

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

Electronic Application Of Kentucky Power Company	)	
For A Certificate Of Public Convenience And	)	
Necessity To Construct 69kV Transmission Lines	)	Case No. 2026-00184
And Associated Transmission Grid Upgrades In Pike	)	
County, Kentucky (Breaks-Dorton Project)	)	

APPLICATION

Kentucky Power Company (“Kentucky Power” or the “Company”) applies to the Public Service Commission of Kentucky (“Commission”) pursuant to KRS 278.020(1), 807 KAR 5:001, Section 15, and all other applicable statutes and regulations, for an order granting a certificate of public convenience and necessity (“CPCN”) authorizing the Company to expand and upgrade portions of the Breaks – Dorton electric transmission grid located primarily in Pike County, Kentucky (the “Proposed Project”), as described in more detail in this Application.

The Company’s compliance with requirements of KRS 278.020, 807 KAR 5:001, Section 14 and 807 KAR 5:001, Section 15 is detailed in **EXHIBIT 1** to the Application.

The Company states the following in support of its Application:

Applicant

1. **Name and Address:** The Applicant’s full name and post office address is: Kentucky Power Company, 1645 Winchester Avenue, Ashland, Kentucky 41101. The Company’s electronic mail address is: Kentucky_regulatory_services@aep.com.

2. **Incorporation:** Kentucky Power is a corporation organized on July 21, 1919 under the laws of the Commonwealth of Kentucky. The Company is currently in good standing in Kentucky.¹

3. **Business:** Kentucky Power is a public utility principally engaged in the provision of electricity to Kentucky consumers. The Company generates and purchases electricity that it distributes and sells at retail to approximately 162,000 customers located in all, or portions of, the Counties of Boyd, Breathitt, Carter, Clay, Elliott, Floyd, Greenup, Johnson, Knott, Lawrence, Leslie, Letcher, Lewis, Magoffin, Martin, Morgan, Owsley, Perry, Pike, and Rowan.

Background

4. Kentucky Power's existing Breaks – Dorton 46kV circuit transmission lines were originally installed in the 1960's. The current transmission line totals approximately 26 miles and serves 4,600 Kentucky Power customers, including a customer that receives service at a transmission level served from Pike 29, which is located on the line.

5. The Henry Clay – Elkhorn City 46kV line (Elkhorn City was rebuilt as Breaks), Elwood – Henry Clay 46kV line, and Henry Clay – Dorton 46kV line all make up the Breaks – Dorton – Elwood 46kV circuit. The current structure types are comprised of wooden structures and are showing age-related wear. The circuit currently utilizes 46kV vintage 1960 transmission lines.

6. The existing Breaks Substation was originally built in approximately 2016 and is located in Elkhorn City, Kentucky. The Breaks Substation sits along Kentucky Route 80 and

¹ A certified copy of the Company's Articles of Incorporation and all amendments thereto was attached to the Joint Application in *In the Matter Of: The Joint Application Of Kentucky Power Company, American Electric Power Company, Inc. And Central And South West Corporation regarding A Proposed Merger*, P.S.C. Case No. 99-149. The Company's September 8, 2026 Certificate of Existence is filed as **EXHIBIT 2** to the Application.

consists of a single 69/46/12kV yard with three sub-transmission lines, a power transformer, and two distribution circuits.

7. The existing Dorton Substation was originally built in approximately 1987 and is located in Jenkins, Kentucky in Letcher County. The Dorton Substation sits along Kentucky Route 805 and consists of a single 138/46kV yard with three 138kV transmission lines, one power transformer, and two 46kV sub-transmission circuits.

8. The existing Burdine Substation was originally built in 1999 and is located in Letcher County, Kentucky. The Burdine Substation consists of a single 46/12kV yard with one 46kV sub-transmission line, a power transformer, and two 12kV distribution circuits.

9. The existing Henry Clay Substation, and its associated Henry Clay Switching Station, was originally built in 1987 and are located in Pike County, Kentucky. The Henry Clay Substation consists of one 46/34.5kV yard. The yard is in a narrow, constrained space across from KY Route 195/Marrowbone Creek Road and is approximately 0.8 miles southwest of Lookout, Kentucky (see **EXHIBIT 4**). The Henry Clay Substation and its associated Switching Station consists of consist of one three-way 46kV phase-over-phase switching pole, one 46kV two-way phase-over-phase switching pole, one 46/34.5kV yard with three 46kV sub-transmission lines, two 34.5kV sub-transmission lines, a 46/34.5kV power transformer, a 69kV capacitor bank (operated at 46kV), a 69kV capacitor bank circuit switcher, and two 34.5kV circuit breakers.

10. The existing Elwood Substation was originally built in 1929 and is located in Ellwood, Kentucky. The Elwood Substation consists of a single 46/34.5kV yard with three 46kV sub-transmission lines, two 34.5kV sub-transmission lines, a 46/34.5kV power transformer, and a 69kV capacitor bank (operated at 46kV).

11. The existing Draffin Substation was originally built in 1999 and is located in Pike County, Kentucky. The Draffin Substation consists of two 46kV sub-transmission lines, two 12kV distribution lines, a 46/12kV power transformer, and a three-way 46kV phase-over-phase switching pole. The Draffin Substation will be replaced by a new Ratliff Substation, as further described in this Application.

12. In the 2027 PJM Sub-Regional Winter Regional Transmission Expansion Plan (RTEP) case, it was determined that voltage magnitude and drop violations were likely under multiple N-1-1 contingency scenarios.² Over the last five years, the transmission line has experienced outages and service interruption to Kentucky Power customers.

The Proposed Project

13. The Proposed Project is predominately located in Pike County, Kentucky. Small portions of the Proposed Project is located in Letcher County, Kentucky.

² An N-1-1 energy loss refers to the loss of load, generation, or transfer capability resulting from a contingency scenario in which one system component is already out of service and a second component also fails, causing a reduction in the amount of energy that can be reliably delivered by the power system.

14. The Proposed Project consists of the following scopes of work to address the baseline and asset renewal needs. Specifically, the Proposed Project will:

- Rebuild the Breaks – Dorton 46kV line section to 69kV standards.
- Rebuild the Henry Clay Substation to 69kV standards.
- Retire the Draffin Substation and replace it with the greenfield Ratliff Substation.
- Retire approximately six miles of 46kV lines between the Henry Clay Substation and the Elwood Substation. A new right of way will be used to shorten the line mileage between the stations.
- Convert the line between the Dorton Substation and the Burdine Substation to 69kV.
- Convert the Burdine Substation to 69kV by replacing the distribution bank at the Burdine Substation.

15. The Proposed Project will retire approximately 26 miles of existing 46kV transmission lines and the Draffin Substation, and upgrade approximately 18 miles of obsolete and outdated 46kV transmission lines and associated substations to 69kV standards. Additionally, the Proposed Project will build a new Ratliff Substation in Pike County, Kentucky. The 18 mile upgrade portion includes rebuilding the Henry Clay – Elkhorn City 46kV transmission line between the Breaks Substation to the new Ratliff Substation, and the Henry Clay – Dorton 46kV transmission line between the Ratliff Substation, Henry Clay Substation.

16. The transmission line route proposed in this Application (the “Proposed Route”) exits the existing Breaks Substation for approximately .025 miles then rejoins the existing ROW, crossing Kentucky Route 3174/US460-E replacing existing structures K381-63A and K381-62A. Next, the Proposed Route turns in a more western way across KY-80 and the Russell Fork waterway as it continues towards the Ratliff Substation. At an ideal location on the southern side of the Ratliff Substation site, double-circuit design will be utilized for cross the Russell Fork into

the Ratliff Substation. Leaving the Ratliff Substation, the Proposed Route turns slightly south as it heads in a generally easterly direction crossing over Kentucky Route 3174 and tracks towards the existing Big Sandy – Broadford 765kV Line. From there, the Proposed Route crosses underneath the existing extra high voltage transmission line then makes a slight turn southward. At a location, generally parallel to Marrowbone Creek Road, double-circuit design will be utilized for connection into the expanded Henry Clay Substation. The double-circuit section will turn north and then west crossing Marrowbone Creek Road into the Henry Clay Substation. The single-circuit portion of the line turns south following generally parallel to Marrowbone Creek and an existing Kentucky West Virginia Gas pipeline for approximately 1.5 miles also crossing over Marrowbone Creek Road. From there, the Proposed Route turns due west, crossing Allegheny Road, rejoining the existing ROW for approximately 1.5 miles at existing structure K379-9. Where the existing line turns north, the Proposed Route maintains a western trajectory, although shifting slightly southward towards the existing Dorton Substation. The Proposed Route then approaches the existing Clinch River – Beaver Creek 138kV Transmission Line near structure K113-118, which will be raised to accommodate a new crossing of the Proposed Route underneath. Finally, the Proposed Route turns north and rejoins existing ROW at existing structure K379-35 and will rebuild along centerline into Dorton Substation, crossing Dorton Jenkins Highway. A detailed map of the Proposed Route is included as **EXHIBIT 4** to this Application.

17. The Proposed Project will be designed to 69kV standards and operate at 69kV. The proposed transmission lines will be primarily constructed on new greenfield routes from Breaks to Dorton, with some sections placed along the existing Henry Clay – Dorton centerline.

18. The new transmission lines will primarily comprise of galvanized pre-engineered steel pole structures, steel lattice towers, and custom galvanized steel monopoles. The detailed specifications of the proposed structures are included as **EXHIBIT 5** to this Application.

19. On the Henry Clay – Breaks line, the Proposed Project consists of removing 63 wooden structures across approximately 12 miles, including H-frames, single poles, and three pole structures and six steel structures.

20. On the Elwood – Henry Clay line, the Proposed Project consists of removing 28 wooden structures across approximately six miles. The removal includes H-frames, single poles, and three pole structures.

21. On the Henry Clay – Dorton line, the Proposed Project consists of removing 37 wooden structures across approximately nine miles. This includes removing H-frames, single poles, and three pole structures.

22. Twenty miles of transmission line between Dorton Substation and Breaks Substation will be rebuilt, energized, and operated at 69kV.

23. The Proposed Project will address the voltage magnitude and drop violations under N-1-1 contingency scenarios. Additionally, the proposed Project would address asset renewal needs on the Cedar Creek – Elwood 46kV and Breaks – Dorton – Elwood 46kV lines.

24. Kentucky Power will construct and own all of the components of the Proposed Project. The Company anticipates construction to take approximately 25 months, beginning in the fourth quarter of 2026. Work is anticipated to be completed by the end of the first quarter of 2029.

Need For The Project

25. The Proposed Project is necessary to provide adequate, reliable, and safe service to Kentucky Power Customers, and address baseline violations and asset renewal needs identified as part of the PJM RTEP process. The PJM Baseline Project Slides are included as **EXHIBIT 10**.

26. The Proposed Project will address two needs. First, the identified baseline violations of FERC 715 Reliability Standards. In the 2027 Winter RTEP case, PJM models were used to examine the system and it was determined that voltage magnitude and drop violations would be likely under multiple N-1-1 contingency scenarios. Specifically, the Cedar Creek – Elwood and the Breaks – Dorton – Elwood circuits would experience several voltage magnitude drop violations, causing customer outages and reliability issues. Second, the Proposed Project addresses asset renewal needs on the Cedar Creek – Elwood and Breaks – Dorton – Elwood lines, and retires approximately 26 miles of outdated and obsolete 46kV lines.

27. Prior to the baseline violations being identified, asset health concerns had been raised. The circuit, originally built in the 1960s, has shown signs of aging and poor performance. The Proposed Project converts the obsolete and outdated 46kV transmission lines to modern 69kV transmission lines, improving asset health.

28. The Proposed Project addresses the identified baseline violations in the most cost-effective, reasonable manner while also addressing identified supplemental needs. Information and documentation regarding the baseline violations and supplemental needs addressed by the Proposed Project is further detailed in the testimony of Company Witness Koehler and **EXHIBIT 10**.

PJM Review

29. The Baseline needs were identified through the PJM RTEP process as part of the 2021 RTEP analysis. It was determined that voltage magnitude and drop violations would be likely under multiple N-1-1 contingency scenarios. The Supplemental project need was reviewed with stakeholders at the Sub-Regional RTEP-Western meetings.

30. The Baseline project was reviewed at the October 14, 2022 and the November 18, 2022 Sub-Regional RTEP-Western meetings hosted by PJM. The Baseline identification number assigned by PJM is B3736.

31. The Proposed Project addresses the Baseline violations identified by PJM and supplemental needs described throughout this Application. Information and documentation regarding the Baseline violations addressed by the Project is further detailed in the testimony of Company Witness Koehler and **EXHIBIT 10**.

Estimated Project Cost

32. The total detailed estimate of the Proposed Project cost is approximately \$135.3 million.³ That sum comprises: (a) approximately \$79.7 million for transmission line work including ROW acquisition; (b) approximately \$29.4 million for construction and upgrade of the substations and switch structures; (c) approximately \$2.4 million for station removals; and (d) approximately \$23.7 million for transmission line removals. As of June 2026, Kentucky Power's assets, net of regulatory assets and deferred charges, totaled \$2.2 billion. The cost of the Proposed Project represents an increase of approximately six percent. Thus, the Proposed Project will not materially affect the financial condition of the Company.

³ Please note that the estimated total Proposed Project cost does not equal the sum of the estimated costs for the component categories due to rounding.

33. The cost of the Proposed Project will be allocated to the AEP East PJM zone based on a 12 CP allocation. Kentucky Power anticipates funding the Proposed Project through its operating cash flow and other internally generated funds. The Company will not issue new debt for the Proposed Project.

34. Kentucky Power estimates the annual operating cost will be approximately \$166,000 for general maintenance and inspection. The projected additional annual ad valorem taxes resulting from the Proposed Project are expected to total approximately \$1.7 million.

The Siting Study

35. POWER Engineers, Inc. (“POWER”) was retained by Kentucky Power to identify and evaluate transmission line routes and to prepare the Siting Study for the Proposed Project. In doing so, POWER worked closely with Kentucky Power employees and other consultants retained by, or on behalf of, Kentucky Power to support the route development and public involvement process. The Siting Study for the Breaks – Dorton Project is attached as **EXHIBIT 7** to this Application.

36. The primary purpose of the Siting Study is to identify routes for the proposed transmission line that enable Kentucky Power to engineer, construct, operate, and maintain the line, while maximizing environmental and land-use impacts. The Siting Study defines the Proposed Project’s study area between substation endpoints, evaluates existing ROW conditions considers the environmental and land use constraints and opportunity features identified within the study area, documents the siting methodology and guidelines, documents public involvement, provides an evaluation of alternative routes, and aids in selection of a proposed route. The Siting Study is included as **EXHIBIT 7** to this Application.

37. The Siting Team developed a series of study segments based on the routing concepts and defined general and technical guidelines that were revised removed, or added as the siting process evolved. Study Segments developed between the Dorton and Breaks Substations generally avoid new impacts to clustered residential development, investigate the re-use of existing ROW, utilize spanning from ridgetop to ridgetop, and avoid landslide-prone areas. A total of 41 study segments were developed between the Dorton and Breaks Substations that were presented to the public through an in-person open house and project website.

38. As a result of landowner input, Study Segments 6, 7, and 8 were dismissed due to landowner comments indicating future development plans and an associated private airstrip. Numerous other study segments were dismissed after initial stakeholder and landowner input was collected. Ultimately, Route Option D (Study Segment 39), Route Option E (Study Segments 39, 22, and 28), and Route B (Study Segment 9) were selected within Focus Area 1, 2, and 3, respectively (Study Segment 39). Cumulatively, the Proposed Route is comprised of Study Segments (in order of location from Breaks Substation to Dorton Substation): 1, 2, 3, 5, 40, 36, 8A, 9, 11, 13E, 12, 41, 22, 28, 39, and 35. A detailed map showing the initial Route is shown in **Attachment H** of **EXHIBIT 7** (Siting Study) to this Application.

39. The Proposed Route has been modified since it was publicly announced. The modification shifts a portion of the Proposed Route approximately 1,500 feet to the east, immediately south of the Ratliff Substation, and includes the adjustment of certain structures. This adjustment affects additional landowners. All affected landowners were engaged and are aware of the Proposed Project. Further information detailing the modification of the Proposed Route is provided in the testimony of Company Witness Hartje.

40. The Proposed Route was selected through a systematic evaluation of study segments and alternative routes conducted by the Siting Team as part of the Siting Study. The Siting Team development and evaluated study segments and alternative routes as part of the Siting Study and to select the Proposed Route. The methodology employed by the Siting Team is described in detail in the Siting Study and Siting Study Addendums, attached as **EXHIBIT 7** to this Application.

41. A detailed qualitative and quantitative analysis supporting this selection is provided in Section 9.0 of the Siting Study (**EXHIBIT 7**). A detailed map of the Proposed Route is included as **EXHIBIT 4** to this Application.

Project Alternatives

42. The Company developed a holistic electrical alternative to the Proposed Project that provides similar benefits, which is described as Alternative in **EXHIBIT 13**.

43. During the planning process, there was an early dismissed option to install a 9.6 MVAR 46kV Capacitor Bank at the Dorton Substation. This Capacitor Bank would have been served from the 46kV Bus and required the Company to install a 12.9 MVAR Capacitor Bank at Cedar Creek Substation 46kV Bus. However, this option did not address any supplemental needs and only addressed and bare minimum baseline violations. Alternatively, the Company developed a design that would:

- Rebuild approximately 26 miles Dorton – Breaks – Elwood 46kV line in the clear.
- Replace switch structures at Henry Clay Switching Station, Henry Clay Substation, Draffin Substation, and Pike 29 Substation.
- Install a 7.7 MVAR capacitor bank, and circuit switcher on the 46kV bus at Dorton Substation.
- Rehab approximately three miles portion of the Cedar Creek – Elwood 46kV transmission line and keep Pike 29 customer on the 46kV service.

- Serve the Pike 29 customer radially from via Henry Clay Switching Station.

However, this alternative is not a complete solution and keeps the 46kV service. In line with industry standards, 46kV is a voltage level that the Company no longer sources or designs to. Future 69kV conversion would be necessary and incur further costs for 69kV conversion. Please see **EXHIBIT 15** for a map showing the alternative solution's route.

44. The total estimated cost for the Alternative is approximately \$159.4 million, which is more than the Proposed Project. However, this is only part of the current cost as the Alternative would require future conversion.

The Proposed Construction Is Required By The Public Convenience and Necessity

45. The Proposed Project is required by public convenience and necessity.

46. The Proposed Project will not produce wasteful duplication as it is the least-cost, most reasonable solution.

47. The Proposed Project does not duplicate any existing facilities and will not result in an excess of capacity over need. Additionally, the Proposed Project does not represent an excess of investment in relation to the productivity and efficiencies to be gained.

48. The Proposed Project addresses identified voltage and magnitude and voltage drop violations, and updates outdated and obsolete infrastructure.

49. The Proposed Project is the most cost-effective solution that meets all identified system needs. The Proposed Project updates and replaces existing infrastructure where practicable thereby minimizing siting and environmental challenges. The alternative solution studied by Kentucky Power provides only incomplete solutions, or fails to provide the full benefits, compared to the Proposed Project.

50. There are no like electric utility facilities in the area. The Proposed Project is located entirely within Kentucky Power's certified territory and will not compete with any public utilities, corporations, or persons.

Real Property And Right-Of-Way

51. Generally, the total right-of-way ("ROW") for the Proposed Project is 100 feet (or 50 feet on either side of the centerline). The ROW will consist of new, supplemental, or existing easements. For longer line spans, additional ROW will be required to account for conductor sway. Constructability issues, access requirements, and conditions that are not evident until final engineering or that arise as a result of landowner negotiations may require Kentucky Power to place the centerline and adjacent ROW outside of the ROW indicated in **EXHIBIT 4**. Areas where the transmission line will be rebuilt within the existing ROW are subject to existing easements.

52. Consistent with the guidance provided by the Commission's April 13, 2022 Order in Case No. 2021-00346, its September 22, 2022 Order in Case No. 2022-00118, and its October 6, 2023 Order in Case No. 2023-00040, the Company seeks authority to relocate the centerline and associated ROW up to 100 feet in any direction (or 200 feet total) from the location as shown on the maps filed with the Application if required to address these conditions or issues. If the Company determines that it is necessary to move the centerline, the Company will file a notice in this proceeding. The notice will identify the new location of the centerline, the affected landowner(s), and state the need for the modification of the centerline. Kentucky Power will serve the notice to move the centerline on any affected landowner(s), even if not a party to this proceeding.

53. Upon completion of the Proposed Project, Kentucky Power will file an as-built plan showing the final location of the transmission line and structures with the Commission.

Commencement And Completion Of Work

54. The Proposed Project's construction will take approximately 28 months. The Company anticipates beginning construction on the Proposed Project during the fourth quarter of 2026, depending on the outcome and timing of this proceeding. The Proposed Project's in-service date is the third quarter of 2028. Construction will continue after the in-service date for removal and retirement activities. Work is anticipated to conclude in the first quarter of 2029. The planned in-service date sequence is as follows:

- 4th Quarter 2026: Anticipated start of construction;
- 3rd Quarter 2028: Proposed Project placed in-service; and
- 1st Quarter 2029: Construction complete.

Notices

55. Kentucky Power provided notice to persons owning property crossed by or adjacent to the route for the Proposed Project. The Company's notice included the expanding ROW, as further described in Company Witness Kahn's Testimony. The full details of the Company's efforts to engage all landowners within or adjacent to the Proposed Project is further described in Company Hartje's testimony and the Siting Study, included as **EXHIBIT 7** to this Application.

56. Landowner notices for the Proposed Route was mailed on December 9, 2024. A list of affected landowners, along with the materials sent to those landowners, are included as **EXHIBIT 8** to this Application.

57. Kentucky Power, by a first-class mailing made on November 17, 2025, provided notice in a form substantially similar to that otherwise required by 807 KAR 5:120, Section 2(3) to all property owners, as identified by the records of the property valuation administrator of Pike County, Kentucky, whose property lies within, intersects with, or is adjacent to, the Proposed Route and filing corridor of the Proposed Project (the "Affected Landowners"). The full details

of the Company's efforts to engage all landowners within or adjacent to the Proposed Route is further described in Company Witness Kahn's testimony.

Franchises and Permits

58. The Company completed bat studies, conducted archeological and architectural studies, and a Waters of the United States evaluation for wetlands and streams. No significant findings were present. The Company also completed archeological and architectural surveys and are awaiting concurrence from their respective agencies.

