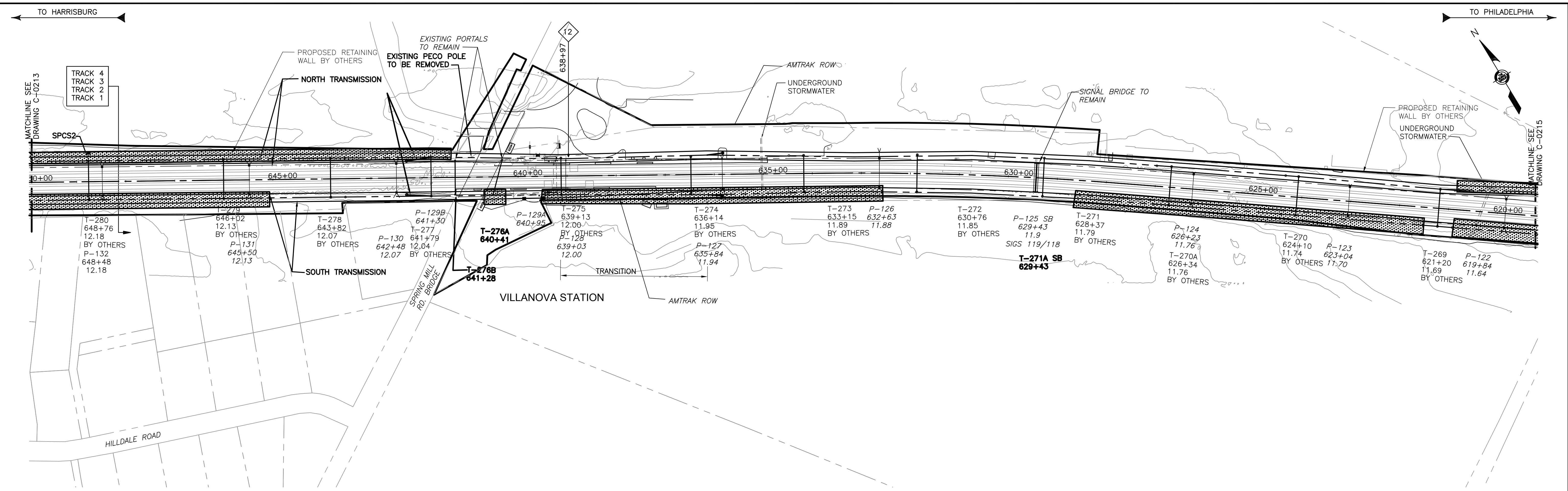


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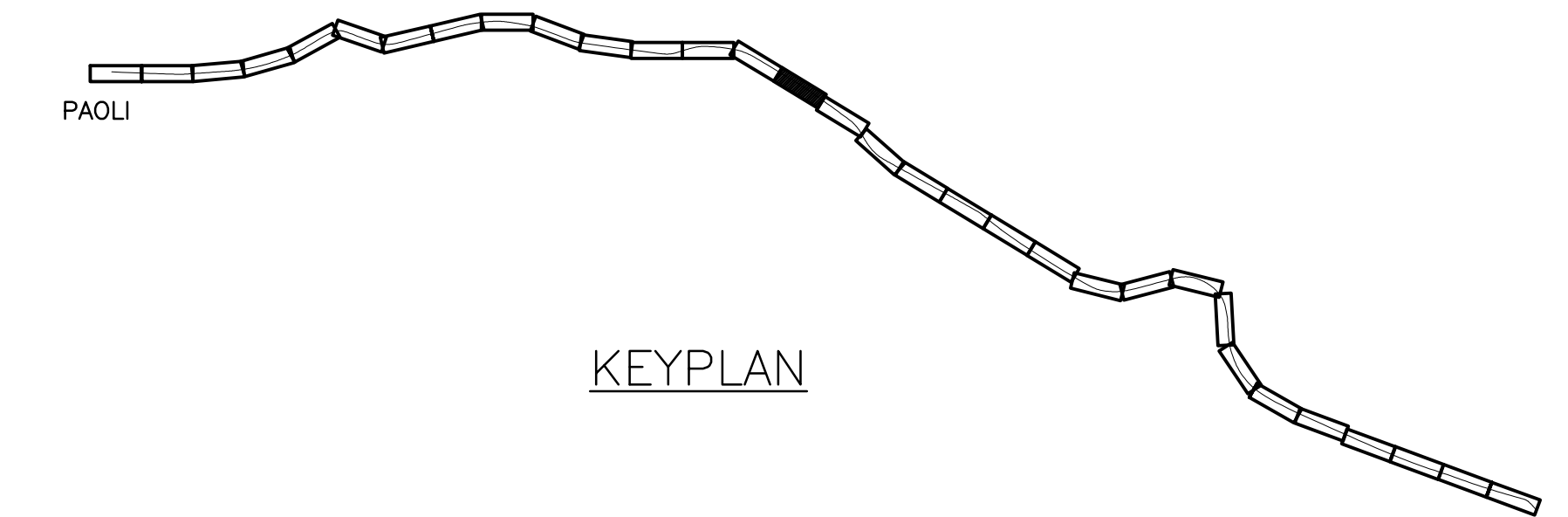
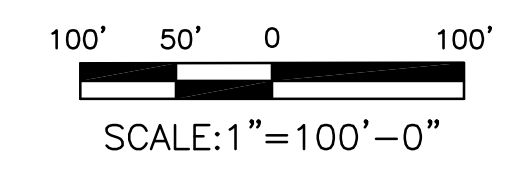
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		Ref. No.:	2011-059
Recommended: DP		Drawn: WJC	Checked: MJM
Date: 12/19/14		Sheet No: 560 OF 936	
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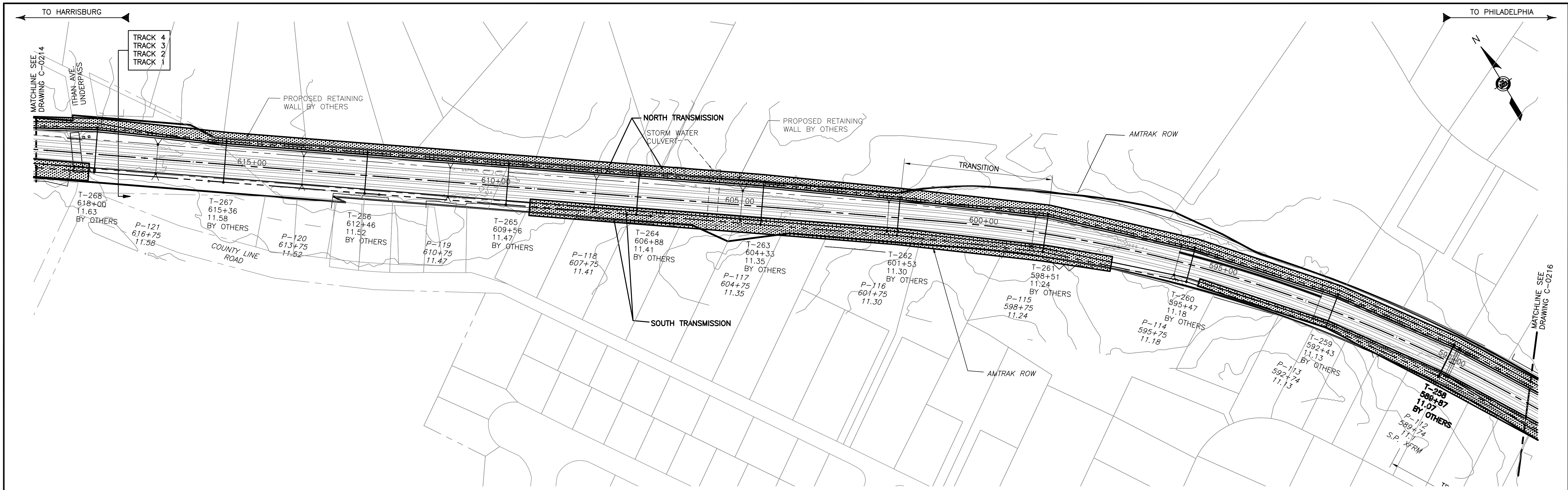
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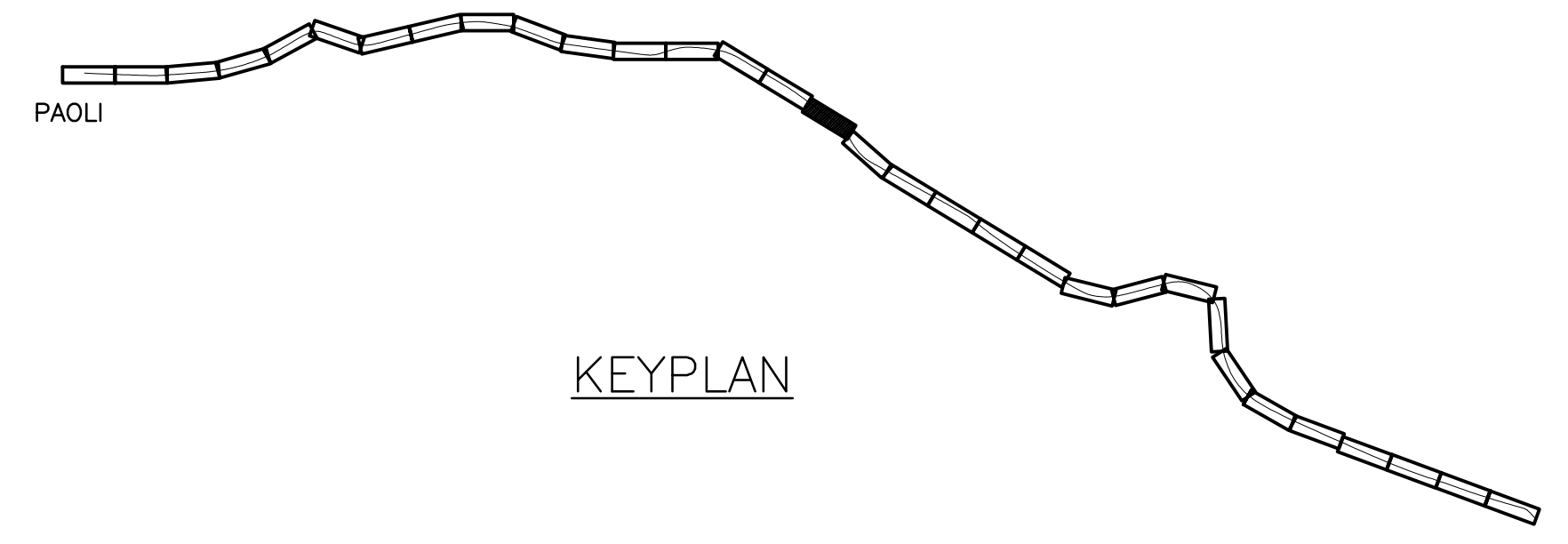
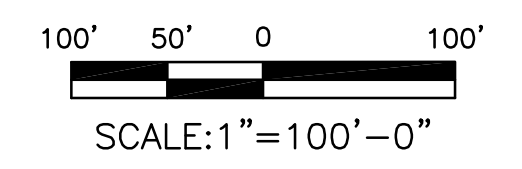
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STA. 650+00 TO 619+00**

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TREE PRUNING SITE PLAN



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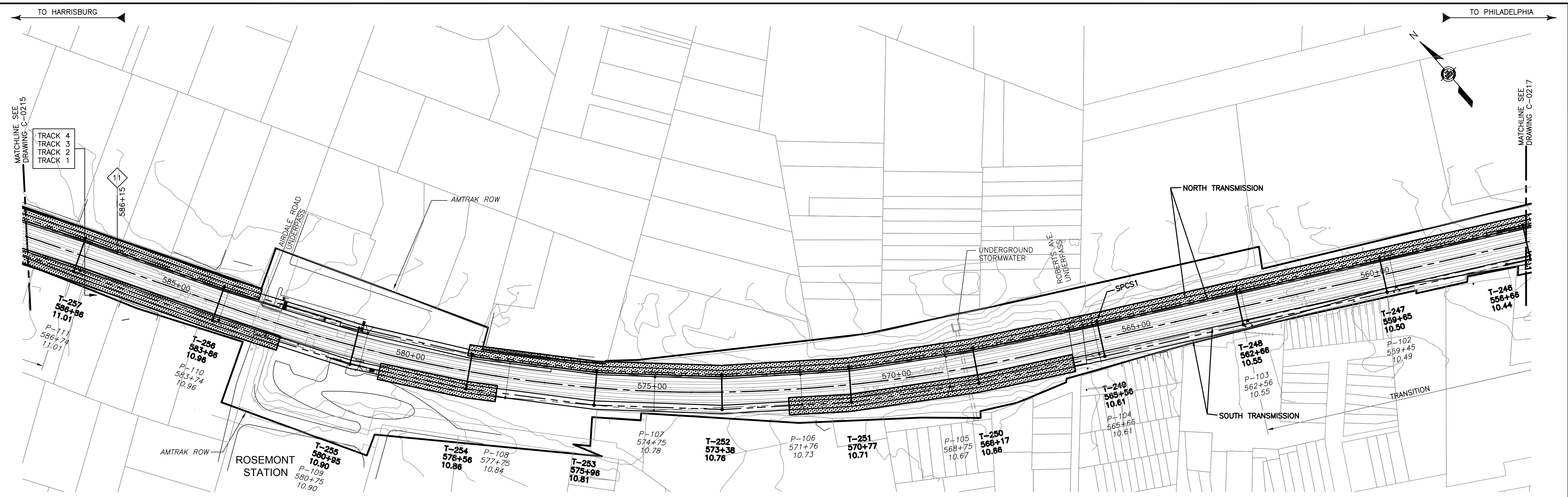
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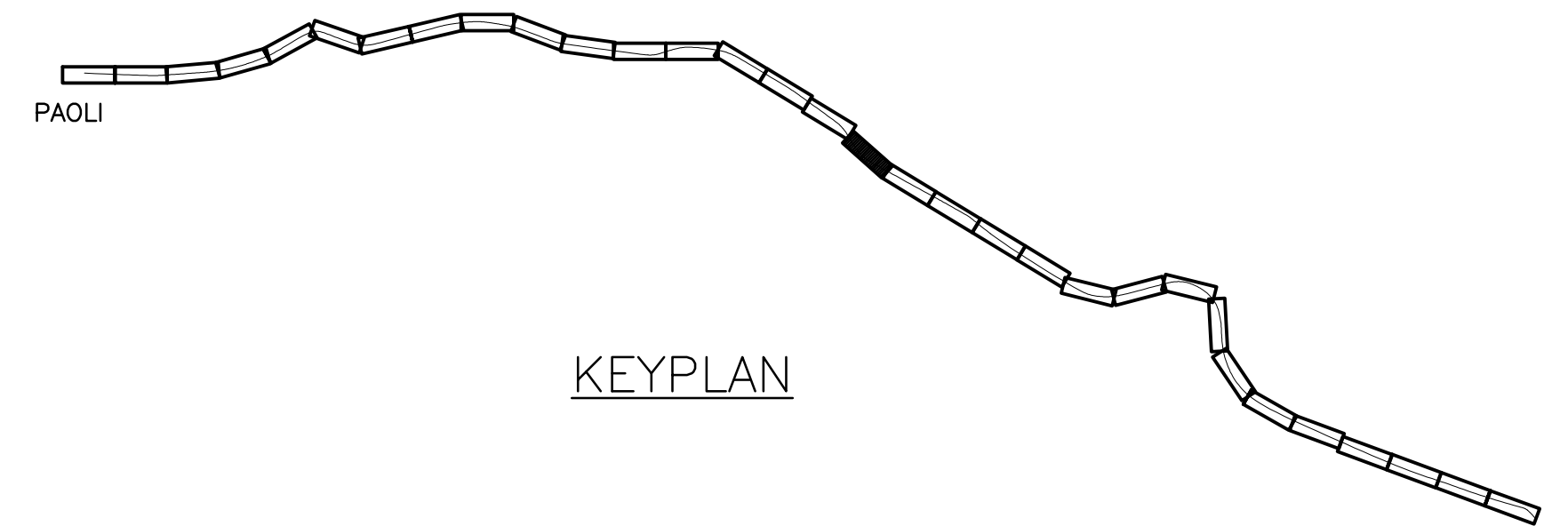
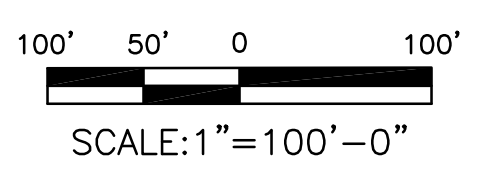
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File No.:	C-0215.DWG
Ref. No.:	2011-059
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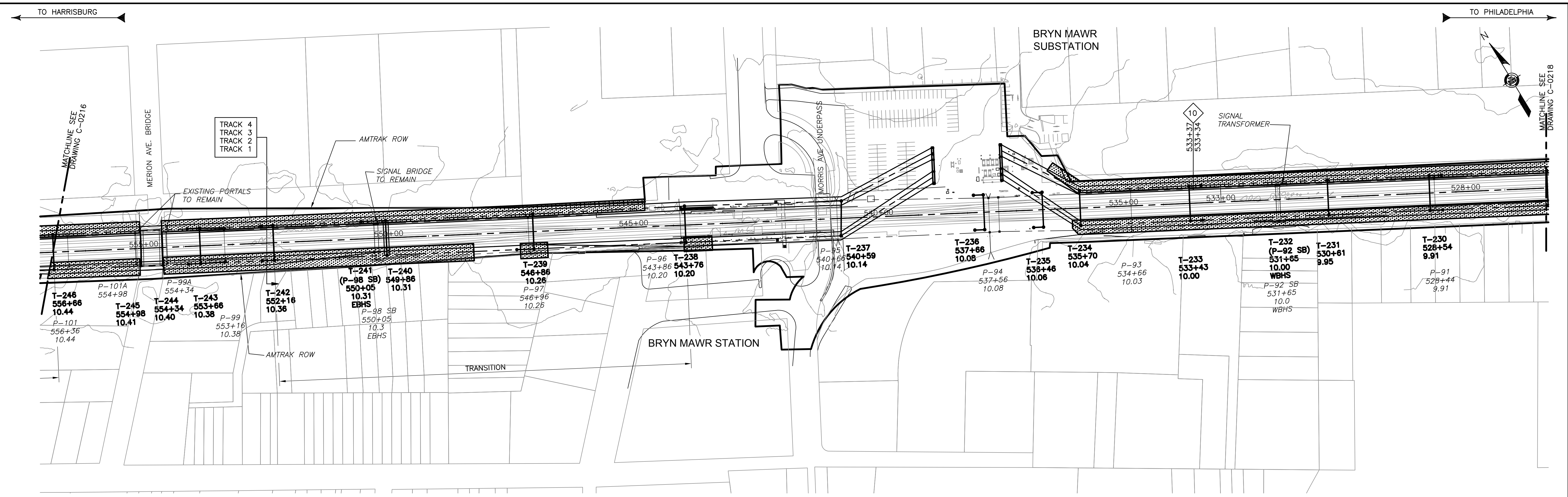
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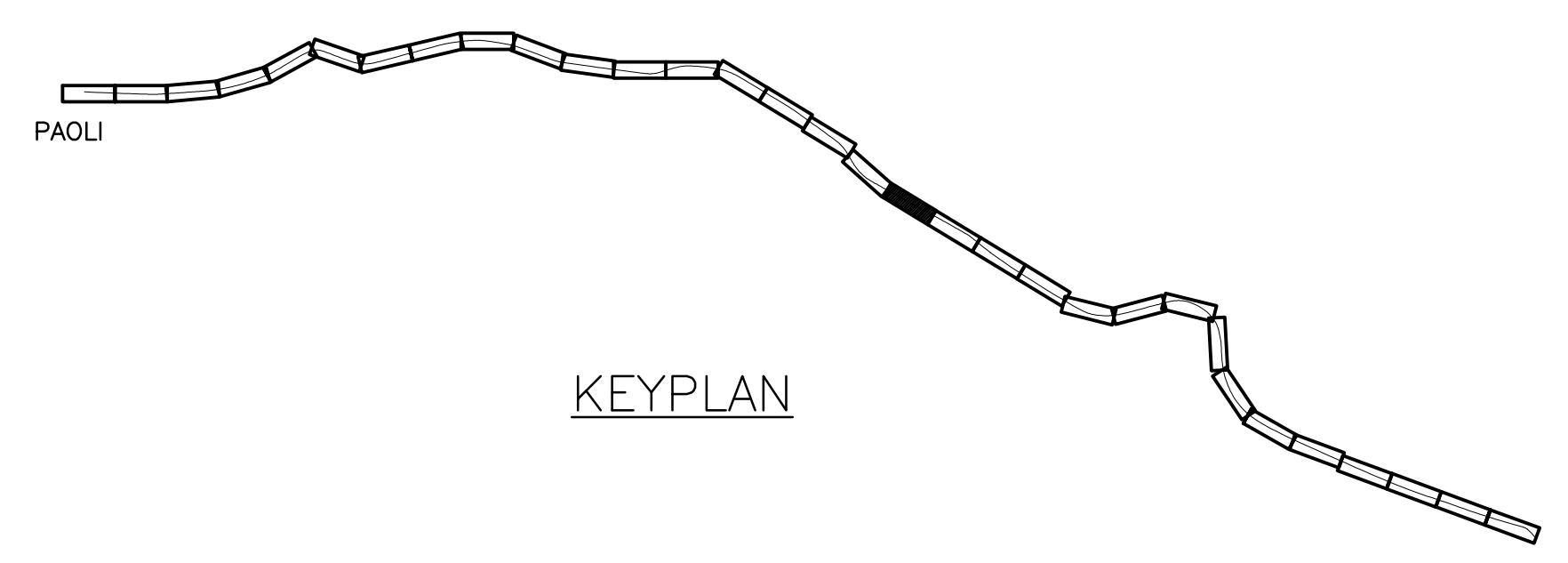
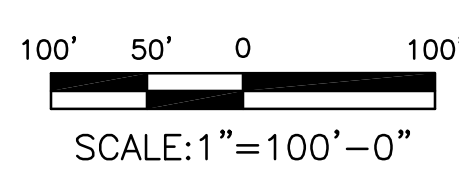
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ELECTRIFICATION
TREE PRUNING
STA. 588+00 TO 556+65**