59. The Ratliff Substation and related feeding transmission line component will require a permit from the United States Army Corps of Engineers ("Corps") under Section 10 of the Rivers and Harbors Act. The Company will also seek coverage from the Corps under Nationwide Permit 57. In addition, the Company will seek coverage from the Kentucky Division of Water under the General Permit for Stormwater Discharges Associated with Construction Activities (KPDES Permit KYR100000) and obtain a floodplain permit for the Ratliff station crossing.

60. The Company does not anticipate that the Proposed Project will affect any federally- or state-protected species.

Communications

61. Kentucky Power respectfully requests that communications in this matter be addressed to the e-mail address identified on Kentucky Power's July 7, 2026 Notice of Election of Use of Electronic Filing Procedures.

WHEREFORE, Kentucky Power Company respectfully requests the Commission issue an Order:

(1) Granting Kentucky Power a certificate of public convenience and necessity for the Proposed Project authorizing Kentucky Power to:

- (a) Rebuild Dorton Substation – Breaks Substation 46kV transmission line section to 60kV standards;
- (b) Rebuild Henry Clay Substation to 69kV standards;
- (c) Retire the Draffin Substation and replace it with greenfield Ratliff Substation;
- (d) Retire approximately six miles of 46kV transmission lines between the Henry Clay Substation and Elwood Substation. A new right-of-way (“ROW”) will be used to shorten the line mileage between the stations;
- (e) Convert the transmission line between the Dorton Substation and Burdine Substation to 69kV; and
- (f) Convert the Burdine Substation to 69kV by replacing the distribution bank at the Burdine Substation.

(2) Granting Kentucky Power such other relief as may be appropriate.

Respectfully submitted,



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COUNSEL FOR KENTUCKY POWER
COMPANY

EXHIBIT 1

Breaks-Dorton Application Filing Requirements Checklist

Requirement	Description of Requirement	Location(s) in Filing
<i>General Application Requirements</i>		
807 KAR 5:001		
Section 7(1)	The application and 10 copies.	Company is e-filing.
Section 4(3)	Paper signed by submitting party or attorney.	Application at p. 17.
Section 4(3)	Name, address, telephone number, fax number, and e-mail address of submitting party or attorney.	Application at p. 17.
Section 4(10)	Personal information must be redacted.	Complied.
Section 8(2)(a)	At least seven (7) days prior to the submission of its application, an applicant shall file written notice of its election to use electronic filing procedures using the Notice of Election of Use of Electronic Filing Procedures form.	Complied. Filed July 7, 2026.
Section 8(4)(b)	E-filed documents must be .pdf files that: • are searchable and optimized for internet viewing; • have bookmarks distinguishing sections; • if scanned material, be at resolution of 300 DPI.	Complied.
Section 8(5)(a)	Each electronic submission shall include an introductory file in portable document format that is named “Read1st” and that contains a general description of the filing.	Complied.
Section 8(5)(a)	Each electronic submission shall include an introductory file in portable document format that is named “Read1st” and that contains a list of all material to be filed in paper or physical medium but not included in the electronic submission, and a statement that the material in the electronic submission are a true representation of the materials in paper medium.	Complied.

Requirement	Description of Requirement	Location(s) in Filing
Section 8(5)(b)	The “Read1st” file and any other material that normally contains a signature shall contain a signature in the electronically submitted document.	Complied.
Section 14(1)	Full name, mailing address, and e-mail address of applicant.	Application at ¶ 1.
Section 14(1)	Facts on which application is based, with request for the order, authorization, permission, or certificate desired.	Application, introductory paragraph, <i>passim</i> ; Direct Testimony of Lerah Kahn; Direct Testimony of Nicolas C. Koehler; Direct Testimony of Caleb McAllister; Direct Testimony of Omar El-Safty; Direct Testimony of Emily Hartje.
Section 14(1)	A reference to the particular law requiring Commission approval.	Application at introductory paragraph.
Section 14(2)	If a corporation, the applicant shall identify in the application the state in which it is incorporated and the date of its incorporation, attest that it is currently in good standing in the state in which it is incorporated, and if it is not a Kentucky corporation, state if it is authorized to transact business in Kentucky.	Application at ¶ 2; Application Exhibit 2.
Section 14(3)	If a limited liability company, the applicant shall identify in the application the state in which it is organized and the date on which it was organized, attest that it is in good standing in the state in which it is organized, and, if it is not a Kentucky limited liability company, state if it is authorized to transact business in Kentucky.	N/A

Requirement	Description of Requirement	Location(s) in Filing
Section 14(4)	If the applicant is a limited partnership, a certified copy of its limited partnership agreement and all amendments, if any, shall be annexed to the application, or a written statement attesting that its partnership agreement and all amendments have been filed with the commission in a prior proceeding and referencing the case number of the prior proceeding.	N/A
Section 15(2)(a)	The facts relied upon to show that the proposed construction or extension is or will be required by public convenience or necessity.	Application at introductory paragraph, <i>passim</i> ; Application Exhibits 4-6, 10, 14; Direct Testimony of Lerah Kahn; Direct Testimony of Nicolas C. Koehler; Direct Testimony of Caleb McAllister; Direct Testimony of Omar El-Safty; Direct Testimony of Emily Hartje.
Section 15(2)(b)	Copies of franchise or permits, if any, from the proper public authority for the proposed construction or extension, if not previously filed with the Commission.	Application at ¶¶ 58-60 (describing anticipated permits)

Requirement	Description of Requirement	Location(s) in Filing
Section 15(2)(c)	A full description of the proposed location, route, or routes of the proposed construction or extension, including a description of the manner of the construction and the names of all public utilities, corporations, or persons with whom the proposed construction or extension is likely to compete.	Application at ¶¶ 13-24; Application Exhibits 4 & 5; Direct Testimony of Lerah Kahn; Direct Testimony of Nicolas C. Koehler; Direct Testimony of Caleb McAllister; Direct Testimony of Omar El-Safty; Direct Testimony of Emily Hartje.
Section 15(2)(d)(1)	One (1) copy in portable document format on electronic storage medium and two (2) copies in paper medium of: maps to suitable scale showing the location or route of the proposed construction or extension as well as the location to scale of like facilities owned by others located anywhere within the map area with adequate identification as to the ownership of the other facilities; and plans and specifications and drawings of the proposed plant, equipment, and facilities.	Application Exhibits 4, 5, 16.
Section 15(2)(d)(2)	One (1) copy in portable document format on electronic storage medium and two (2) copies in paper medium of: plans and specifications and drawings of the proposed plant, equipment, and facilities.	Application Exhibit 5.
Section 15(2)(e)	The manner in detail in which the applicant proposes to finance the proposed construction or extension.	Application at ¶¶ 32, 33; Direct Testimony of Lerah Kahn at pp. 9-11.
Section 15(2)(f)	An estimated annual cost of operation after the proposed facilities are placed into service.	Application at ¶ 34; Direct Testimony of Lerah Kahn at p. 10.

EXHIBIT 2

Commonwealth of Kentucky
Michael G. Adams, Secretary of State

Michael G. Adams
Secretary of State
P. O. Box 718
Frankfort, KY 40602-0718
(502) 564-3490
<http://www.sos.ky.gov>

Certificate of Existence

Authentication number: 378425
Visit <https://web.sos.ky.gov/ftshow/certvalidate.aspx> to authenticate this certificate.

I, Michael G. Adams, Secretary of State of the Commonwealth of Kentucky, do hereby certify that according to the records in the Office of the Secretary of State,

KENTUCKY POWER COMPANY

KENTUCKY POWER COMPANY is a corporation duly incorporated and existing under KRS Chapter 14A and KRS Chapter 271B, whose date of incorporation is July 21, 1919 and whose period of duration is perpetual.

I further certify that all fees and penalties owed to the Secretary of State have been paid; that Articles of Dissolution have not been filed; that the most recent annual report required by KRS 14A.6-010 has been delivered to the Secretary of State; and is therefore in good standing.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at Frankfort, Kentucky, this 8th day of September, 2026, in the 235th year of the Commonwealth.



Michael G. Adams

Michael G. Adams
Secretary of State
Commonwealth of Kentucky
378425/0028317

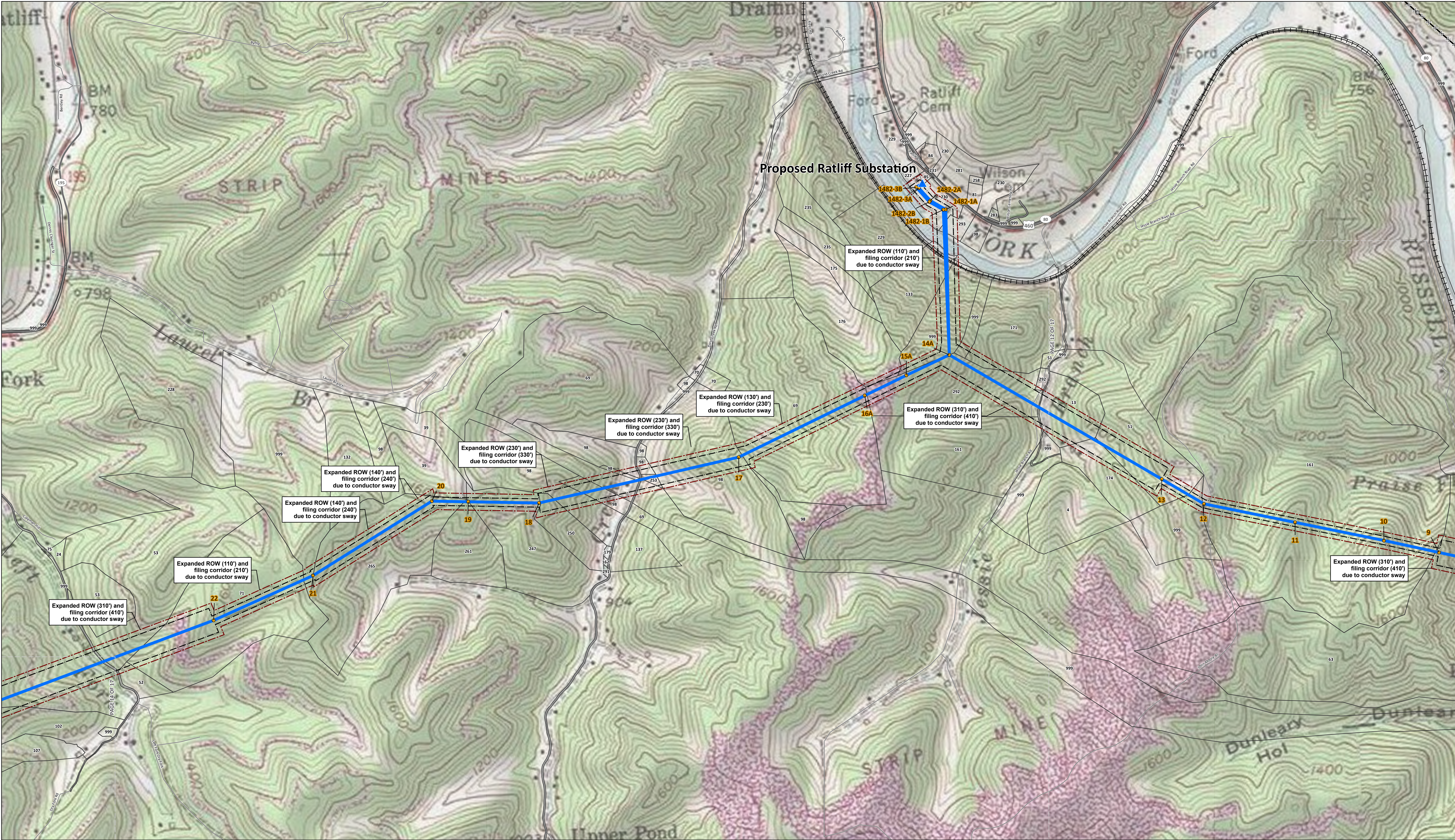
EXHIBIT 3

This Exhibit is a placeholder and is not required for this Application.

EXHIBIT 4



▲ Existing Substation (AEP) ● Proposed Structure □ Existing Structure (AEP) ■ Structure to be Removed (AEP) — Proposed Route ¹	--- Existing Transmission Line to be Removed (AEP) — Existing AEP Transmission Line (AEP) - - - Proposed 100-foot ROW ² - - - Proposed 200-foot Filing Corridor ²	□ Property Line Boundary with AEP Landowner ID ³ — Highway — Local Road +++ Railroad □ Map Tile	1) Transmission line route is preliminary and subject to change. Final line route and structure locations will be determined during final engineering, which includes ground surveys and geotechnical and environmental studies. 2) A typical 100-foot-wide right-of-way will generally be sited within an approximately 200-foot-wide corridor. The Company needs the flexibility to shift the centerline no more than 100 feet in either direction from the centerline as necessary after completion of final engineering, ground surveys, and additional discussions with landowners. In 30 locations, the filing corridor is expanded to no more than 470 feet due to conductor sway. 3) The PVA parcels are not based on an accurate ground survey and should not be construed or used as exact descriptions of legal boundaries.	 KENTUCKY POWER An AEP Company	Pike County, Kentucky 1 inch = 500 feet when printed at 24x36 0 500 1,000 1,500 Feet August 11, 2026		Exhibit 4: Proposed Route Breaks - Dorton Transmission Improvement Project
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▲

Proposed Substation (AEP)

●

Proposed Structure

■

Structure to be Removed (AEP)

—

Proposed Route ¹

—X—X—

Existing Transmission Line to be Removed (AEP)

—

Existing AEP Transmission Line (AEP)

- - - -

Proposed 100-foot ROW ²

- - - -

Proposed 200-foot Filing Corridor ²

Property Line Boundary with AEP Landowner ID ³

—

Highway

—

Local Road

++++

Railroad

- - - -

Map Tile

1) Transmission line route is preliminary and subject to change. Final line route and structure locations will be determined during final engineering, which includes ground surveys and geotechnical and environmental studies.

2) A typical 100-foot-wide right-of-way will generally be sited within an approximately 200-foot-wide corridor. The Company needs the flexibility to shift the centerline no more than 100 feet in either direction from the centerline as necessary after completion of final engineering, ground surveys, and additional discussions with landowners. In 30 locations, the filing corridor is expanded to no more than 470 feet due to conductor sway.

3) The PVA parcels are not based on an accurate ground survey and should not be construed or used as exact descriptions of legal boundaries.

KENTUCKY

POWER

An AEP Company

Sheet 13 of 17

Pike County, Kentucky

1 inch = 500 feet
when printed at 24x36

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Feet

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August 11, 2026

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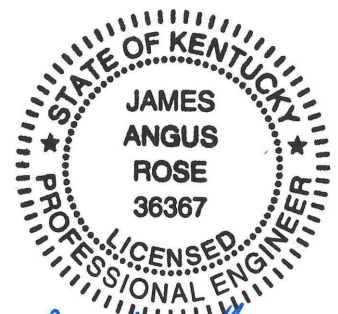
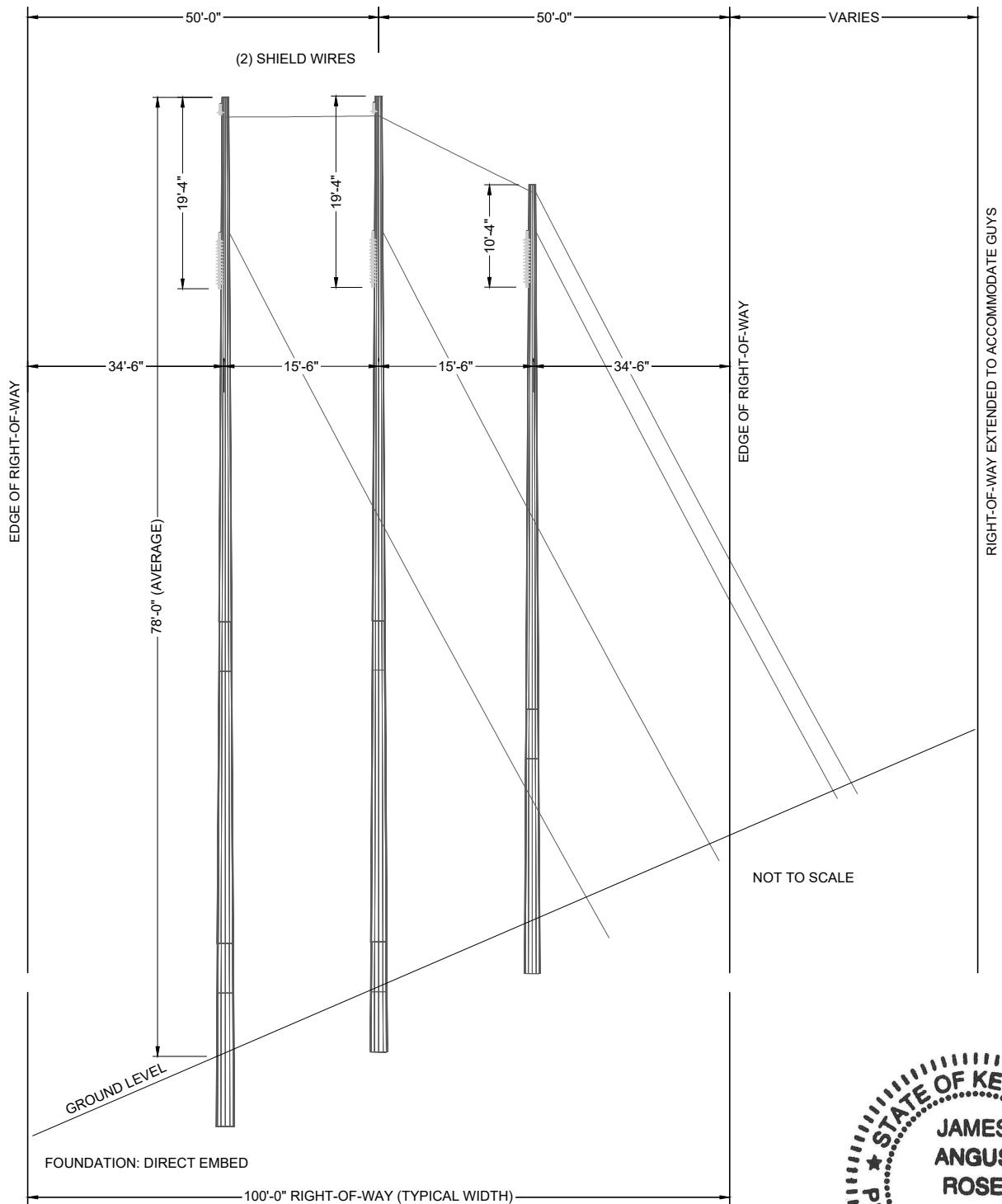
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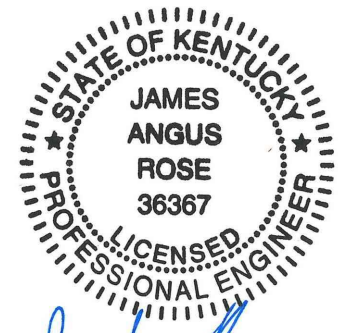
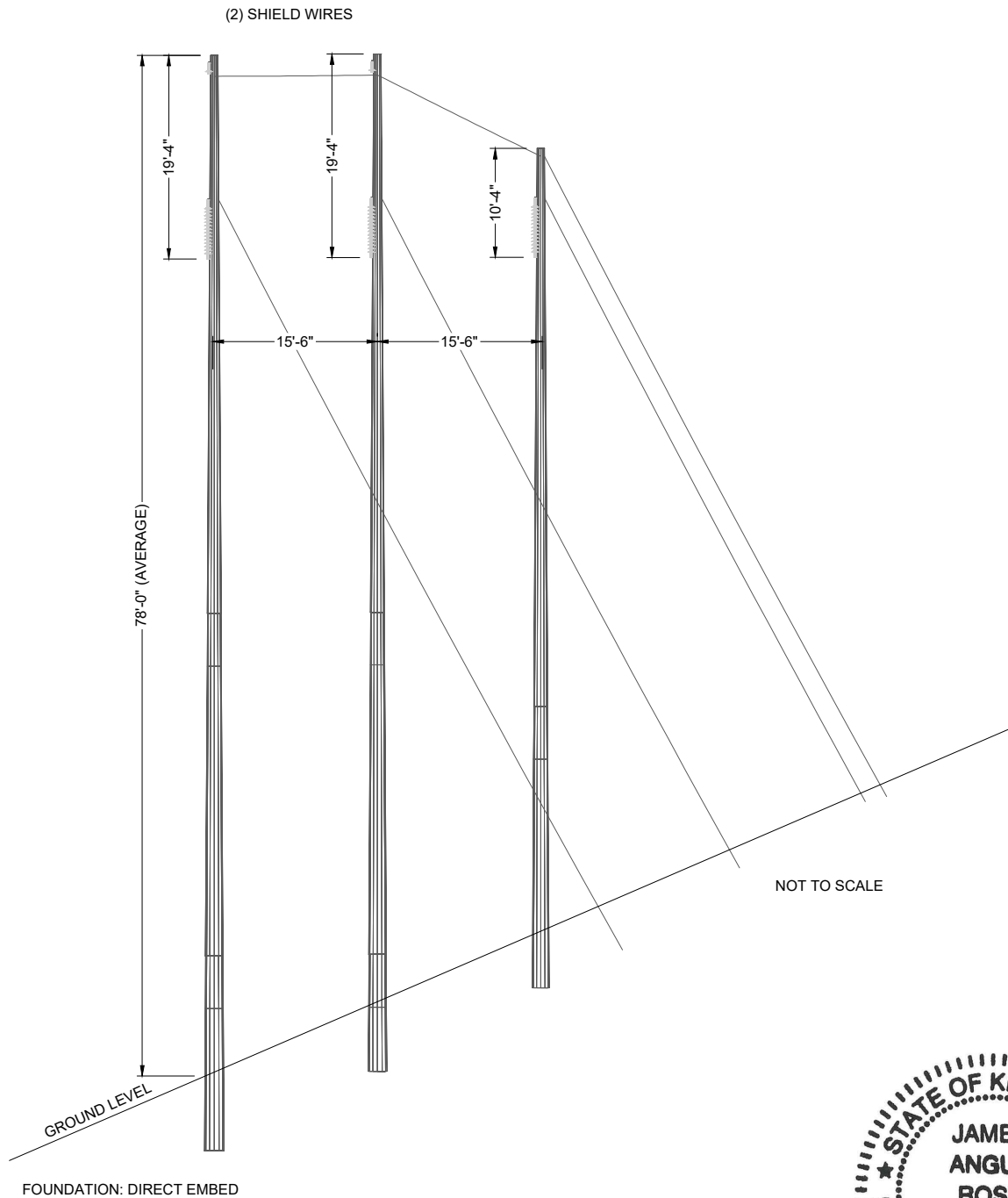
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Exhibit 4: Proposed Route

Breaks - Dorton
Transmission Improvement
Project

EXHIBIT 5

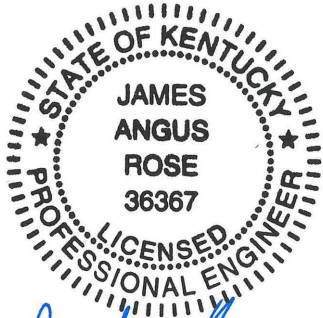
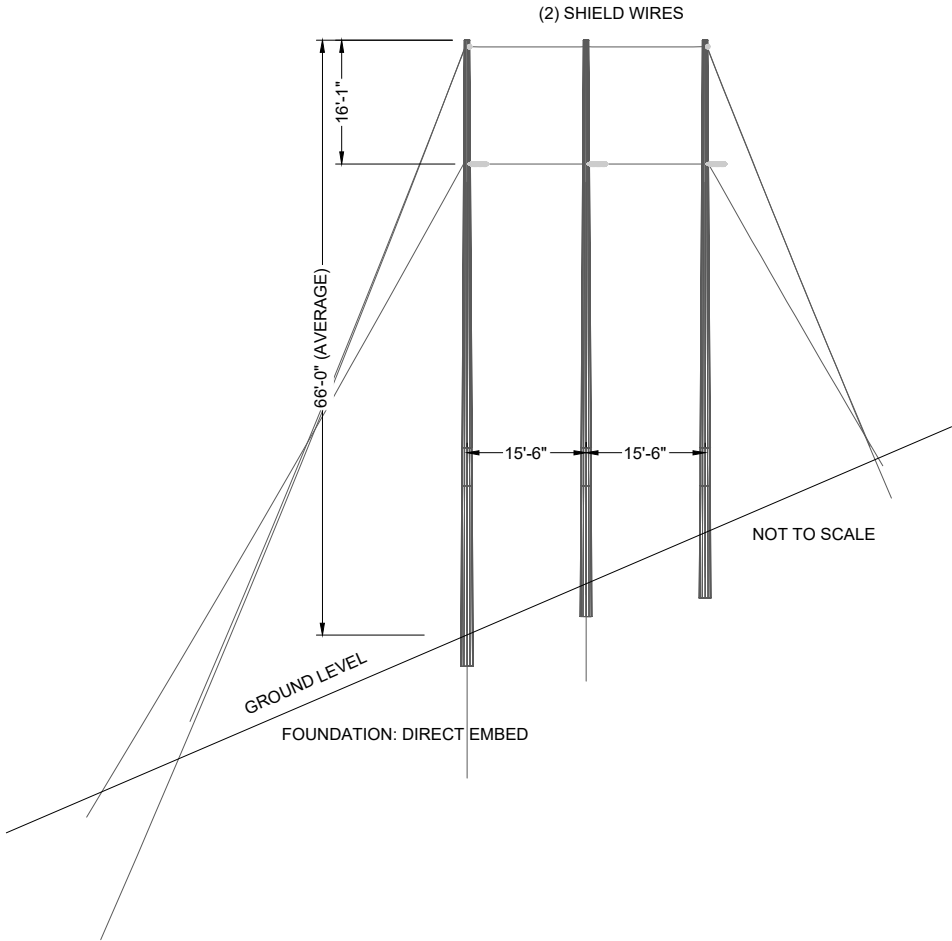




James Angus Rose



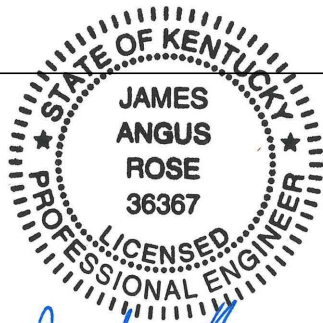
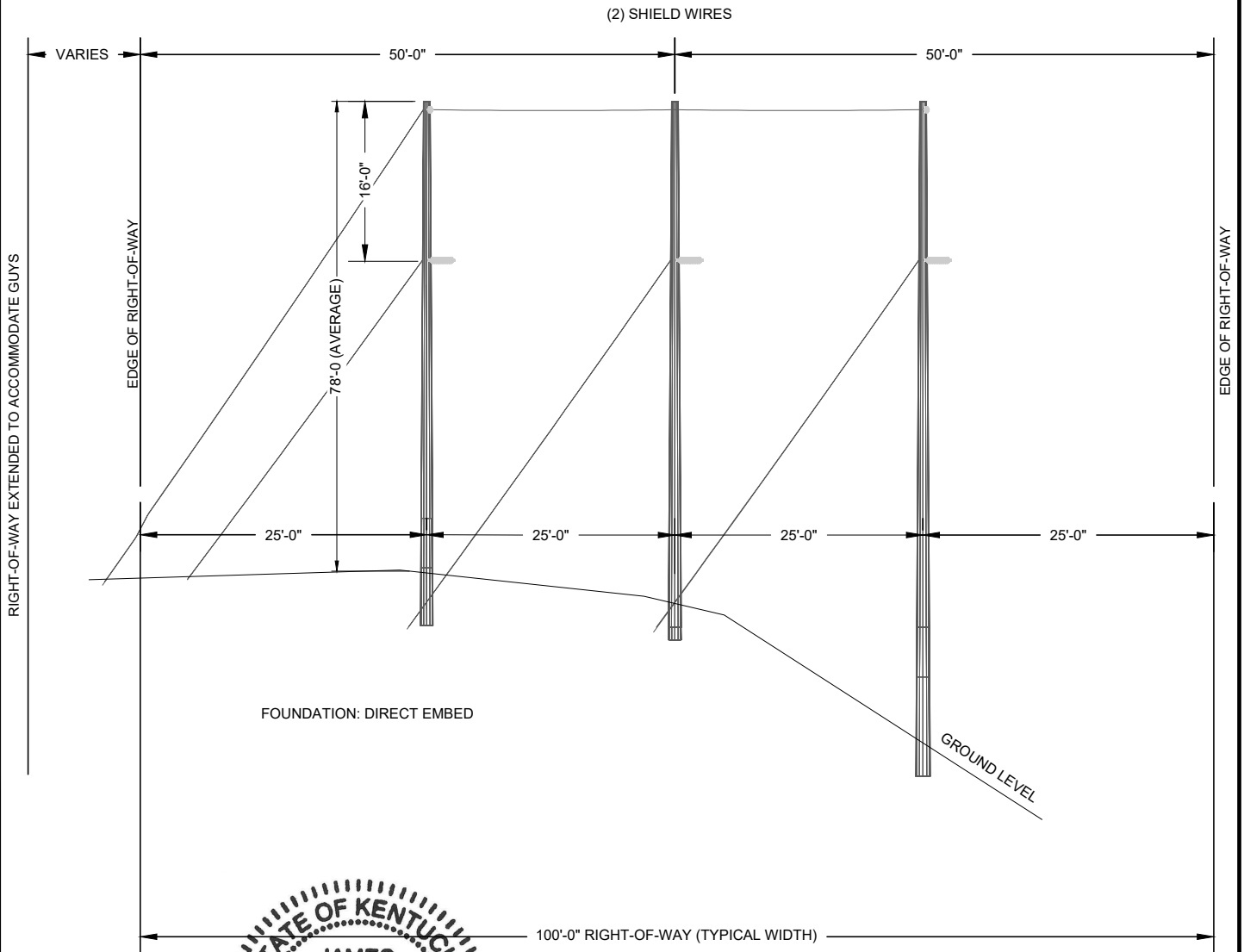
TYPICAL SCHEMATIC



A handwritten signature in blue ink, appearing to read "James Angus Rose".

TYPICAL SCHEMATIC

EXHIBIT X
PROPOSED 138kV TRANSMISSION STRUCTURES (PAGE 1 OF 2)
3-POLE HEAVY ANGLE SUSPENSION SINGLE CIRCUIT

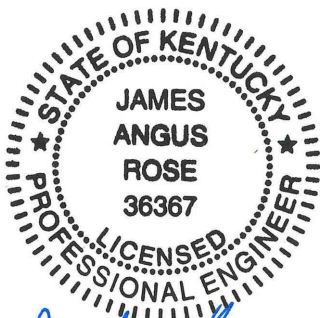
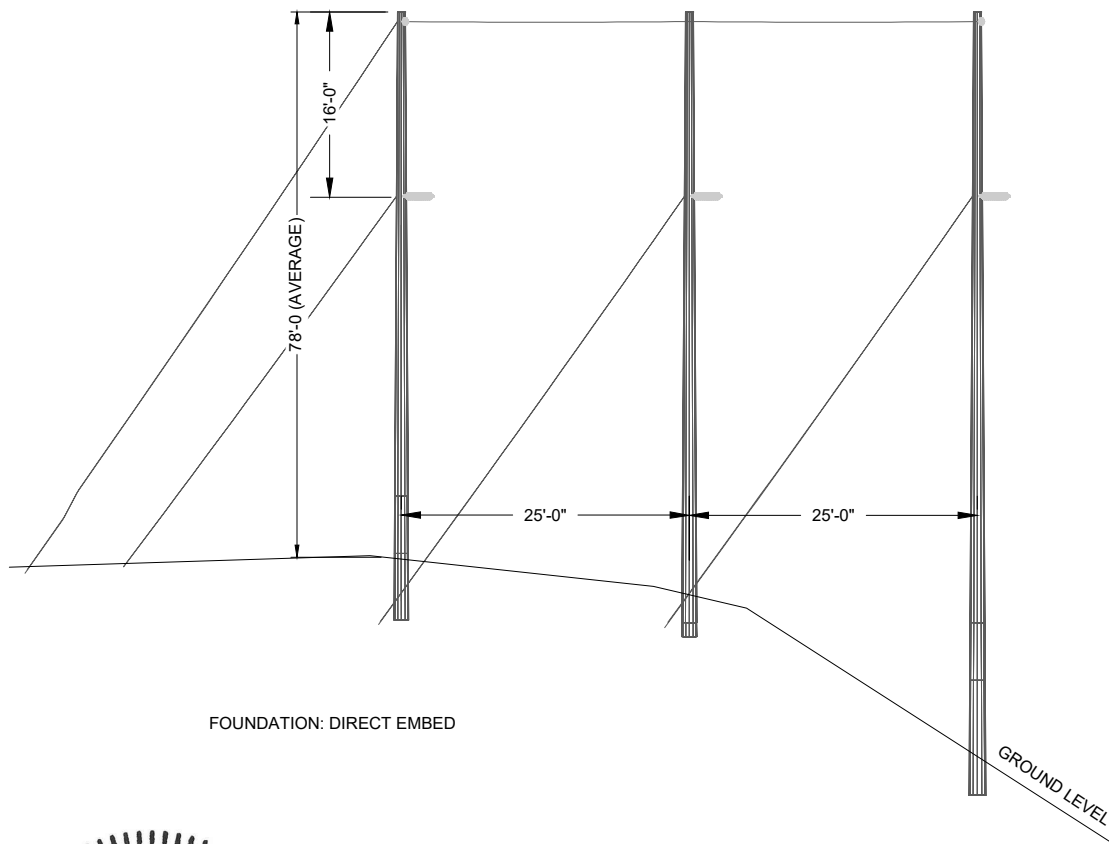


James Angus Rose

NOT TO SCALE

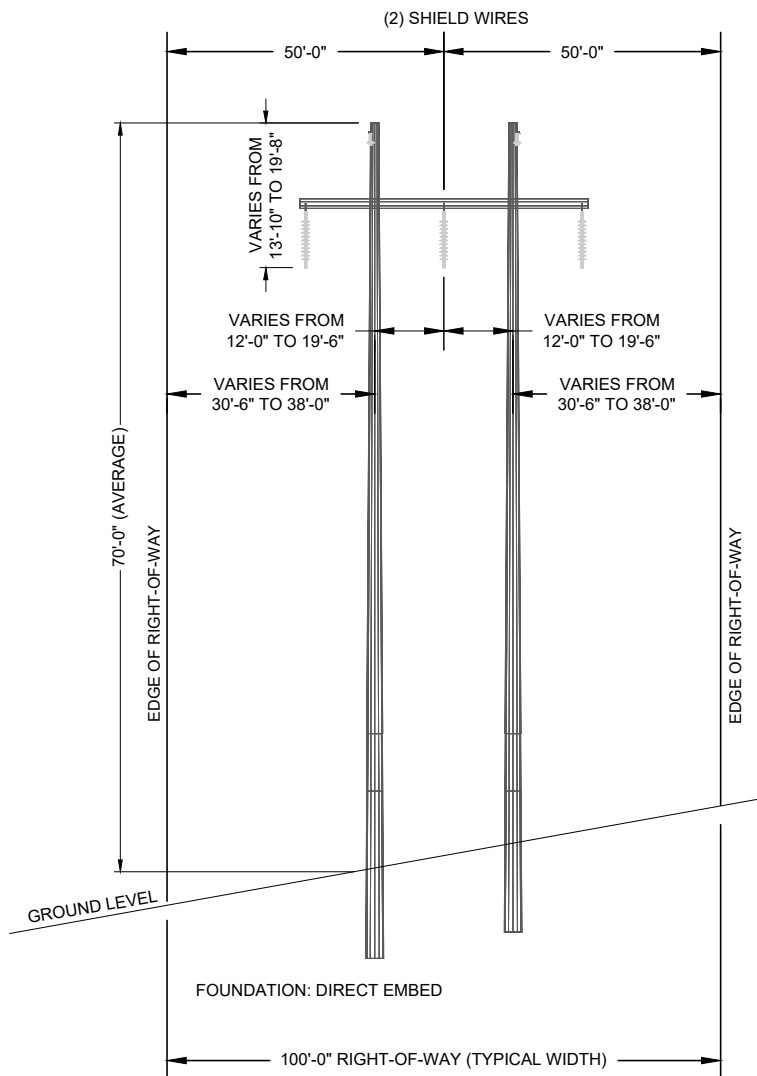
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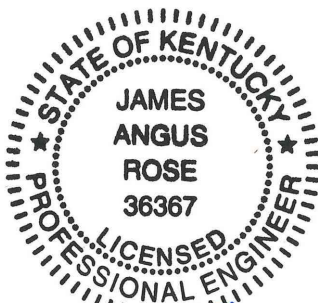


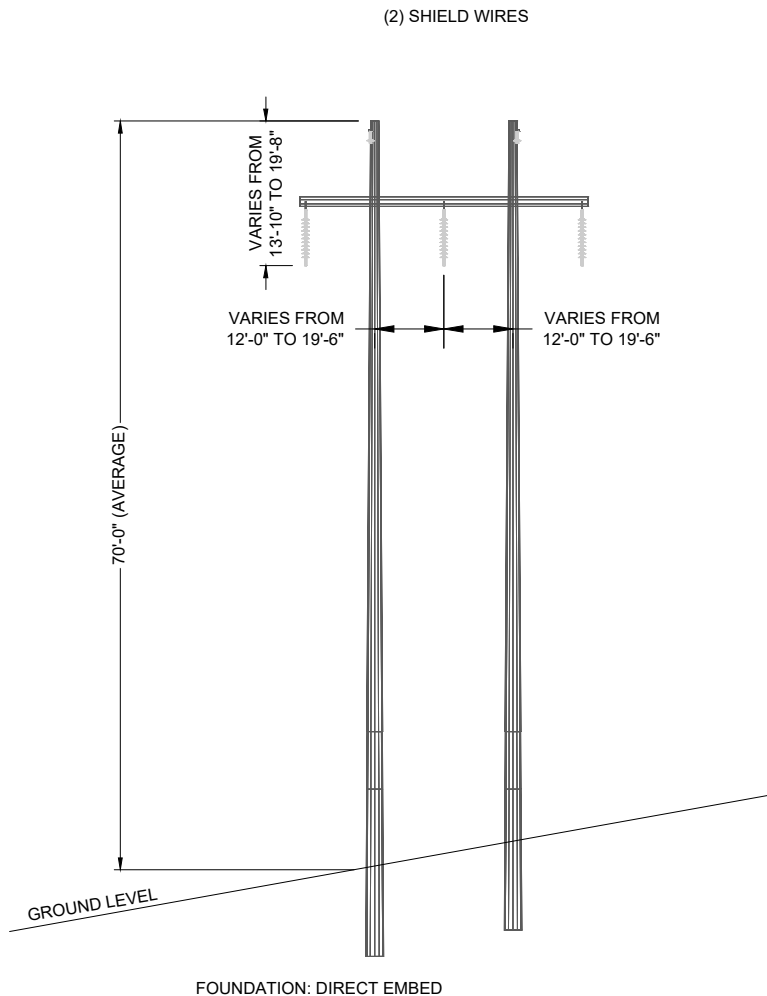
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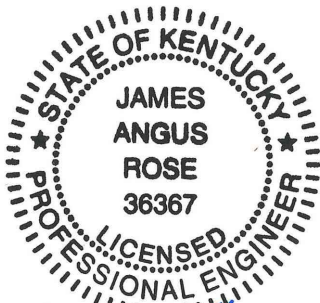


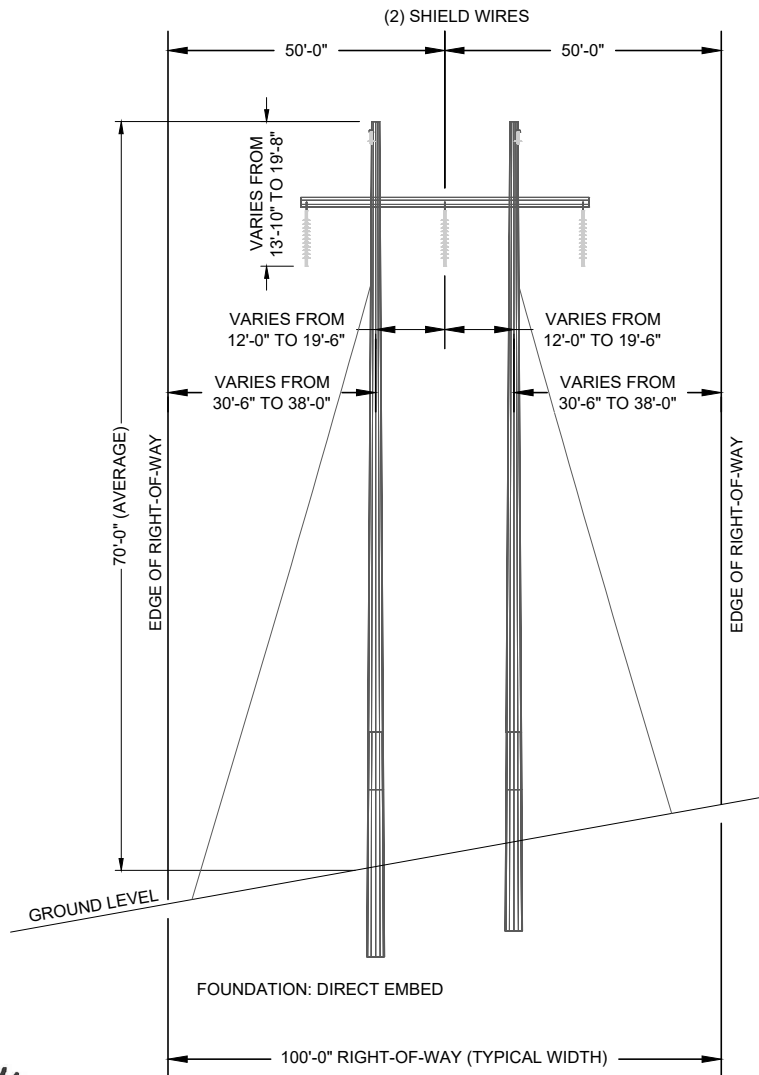
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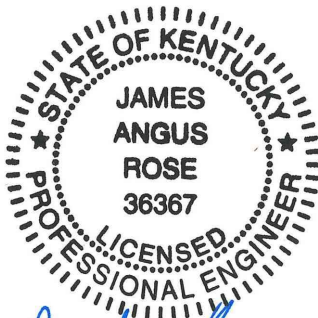


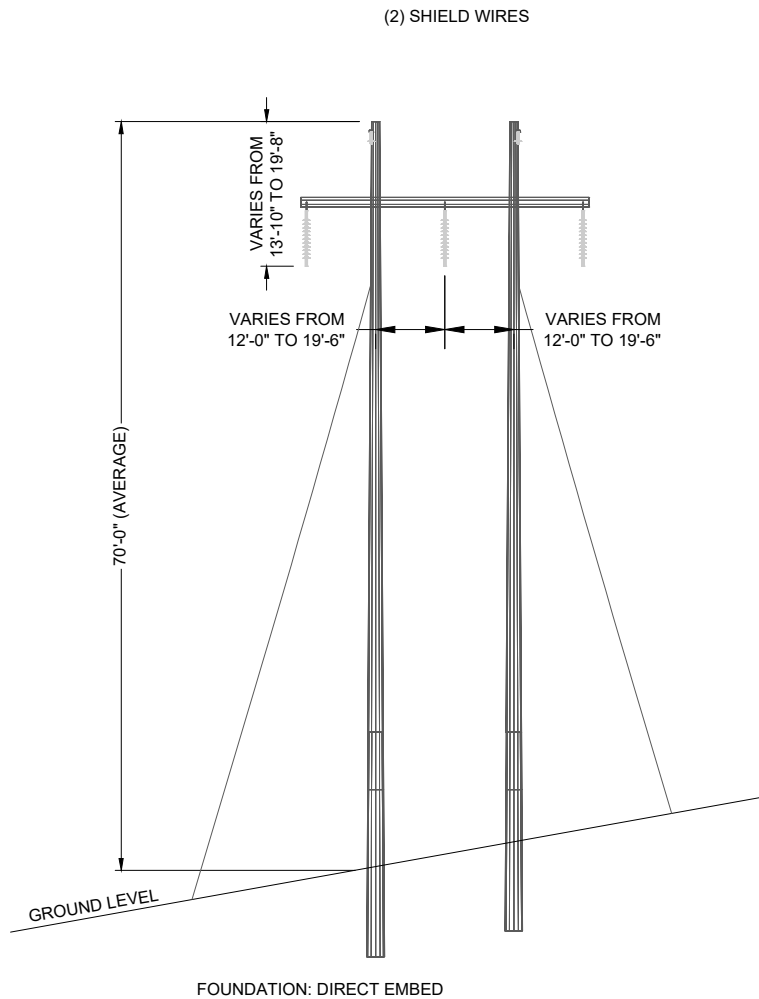
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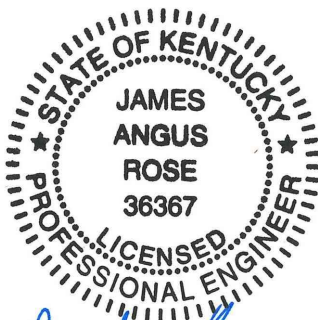