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File No.:	C-0216.DWG
Ref. No.:	2011-059
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PHILADELPHIA, PA 19103

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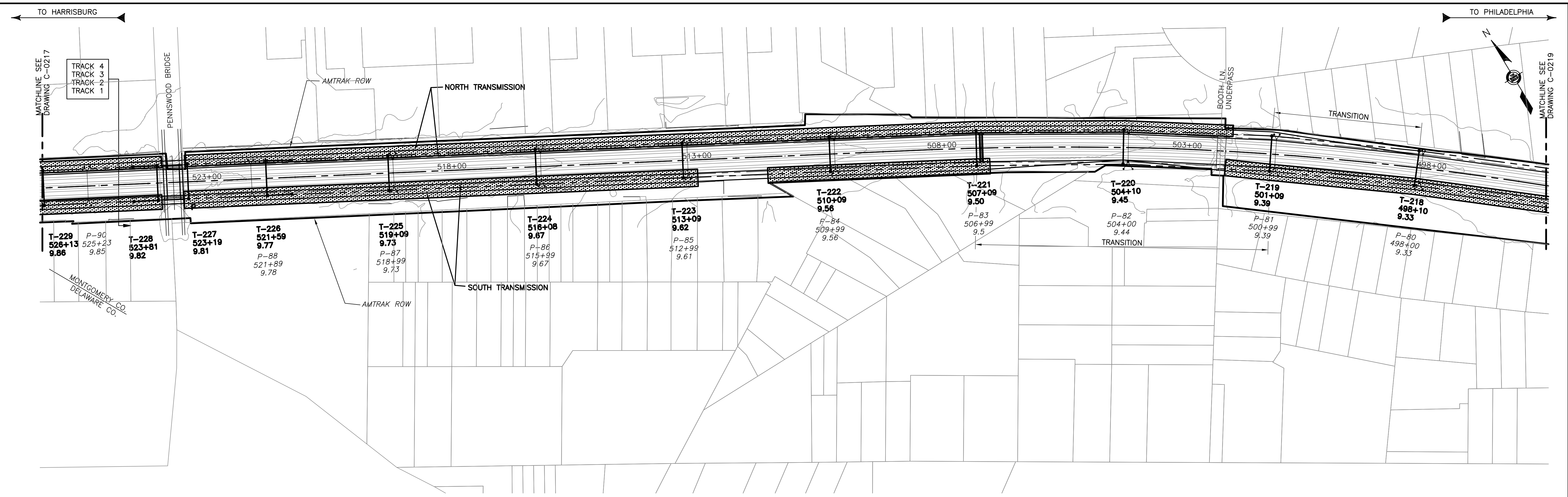
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TREE PRUNING
STA. 556+65 TO 526+00**

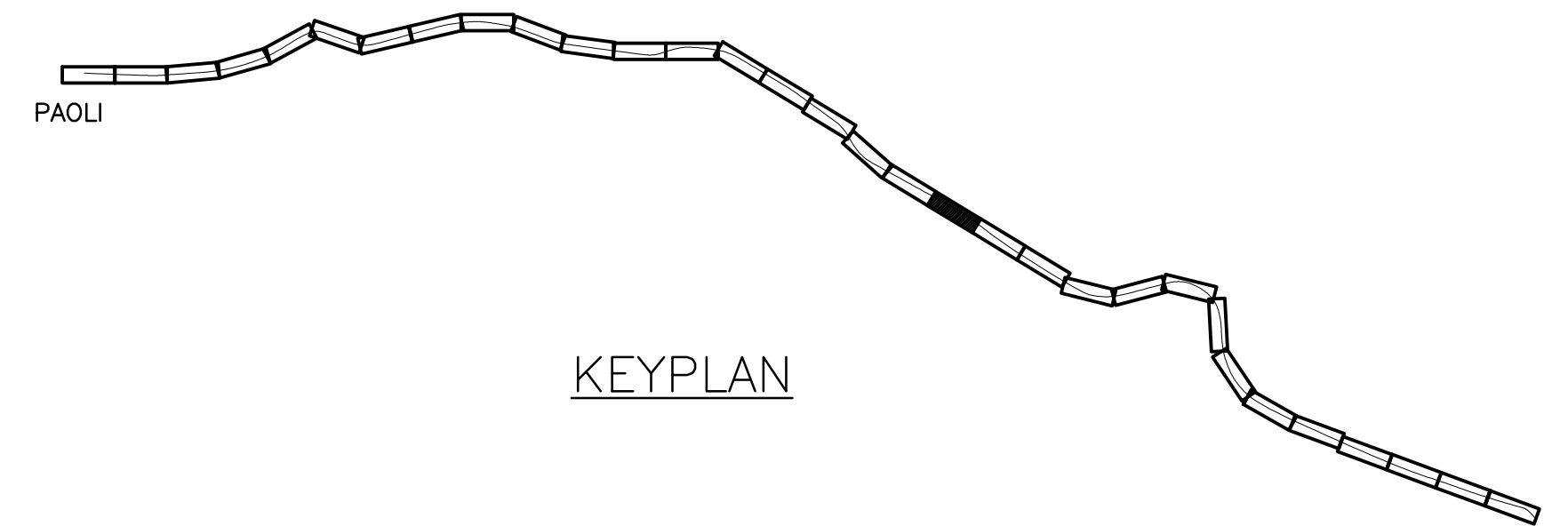
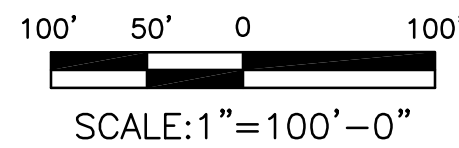
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Ref. No.:	2011-059
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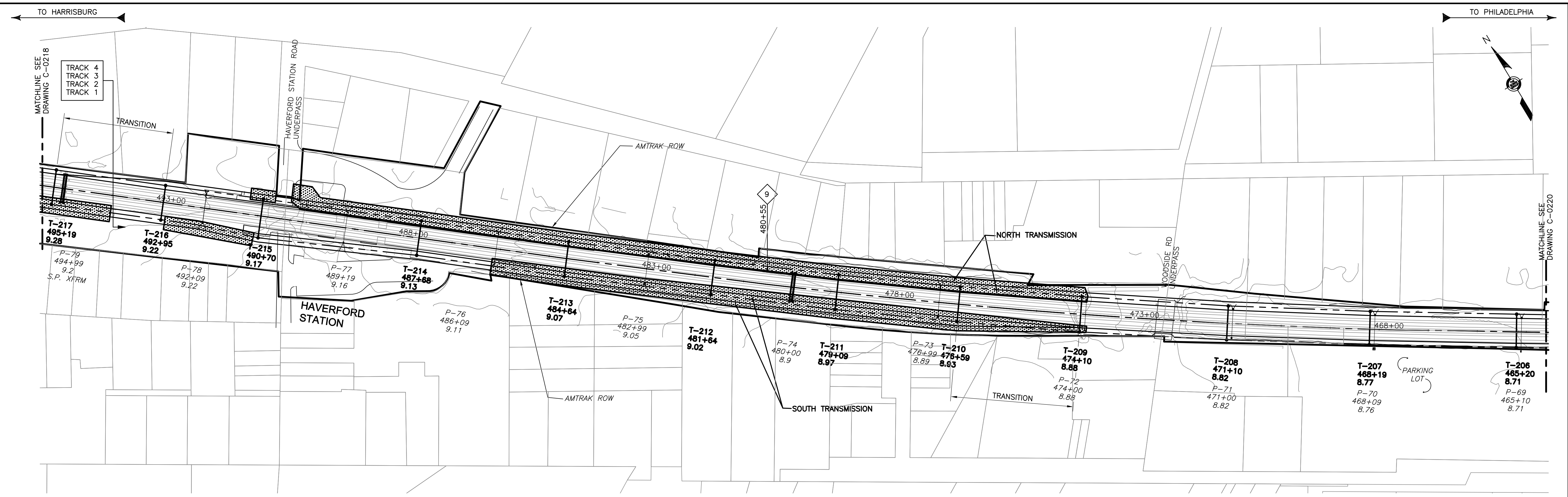
BURNS ENGINEERING, INC. | 215 979-7700
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PHILADELPHIA, PA 19103

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TREE PRUNING
STA. 526+00 TO 495+50**

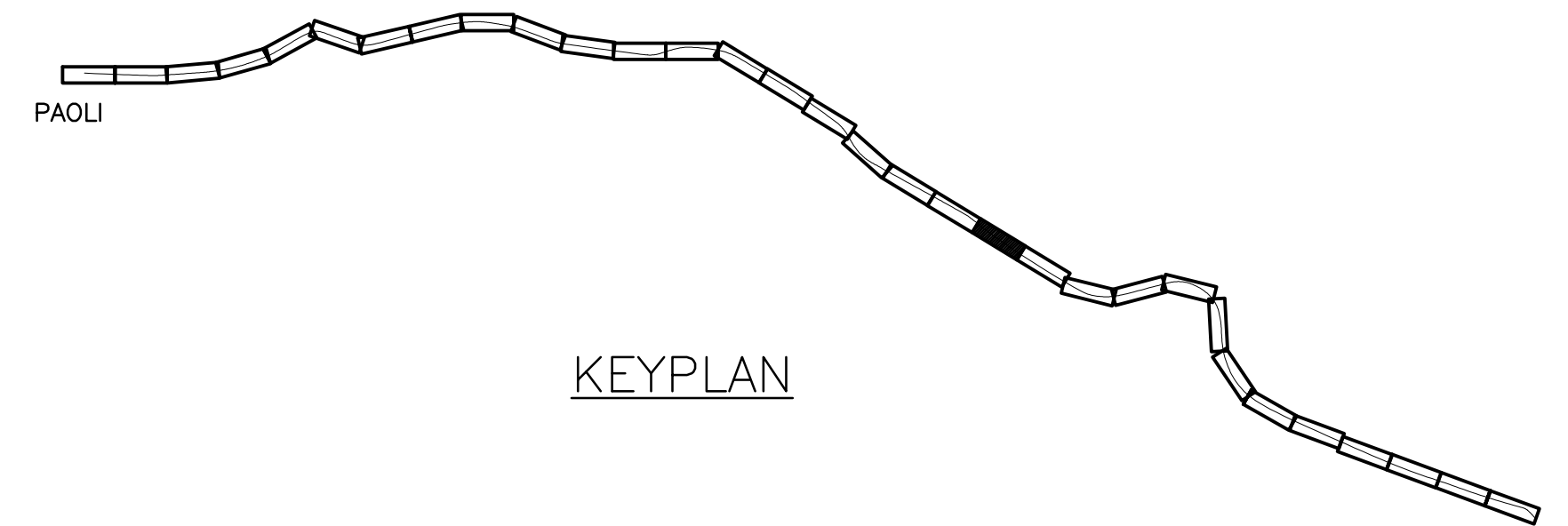
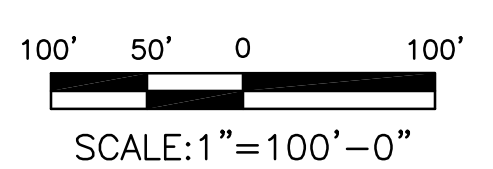
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File No.:	C-0218.DWG
Ref. No.:	2011-059
Sheet No.:	336 OF 347
C-0218	

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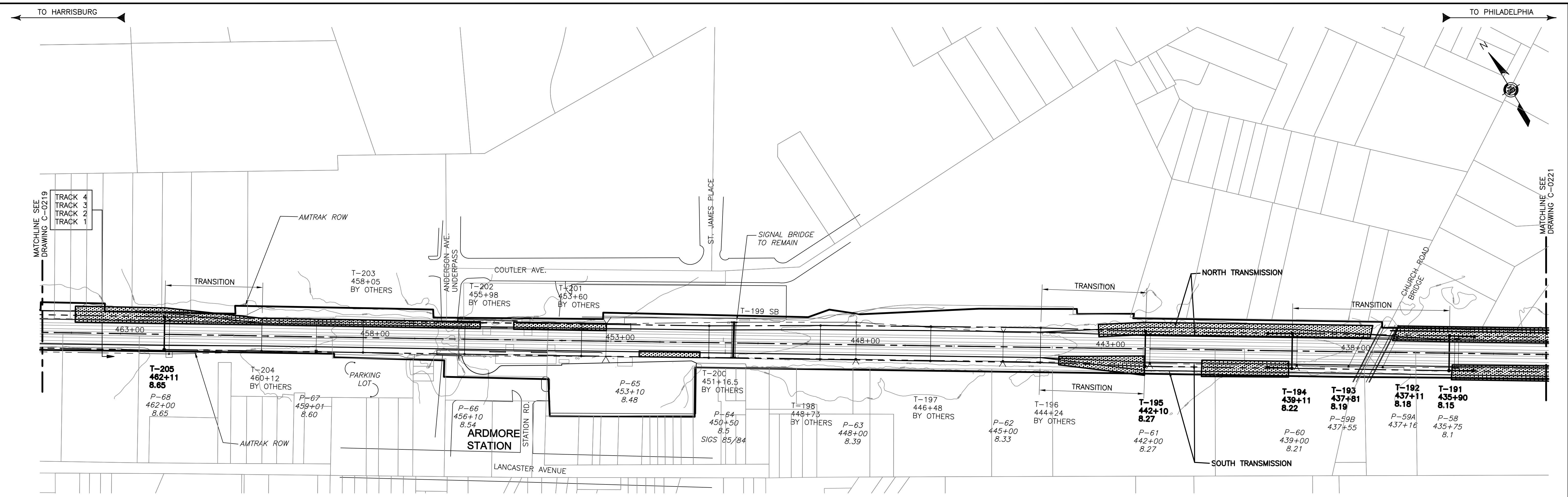
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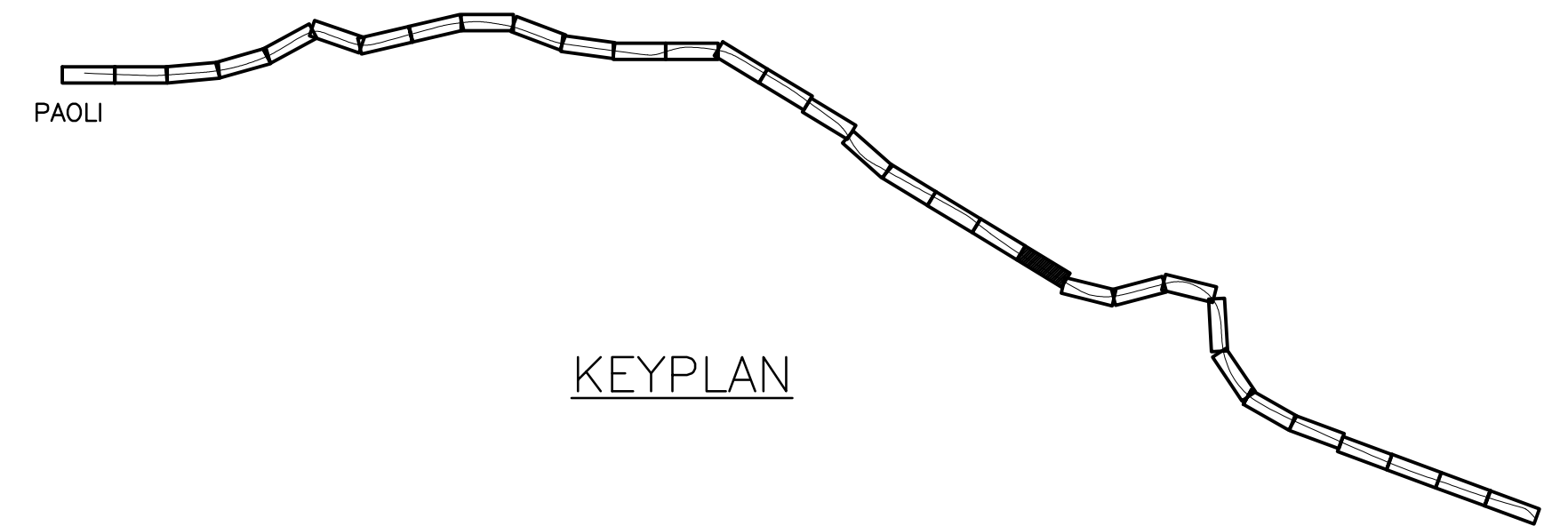
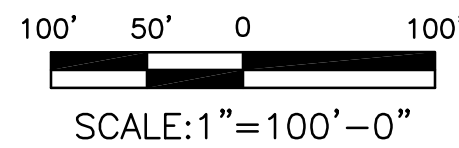
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ELECTRIFICATION
TREE PRUNING
STA. 495+50 TO 465+00**

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File No.:	C-0219.DWG
Ref. No.:	2011-059
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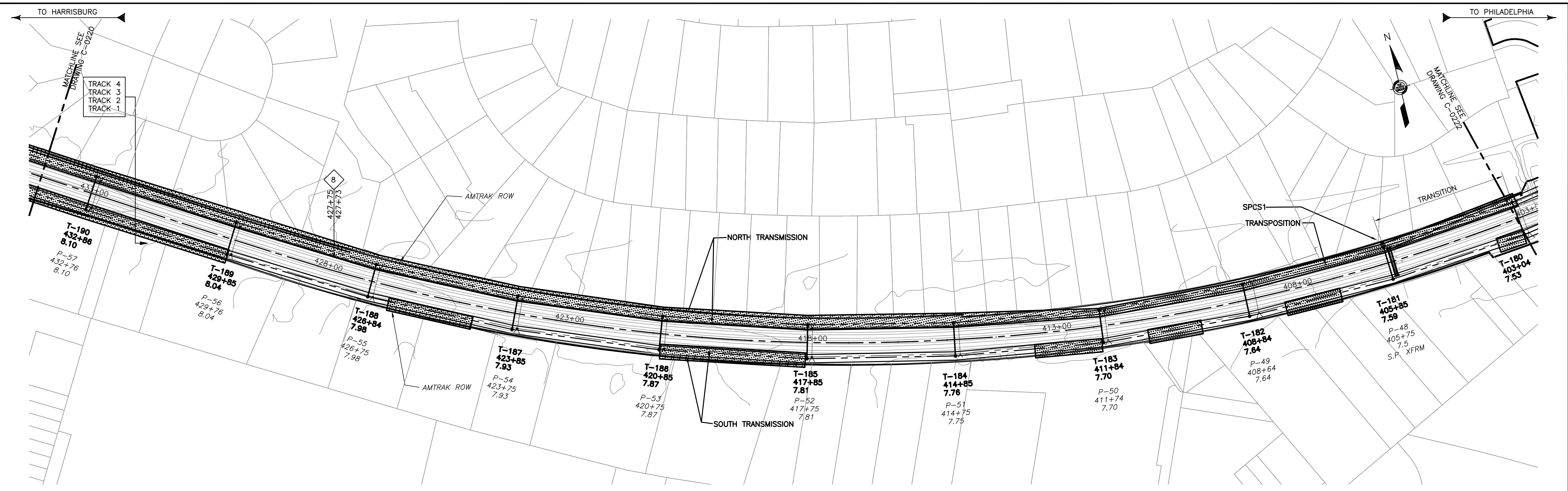
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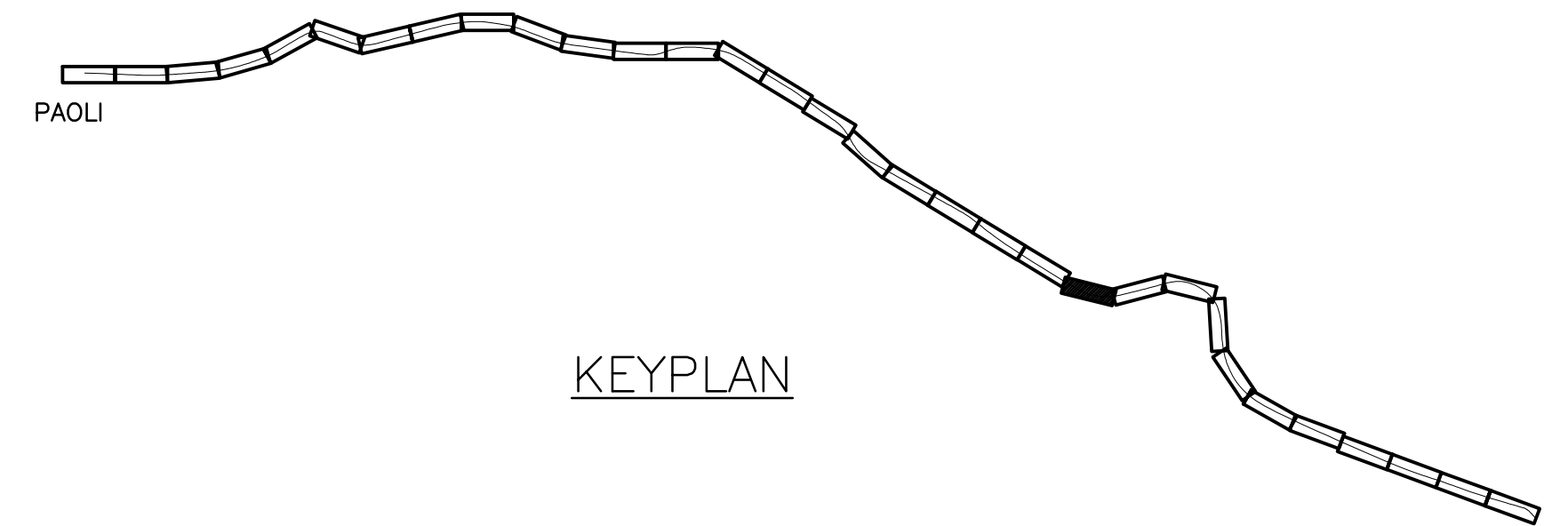
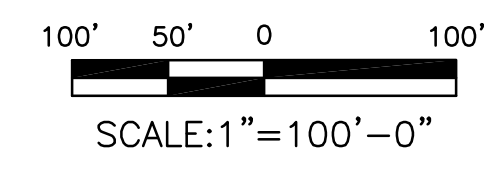
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ELECTRIFICATION
TREE PRUNING
STA. 465+00 TO 434+00**