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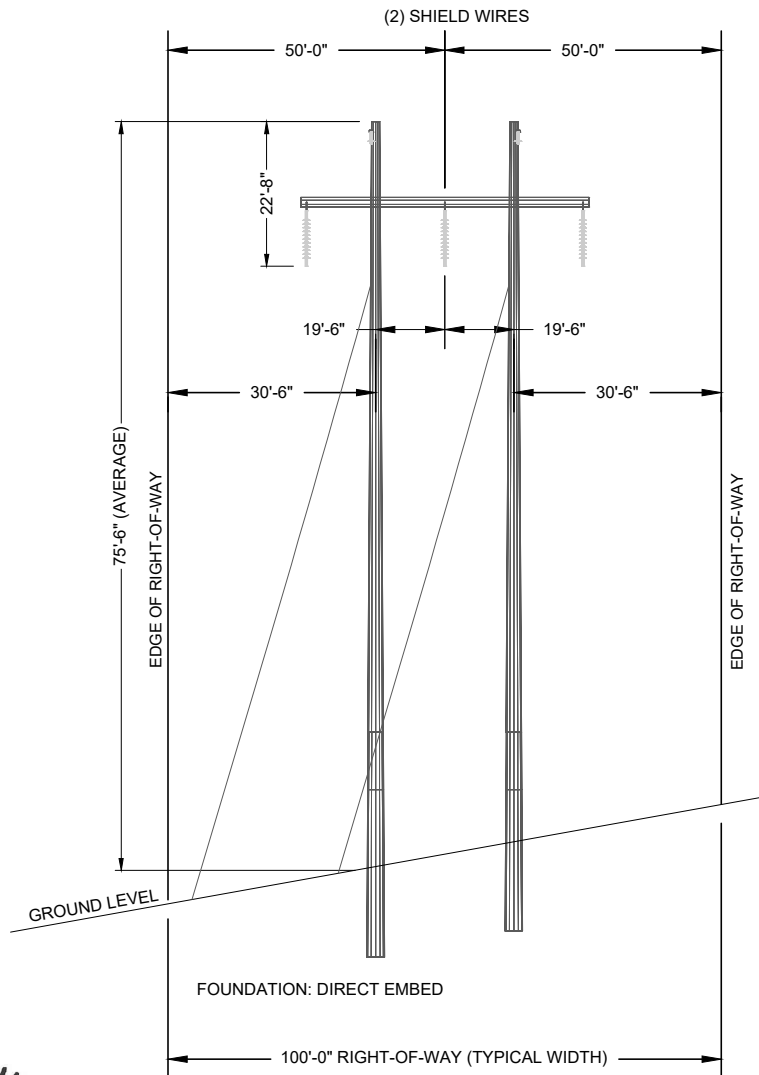




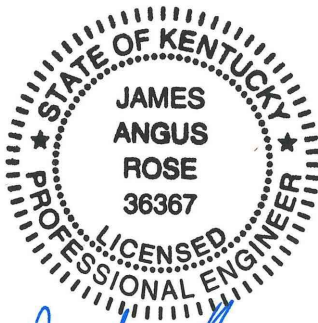
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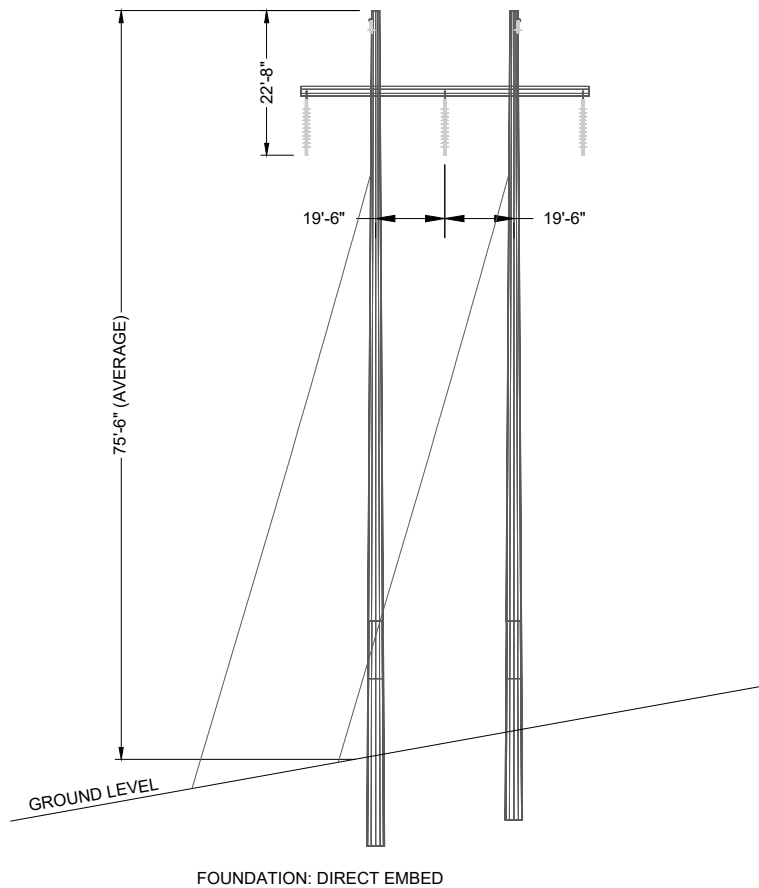
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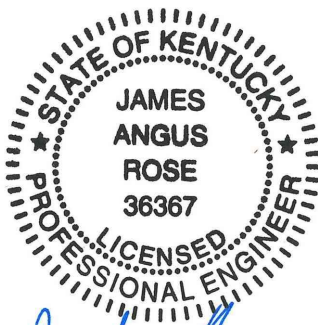
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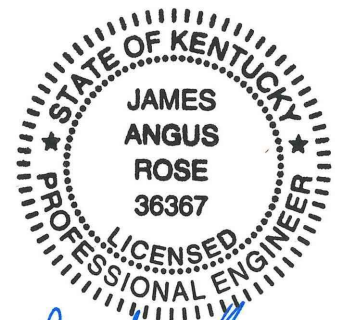
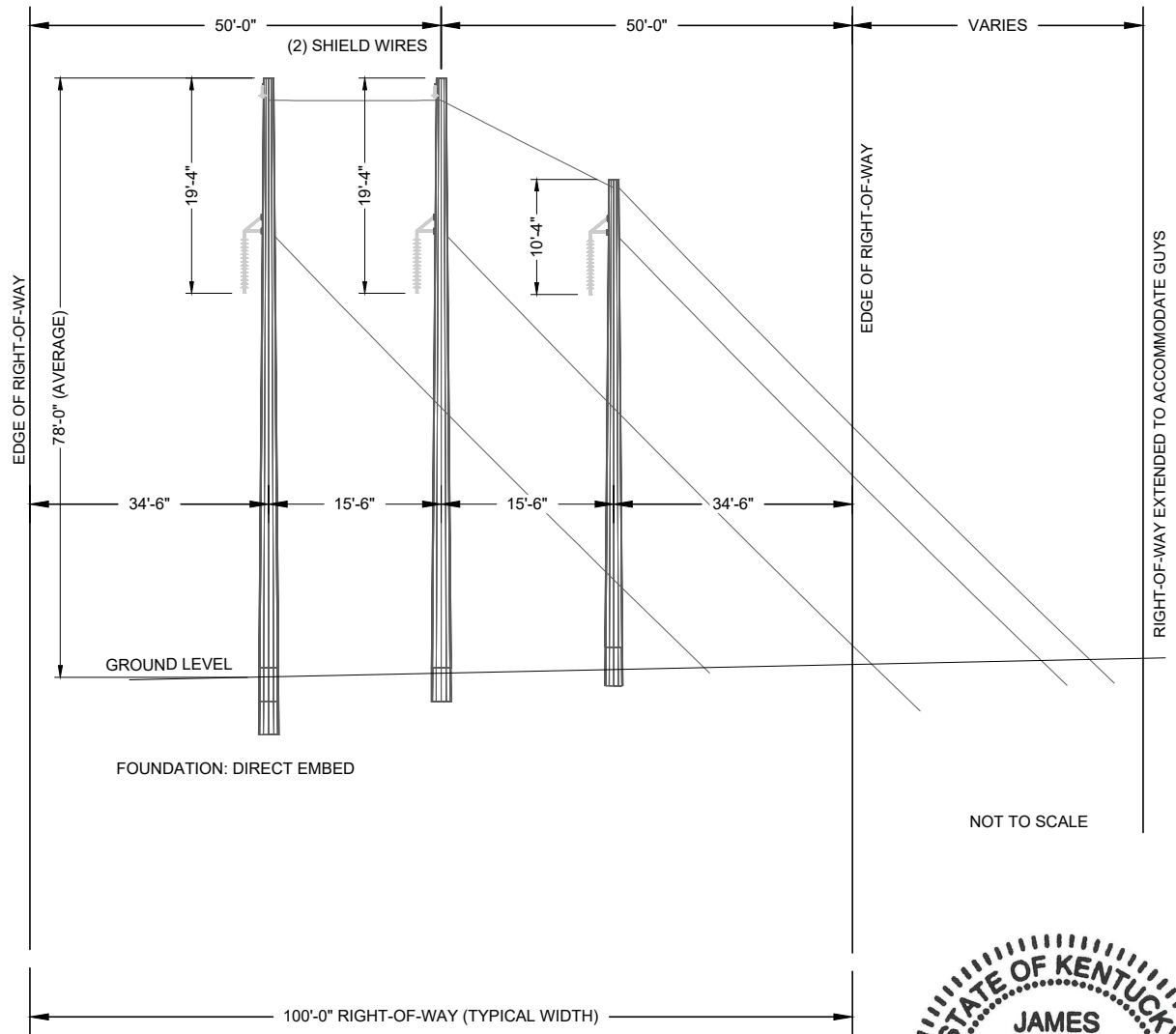
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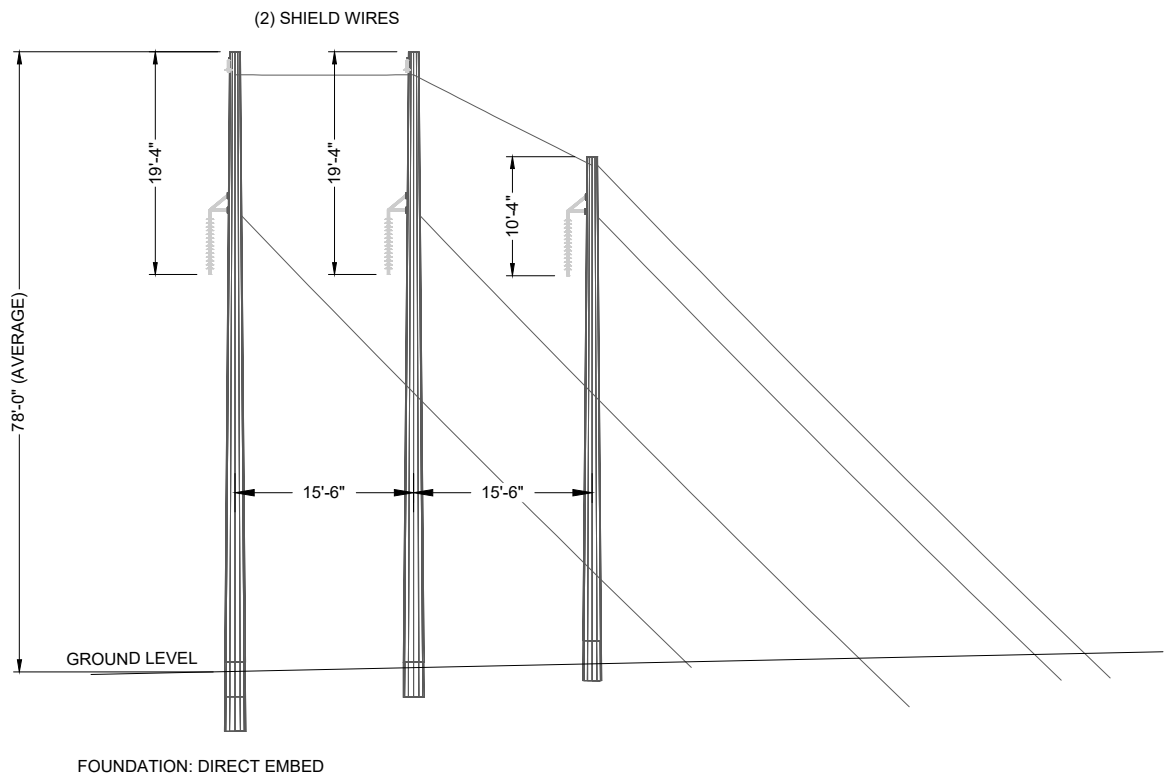
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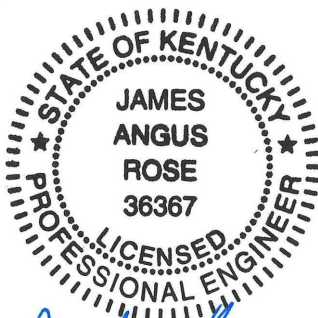
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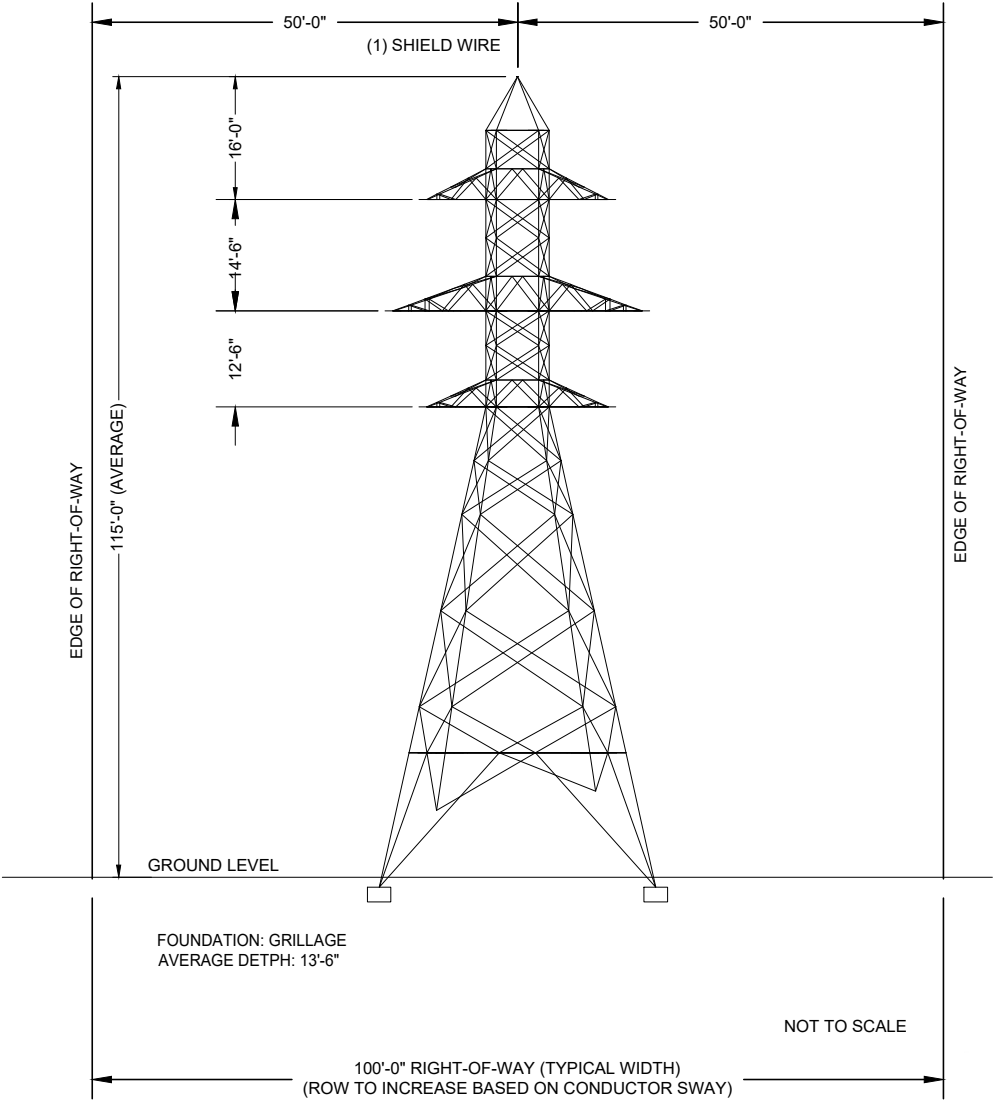
James Angus Rose



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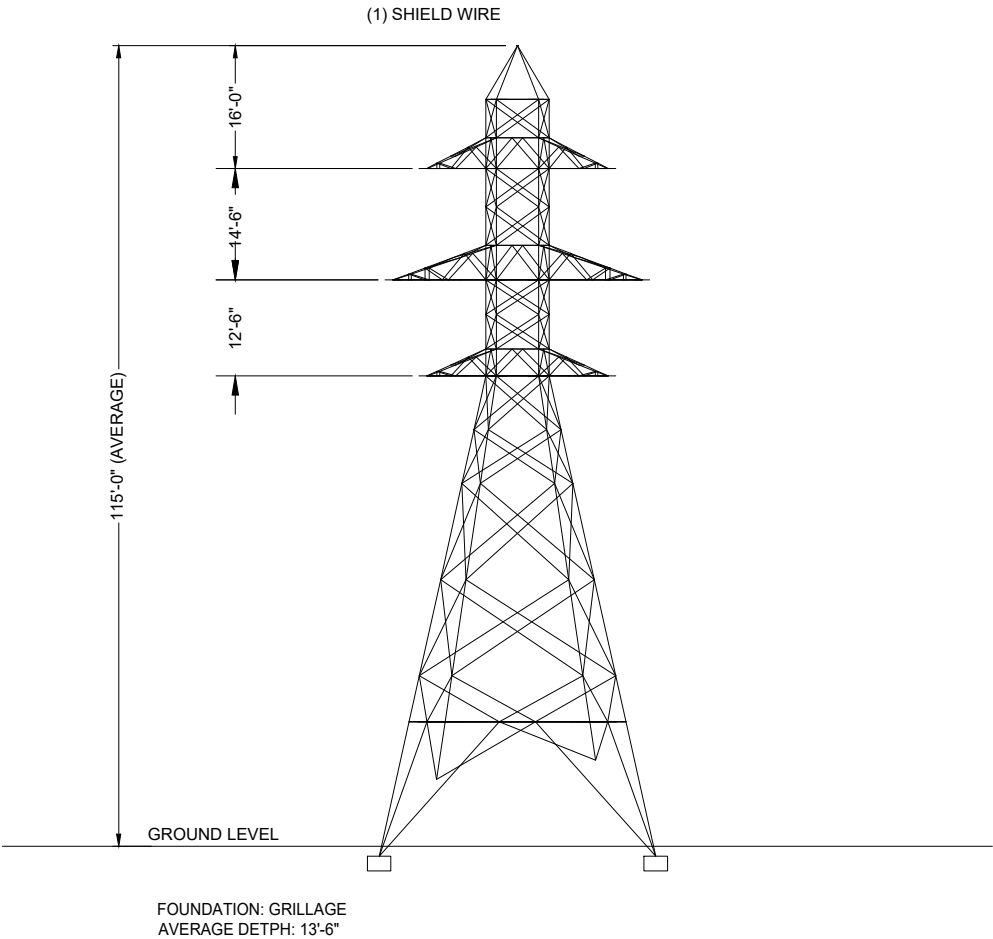
TYPICAL SCHEMATIC



STATE OF KENTUCKY
JAMES
ANGUS
ROSE
36367
LICENSED
PROFESSIONAL ENGINEER

James Angus Rose

TYPICAL SCHEMATIC



NOT TO SCALE

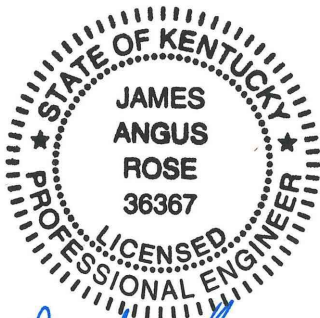
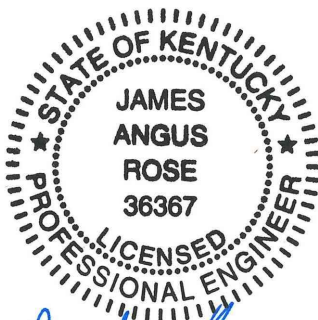
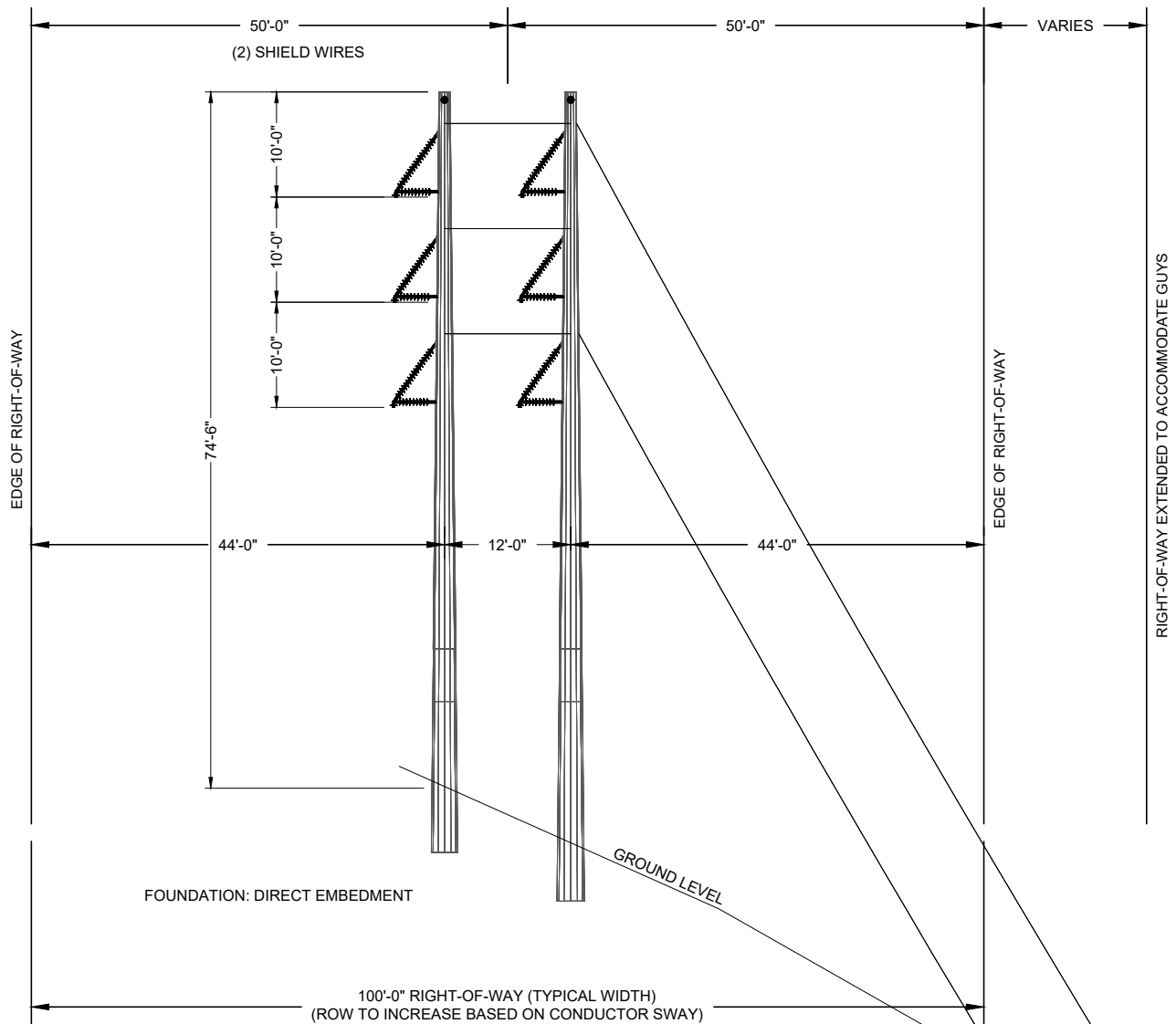


EXHIBIT X
PROPOSED 138KV TRANSMISSION STRUCTURES (PAGE 1 OF 2)
STEEL 2-POLE SUSPENSION (DOUBLE CIRCUIT)



TYPICAL SCHEMATIC

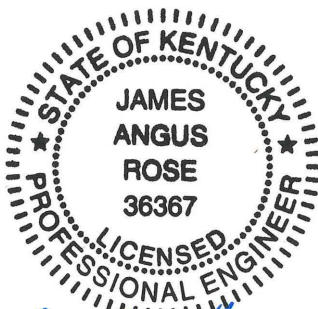
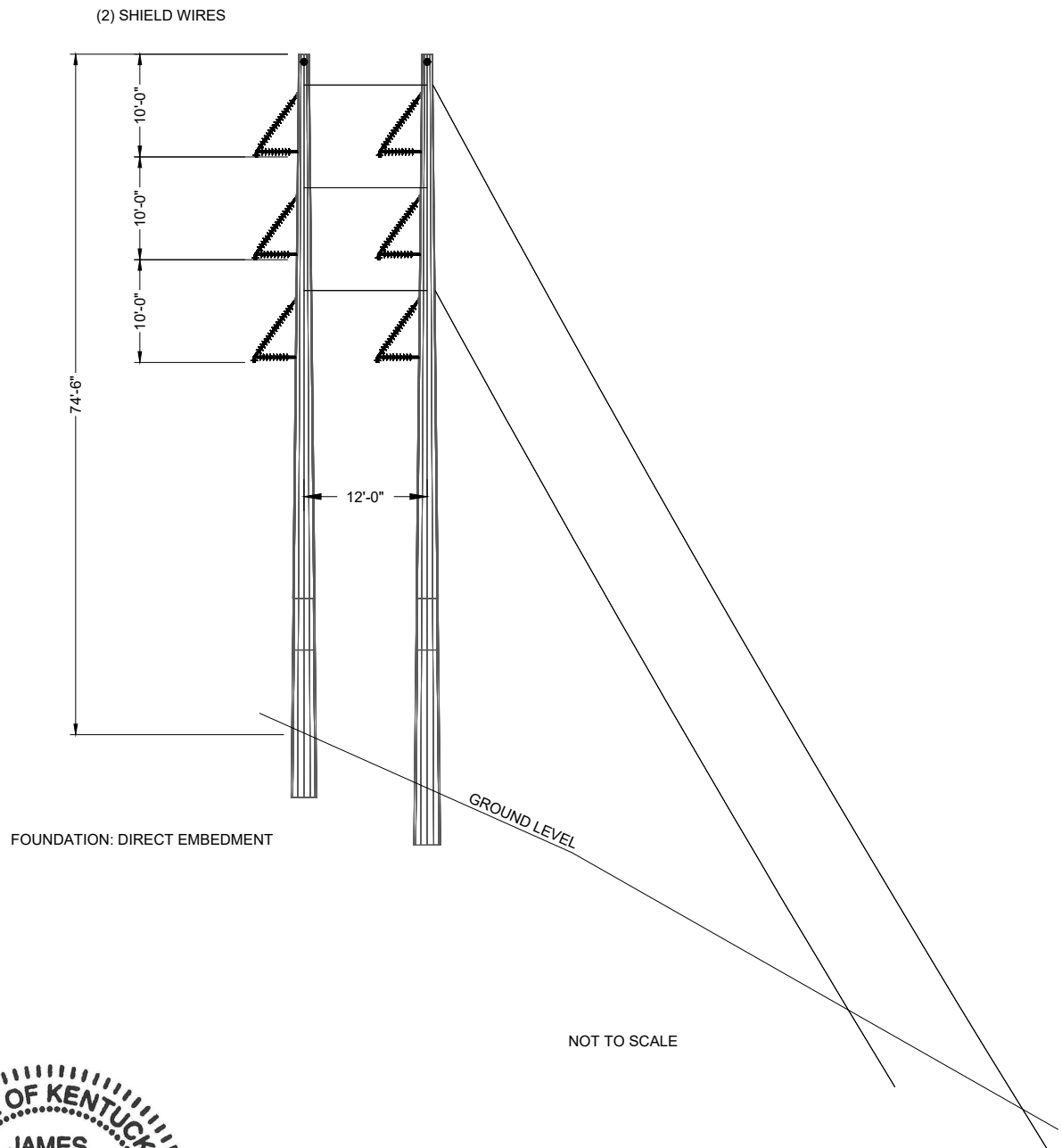
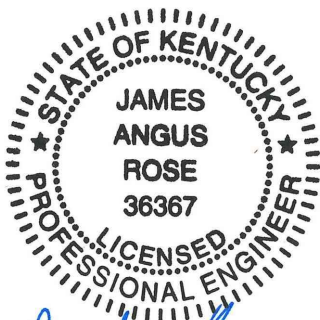
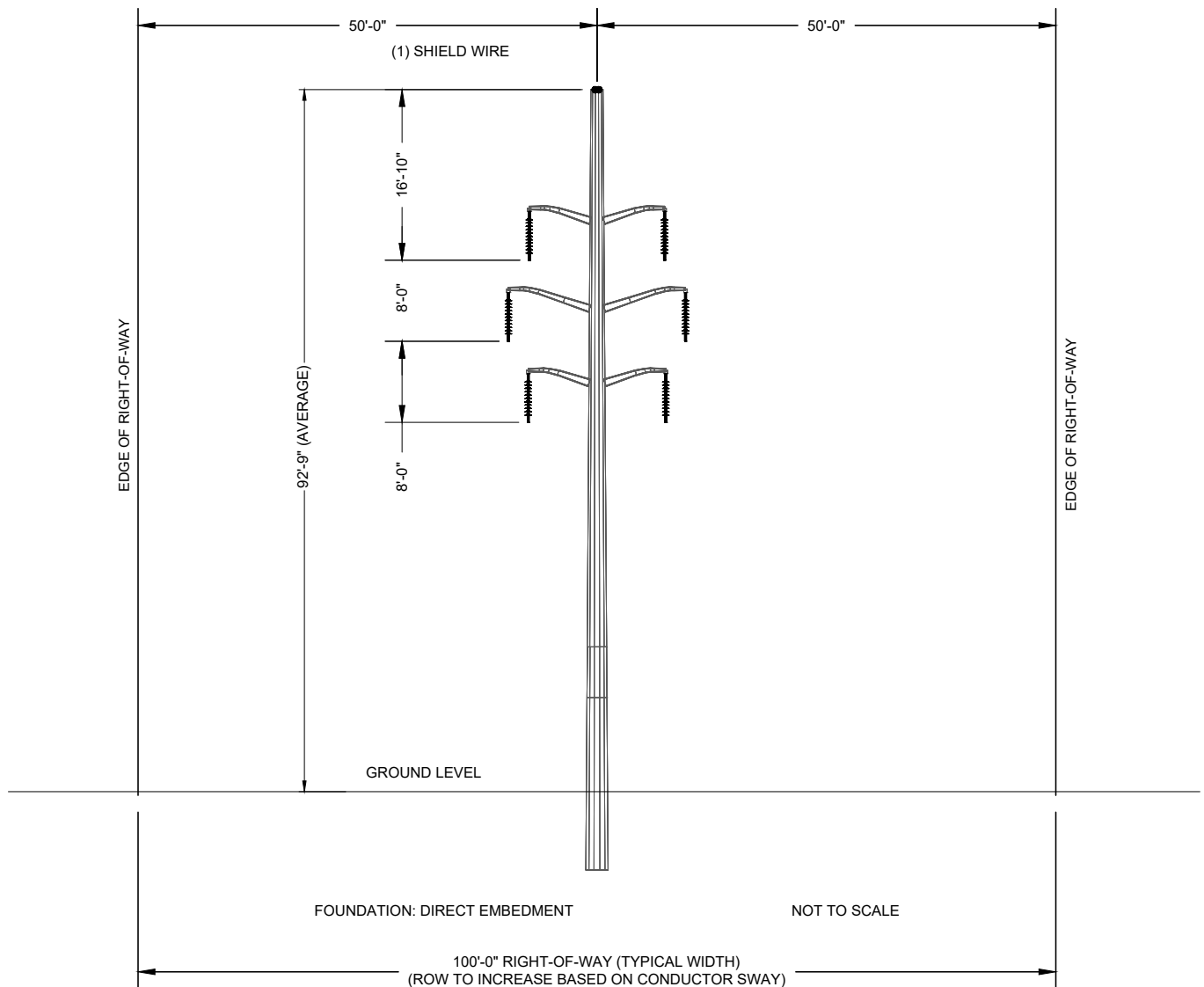
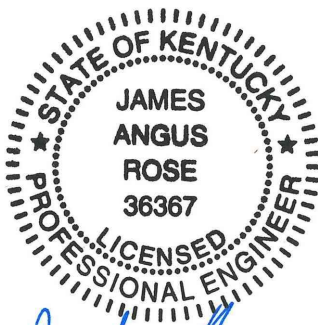
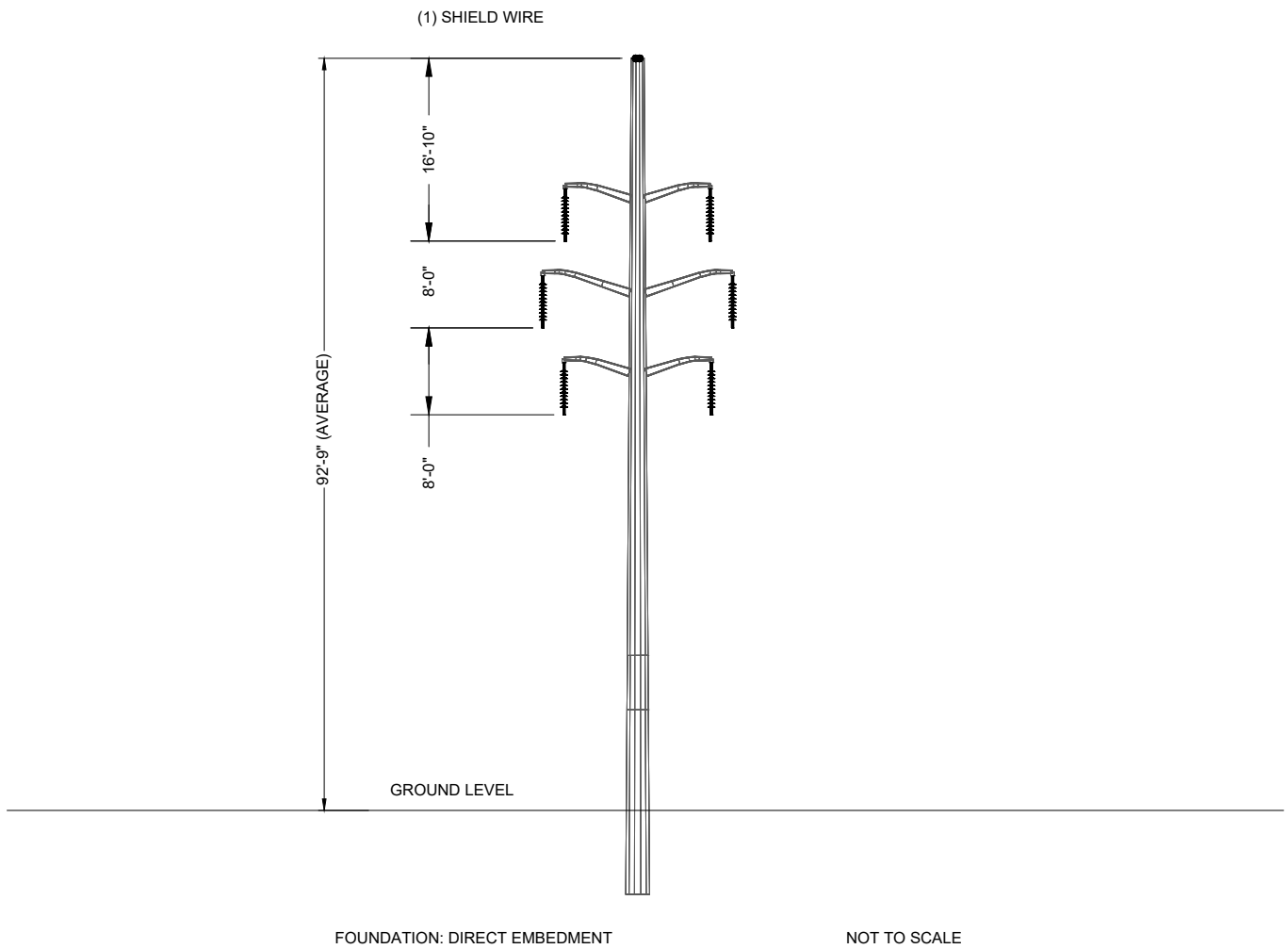


EXHIBIT X
PROPOSED 138kV TRANSMISSION STRUCTURES (PAGE 1 OF 2)
STEEL MONOPOLE DAVIT-ARM SUSPENSION (DOUBLE CIRCUIT)

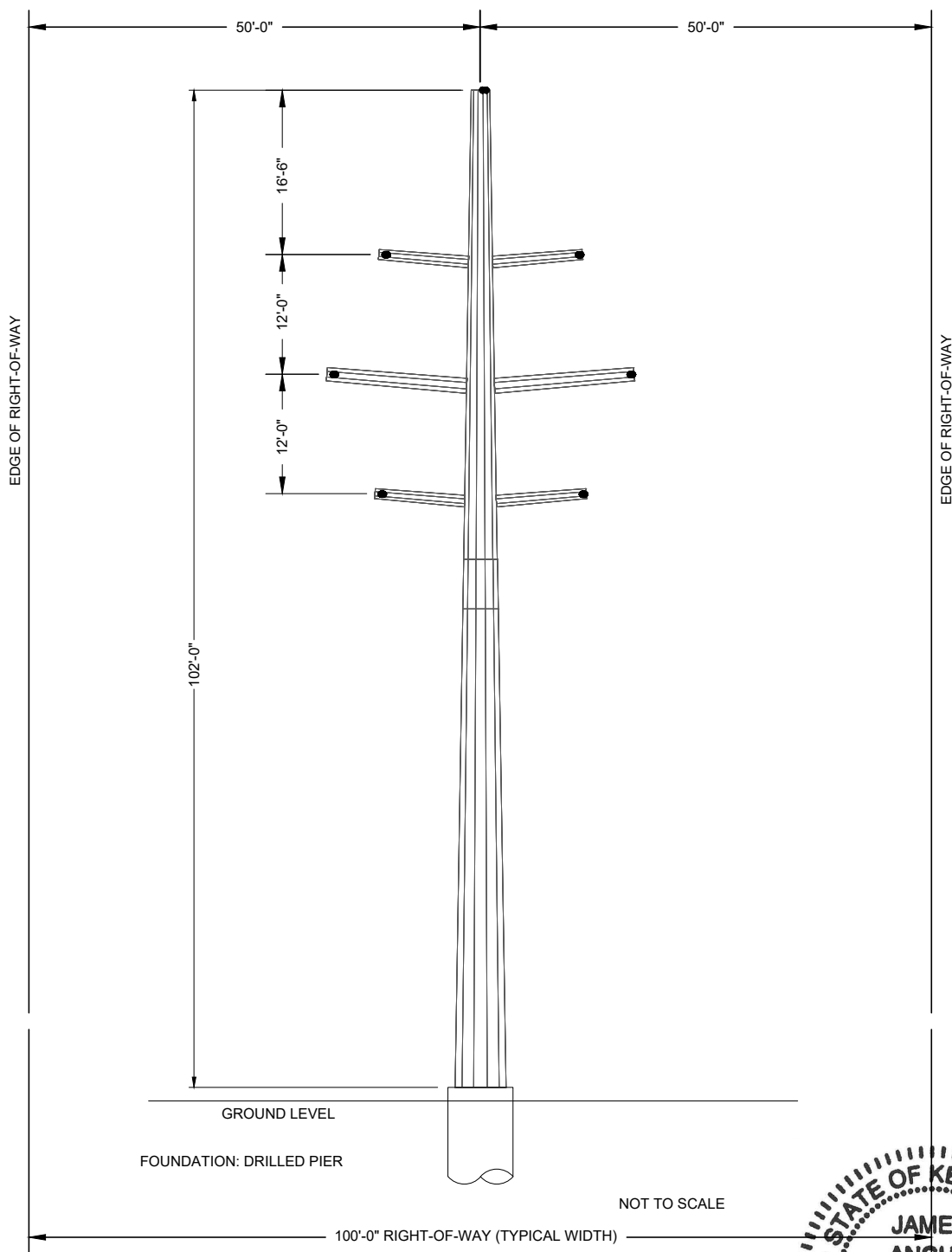


TYPICAL SCHEMATIC

EXHIBIT X
PROPOSED 138kV TRANSMISSION STRUCTURES (PAGE 2 OF 2)
STEEL MONOPOLE DAVIT-ARM SUSPENSION (DOUBLE CIRCUIT)



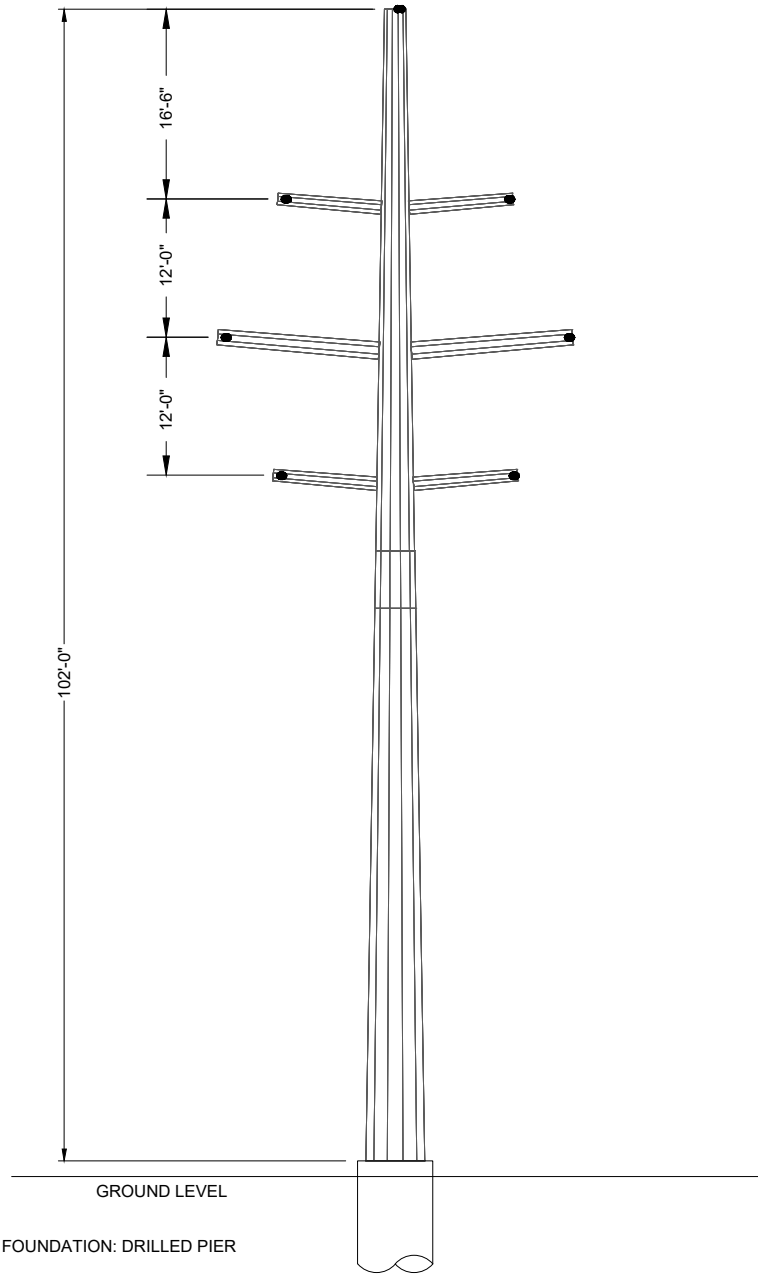
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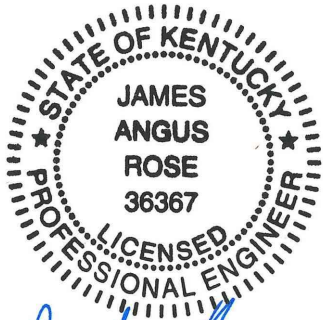
STATE OF KENTUCKY
JAMES
ANGUS
ROSE
36367
LICENSED
PROFESSIONAL ENGINEER