Recommended: DP Drawn: WJC Checked: RSW Date: 03/17/16

File No.:	C-0220.DWG
Ref. No.:	2011-059
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C-0220	



TREE PRUNING SITE PLAN



KEYPLAN

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No	Revisions	Date	By



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30TH Street Station—Philadelphia, Pennsylvania 19104

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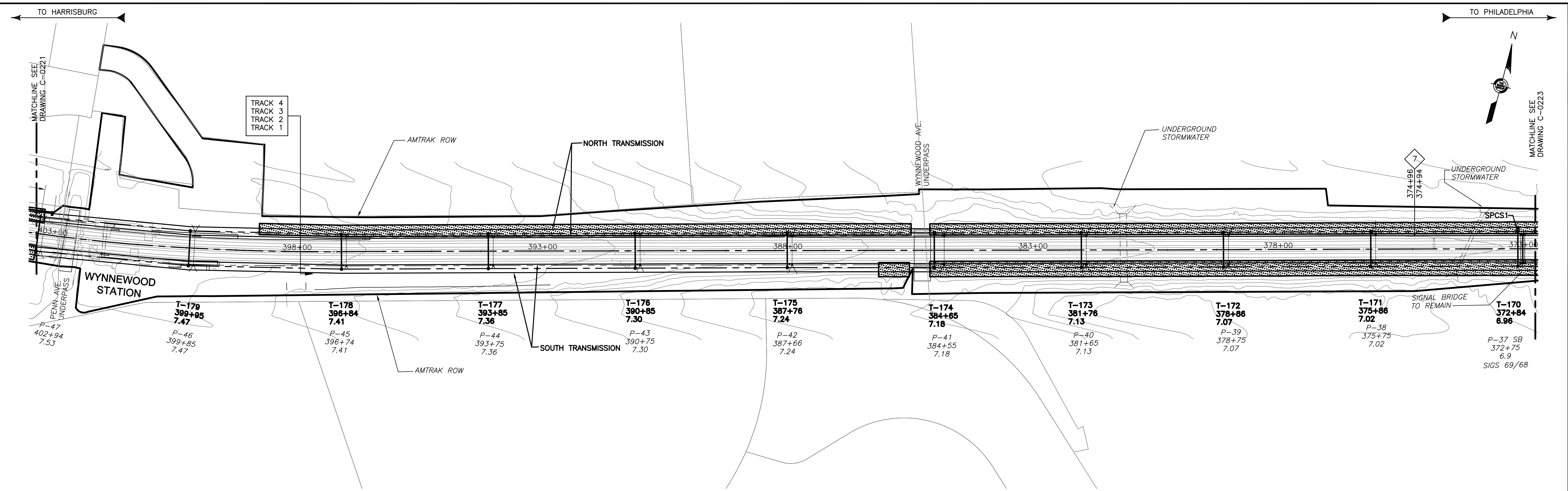
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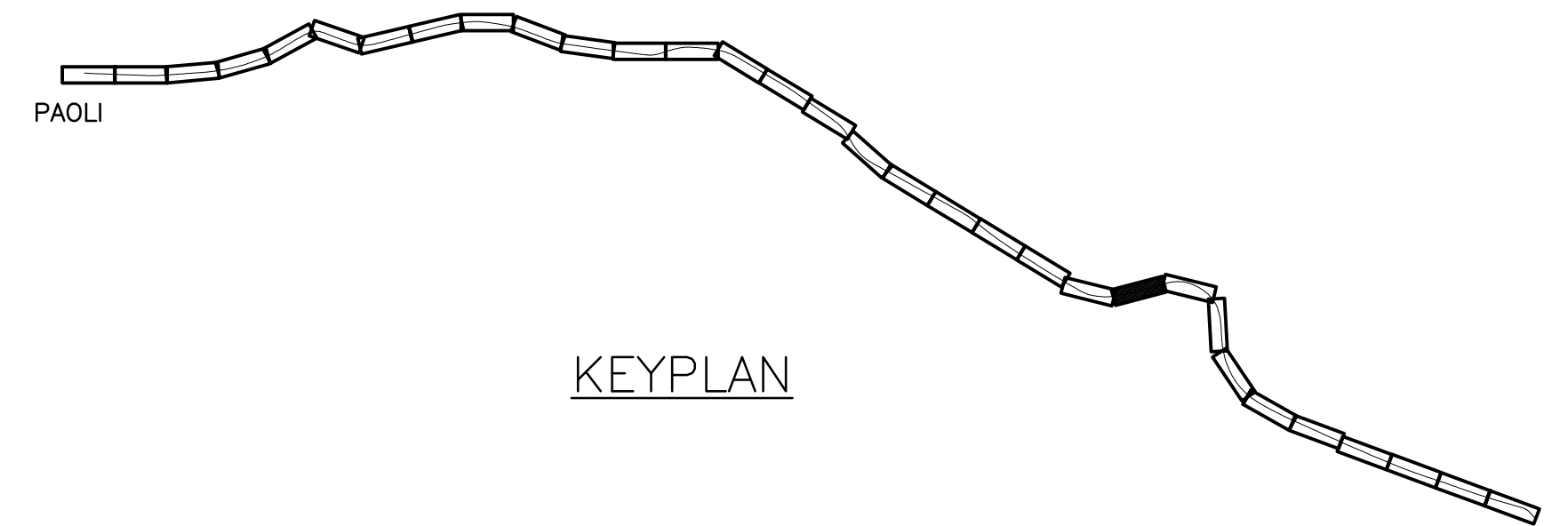
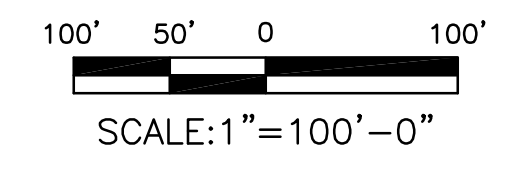
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File No.:	C-0221.DWG
Ref. No.:	2011-059
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TREE PRUNING SITE PLAN



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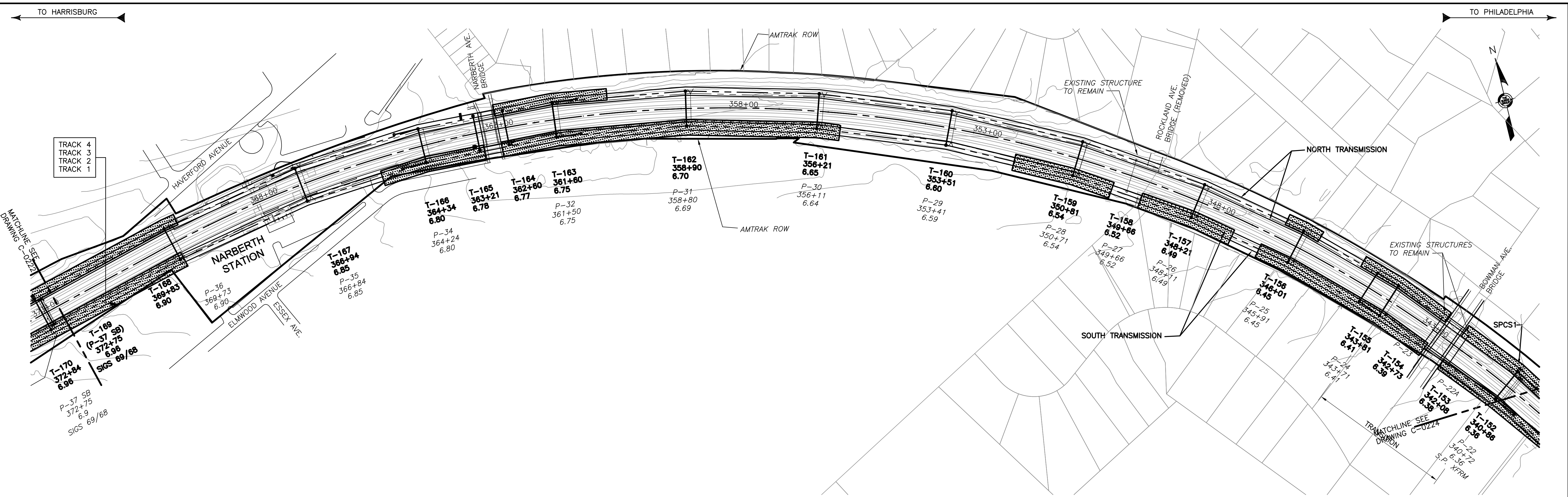
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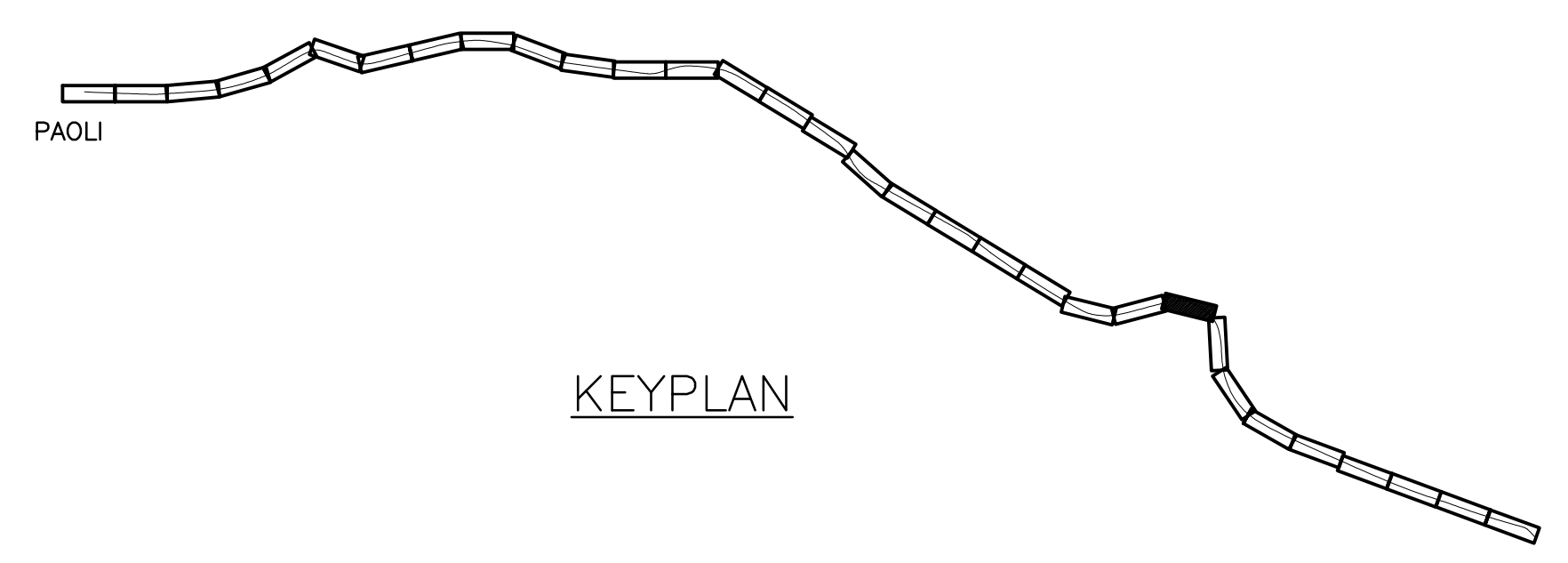
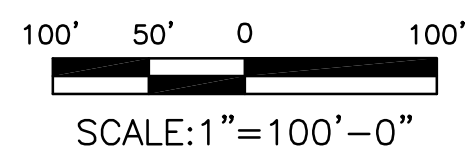
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ELECTRIFICATION
TREE PRUNING
STA. 403+00 TO 372+50**

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File No.:	C-0222
Ref. No.:	2011-059
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TREE PRUNING SITE PLAN



KEYPLAN

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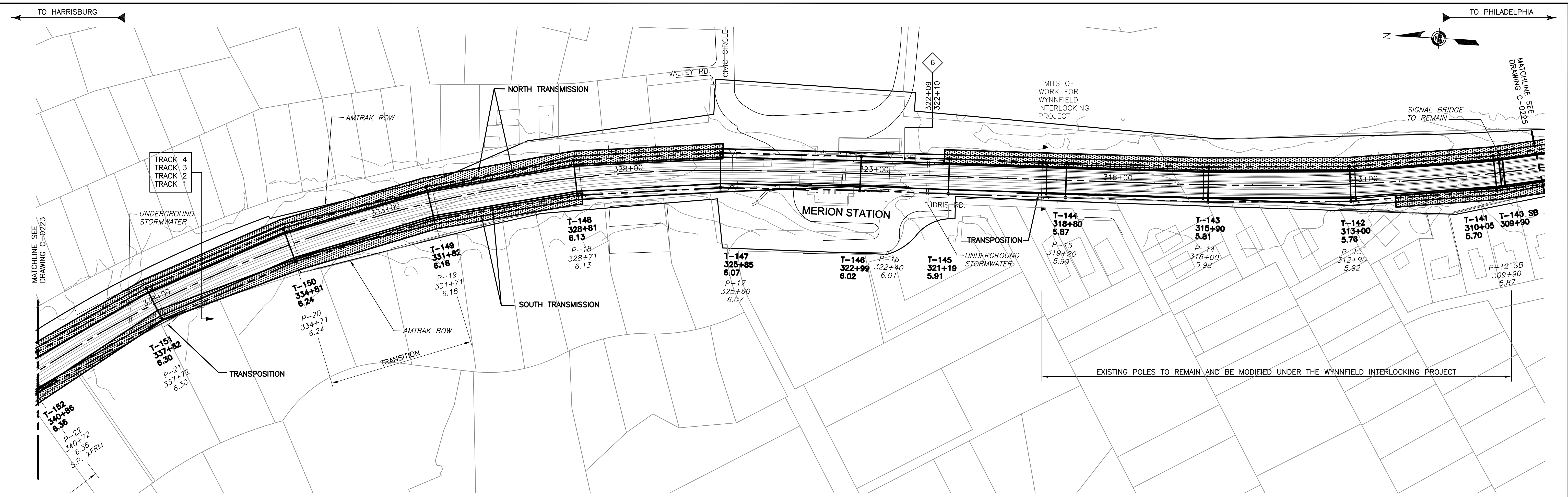
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ELECTRIFICATION
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STA. 372+50 TO 340+70**

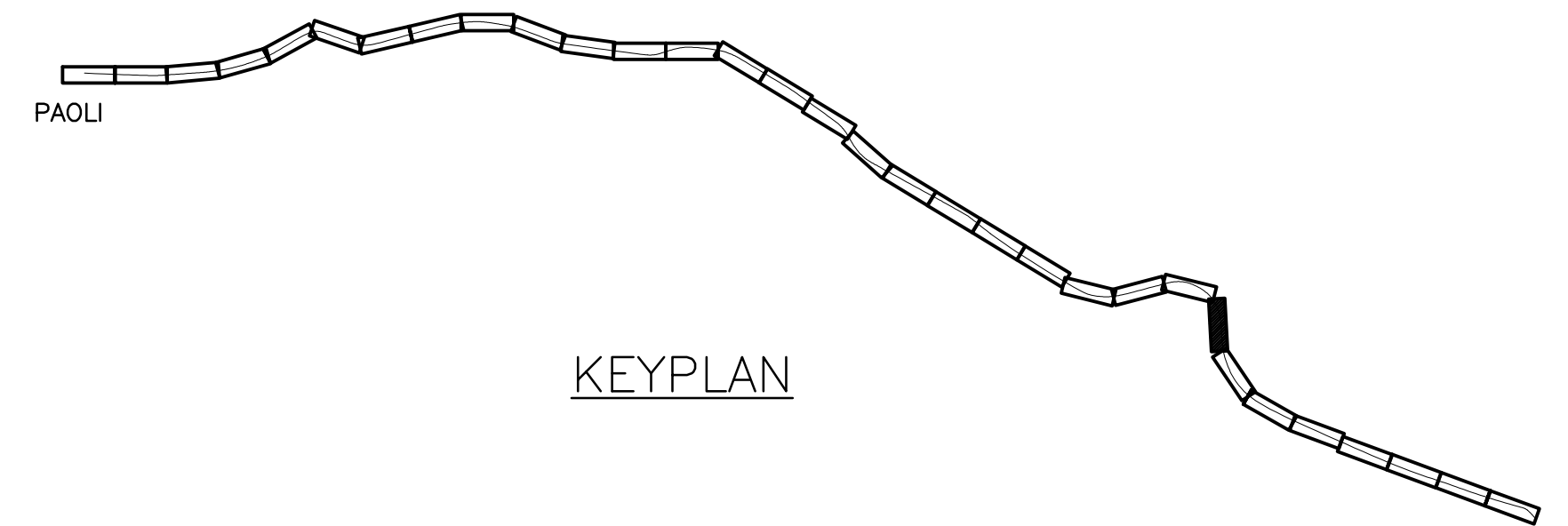
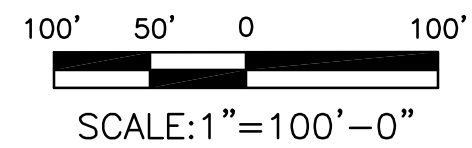
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C-0223



TREE PRUNING SITE PLAN



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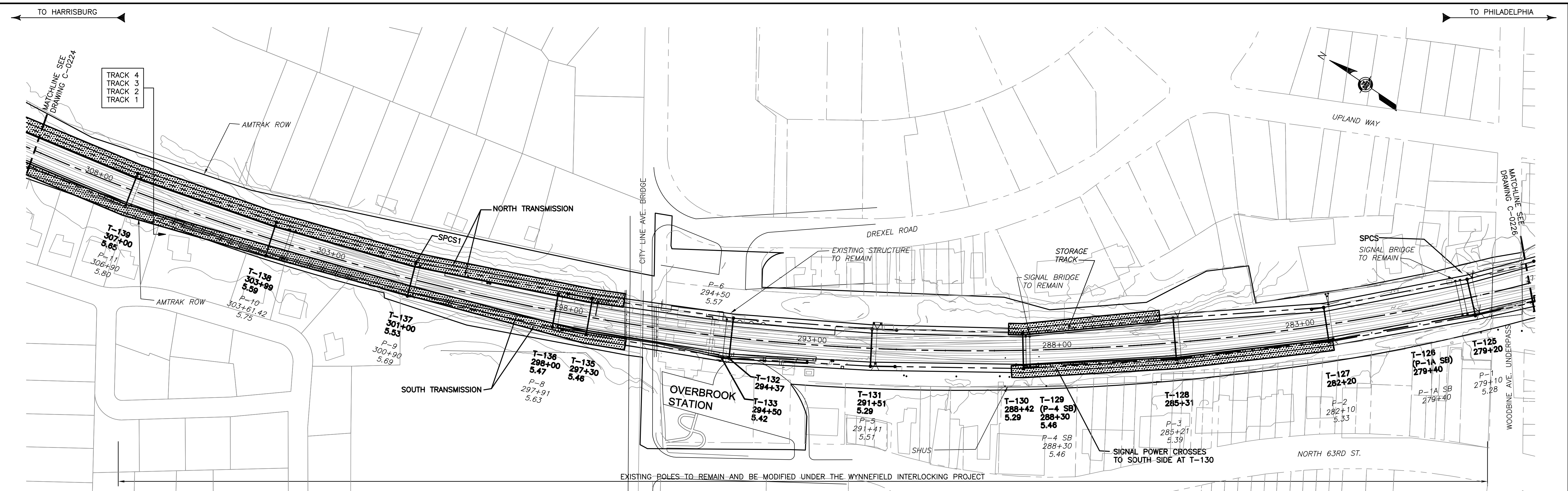
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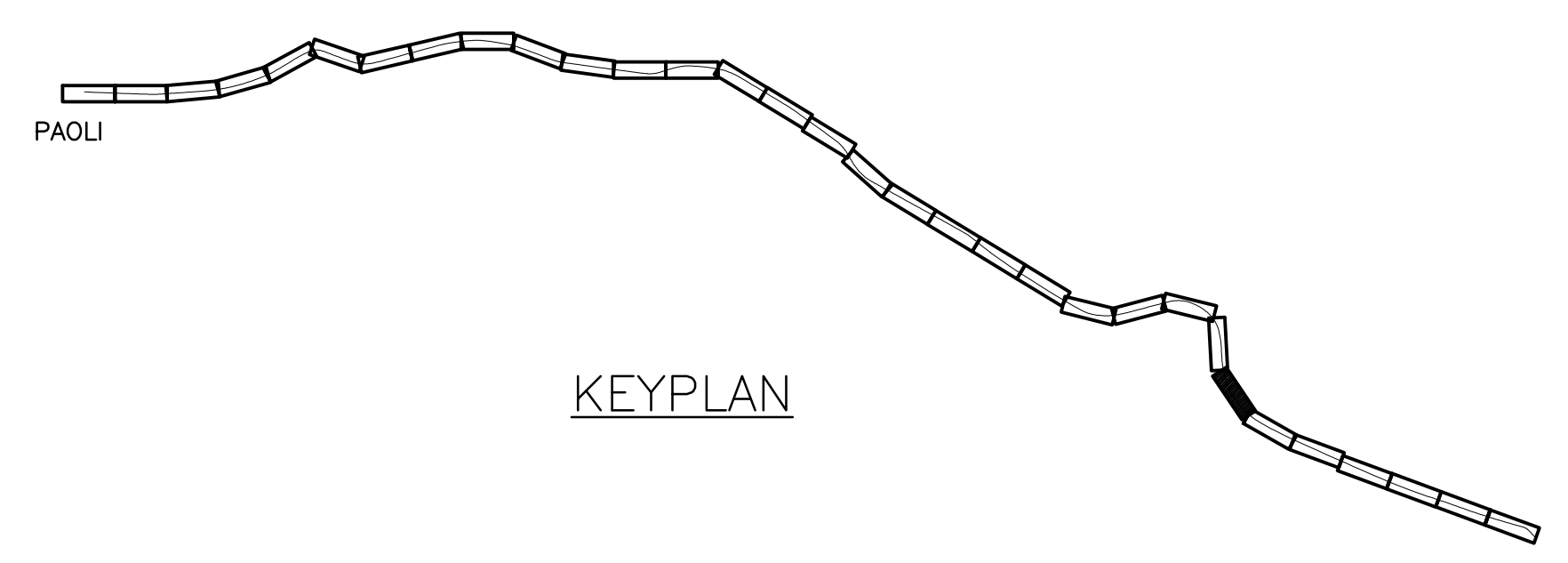
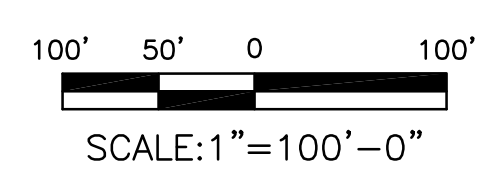
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TREE PRUNING
STA. 340+70 TO 309+00**