James Angus Rose

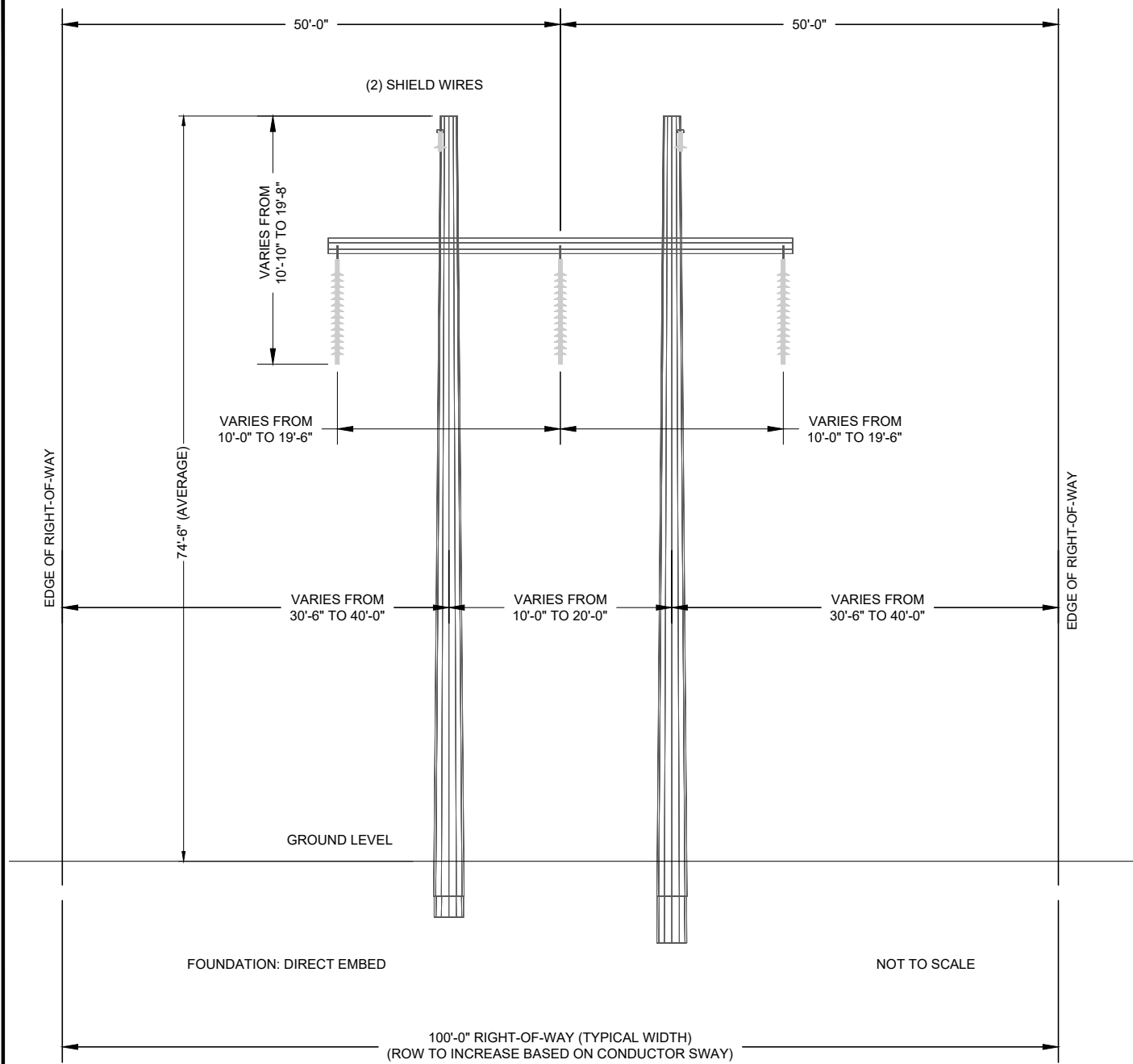
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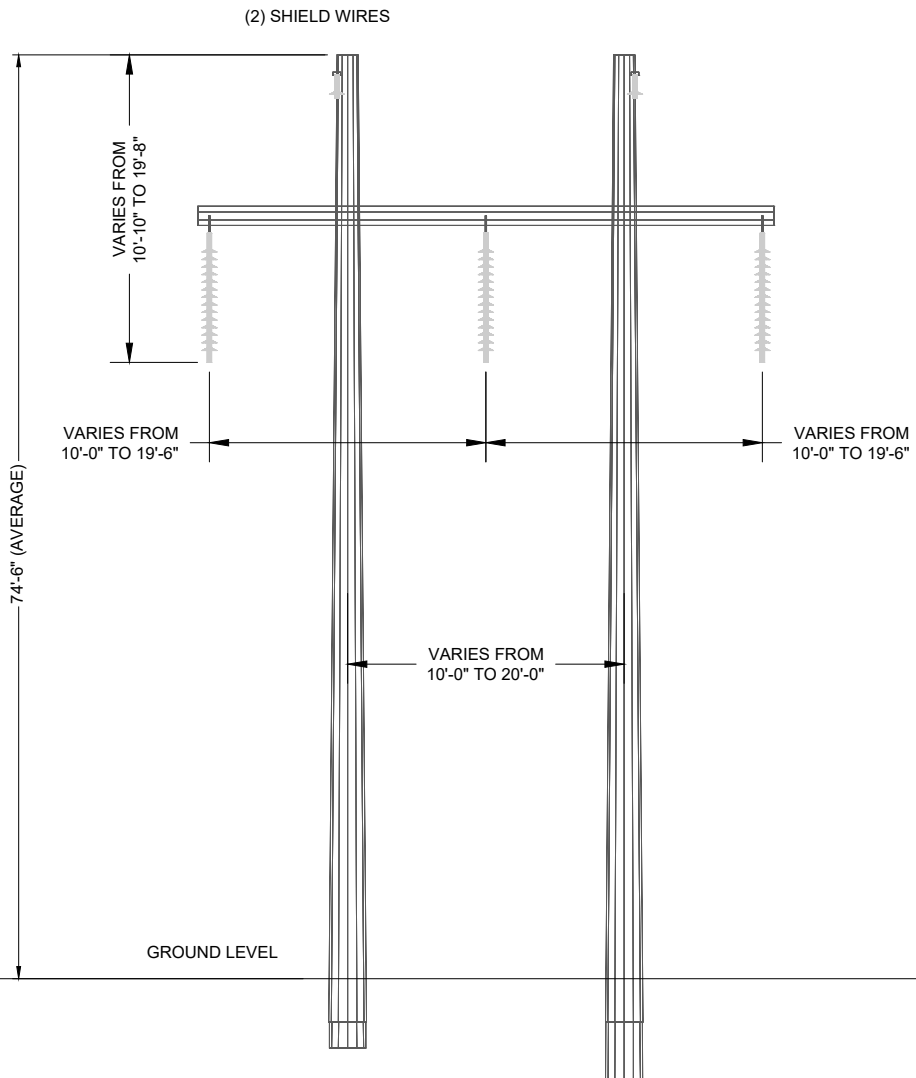


TYPICAL SCHEMATIC



STATE OF KENTUCKY
JAMES
ANGUS
ROSE
36367
LICENSED
PROFESSIONAL ENGINEER

James Angus Rose

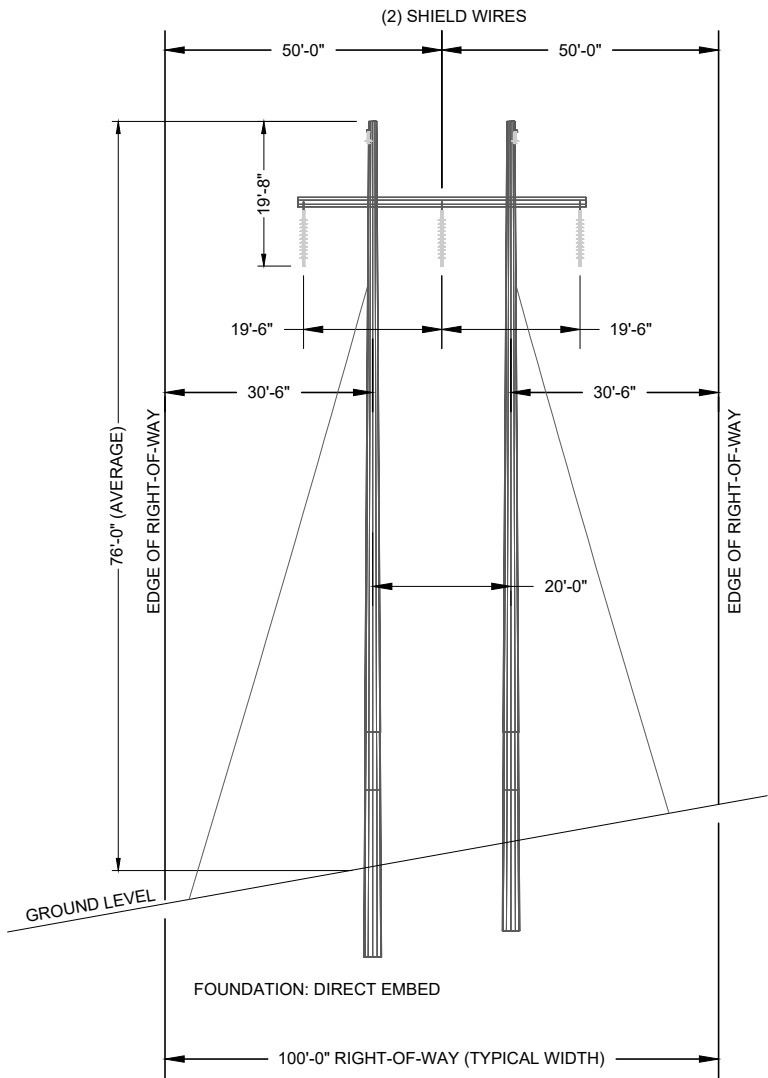


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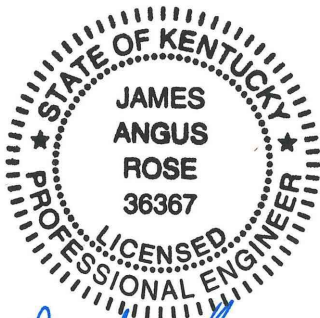
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STATE OF KENTUCKY
★ JAMES
★ ANGUS
★ ROSE
★ 36367
★ LICENSED
★ PROFESSIONAL ENGINEER ★

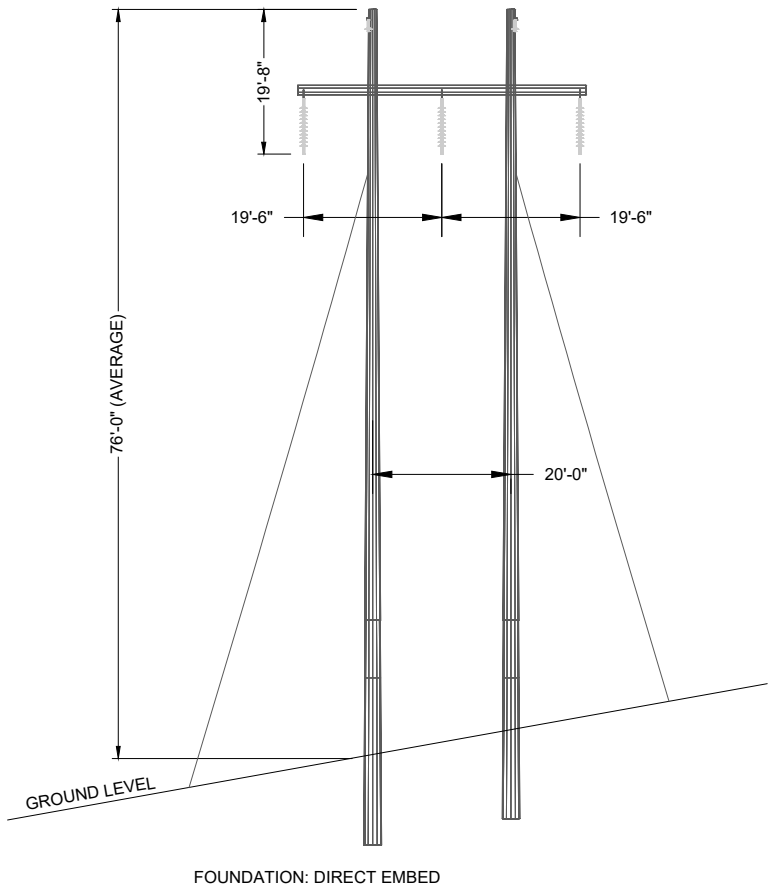
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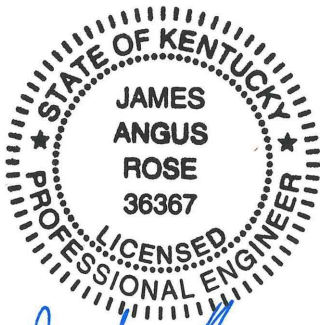
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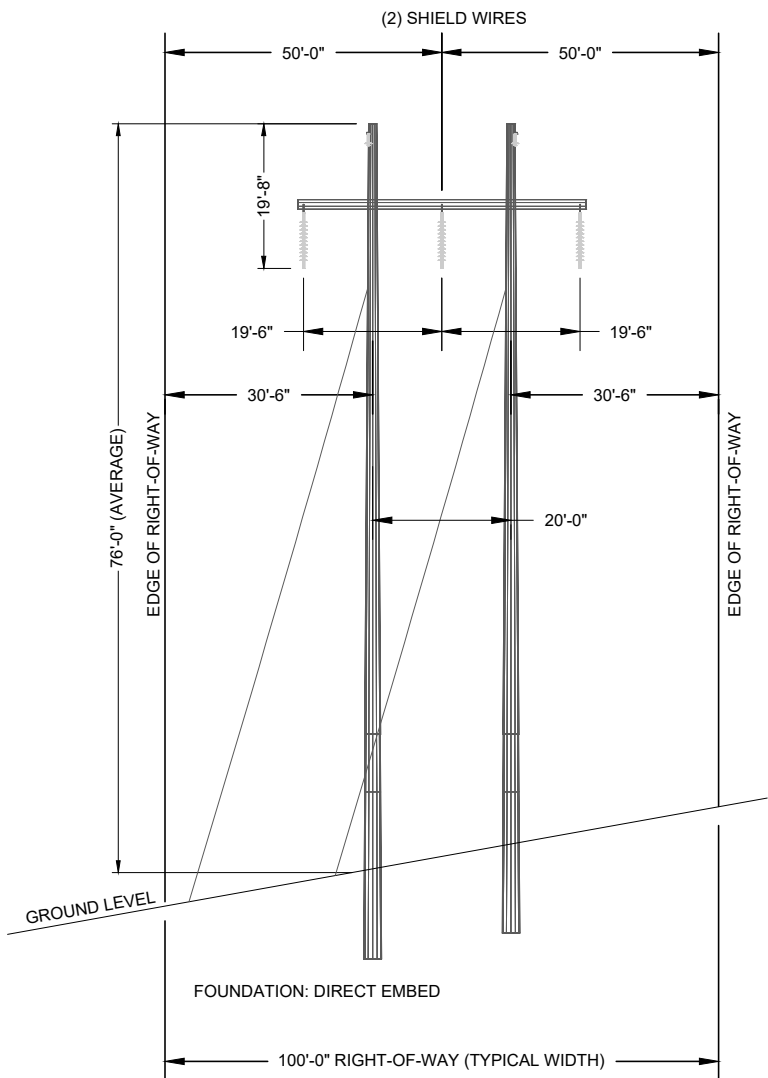


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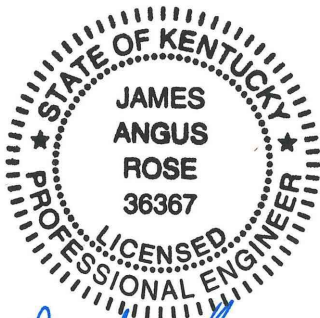


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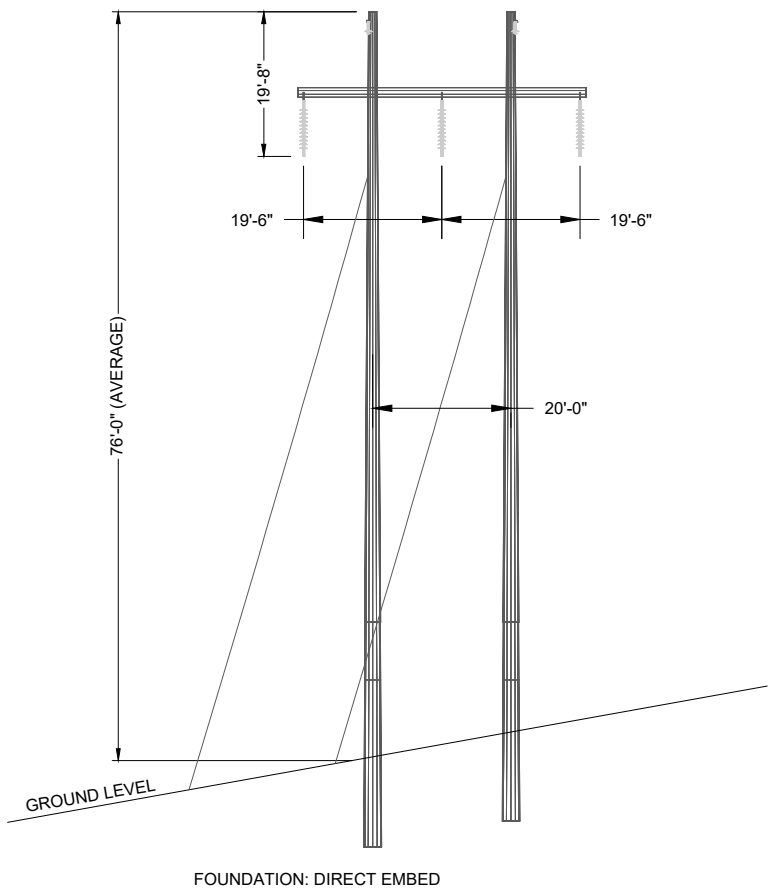


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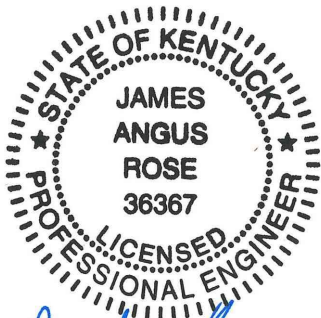


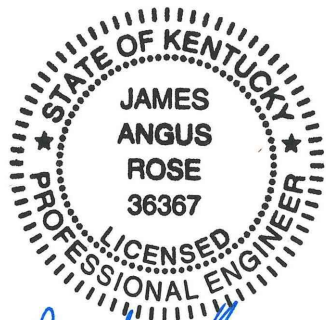
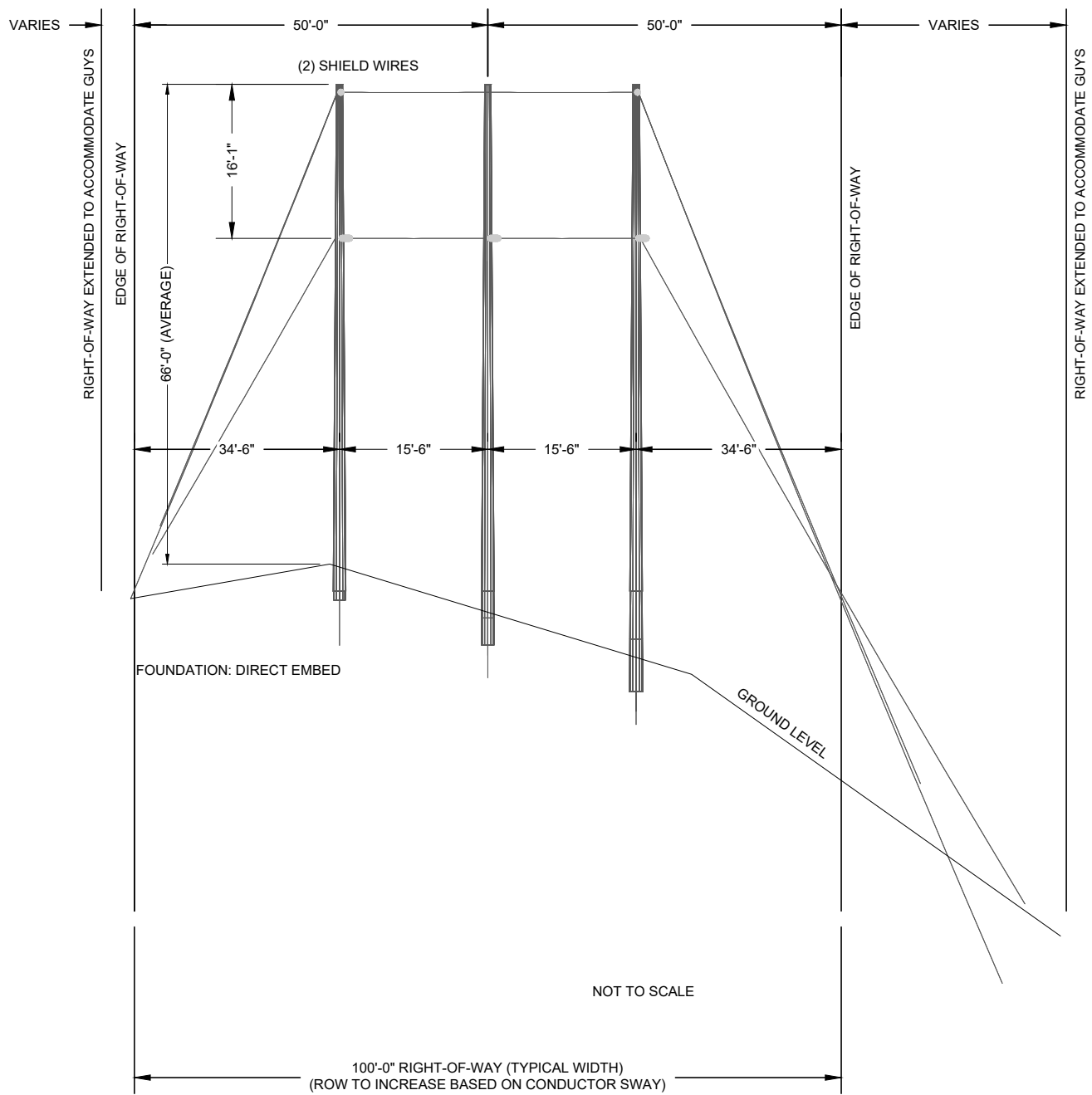
James Angus Rose