Recommended: DP Drawn: WJC Checked: RSW Date: 03/17/16

File No.:	C-0224/DWG
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TREE PRUNING SITE PLAN



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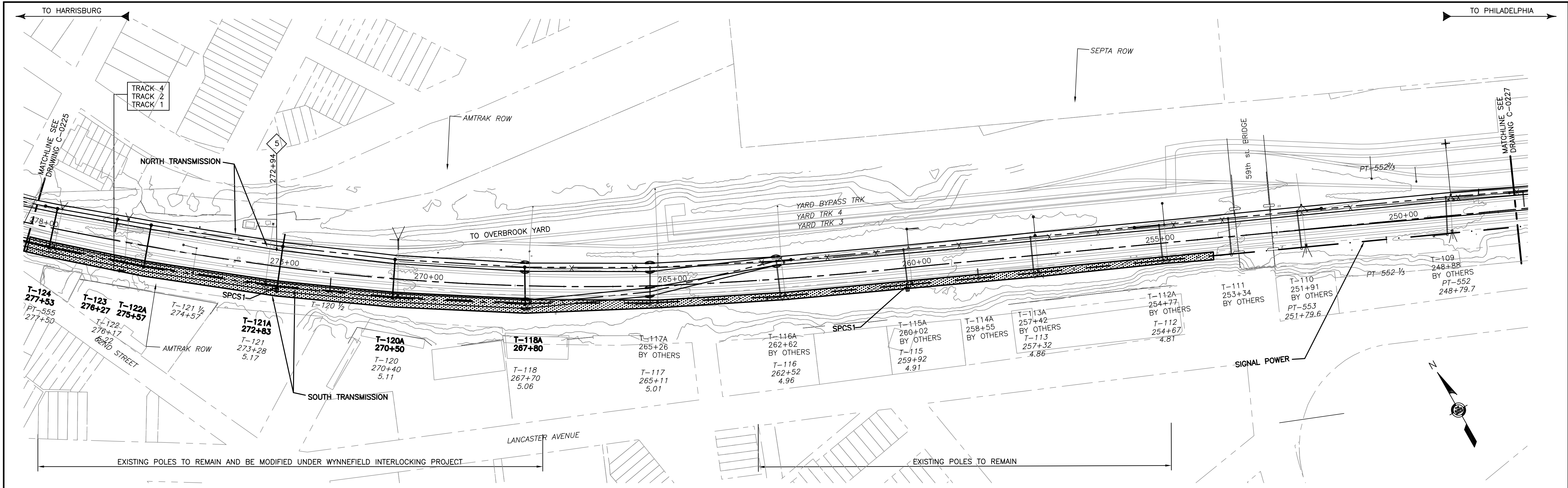
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**BRYN MAWR TO ZOO TRANSMISSION
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TREE PRUNING
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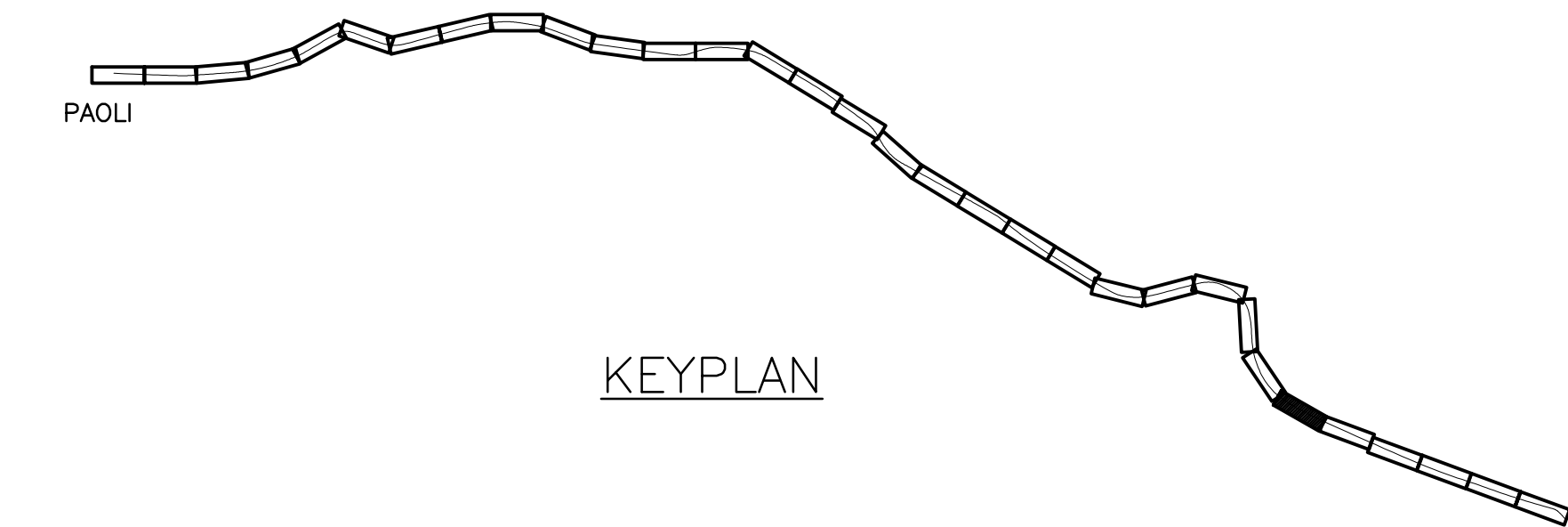
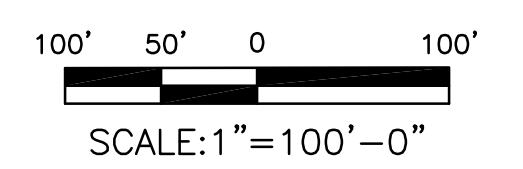
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Ref. No.:	2011-059
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TREE PRUNING SITE PLAN



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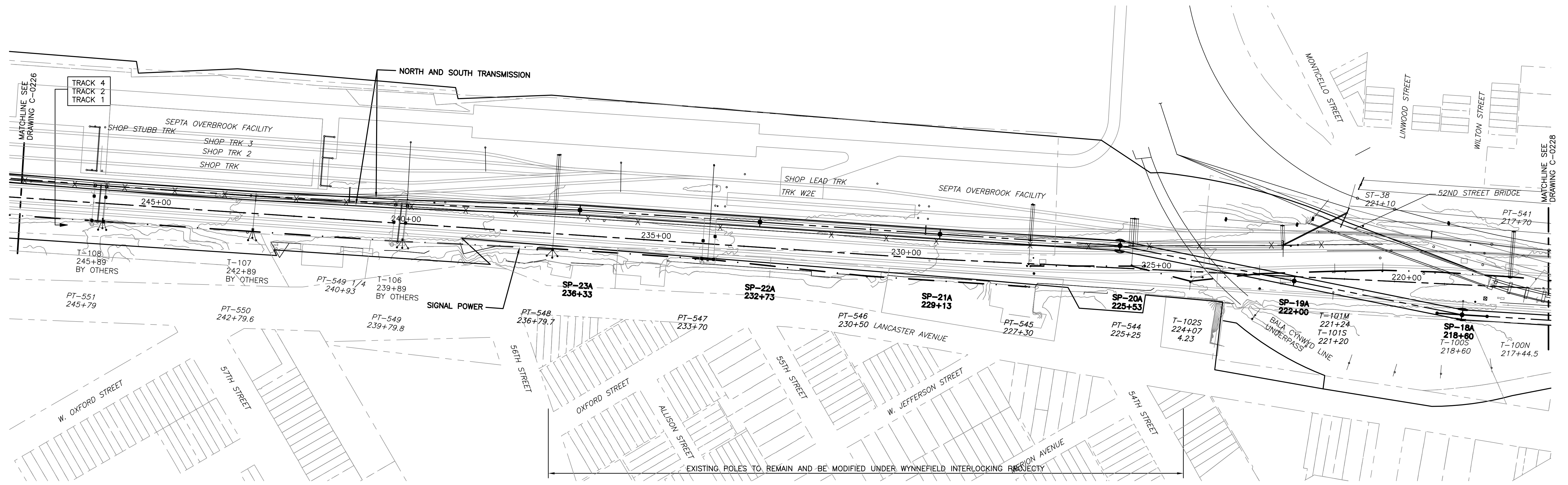
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ELECTRIFICATION
TREE PRUNING
STA. 278+00 TO 247+00**

Recommended: DP Drawn: WJC Checked: RSW Date: 03/17/16

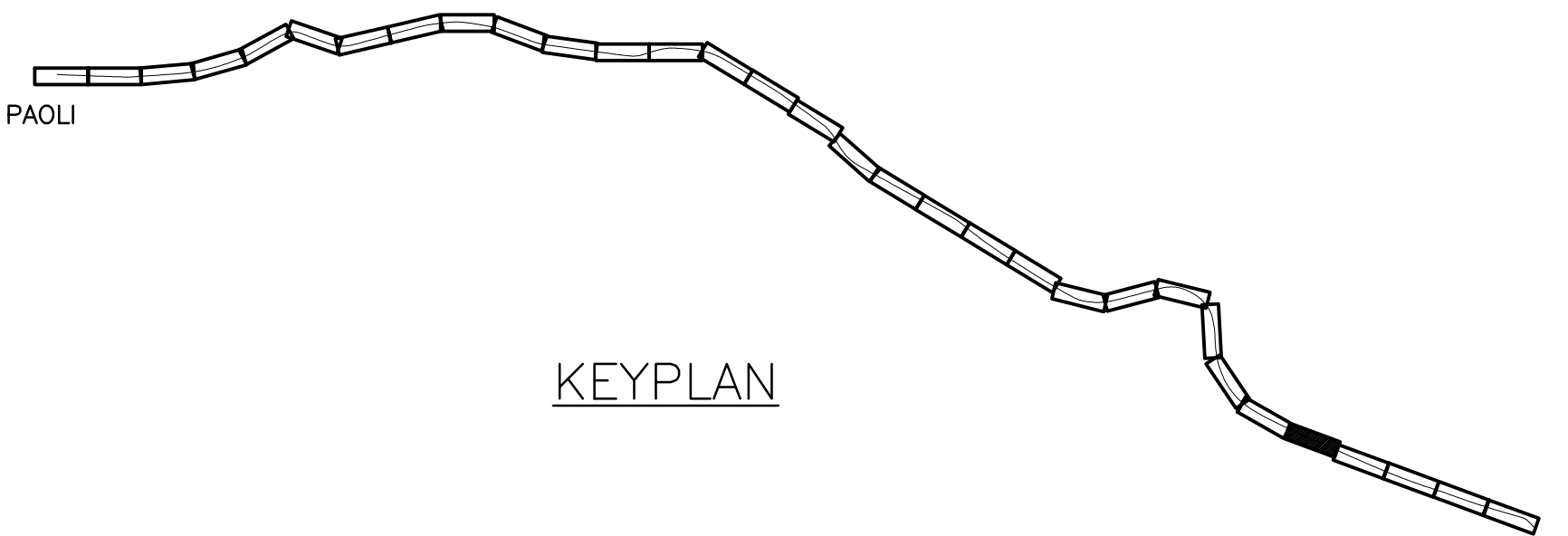
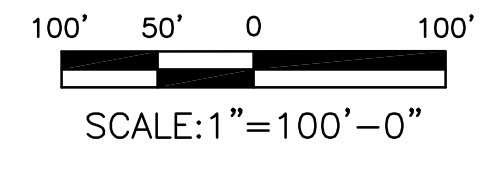
File No.:	C-0226.DWG
Ref. No.:	2011-059
Sheet No.:	344 OF 347
C-0226	

TO HARRISBURG

TO PHILADELPHIA



TREE PRUNING SITE PLAN



KEYPLAN

PHILADELPHIA

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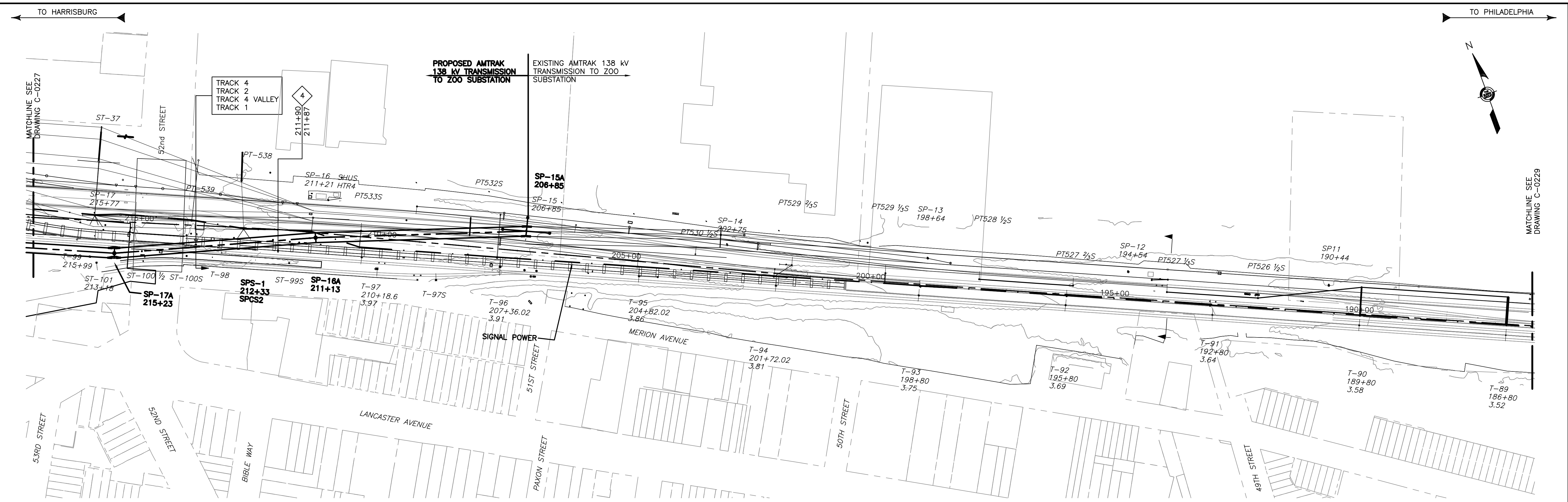
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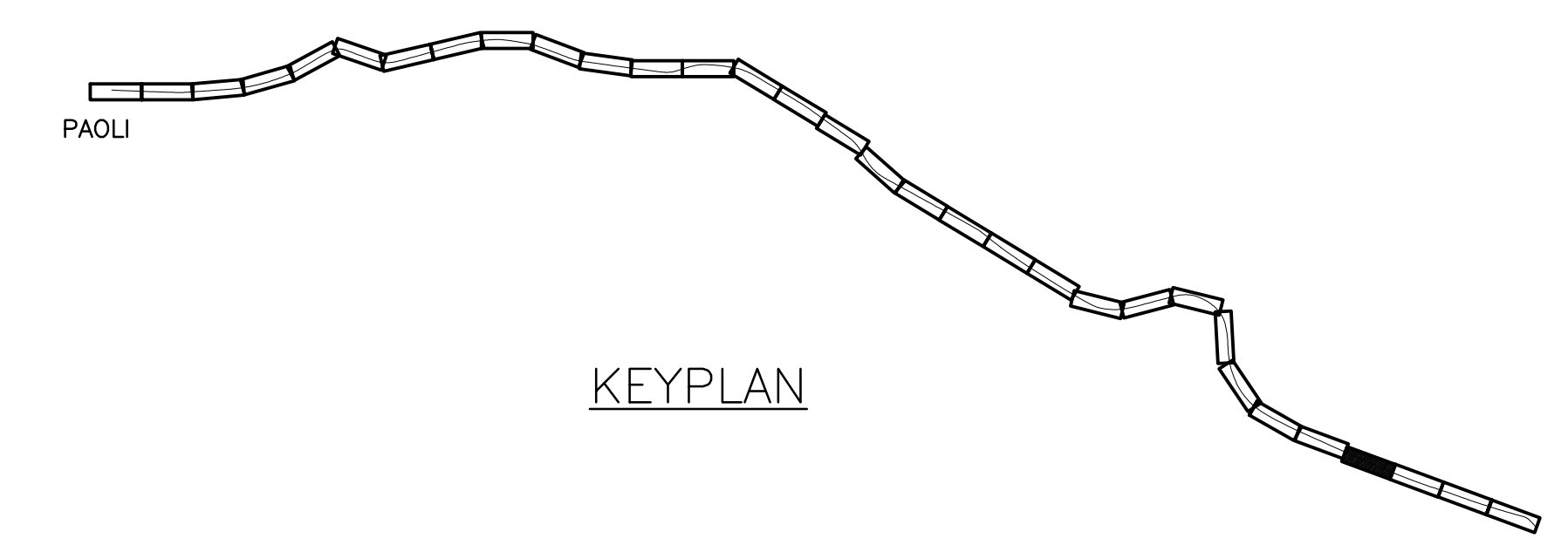
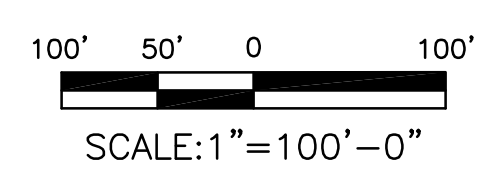
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Recommended: DP Drawn: WJC Checked: RSW Date: 03/17/16

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Ref. No.:	2011-059
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TREE PRUNING SITE PLAN



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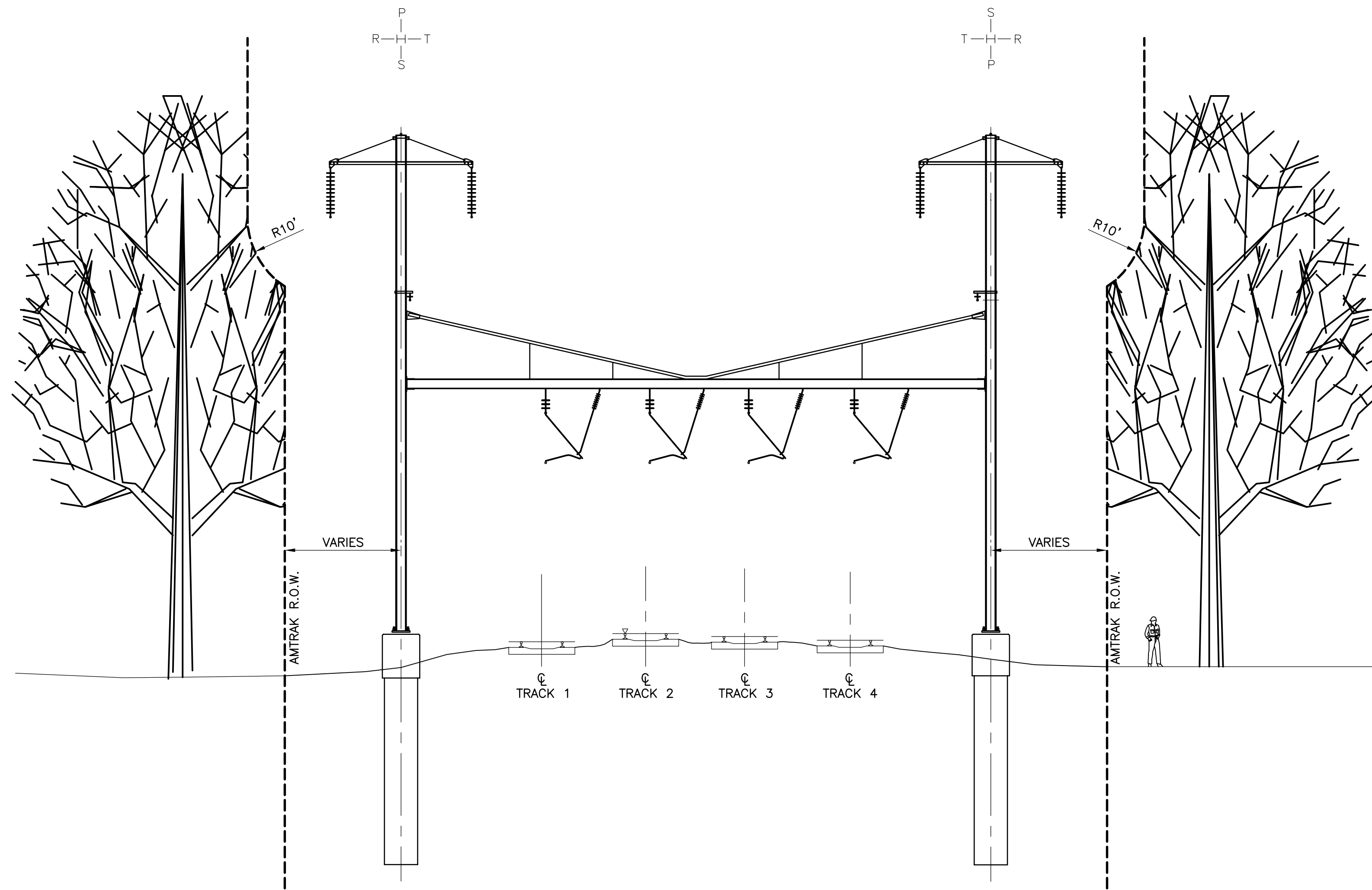
100% DESIGN SUBMISSION

Bryn Mawr to Zoo Transmission
ELECTRIFICATION
TREE PRUNING
STA. 217+00 TO 186+00

Recommended: DP Drawn: WJC Checked: RSW Date: 03/17/16

File No.:	C-0228.DWG
Ref. No.:	2011-059
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TYPICAL TREE PRUNING DETAIL
LOOKING TOWARDS HARRISBURG

0 10 20
SCALE: 1"=10'-0"

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ELECTRIFICATION
TREE PRUNING
TYPICAL TREE PRUNING DETAIL
Recommended: DP Drawn: WJC Checked: MJM Date: 03/17/16

File No.:	C-0232.DWG
Ref. No.:	2011-059
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**ATTACHMENT 2:
UNANTICIPATED DISCOVERIES PLAN**

UNANTICIPATED DISCOVERIES PLAN

AMTRAK'S PHILADELPHIA ZOO SUBSTATION TO PAOLI SUBSTATION ON THE PENNSYLVANIA MAIN LINE RAILROAD ELECTRIFICATION TRANSMISSION LINE PROJECT

Chester, Delaware, Montgomery, and Philadelphia Counties,
Pennsylvania

National Railroad Passenger Corporation (Amtrak)
60 Massachusetts Avenue, N.E.
Washington, D.C. 20002

PART 1 - GENERAL

This document is prepared pursuant to the requirements of a Memorandum of Agreement (MOA) among the Federal Railroad Administration (FRA), the Pennsylvania State Historic Preservation Office (PA SHPO), the National Railroad Passenger Corporation (Amtrak), the Southeastern Pennsylvania Transportation Authority (SEPTA), and the Railroad Museum of Pennsylvania (RRMPA).

This document provides the procedure to be followed in the event human or non-human archaeological resources are encountered during construction of the project.

This document pertains to the work of the Contractor, the Contractor's subcontractors, the Contractor's material suppliers, the Contractor's equipment suppliers, and all individuals and companies associated with the Contractor's performance of the project (hereafter collectively referred to as Contractor). Contacts for Amtrak, the Contractor, and other appropriate parties will be provided prior to construction.

This document shall remain in force until the formal completion of the project, or the termination of the MOA, whichever comes first.

PART 2 – IDENTIFICATION OF RESOURCES

The following are considered examples of potential archaeological resources to be included in this Unanticipated Discoveries Plan (Plan):

- Human skeletal remains, including individual bones, groups of bones, bone fragments, dental fragments, etc.
- Articles of clothing, including cloth, leather, shoe leather, buckles, buttons, etc.
- Personal items, including rings, jewelry, beads, toys, coins, gun parts, funerary items, etc.
- Household and kitchen items, including intact or broken pieces of ceramics, glass and metal containers, cutlery, butchered bones and oyster shells, tobacco pipe remnants, etc.

- Architectural items, including window glass, nails, bricks, shaped building stones, etc.
- Possible prehistoric objects, including chipped stone tools (i.e., projectile points, drills, etc.), ceramics, groundstone, lithic debitage, animal bone, personal adornment items, etc.
- Areas of darkened soil that suggest possible cultural features, such as firepits, garbage pits, privies, foundations, postholes, etc.
- Unusual objects not identified herein that suggest human occupation.

It is possible any combination of these resources may be found during earthwork operations at locations where drilling occurs for pole footings, temporary fences, gates, signs and other appurtenances, and at locations where soil is disturbed, removed, relocated, or displaced along the right-of-way, such as at access points, staging areas, and the Bryn Mawr Substation construction location. The Contractor's supervisory personnel present during hours of construction should be provided with minimal training in the identification of archaeological resources.

PART 3 – PROCEDURE FOR IDENTIFYING UNANTICIPATED DISCOVERIES

1. If one or more of the potential archaeological resources (listed above) are encountered by the Contractor during earthwork operation, stop work in the vicinity of the resource immediately and notify the Amtrak Project Manager (to be named prior to construction). Do not resume work in the vicinity of the resource until specifically directed by the Amtrak Project Manager. The Contractor will ensure that any discoveries are protected from destruction, looting, and vandalism during stop-work episodes while a determination is made as to the importance of a find.
2. The Amtrak Project Manager will notify the Project's Environmental Consultant (including a Secretary of the Interior [SOI]-qualified archaeologist and the Project Manager), who, in consultation with the Amtrak Project Manager, will determine if it is necessary to conduct a field visit to inspect the encountered potential archaeological resource.
 - a. Should the Amtrak Project Manager and the Project's Environmental Consultant conclude it is not necessary to investigate the encountered potential archaeological resource any further, the Amtrak Project Manager will authorize work in the area to resume.
 - b. Should the Amtrak Project Manager and the Project's Environmental Consultant conclude it is necessary to further investigate the encountered potential archaeological resource, the SOI-qualified archaeologist with the Project's Environmental Consultant will conduct a field visit within 24 hours.
3. Should the field visit indicate the encountered materials are not potential archaeological resources, the Project's SOI-qualified archaeologist will notify the Amtrak Project Manager, who will authorize work in the area to resume.

4. Should the field visit confirm the encountered materials are potential archaeological resources, the Project's SOI-qualified archaeologist will inform the Amtrak Project Manager and then notify:
- the PA SHPO (Douglas McLearn, Chief, Archaeology and Protection, Bureau for Historic Preservation at 717.772.0925), and
 - FRA (Laura Shick, Federal Preservation Officer at 202.366.0340).
- a. FRA will determine if it is appropriate to notify Native American groups to invite consultation and review of any discovered potential pre-contact human remains. Per PA SHPO guidelines for the treatment of human remains, work will stop and the coroner and SHPO will be notified.
- b. FRA, in consultation with Native American tribe(s), will determine the appropriate treatment of the discovered potential pre-contact human remains and associated funerary objects. The Project's SOI-qualified archaeologist will notify the PA SHPO and Amtrak's Project Manager of the treatment.
- The treatment of all encountered pre-contact human remains and associated funerary objects will be subject to the regulations promulgated in the Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. 3001 *et.seq.*
 - The treatment of all encountered archaeological resources will be subject to the regulations stipulated in the *Guidelines for Archaeological Investigations* by the PA SHPO.
- c. Amtrak's Project Manager will notify the Contractor of any required modifications to the project timetable or aspects of the contract.
- d. FRA will notify the Project's Environmental Consultant when work in the area of the potential archaeological resource may resume. The Project's Environmental Consultant will notify the Amtrak Project Manager, who in turn will notify the Contractor.

- End of Document -



Appendix C

Public Meeting Materials (May 4, 2017)



Presentation

Zoo to Paoli Transmission Line Project



Public Meeting

May 4, 2017

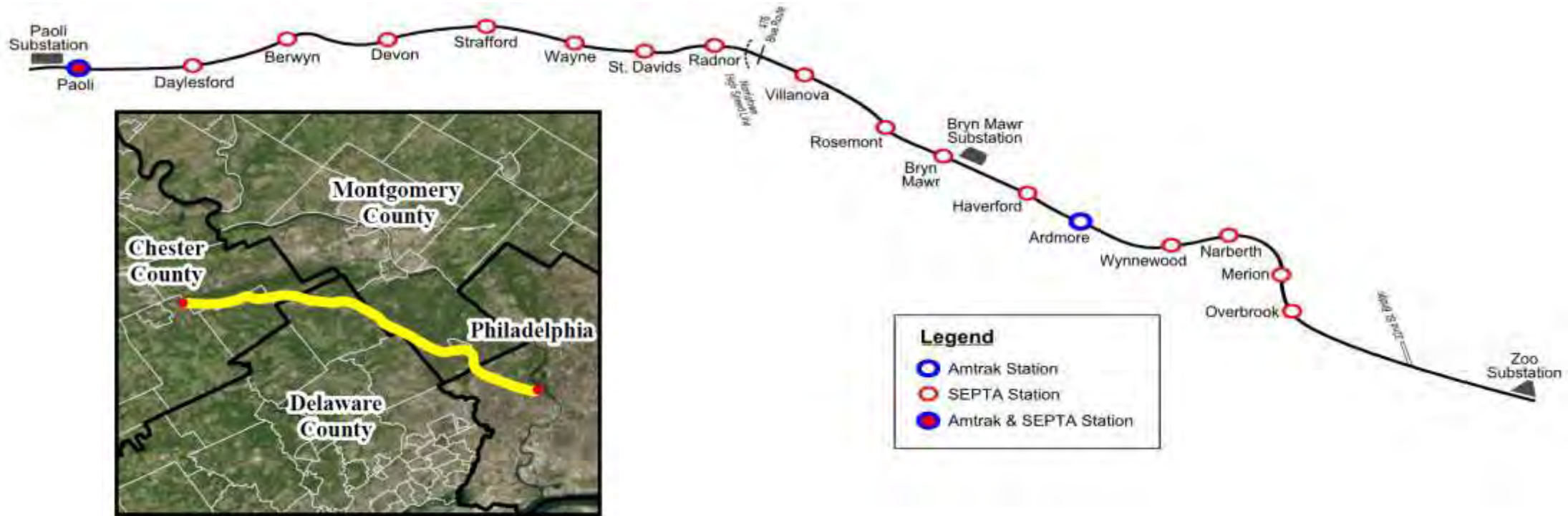
5:00-8:00 PM

Lower Merion
Township
Administration
Building



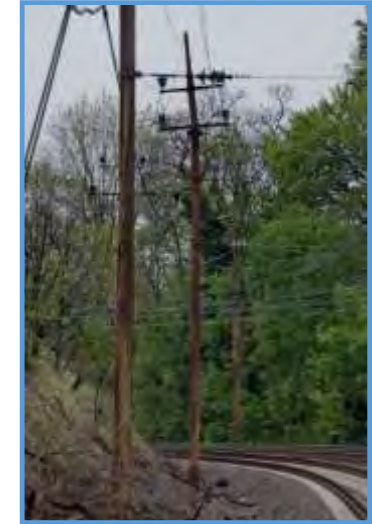
Location

- Amtrak's Keystone Corridor East between:
 - Zoo Substation (Mile Post 2.5) in central Philadelphia
 - Paoli Substation (Mile Post 20.5)



Purpose and Need

- **Purpose:** to maintain / improve passenger train service using electric powered trains while simplifying maintenance access to the electrical transmission lines.

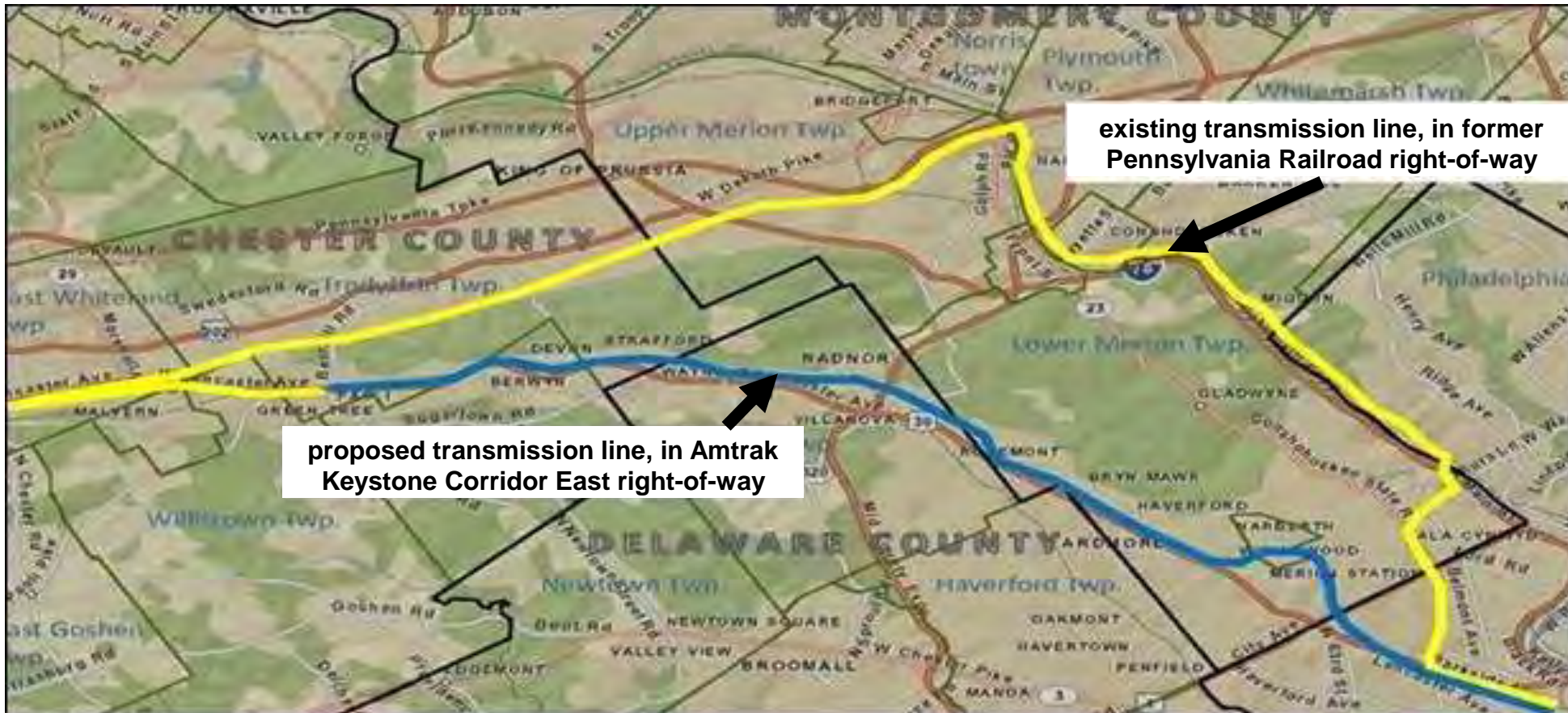


- **Need:** to bring the deteriorated catenary poles and related electrical equipment into a state of good repair and upgrade traction power, while relocating the transmission lines from former PA Railroad right-of-way to Amtrak right-of-way.



Proposed Action Description

- Construction of new transmission lines within Amtrak right-of-way to replace aging and inaccessible transmission lines outside of Amtrak right-of-way.



U.S. Department of Transportation
Federal Railroad Administration



THE **Burns** GROUP
ENGINEERING AND CONSTRUCTION

Michael Baker
INTERNATIONAL

Proposed Action Description (Cont.)

- Replacement of 276 and addition of 49 catenary structures (325 total) within Amtrak right-of-way.
- Construction of one additional gantry (a structural framework for supporting high-voltage switches) at Paoli Substation.
- Demolition of the obsolete Bryn Mawr Substation and construction of two new traction power substation buildings at the same location on a slightly larger footprint.
- No changes to existing stations or major built elements of the railroad corridor.



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Michael Baker
INTERNATIONAL

National Environmental Policy Act Process

- Federal Railroad Administration anticipates funding the Proposed Action
 - Environmental impacts must be evaluated under the National Environmental Policy Act (NEPA)
- NEPA requires federal agencies to consider natural, social, economic, and cultural impacts
 - Environmental Assessment (EA) serves as primary environmental document reviewed by government agencies and the public



National Environmental Policy Act Process

Develop the
Proposed
Action

Evaluate
environmental
impacts and
draft the EA

Incorporate
mitigation
measures and
draft the
environmental
commitments

Solicit public
review and
comment

Prepare the
Finding of No
Significant
Impact
(FONSI)



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INTERNATIONAL

Draft the Environmental Assessment

- **Alternatives**

- Proposed Action
- No-Build Alternative
- Other Alternatives



- **Affected Environment and Environmental Consequences**

- Cultural Resources
- Visual Impacts
- Noise and Vibration
- Air Quality
- Hazardous Materials
- Parks and Wildlife Refuges
- Endangered Species
- Construction
- Electric / Magnetic Fields
- and more....



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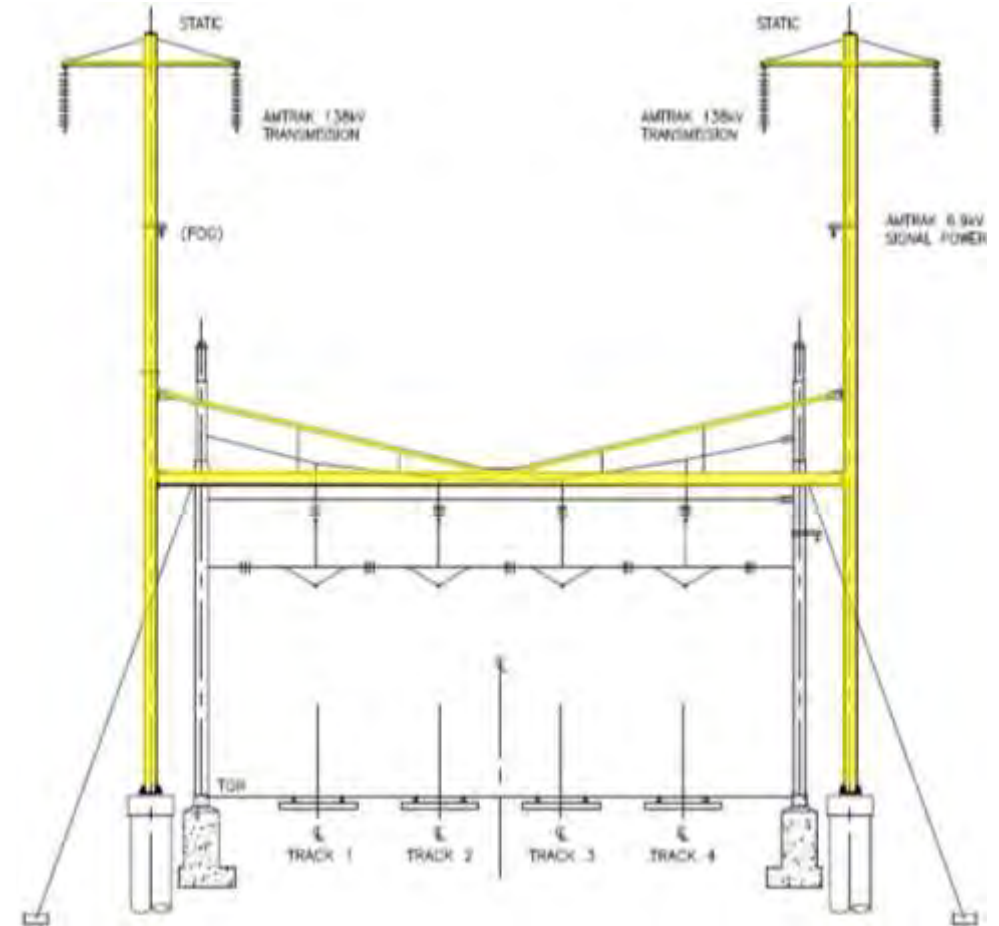
Draft the Environmental Assessment (Cont.)