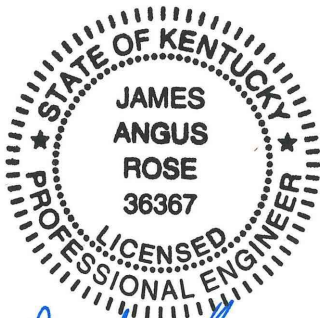
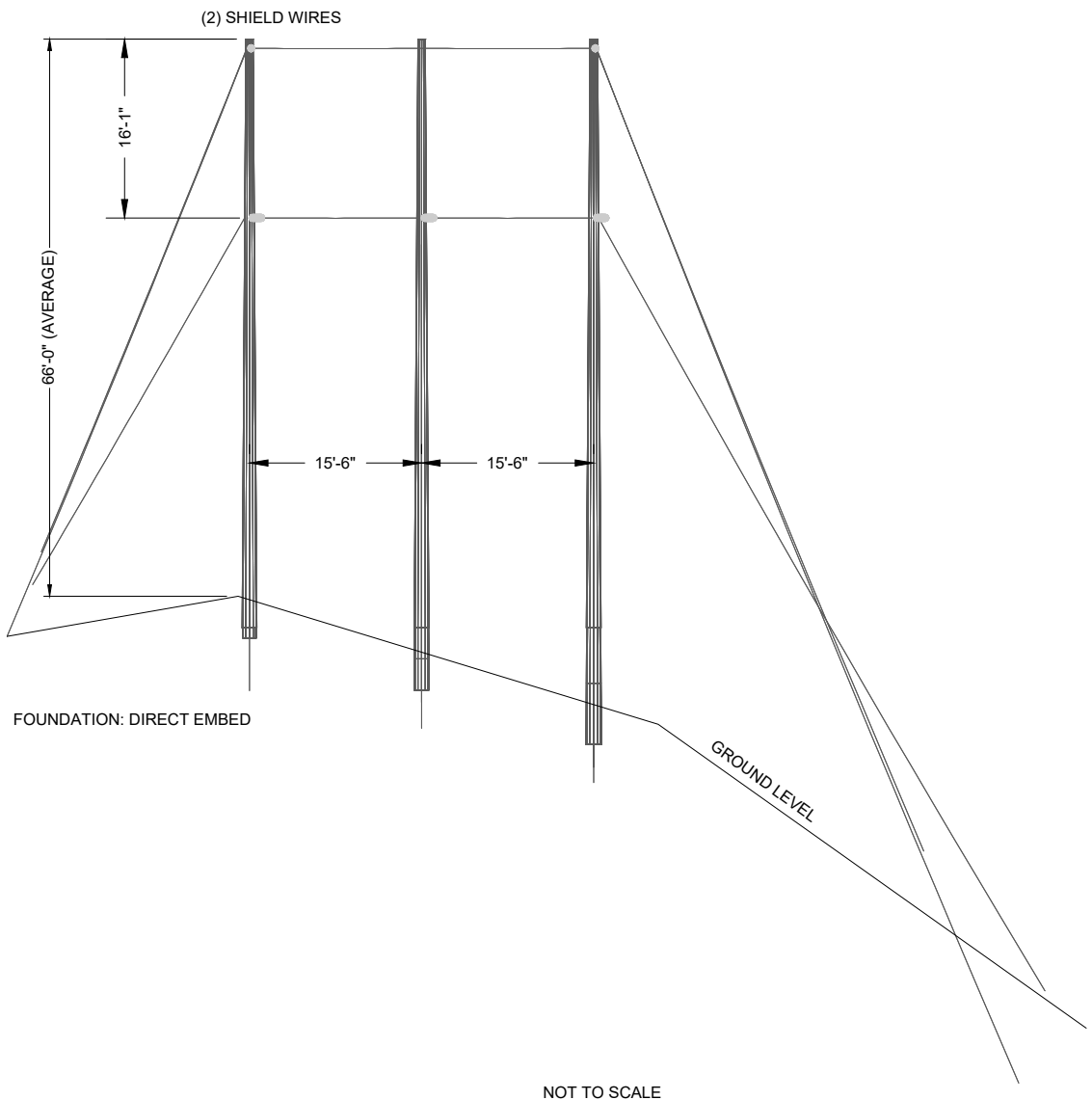
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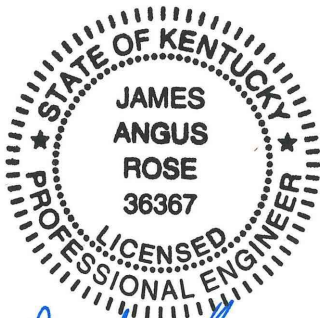
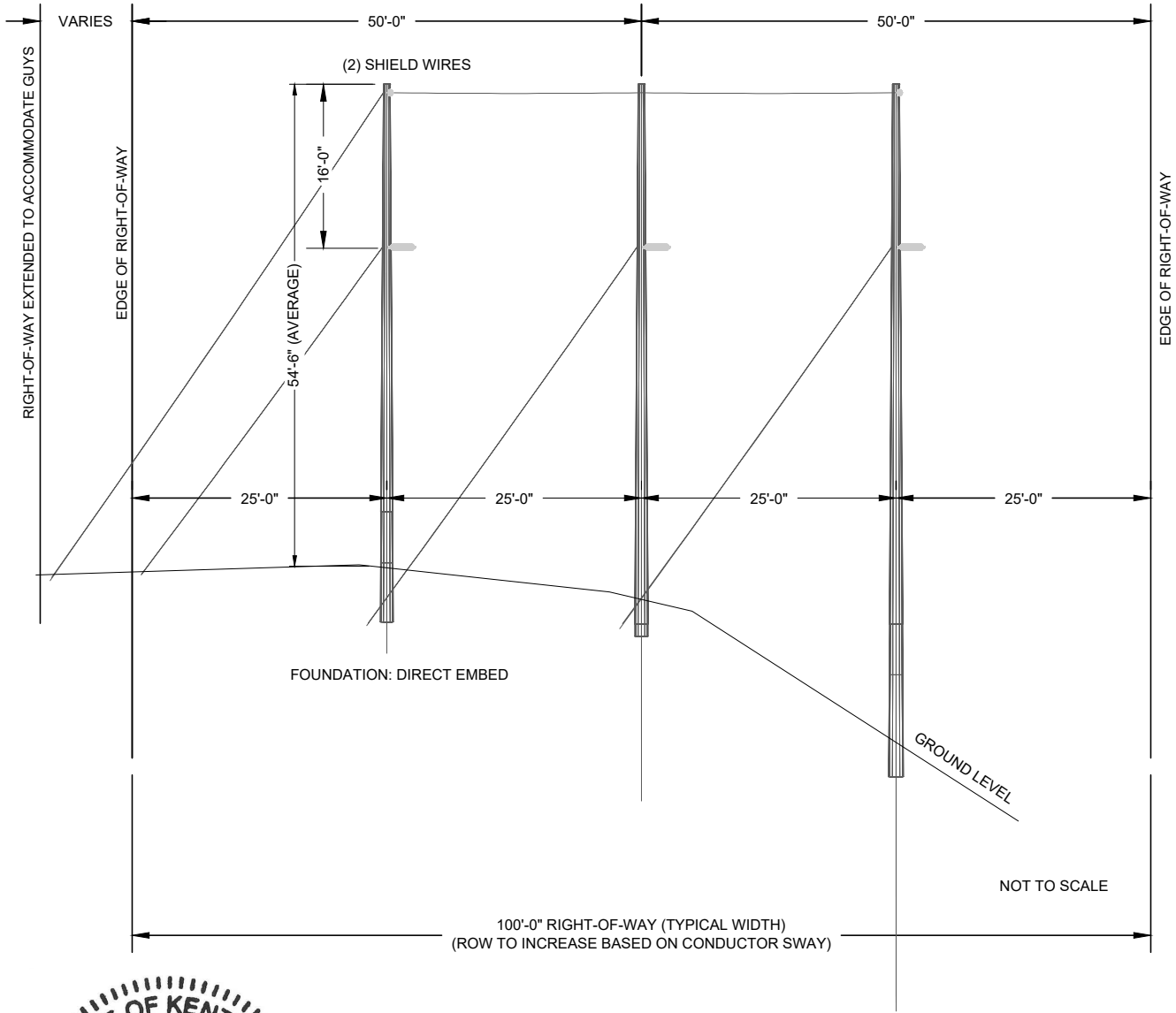


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TYPICAL SCHEMATIC

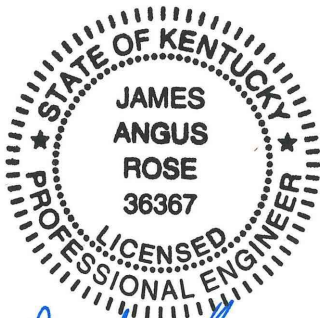
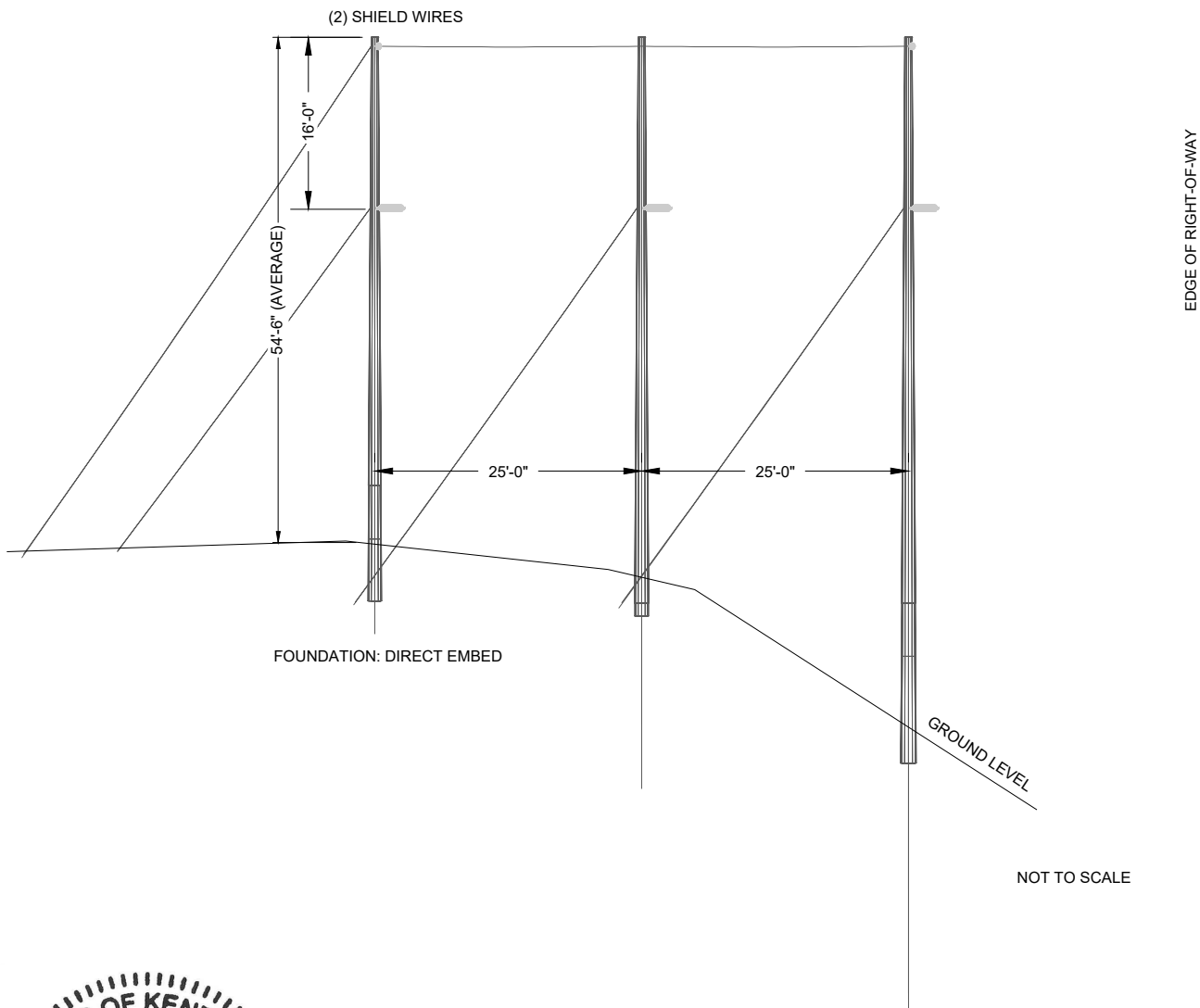
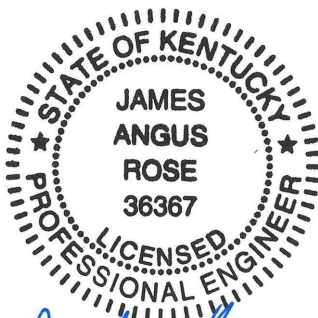
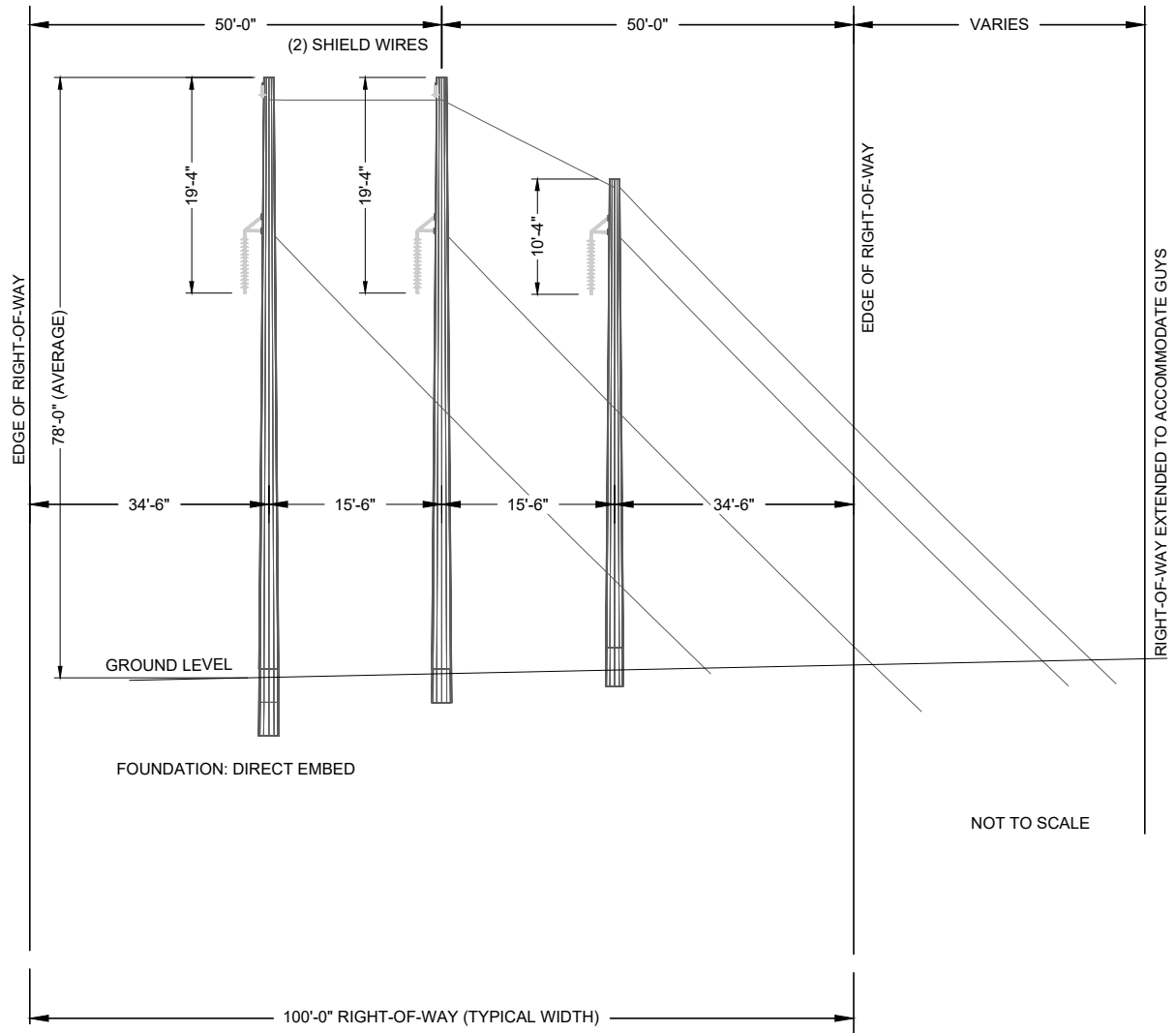
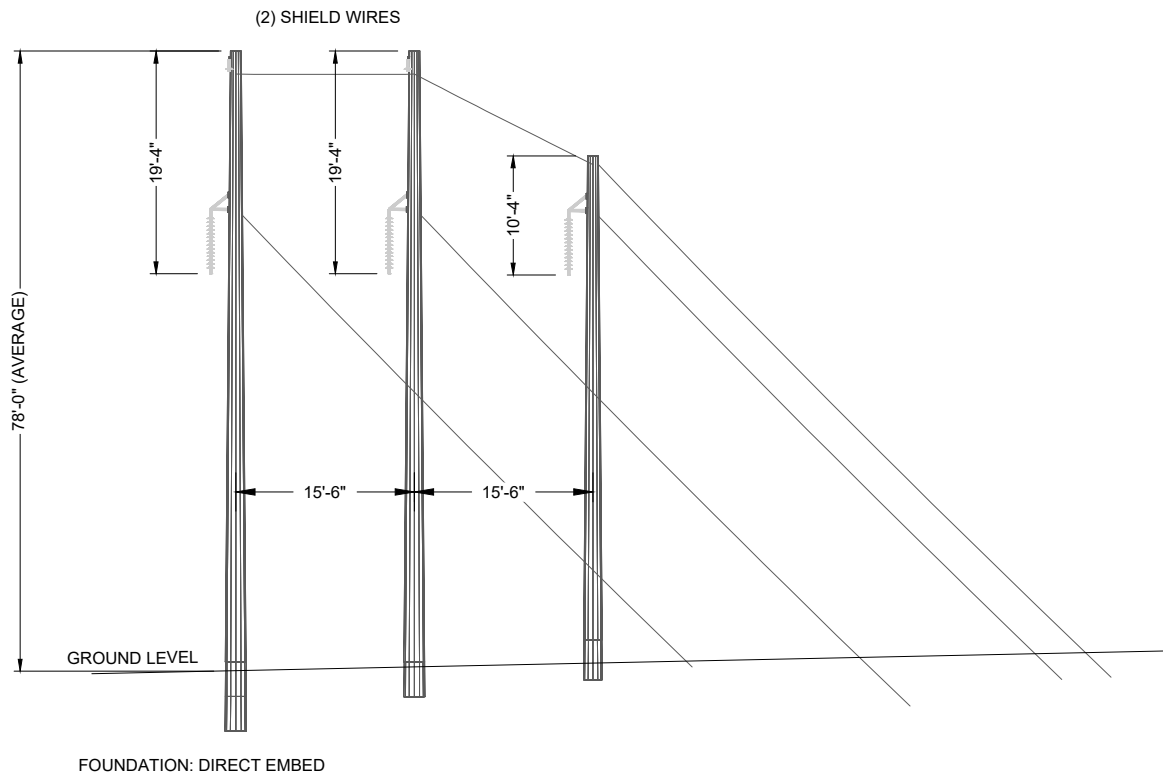


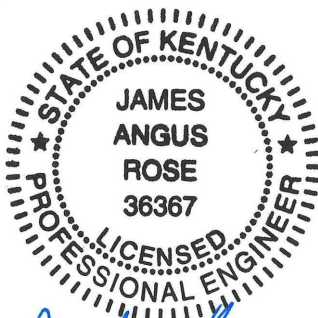
EXHIBIT X
PROPOSED 138kV TRANSMISSION STRUCTURES (PAGE 1 OF 2)
STEEL 3-POLE HEAVY ANGLE SUSPENSION (SINGLE CIRCUIT)