- Agency, Public, and Consulting Party Involvement
- Draft Section 4(f) Evaluation
 - Public Parks and Wildlife Refuges
 - Historic Resources
- Mitigation Measures
- Environmental Commitments



Visual Impacts

- **Catenary poles**
 - Existing: 45 to 55 feet tall, green paint / rusted steel
 - Proposed: 60 to 75 feet tall, galvanized zinc (grey)
- **Tree trimming**
 - Existing: trees line much of the corridor
 - Proposed: targeted tree trimming
- **Residences, parks, and wildlife refuge**
 - Existing: many residences, 3 public parks, and 1 wildlife refuge
 - Proposed: new, taller catenary poles, but visual impacts minimized during design



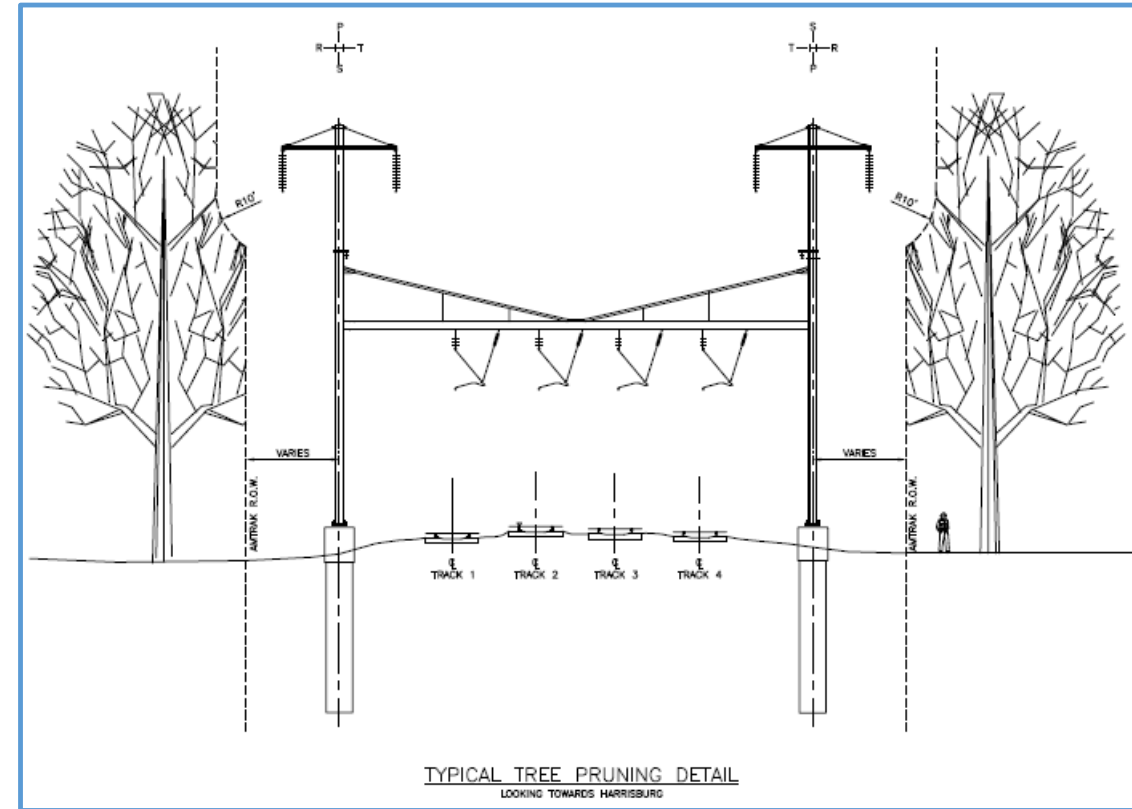
Cultural Resources - Impacts

- The National Register of Historic Places-eligible Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) would be adversely affected
 - Catenary structure removal and replacement
 - Demolition of Bryn Mawr Substation
- Coordination between FRA, Amtrak, RRMPA, SEPTA, PA SHPO, and other consulting parties to minimize and mitigate adverse effects through an MOA



Cultural Resources - Minimization Measures

- Decreased height of new catenary structures
- Placement of new structures as close as possible to existing structures
- Targeted tree trimming program
- Avoidance of physical impacts to train stations



Cultural Resources - Mitigation Measures

- Documentation
 - Record Bryn Mawr Substation and related catenary system
- Interpretation
 - Provide interpretive sign inside Bryn Mawr Train Station
 - Donate salvaged materials and provide conservation funds to the RRMPA
 - Assist RRMPA in efforts to conduct oral history interviews
- Design
 - Design new substation to be consistent with historic substation
 - Incorporate “Bryn Mawr Substation” sign into landscape feature
 - Offer bricks from Substation for salvage



Additional Mitigation Measures

- Transportation mitigation measures:
 - Loss of 12 parking spaces at Bryn Mawr Train Station
 - Design substation to have the smallest possible footprint
- Visual mitigation measures:
 - Taller catenary poles, tree trimming, and replacement of Bryn Mawr Substation
 - Limit catenary structure heights (60-75 feet at most locations)
 - Place new catenary structures as close as possible to existing catenary structures
 - Implement targeted tree trimming
 - Design new Bryn Mawr Substation to be consistent with historic substation



Environmental Commitments

- Cultural resources MOA and Unanticipated Discoveries Plan
- Targeted tree trimming plans
- Community Notification Plan re: construction timing and phasing
- Design Plan Notes for construction (vibration, noise, and light emissions)
- Threatened and endangered species coordination updates
- Hazardous waste handled per Amtrak's established procedures and project's Soil Management Plan



U.S. Department of Transportation
Federal Railroad Administration



THE **Burns** GROUP
ENGINEERING AND CONSTRUCTION

Michael Baker
INTERNATIONAL

Solicit Public Review and Comment

- Hard copies provided at 22 public libraries and municipal buildings
- Project website (<https://www.fra.dot.gov/Page/P0810>)
- Public notices published in newspapers
- Postcards mailed to stakeholders
- Public meeting



Preparation of FONSI

- After the 30 day public comment period
- If no significant impact is identified:
 - Environmental Impact Statement (EIS) not required
 - EA and FONSI documentation is sufficient
 - FONSI incorporates public comments



Thank You!

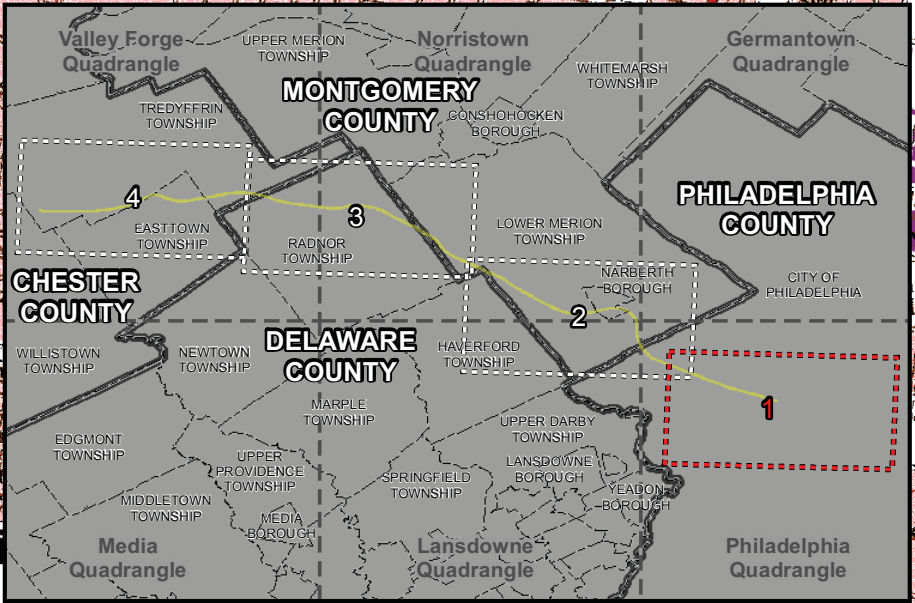
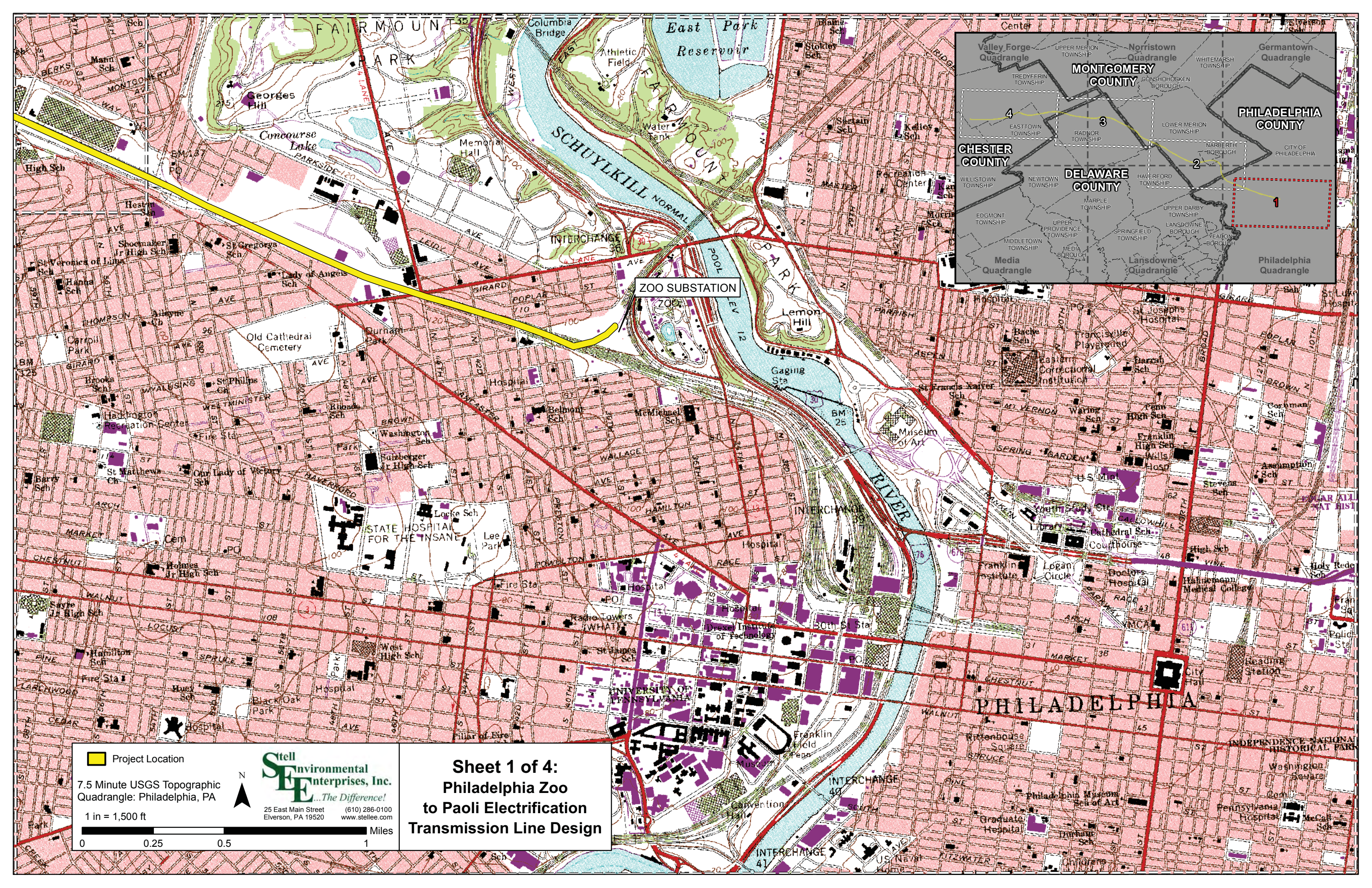
- The involvement of the public is fundamental to the NEPA process.
 - Project website <https://www.fra.dot.gov/Page/P0810>
 - Contact for comments brandon.bratcher@dot.gov
 - Comment deadline of May 12, 2017

Thank you for your participation!





Display Boards



ZOO SUBSTATION

Stell Environmental Enterprises, Inc.
...The Difference!
 25 East Main Street
 Elverson, PA 19520
 (610) 286-0100
 www.stell.com

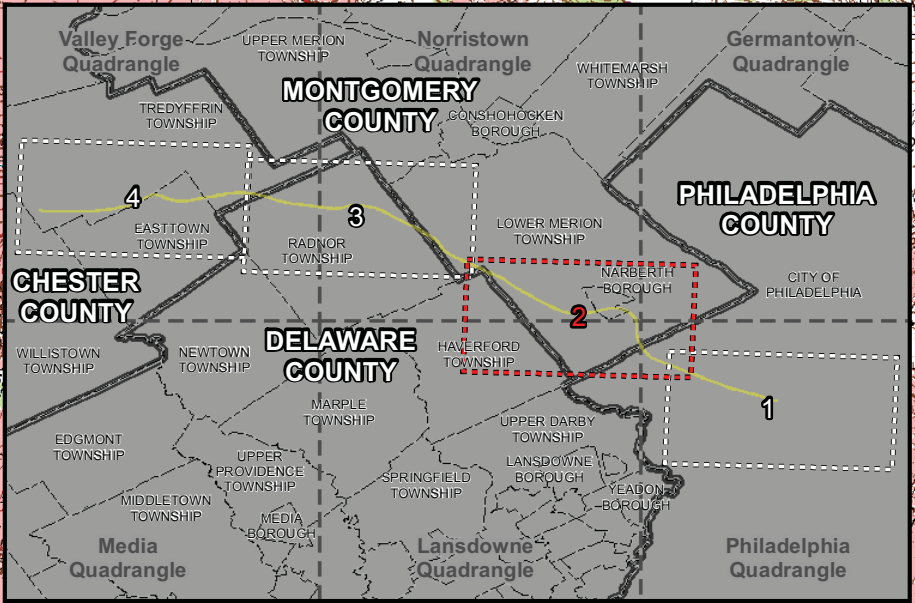
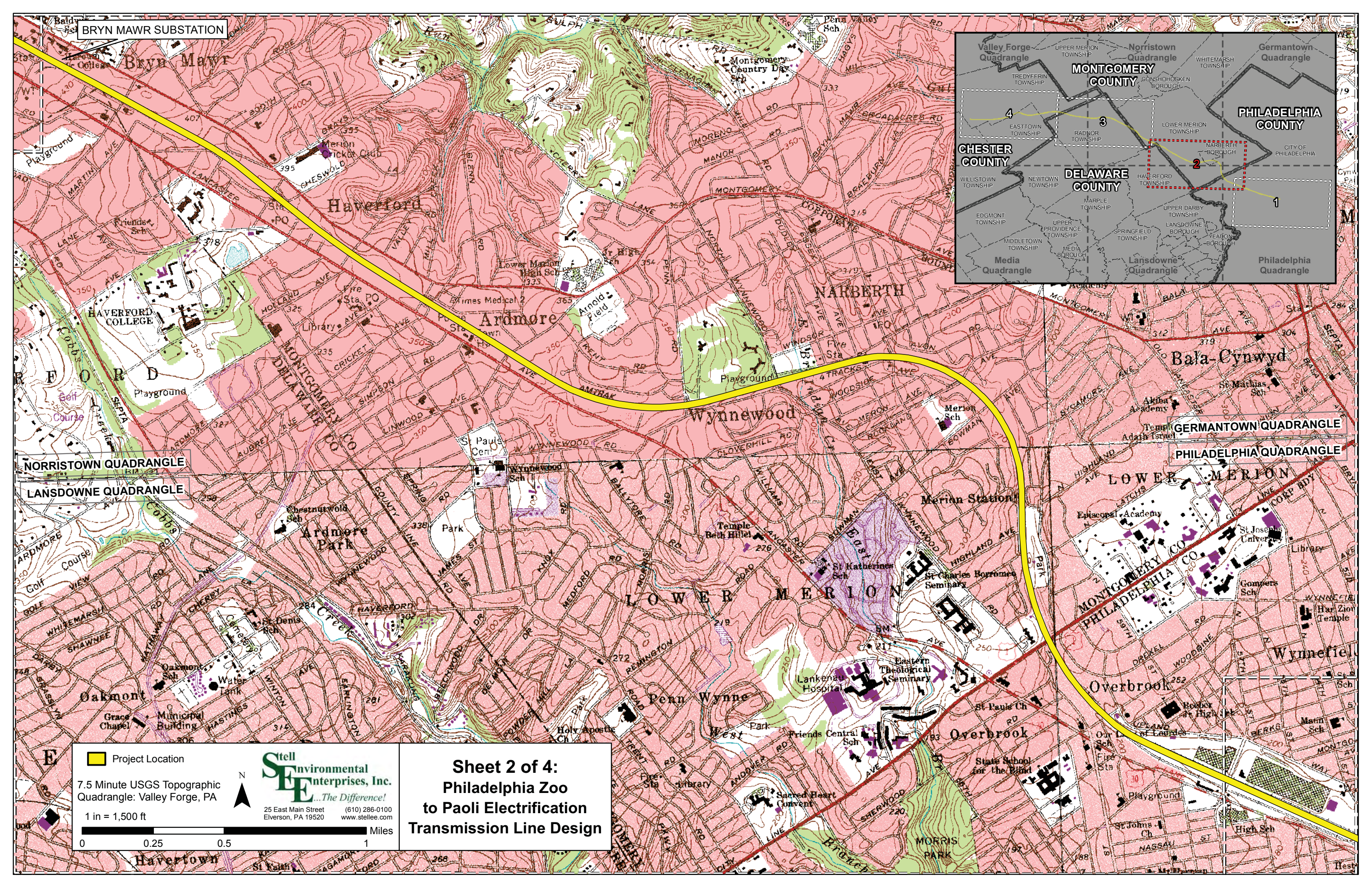
Project Location

7.5 Minute USGS Topographic
 Quadrangle: Philadelphia, PA

1 in = 1,500 ft

0 0.25 0.5 1 Miles

**Sheet 1 of 4:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**



NORRISTOWN QUADRANGLE
 LANSDOWNE QUADRANGLE

GERMANTOWN QUADRANGLE
 PHILADELPHIA QUADRANGLE

Stell Environmental Enterprises, Inc.
...The Difference!
 25 East Main Street
 Elverson, PA 19520
 (610) 286-0100
 www.stellee.com

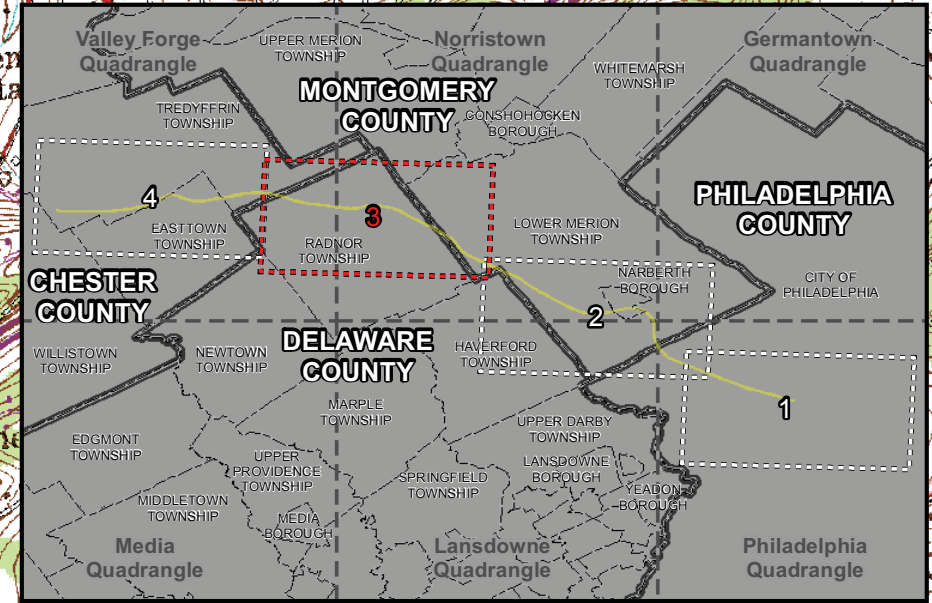
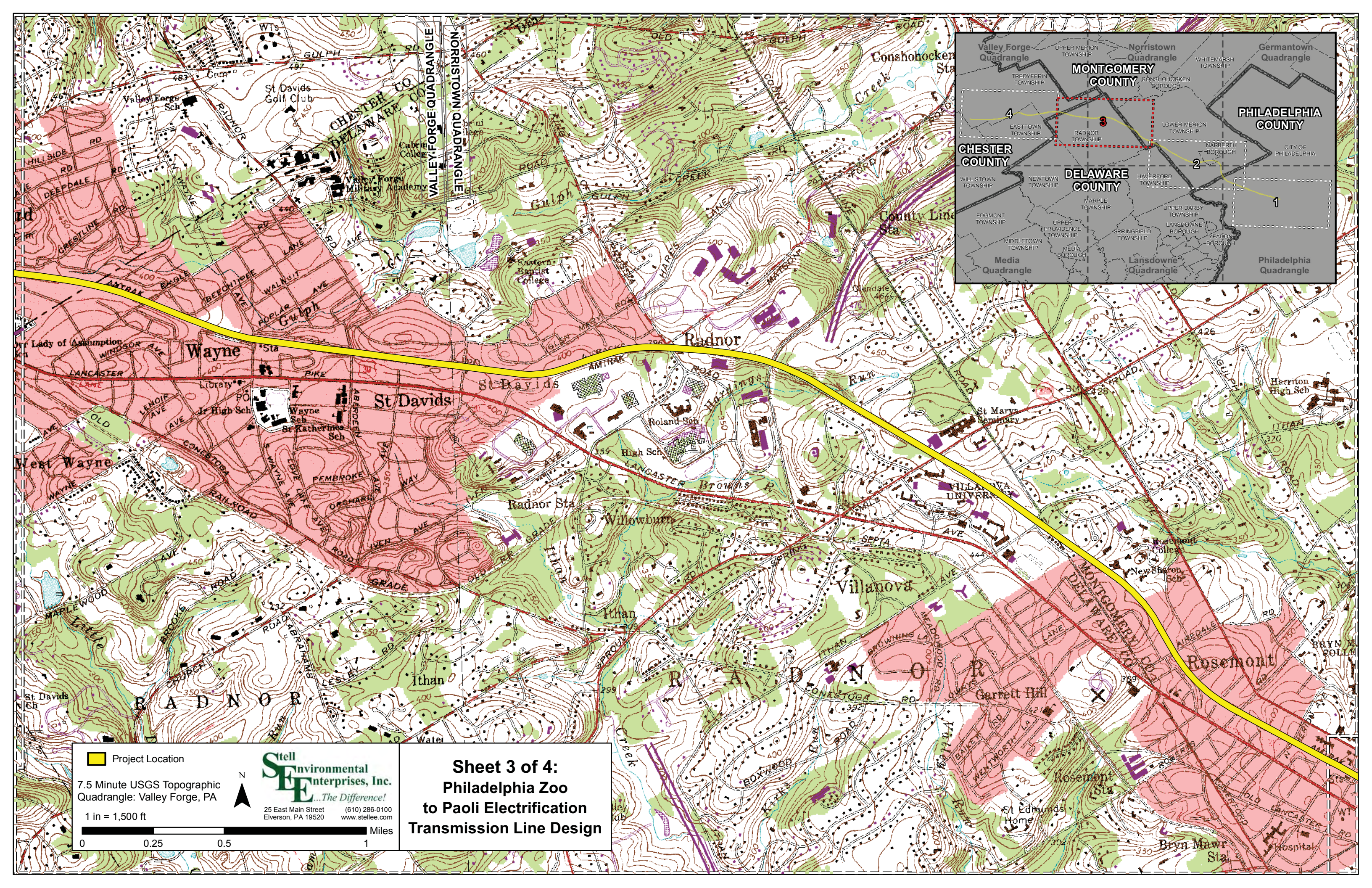
Project Location

7.5 Minute USGS Topographic
 Quadrangle: Valley Forge, PA

1 in = 1,500 ft

0 0.25 0.5 1 Miles

**Sheet 2 of 4:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**



Stell Environmental Enterprises, Inc.
...The Difference!
 25 East Main Street Elverson, PA 19520 (610) 286-0100 www.stell.com

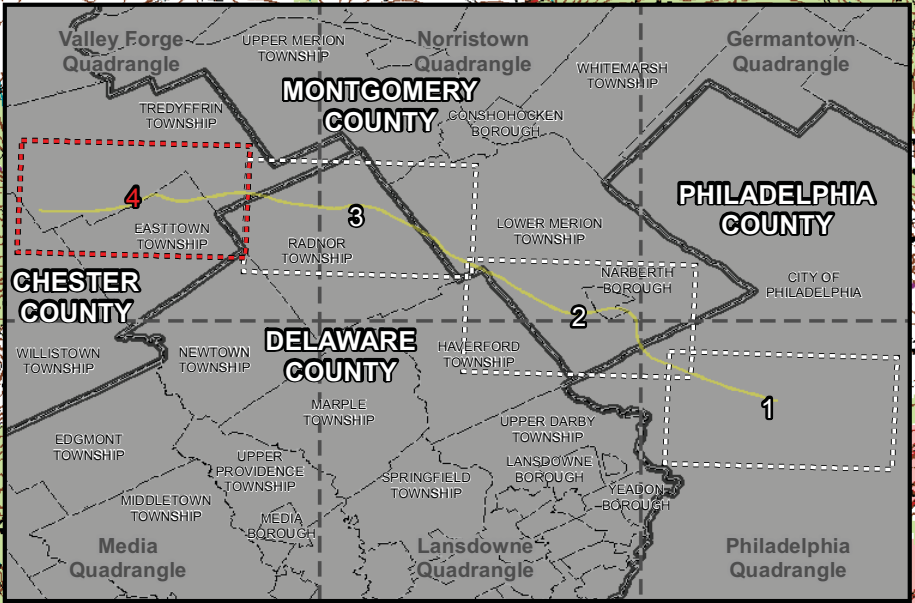
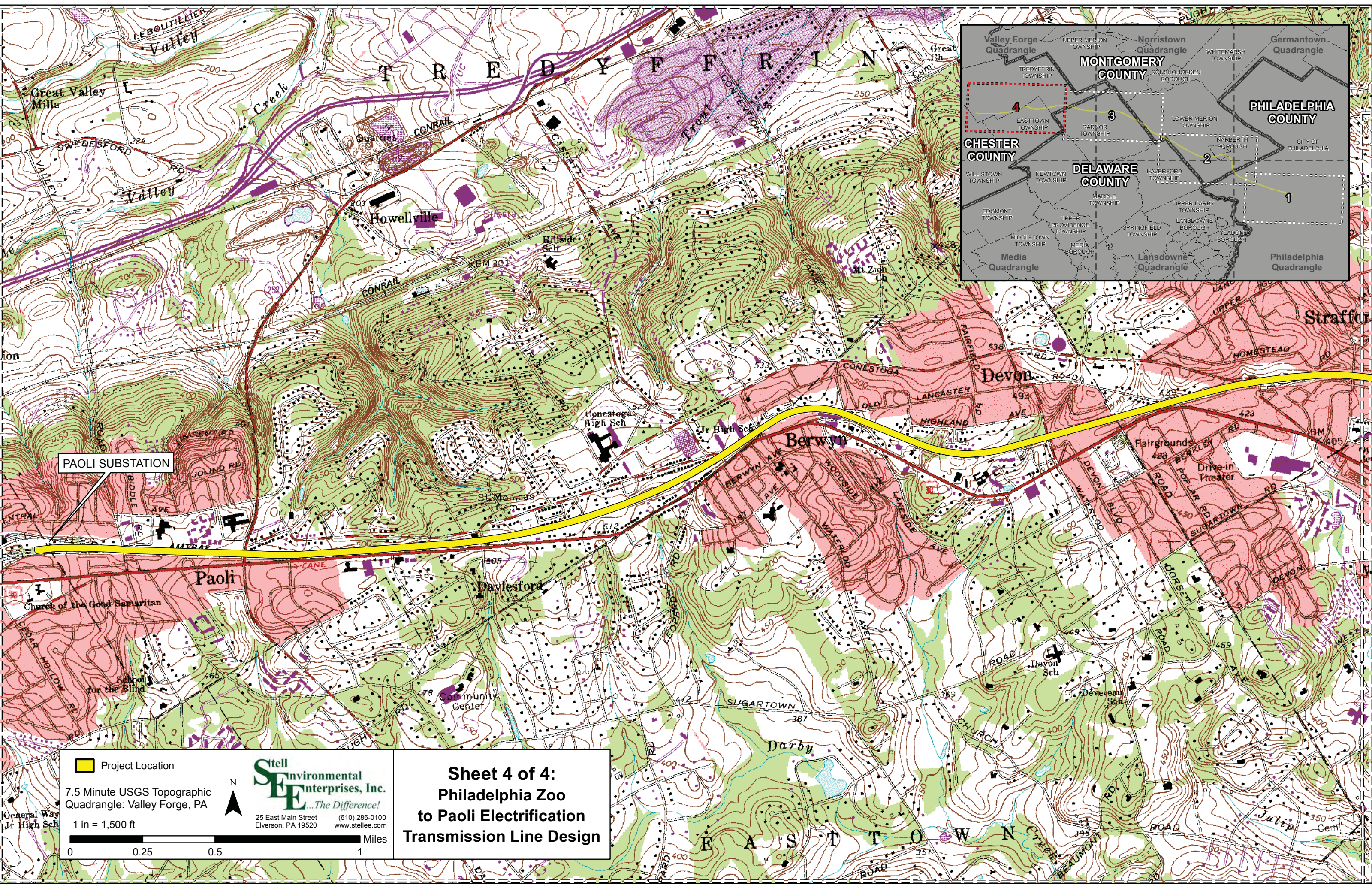
Project Location

7.5 Minute USGS Topographic Quadrangle: Valley Forge, PA

1 in = 1,500 ft

0 0.25 0.5 1 Miles

**Sheet 3 of 4:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**

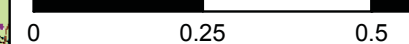


PAOLI SUBSTATION

Project Location

7.5 Minute USGS Topographic
Quadrangle: Valley Forge, PA

1 in = 1,500 ft



Stell
Environmental
Enterprises, Inc.
...The Difference!
25 East Main Street
Elverson, PA 19520
(610) 286-0100
www.stellee.com

**Sheet 4 of 4:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design**

Catenary Structures

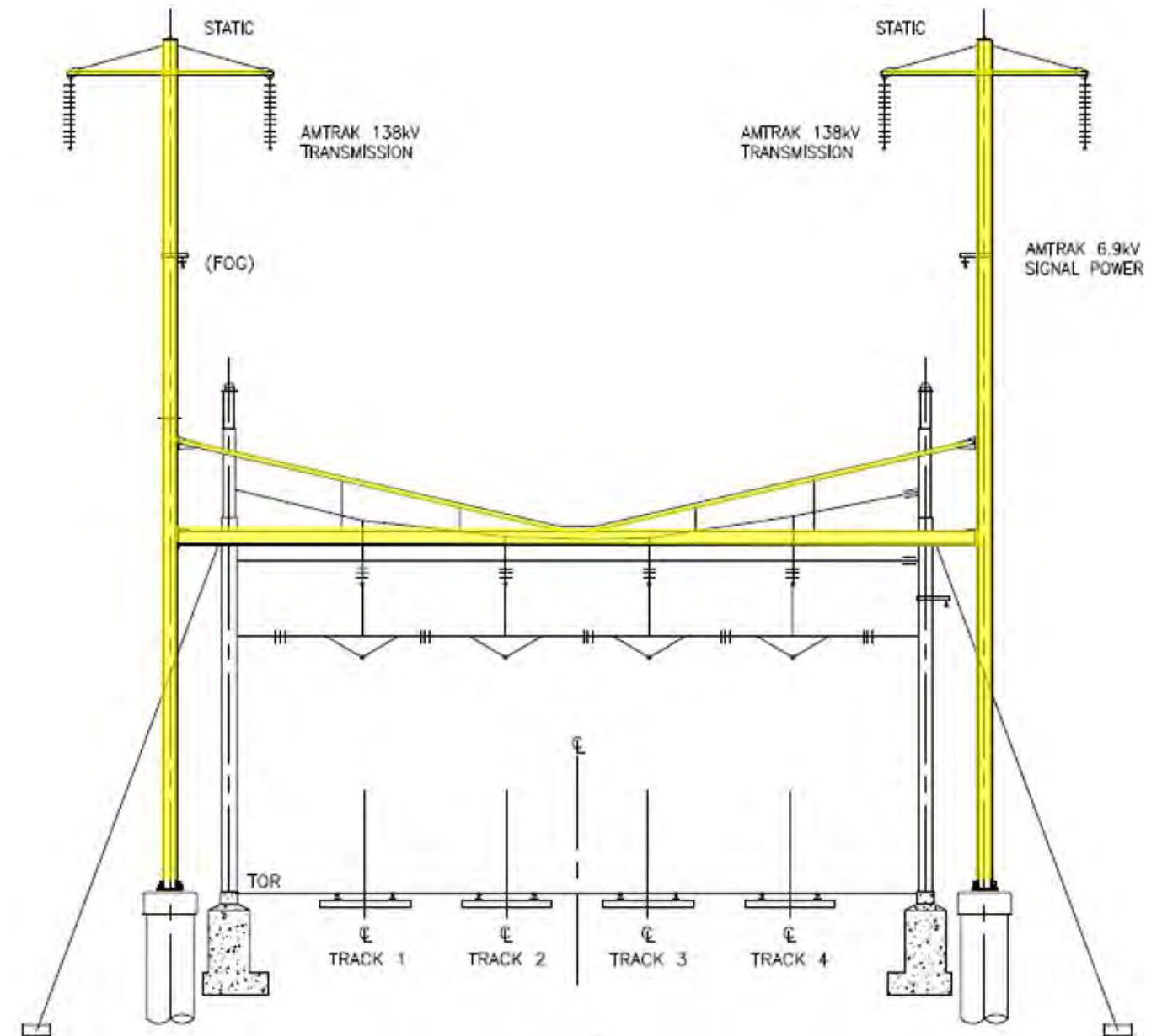
Example Rendering

Height of existing structure to be removed = 50'-2"
Height of new structure T-147 = 60'-2"

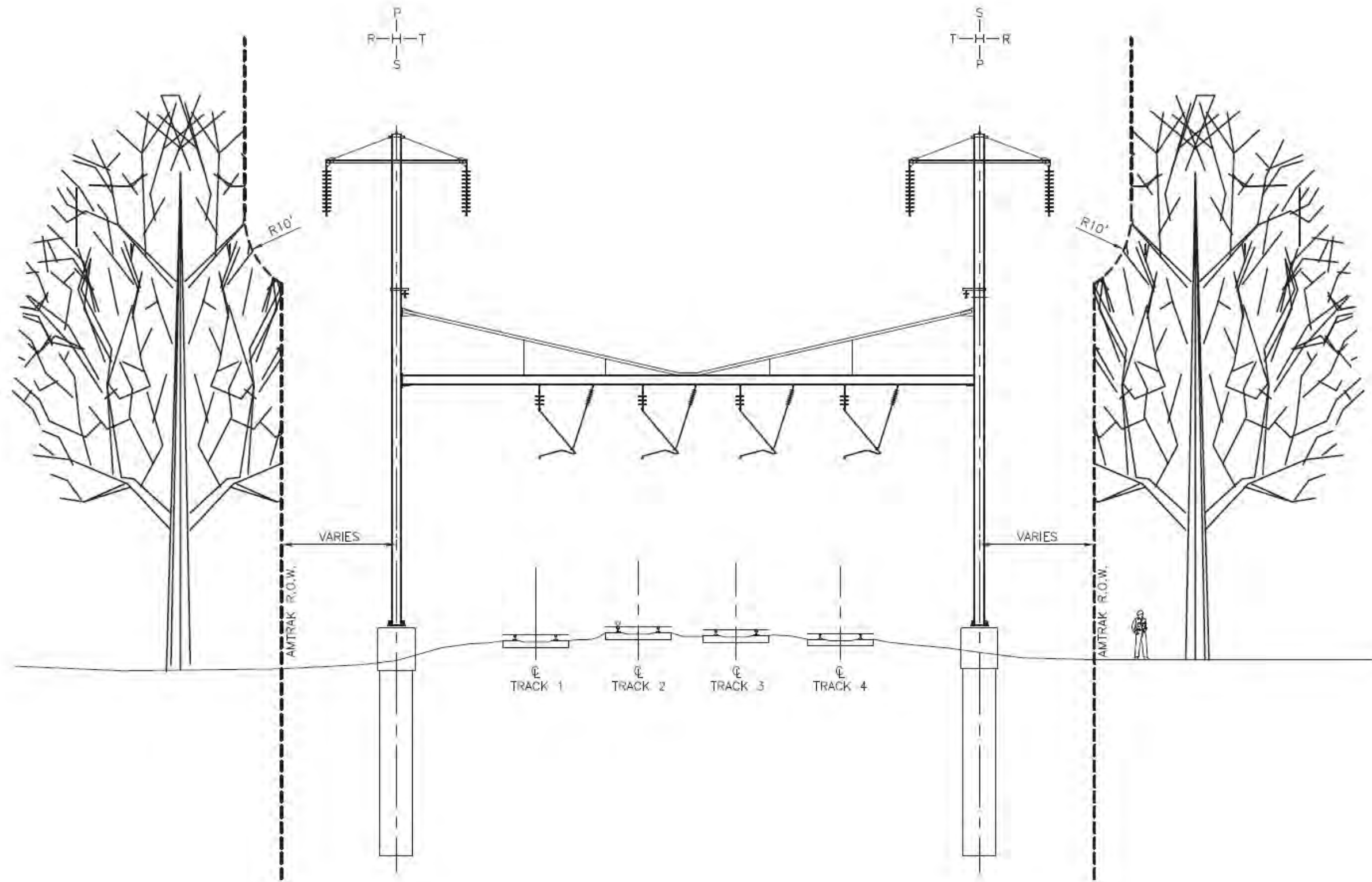


Example Overlay

The existing structures are visible in the background, with the proposed structures overlaid in yellow. The proposed structures will have a grey, galvanized zinc coating.



Typical Tree Pruning Detail





Appendix D

Comments Received



Resource Agency Comments



IN REPLY REFER TO:

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Custom House, Room 244
200 Chestnut Street
Philadelphia, Pennsylvania 19106-2904

June 14, 2017

9043.1
ER 17/0211

Brandon Bratcher
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

**Subject: Environmental Assessment and Draft 4(f) Philadelphia Zoo to Paoli
Substation Transmission Line Project, Philadelphia, Montgomery, Delaware,
Chester Counties, PA**

Dear Mr. Bratcher:

The Department of the Interior (Department) has reviewed the Environmental Assessment and Draft Section 4(f) evaluation for the proposed project to improve deteriorated electrification system on an 18-mile portion of the Keystone Corridor East within the right-of-way between the Zoo substation in central Philadelphia and the Paoli Substation. The purpose of the project is to improve passenger train service using electric-powered trains within the project area and to simplify maintenance of the electrical system.

Section 4(f) Evaluation Comments

The Department concurs that there is no prudent and feasible alternative to the proposed use of 4(f) lands, which consist of the Bryn Mawr Substation and associated catenary system, which are both contributing resources within the Pennsylvania Railroad: Mainline Historic District, which is eligible for listing in the National Register of Historic Places. The demolition of these contributing resources will be an adverse effect to the historic district, which constitutes a 4(f) use. *De minimis* impacts have also been identified for 5 resources within the Area of Potential Effect, including Merion Station, Haverford Station, Villanova Station, Wayne Station, and Strafford Station. The measures to minimize harm must be explicitly consistent with the draft Memorandum of Agreement (MOA) developed in consultation with the Pennsylvania State Historic Preservation Office, the National Railroad Passenger Corporation, the Southeastern Pennsylvania Transportation Authority, and the Railroad Museum of Pennsylvania. We note that

a draft copy of the MOA has been included in the documentation of compliance for the project and is currently under public review. It reflects appropriate procedures for mitigating the adverse effects to cultural resources.

We appreciate the opportunity to provide these comments.

Sincerely,

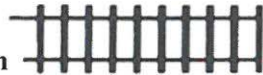
A handwritten signature in black ink, appearing to read "Lindy Nelson", with a long horizontal flourish extending to the right.

Lindy Nelson
Regional Environmental Officer

cc: SHPO-PA [REDACTED]



Stakeholder Comments



Comment Form

Please view the complete Environmental Assessment and Draft Section 4(f) Evaluation at:

<https://www.fra.dot.gov/Page/P0810>


How did you learn about the project Open House?

- Local Newspaper
- Postcard
- Flyer
- Online
- Neighbors, Friends, or Family
- Other Township Staff Assigned to SEPTA/Amtrak (Please Specify)

What questions or concerns do you have regarding this project?

What is the status of the funding of the project?
What is the proposed start date for construction?
Please conduct a survey and confirm property lines.
Please identify trees to be removed on plan.
All adjacent property owners should be notified of the project.

Please provide the following in case we wish to contact you for follow up information.

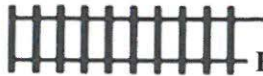
Name ANGELAN MURPHY AICP
LOWER MERION TOWNSHIP
 Address 75 LANCASTER AVENUE, ARDMORE, PA 19023
 Telephone/Email 

Thank you for your participation in this project. Completed forms should be placed in the appropriate box, or if you would like additional time, please mail the forms by May 12, 2017 to the following address:

Brandon Bratcher
 Federal Railroad Administration
 RPD-13: Environment and Corridor Planning Division
 1200 New Jersey Avenue, SE
 West Building, Mail Stop 20
 Washington, DC 20590

OR

Email forms to Brandon Bratcher at brandon.bratcher@dot.gov



Comment Form

Please view the complete Environmental Assessment and Draft Section 4(f) Evaluation at:

<https://www.fra.dot.gov/Page/P0810>

How did you learn about the project Open House?

- Local Newspaper Online
- Postcard Neighbors, Friends, or Family
- Flyer Other _____ (Please Specify)

What questions or concerns do you have regarding this project?

*Advanced notification to neighboring residential areas
regarding scheduling of overnight work is critical.*

Please provide the following in case we wish to contact you for follow up information.

Name Carole Strickland for Lower Merion Historical Society / Wynnewood Civic Assoc.

Address _____

Telephone/Email _____

Thank you for your participation in this project. Completed forms should be placed in the appropriate box, or if you would like additional time, please mail the forms by May 12, 2017 to the following address:

Brandon Bratcher
Federal Railroad Administration
RPD-13: Environment and Corridor Planning Division
1200 New Jersey Avenue, SE
West Building, Mail Stop 20
Washington, DC 20590

OR

Email forms to Brandon Batcher at brandon.bratcher@dot.gov



Public Comments

Welt, Angela

From: Bratcher, Brandon (FRA) <brandon.bratcher@dot.gov>
Sent: Thursday, April 13, 2017 9:17 AM
To: [REDACTED]
[REDACTED]
Subject: FW: Zoo to Paoli Transmission Line Project: Final Tree Trimming Plans (March 17, 2016)

FYI.

Brandon L. Bratcher
Environmental Protection Specialist
[REDACTED]

From: Bratcher, Brandon (FRA)
Sent: Thursday, April 13, 2017 9:15 AM
To: 'David Stewart'
Subject: RE: Zoo to Paoli Transmission Line Project: Final Tree Trimming Plans (March 17, 2016)

Much appreciative of your comments, Mr. Stewart. As someone who's lived near transit option (I moved to DC from Chicago, where I lived 100 yards from the elevated train station), I understand your concerns.

I will pass along these concerns to the folks at Amtrak and we will discuss any follow-up.

Brandon L. Bratcher
Environmental Protection Specialist
[REDACTED]

From: David Stewart [REDACTED]
Sent: Thursday, April 13, 2017 8:46 AM
To: Bratcher, Brandon (FRA)
Subject: Zoo to Paoli Transmission Line Project: Final Tree Trimming Plans (March 17, 2016)

Mr. Bratcher:

I recently received a postcard from the firm of Michael Baker International announcing a Public Meeting on May 4, 2017 regarding the Zoo to Paoli Transmission Line Project. In addition to the announcement, the postcard also showed a website where project documents may be reviewed. My particular interest was in the Final Tree Trimming Plans (March 17, 2016). Our property is next to AMTRAK's ROW.

When reviewing the "Tree Pruning Site Plan," I was particularly interested in Notes 2 and 5 on Page C-0200. Having lived at this location for nearly 33years, we have experienced many AMTRAK tree pruning sessions over the years. Our experience has been the opposite of Notes 2 and 5.

- The Crew shows up un-announced and walks through our properties to get to the ROW, without permission. Since I keep our gate locked on the backyard fence, the crew uses my neighbor's yard for access to the ROW. (Note 2)

- There have been many pruning sessions on the ROW behind our house and the crew just leaves the debris where it falls and it is not removed. (Note 5)

I hope the trimming crew will abide by the notes on this Tree Pruning Site Plan.

In addition, I would hope that the crew trims the minimum amount possible. We really appreciate the tree foliage to screen the train activity.

Thank you for taking the time to read my comments. If you are not the appropriate person to address these issues, I would be grateful if you would forward this e-mail to the proper person.

With kind regards,

David Stewart



Welt, Angela

From: Mielke, Matthew S [USA] [REDACTED]
Sent: Thursday, May 04, 2017 5:21 PM
To: Welt, Angela; Daren Petroski, PE
Subject: Fwd: [External] FW: Presentation at lower merion

Public comment/question

Sent from my iPhone

Begin forwarded message:

From: "Bratcher, Brandon (FRA)" <brandon.bratcher@dot.gov>
Date: May 4, 2017 at 9:27:15 AM EDT
To: "Mielke, Matthew S [USA]" [REDACTED]
Subject: [External] FW: Presentation at lower merion

Hey Matthew.

Not going to make it tonight. Take plenty of notes for me.

Can you check into this and get back to me in the next few days?

Brandon L. Bratcher
Environmental Protection Specialist
[REDACTED]

From: Bratcher, Brandon (FRA)
Sent: Thursday, May 04, 2017 9:26 AM
To: 'Darren Clipston'
Subject: RE: Presentation at lower merion

Good morning, Mr. Clipston. I will look into this and get back with you.

Brandon L. Bratcher
Environmental Protection Specialist
[REDACTED]

From: Darren Clipston [REDACTED]
Sent: Wednesday, May 03, 2017 4:30 PM
To: Bratcher, Brandon (FRA)
Subject: Presentation at lower merion

Brandon

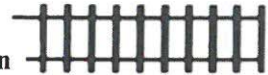
Hi. You are listed as the contact for the Amtrak zoo to paoli transmission project. There is a presentation at lower merion township's offices tomorrow (May 4th).

I may not be able to attend. Our property backs up to the train line I wanted to ask if Amtrak will be needing to go through our yard as part of this project? Our address is [REDACTED]
[REDACTED]

Also there is a large fallen tree at the back of our property which I believe is on the Amtrak easement. I wanted to inquire about the possibility of Amtrak clearing it away during this work?

Thanks
Darren Clipston

Get [Outlook for iOS](#)



Comment Form

Please view the complete Environmental Assessment and Draft Section 4(f) Evaluation at:

<https://www.fra.dot.gov/Page/P0810>

How did you learn about the project Open House?

- Local Newspaper Online
 Postcard Neighbors, Friends, or Family
 Flyer Other EMAIL FROM TOWN SHIP (Please Specify)

What questions or concerns do you have regarding this project?

MY PROPERTY IS ALONG THE AMTRAK ROW.
THERE IS AN EASEMENT ABOUT 10 FT.

What is the impact to the trees on
the border of the property? How close
is the new pole?

MY PROPERTY!

Please provide the following in case we wish to contact you for follow up information.

Name CRAIG FOX

Address 

Telephone/Email 

Thank you for your participation in this project. Completed forms should be placed in the appropriate box, or if you would like additional time, please mail the forms by May 12, 2017 to the following address:

Brandon Bratcher
 Federal Railroad Administration
 RPD-13: Environment and Corridor Planning Division
 1200 New Jersey Avenue, SE
 West Building, Mail Stop 20
 Washington, DC 20590

OR

Email forms to Brandon Batcher at brandon.bratcher@dot.gov



Comment Form

Please view the complete Environmental Assessment and Draft Section 4(f) Evaluation at:

<https://www.fra.dot.gov/Page/P0810>

How did you learn about the project Open House?

- Local Newspaper Online
 Postcard Neighbors, Friends, or Family
 Flyer Other _____ (Please Specify)

What questions or concerns do you have regarding this project?

Will this project clear sufficient trees and brush to minimize travel disruptions due to falling trees and branches? Based on recent storms in the past few years, service disruptions due to falling trees is a concern.

Please provide the following in case we wish to contact you for follow up information.

Name PATRICK YOUGH

Address _____

Telephone/Email _____

Thank you for your participation in this project. Completed forms should be placed in the appropriate box, or if you would like additional time, please mail the forms by May 12, 2017 to the following address:

Brandon Bratcher
 Federal Railroad Administration
 RPD-13: Environment and Corridor Planning Division
 1200 New Jersey Avenue, SE
 West Building, Mail Stop 20
 Washington, DC 20590

OR

Email forms to Brandon Batcher at brandon.bratcher@dot.gov

5/4/17

Lower Merion Township



Philadelphia Zoo to Paoli Transmission Line Project
Environmental Assessment and Draft Section 4(f) Evaluation



Comment Form

Please view the complete Environmental Assessment and Draft Section 4(f) Evaluation at:

<https://www.fra.dot.gov/Page/P0810>

How did you learn about the project Open House?

- Local Newspaper
- Postcard
- Flyer
- Online
- Neighbors, Friends, or Family
- Other LM township email (Please Specify)

What questions or concerns do you have regarding this project?

I'm concerned about the height of the catenary poles. It would be nice to keep the height less than 75 feet where possible. Although my property does not border the tracks, the overall visual appeal of LM township is important to all residents for maintaining property values.

Thank you for considering ~~conservative~~ conservative approaches to tree trimming.

Thank you for the detailed presentation & the attention to detail in the design.

POST NOTE - you have addressed this concern

Please provide the following in case we wish to contact you for follow up information.

Name Laura Goetsch

Address 

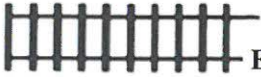
Telephone/Email 

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 Federal Railroad Administration
 RPD-13: Environment and Corridor Planning Division
 1200 New Jersey Avenue, SE
 West Building, Mail Stop 20
 Washington, DC 20590

OR

Email forms to Brandon Bratcher at brandon.bratcher@dot.gov



Comment Form

Please view the complete Environmental Assessment and Draft Section 4(f) Evaluation at:

<https://www.fra.dot.gov/Page/P0810>

How did you learn about the project Open House?

- Local Newspaper Online
 Postcard Neighbors, Friends, or Family
 Flyer Other _____ (Please Specify)

What questions or concerns do you have regarding this project?

What are the prospects for starting construction in 2017?

Please provide the following in case we wish to contact you for follow up information.

Name FRANK G. TATNALL

Address [REDACTED]

Telephone/Email [REDACTED]

Thank you for your participation in this project. Completed forms should be placed in the appropriate box, or if you would like additional time, please mail the forms by May 12, 2017 to the following address:

Brandon Bratcher
 Federal Railroad Administration
 RPD-13: Environment and Corridor Planning Division
 1200 New Jersey Avenue, SE
 West Building, Mail Stop 20
 Washington, DC 20590

OR

Email forms to Brandon Bratcher at brandon.bratcher@dot.gov

Welt, Angela

From: Ilana Margolin [REDACTED]
Sent: Tuesday, May 09, 2017 2:59 PM
To: Bratcher, Brandon (FRA)
Subject: Bryn Mawr PA electrical substation

Dear Brandon,

My name is Ilana Margolin and I am considering to move my office to bryn Mawr, located right next to the Bryn Mawr Amtrak electric substation . I understand that there has been a new proposal to the Philadelphia Zoo to Paili Transmission line project and the bryn Mawr substation will be effected. I am concerned with the potential health effects working right next to the high voltage powered substation and power lines . Will you be kind enough to call me to discuss it at [REDACTED] or email me your thought on it. I have also read that Amtrak is proposing to replace the existing Bryn Mawr substation with a more powerful substation. Please address that as well. I greatly thank you for your input.

Thank you,
Ilana Margolin
Sent from my iPhone



Comment Form

Please view the complete Environmental Assessment and Draft Section 4(f) Evaluation at:

<https://www.fra.dot.gov/Page/P0810>

How did you learn about the project Open House?

Local Newspaper

Online

Postcard

Neighbors, Friends, or Family

Flyer

Other email from LM Township (Please Specify)

based on my subscription to receive township info.

What questions or concerns do you have regarding this project?

- 1) VERY CONCERNED about the HEIGHT of the new catenary structures between the Wynnewood Train Station and the Church Road Bridge. The north side transmission profiles in Appendix C2 of the EA detail that these structures will be 75' 2" high while the south side is 60' 2". Specifically, our home is located on the north side at [REDACTED] With the pole being dead center of our lot. Why the extra height on the north side? The span between the Wynnewood Train Station and Church Road is 100% residential on the north side. A US DOT, Federal Railroad Administration Meeting Notice dated 8/14/15 stated "...a majority of the proposed new catenary poles will be between 60' 0" and 70' 0" high, with most poles measuring 60' 2". A few poles reach 80 feet high at overhead bridges to achieve adequate clearance." If the drawings in C2 are correct, this statement is EXTREMELY misleading/inaccurate. We are on an open route, not at a bridge. The new height will be 50% higher than our current catenary structure which is approximately 50' in height according to Appendix C2. There are many other lengths of track near residences that have catenary structures of 60' 2" on both sides of the track. Why can't the pole heights be reduced along this length of track between the Wynnewood Train Station and Church Road Bridge?
- 2) Can there be a decibel limitation established that contractors MUST abide by for nighttime work throughout the duration of this project?
- 3) What is the order of construction and electrification? When will the project begin?
- 4) What is the source of the funding for the project?

CONTACT INFORMATION:

Name: Karen Cosentino and Donald Smolenski

Address: [REDACTED]

Telephone/email: [REDACTED]

Thank you for your participation in this project. Completed forms should be placed in the appropriate box, or if you would like additional time, please mail the forms by May 12, 2017 to the following address:

Brandon Bratcher
Federal Railroad Administration
RPD-13: Environment and Corridor Planning Division
1200 New Jersey Avenue, SE
West Building, Mail Stop 20
Washington, DC 20590

OR

Email forms to Brandon Bratcher at brandon.bratcher@dot.gov



Comment Form

Please view the complete Environmental Assessment and Draft Section 4(f) Evaluation at:

<https://www.fra.dot.gov/Page/P0810>

How did you learn about the project Open House?

- Local Newspaper
- Postcard
- Flyer
- Online
- Neighbors, Friends, or Family
- Other _____ (Please Specify)

What questions or concerns do you have regarding this project?

Please provide the following in case we wish to contact you for follow up information.

Name Carl M. Watson, P.E.

Address_



Telephone/Email_



Thank you for your participation in this project. Completed forms should be placed in the appropriate box, or if you would like additional time, please mail the forms by May 12, 2017 to the following address:

Brandon Bratcher
 Federal Railroad Administration
 RPD-13: Environment and Corridor Planning Division
 1200 New Jersey Avenue, SE
 West Building, Mail Stop 20
 Washington, DC 20590

OR

Email forms to Brandon Bratcher at brandon.bratcher@dot.gov



Appendix E

Response to Comments

A. INTRODUCTION

This appendix contains a listing of the comments received during the public and agency review period for the *Philadelphia Zoo to Paoli Transmission Line Project Environmental Assessment and Draft Section 4(f) Evaluation* (hereafter referred to as Environmental Assessment or EA). The EA public review period spanned from April 13, 2017 to May 12, 2017. The resource agency review period extended to June 15, 2017. Feedback received during this time frame is included in Appendix D “Comments Received.” Comments were received via letter, email, or comment forms submitted at the May 4, 2017 public meeting.

The May 4, 2017 public meeting included an informal question and answer period to enable a productive dialogue. The presentation and the display boards are included in Appendix C “Public Meeting Materials (May 4, 2017).” Since the public meeting was not a formal public hearing, there is no transcript. Attendees were informed that comments and questions discussed during the meeting would not become part of the formal public record unless submitted in writing through a comment form, letter, or email. Comment themes from the public meeting included:

- Tree trimming
- Access through private right-of-way
- Construction schedule and timing
- Project funding
- Electromagnetic impacts
- Past public involvement.

The following text quotes relevant excerpts of the written comments verbatim. The FRA noted and carefully evaluated all of the comments received on the EA (including the Draft Section 4(f) Evaluation and the MOA) before issuing a FONSI. None of the comments raised concerns that warranted changing the conclusions reached in the EA regarding potential impact or the selection of the Preferred Alternative.

B. RESOURCE AGENCY COMMENTS

Lindy Nelson, Regional Environmental Officer, U.S. Department of the Interior, letter dated June 14, 2017

Comment 1: The Department concurs that there is no prudent and feasible alternative to the proposed use of 4(f) lands, which consist of the Bryn Mawr Substation and associated catenary system, which are both contributing resources within the Pennsylvania Railroad: Mainline Historic District, which is eligible for listing in the National Register of Historic Places. The demolition of these contributing resources will be an adverse effect to the historic district, which constitutes a 4(f) use. *De minimis* impacts have also been identified for 5 resources within the Area of Potential Effect, including Merion Station, Haverford Station, Villanova Station, Wayne Station, and Strafford Station. The measures to minimize harm must be explicitly consistent with the draft Memorandum of Agreement (MOA) developed in consultation with the Pennsylvania State Historic Preservation Office, the National Railroad

Passenger Corporation, the Southeastern Pennsylvania Transportation Authority, and the Railroad Museum of Pennsylvania. We note that a draft copy of the MOA has been included in the documentation of compliance for the project and is currently under public review. It reflects appropriate procedures for mitigating the adverse effects to cultural resources.

Response 1: FRA acknowledges the need for explicit adherence with minimization and mitigation measures in the draft Memorandum of Agreement (MOA). The project team notes and appreciates the concurrence.

C. STAKEHOLDER COMMENTS

Angela N. Murray, AICP, Lower Merion Township staff, comment form dated May 4, 2017

Comment 2: What is the status of the funding of the project?
What is the proposed start date for construction?
Please conduct a survey and confirm property lines.
Please identify trees to be removed on plans.
All adjacent property owners should be notified of the project.

Response 2: Funding has not yet been secured for the project.
Once funding is allocated, the earliest possible start date for construction would be spring of 2018. No firm start date is known at this time.

Property boundary data on current project plans was derived from Interstate Commerce Commission railroad valuation maps, the primary source documentation for railroad rights of way, and verified against current records through Amtrak's Real Estate department. This is standard practice for Amtrak project planning, and no new right-of-way survey is planned for this project.

Tree trimming plans are included in Appendix C of the Environmental Assessment as drawings C-0200 through C-0232 of the Paoli to Bryn Mawr plans and drawings C-0217 through C-0232 of the Bryn Mawr to Zoo plans. The Environmental Assessment and plans are available on the project website at <https://www.fra.dot.gov/Page/P0810>.

A Community Notification Plan with public outreach for notice to residents during construction will be incorporated into the construction process.

Carole Strickland, Lower Merion Historical Society & Wynnwood Civic Association, comment form dated May 4, 2017

Comment 3: Advanced notification to neighboring residential areas regarding scheduling of overnight work is critical.

Response 3: The project team is sensitive to community impacts to neighbors along rail corridors. A Community Notification Plan with public outreach for notice to

residents during construction will be incorporated into the construction process.

D. COMMENTS FROM THE PUBLIC

David Stewart, email dated April 13, 2017

Comment 4: I recently received a postcard from the firm of Michael Baker International announcing a Public Meeting on May 4, 2017 regarding the Zoo to Paoli Transmission Line Project. In addition to the announcement, the postcard also showed a website where project documents may be reviewed. My particular interest was in the Final Tree Trimming Plans (March 17, 2016). Our property is next to AMTRAK's ROW.

When reviewing the "Tree Pruning Site Plan," I was particularly interested in Notes 2 and 5 on Page C-0200. Having lived at this location for nearly 33 years, we have experienced many AMTRAK tree pruning sessions over the years. Our experience has been the opposite of Notes 2 and 5.

- The Crew shows up un-announced and walks through our properties to get to the ROW, without permission. Since I keep our gate locked on the backyard fence, the crew uses my neighbor's yard for access to the ROW. (Note 2)

- There have been many pruning sessions on the ROW behind our house and the crew just leaves the debris where it falls and it is not removed. (Note 5)

I hope the trimming crew will abide by the notes on this Tree Pruning Site Plan.

In addition, I would hope that the crew trims the minimum amount possible. We really appreciate the tree foliage to screen the train activity.

Thank you for taking the time to read my comments. If you are not the appropriate person to address these issues, I would be grateful if you would forward this e-mail to the proper person.

Response 4: The project team is sensitive to access concerns and notes the need for prior contact to property owners adjacent to the proposed project. The tree trimming will be monitored in accordance with the contract plans. The construction contractor's team will also include an arborist to direct trimming activities. Tree trimming plans are included in Appendix C of the Environmental Assessment as drawings C-0200 through C-0232 of the Paoli to Bryn Mawr plans and drawings C-0217 through C-0232 of the Bryn Mawr to Zoo plans. The Environmental Assessment and plans are available on the project website at <https://www.fra.dot.gov/Page/P0810>.

Darren Clipston, email dated May 3, 2017

Comment 5: Hi. You are listed as the contact for the Amtrak zoo to paoli transmission project. There is a presentation at lower merion township's offices tomorrow (May 4th).

I may not be able to attend. Our property backs up to the train line I wanted to ask if Amtrak will be needing to go through our yard as part of this project? Our address is ____.

Also there is a large fallen tree at the back of our property which I believe is on the Amtrak easement. I wanted to inquire about the possibility of Amtrak clearing it away during this work?

Response 5: It is the intent of the construction contract that no construction access will be allowed through private property. The individual tree mentioned will need to be reviewed as part of the pre-construction site planning.

Craig Fox, comment form dated May 4, 2017

Comment 6: My property is along the Amtrak ROW. There is an easement about 10 ft. What is the impact to the trees on the border of the property? How close is the new pole?

My property!

Response 6: Tree trimming plans are included in Appendix C of the Environmental Assessment as drawings C-0200 through C-0232 of the Paoli to Bryn Mawr plans and drawings C-0217 through C-0232 of the Bryn Mawr to Zoo plans. The Environmental Assessment and plans, including proposed pole locations, are available on the project website at <https://www.fra.dot.gov/Page/P0810>. Your property appears to be between T-225 and T-224 on the Bryn Mawr to Zoo plans. Adjacent to your property, the existing pole is 31.5' inside the Amtrak property line, and the new pole will be 25' inside the Amtrak property line. All tree trimming will be within Amtrak right-of-way, and tree trimming at this location will be approximately 6.5 feet inside the Amtrak property line. The construction contractor's team will include an arborist to direct trimming activities.

Patrick Yough, comment form dated May 4, 2017

Comment 7: Will this project clear sufficient trees and brush to minimize travel disruptions due to falling trees and branches? Based on recent storms in the past few years, service disruptions due to falling trees is a concern.

Response 7: Tree trimming is intended to alleviate potential future service disruptions as part of the project.

Laura Goetsch, comment form dated May 4, 2017

Comment 8: I'm concerned about the height of the catenary poles. It would be nice to keep the height less than 75 feet where possible. Although my property does

not border the tracks, the overall visual appeal of LM Township is important to all residents for maintaining property values. POST NOTE- you have addressed this concern

Thank you for considering conservative approaches to tree trimming.

Thank you for the detailed presentation and the attention to detail in the design.

Response 8: We appreciate your concerns and have taken every effort in the design to minimize the height of the new catenary structures and minimize any visual impacts. Related mitigation and environmental commitments associated with visual impacts are detailed in Section 3.20 and Section 6.0 respectively of the Environmental Assessment. The Environmental Assessment and plans showing catenary height (Appendix C) are available on the project website at <https://www.fra.dot.gov/Page/P0810>.

Frank G. Tatnall, comment form dated May 4, 2017

Comment 9: What are the prospects for starting construction in 2017?

Response 9: Construction funding has not yet been allocated for this project. As of this finding, the earliest possible start date for construction would be spring of 2018 – if funding is approved soon.

Ilana Margolin, email dated May 4, 2017

Comment 10: My name is Ilana Margolin and I am considering to move my office to bryn Mawr, located right next to the Bryn Mawr Amtrak electric substation. I understand that there has been a new proposal to the Philadelphia Zoo to Paili Transmission line project and the bryn Mawr substation will be effected. I am concerned with the potential health effects working right next to the high voltage powered substation and power lines. Will you be kind enough to call me to discuss it at ___ or email me your thought on it. I have also read that Amtrak is proposing to replace the existing Bryn Mawr substation with a more powerful substation. Please address that as well. I greatly thank you for your input.

Response 10: An analysis of the effects of electromagnetic fields was conducted as part of the design. The report, which is included in the Environmental Assessment determined, “From the perspective of the regulator, oversight or official guidance concerning the “safe” levels of electric or magnetic fields, the levels of both electric and magnetic fields observed both by measurement and modeling are significantly below any level generally discussed as a criteria warranting concern.” A comparison of the proposed electric and magnetic field levels and associated levels of concern according to the International Commission on Non-Ionizing Radiation Protection is provided below.

Field	Proposed Level	Level Warranting Concern
Electric	804 V/m (at 25 Hz)	10,000 V/m (at 25-60 Hz)
Magnetic	65 mG (at 25 Hz)	2,000 mG (at 25-60 Hz)

Section 3.6 and Appendix E of the Environmental Assessment address concerns associated with electric and magnetic fields. These documents are available on the project website at <https://www.fra.dot.gov/Page/P0810>.

Karen Cosentino & Donald Smolenski, comment form submitted via email dated May 9, 2017

Comment 11: 1) VERY CONCERNED about the HEIGHT of the new catenary structures between the Wynnewood Train Station and the Church Road Bridge. The north side transmission profiles in Appendix C2 of the EA detail that these structures will be 75' 2" high while the south side is 60' 2". Specifically, our home is located on the north side at _____. With the pole being dead center of our lot. Why the extra height on the north side? The span between the Wynnewood Train Station and Church Road is 100% residential on the north side. A US DOT, Federal Railroad Administration Meeting Notice dated 8/14/15 stated " ... a majority of the proposed new catenary poles will be between 60' 0" and 70' 0" high, with most poles measuring 60' 2". A few poles reach 80 feet high at overhead bridges to achieve adequate clearance." If the drawings in C2 are correct, this statement is EXTREMELY misleading/inaccurate. We are on an open route, not at a bridge. The new height will be 50% higher than our current catenary structure which is approximately 50' in height according to Appendix C2. There are many other lengths of track near residences that have catenary structures of 60' 2" on both sides of the track. Why can't the pole heights be reduced along this length of track between the Wynnewood Train Station and Church Road Bridge?

2) Can there be a decibel limitation established that contractors MUST abide by for nighttime work throughout the duration of this project?

3) What is the order of construction and electrification? When will the project begin?

4) What is the source of the funding for the project?

Response 11: 1) The increased height through this area is driven by the narrow width of the right of way. In order to maintain the new transmission lines on Amtrak's right-of-way, the transmission lines on the north side needed to be designed so that both conductors are on the inside of the structure. The use of this design requires the pole heights to be increased to keep the proper electrical clearance between conductors

2) Construction contractors will be required to work within prescribed decibel limits for construction noise within the townships where work is

performed. As noted in construction contract specification section 01566: “Noise and Vibration Control: The Contractor shall take every action possible to comply with noise regulations. The Contractor shall abide by all applicable local, state, and federal noise and vibration limits/restrictions as they pertain to construction equipment and construction operations. Hauling route through residential area should be selected only when other routes are not determined practical. All haul routes must be approved by Amtrak’s Environmental Manager. All costs associated with this compliance shall be the responsibility of the Contractor.”

3) The specific order of construction has not yet been determined. The earliest site work could begin is the spring of 2018 – though, as of the date of this finding, no construction funding has yet been allocated.

4) The funding source for the construction has not yet been established.