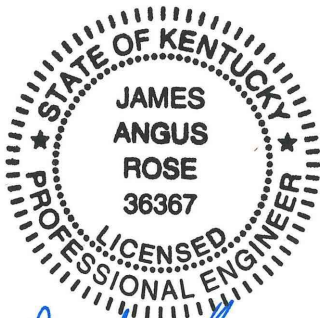
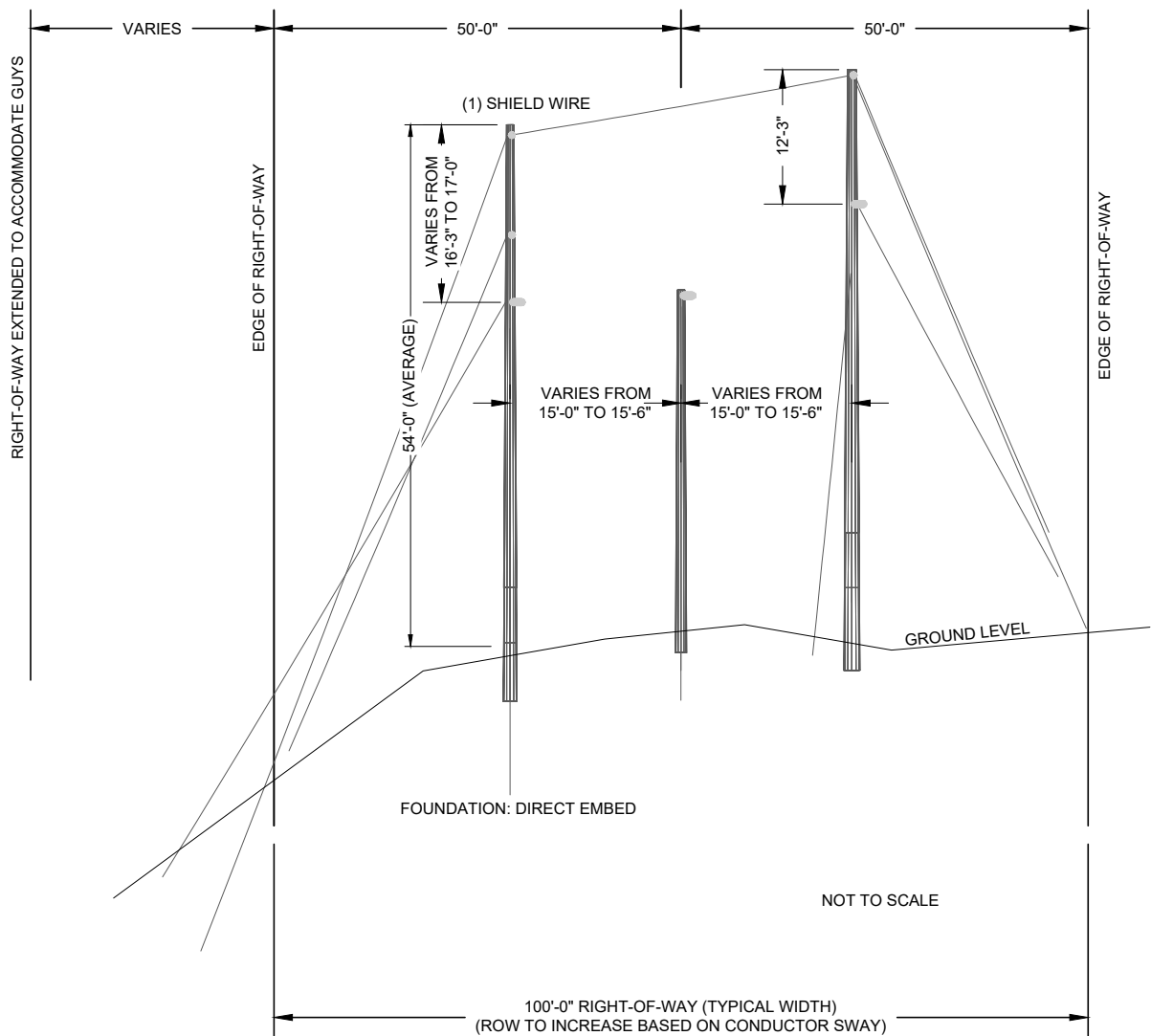
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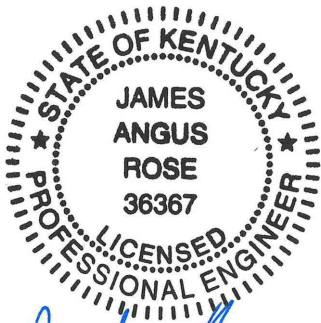
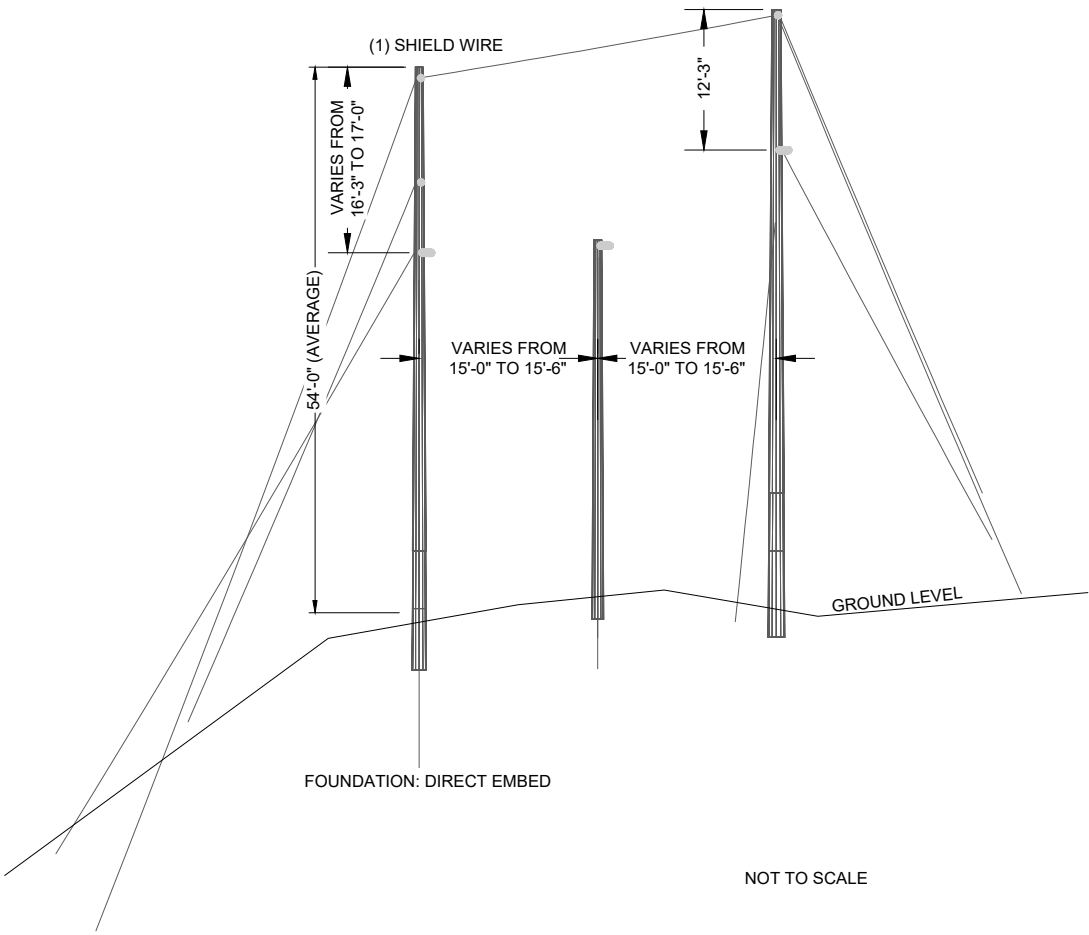


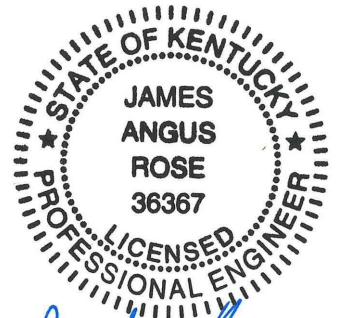
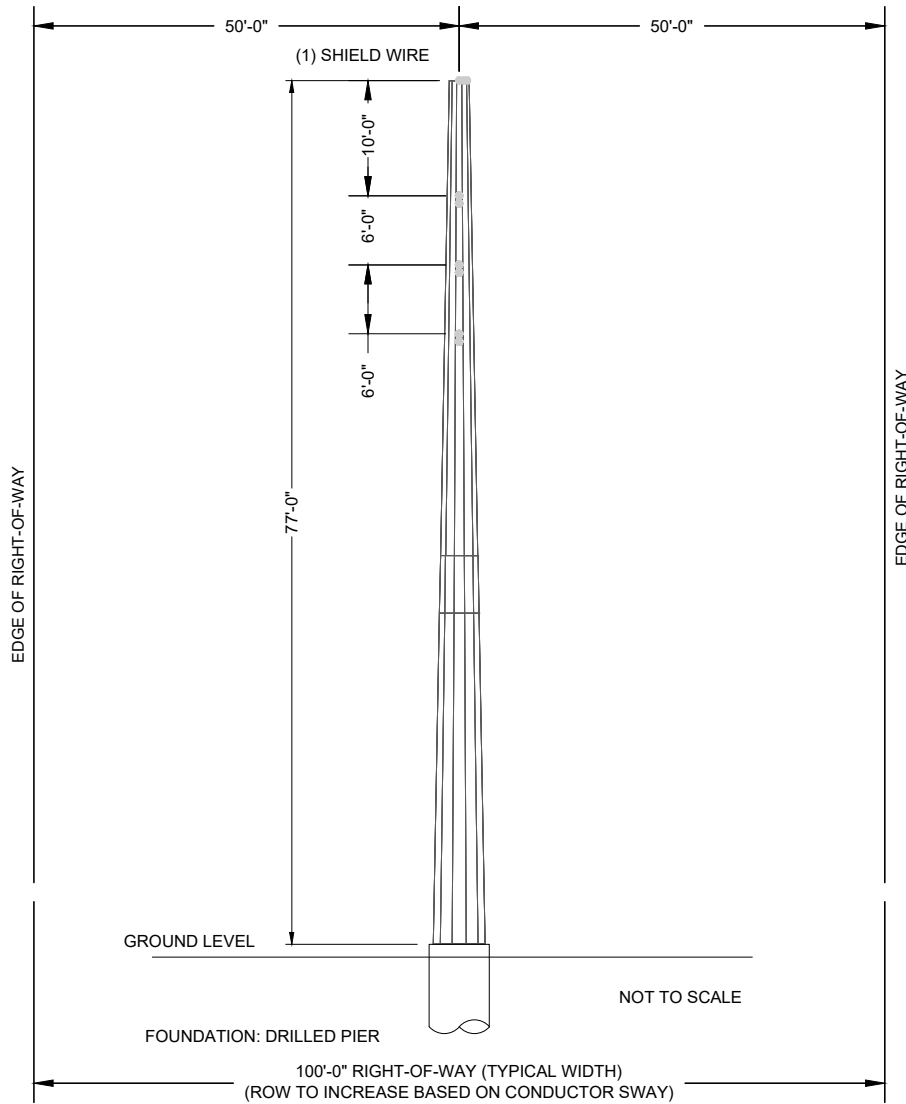
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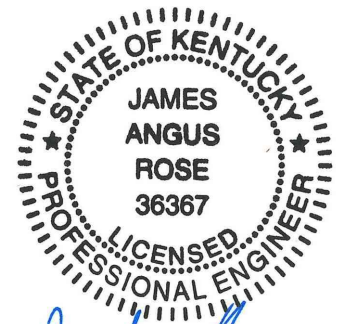
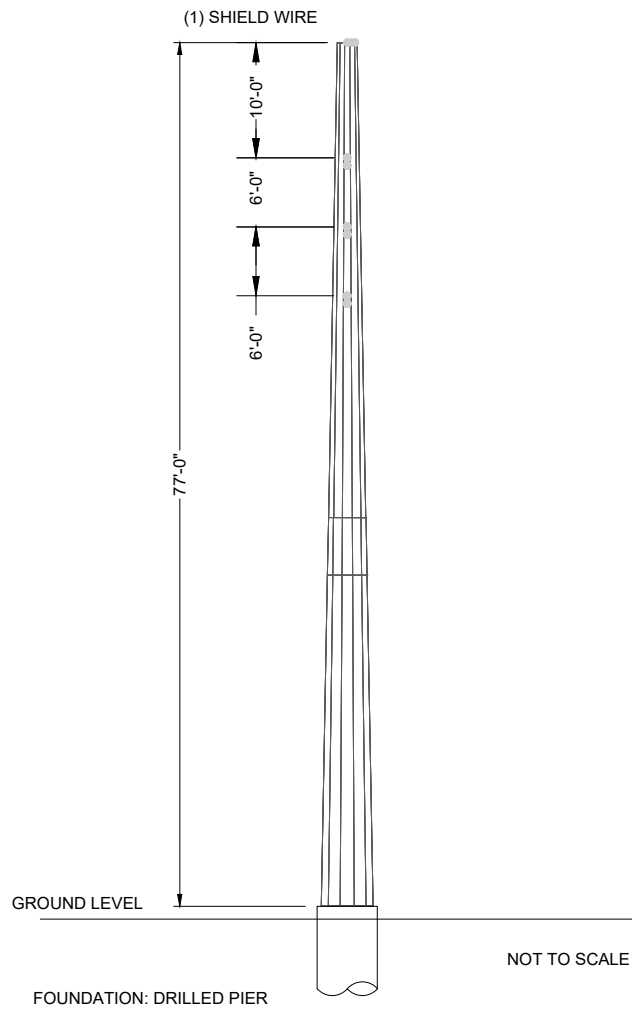




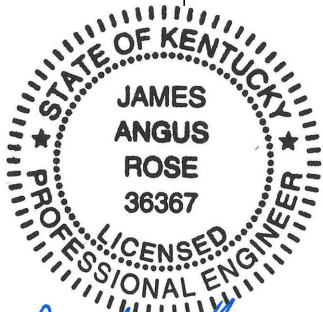
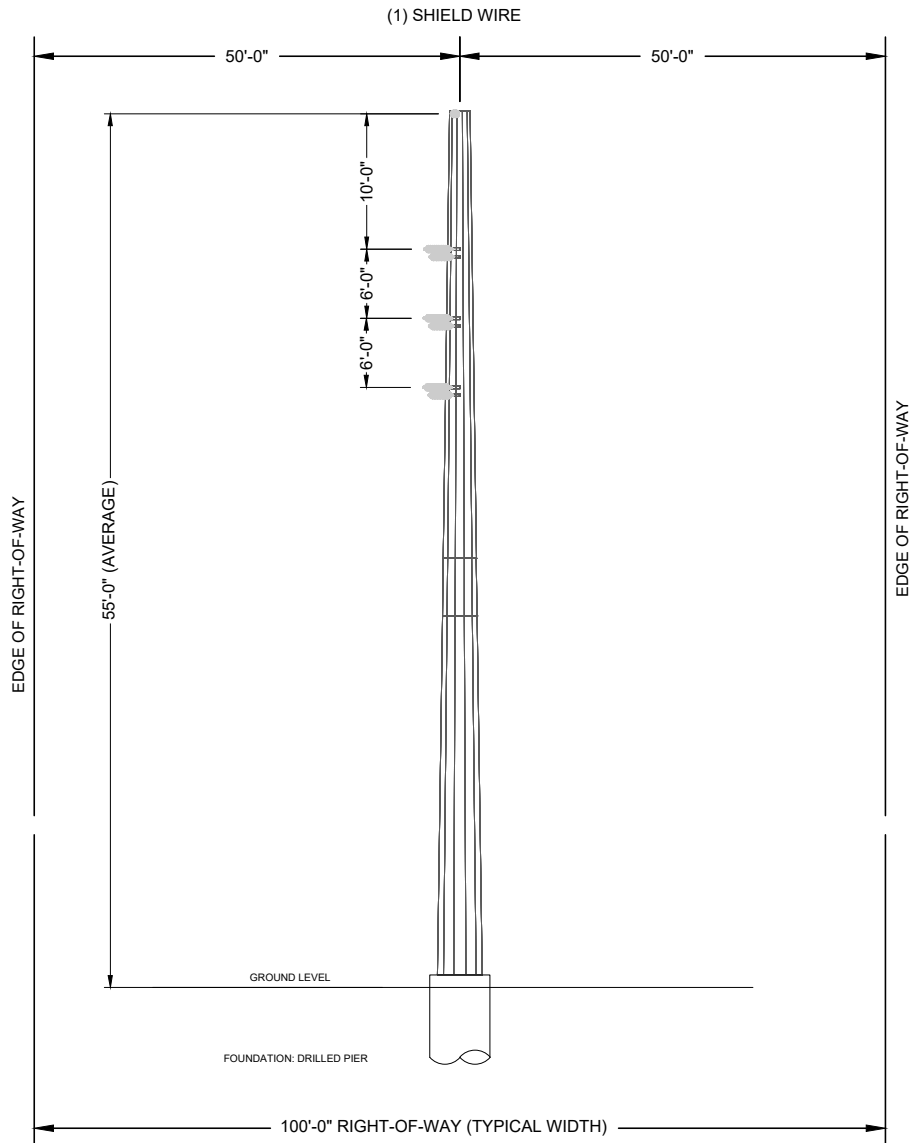


A handwritten signature in blue ink, appearing to read "James Angus Rose", located below the professional engineer seal.

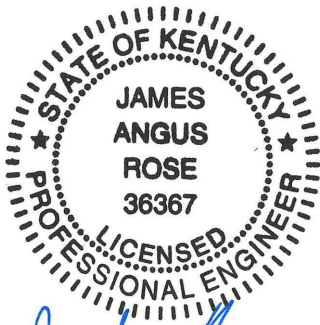
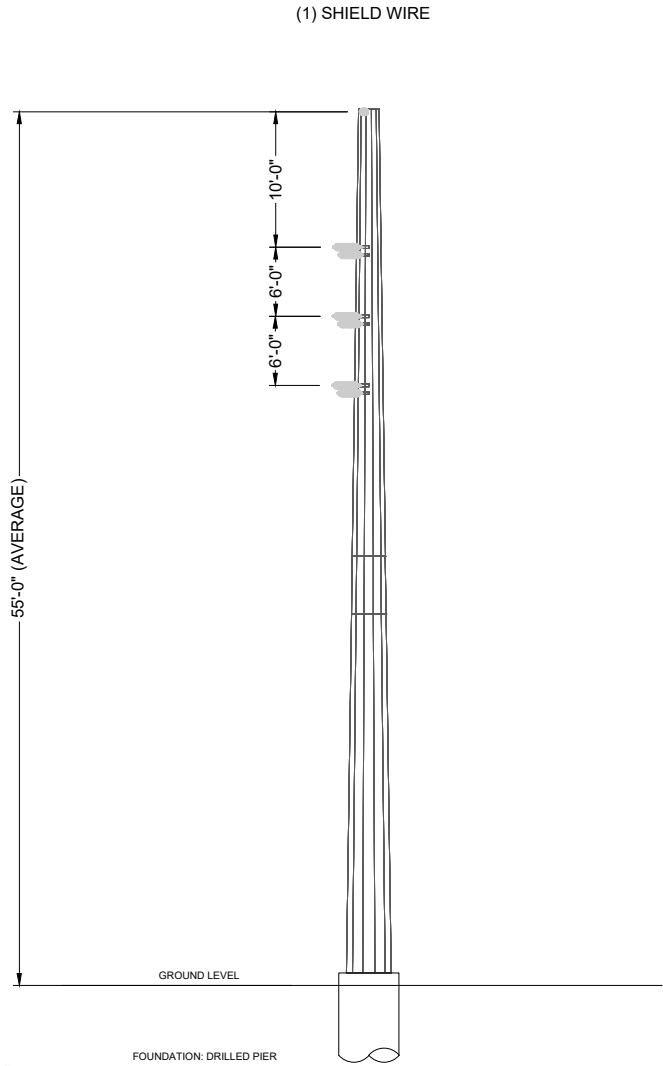
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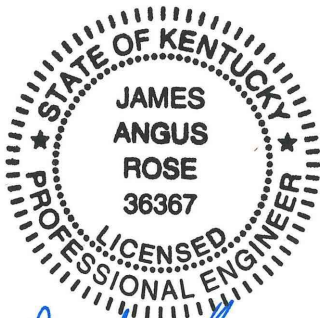
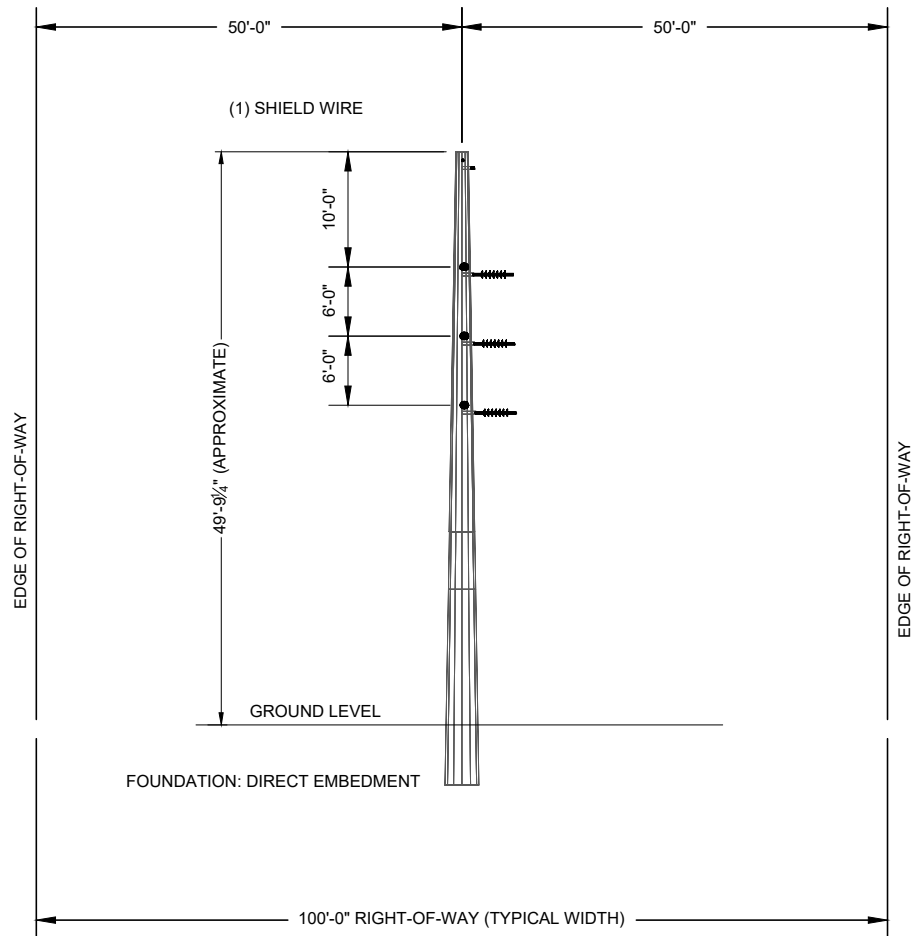
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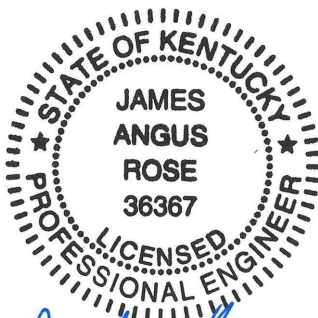
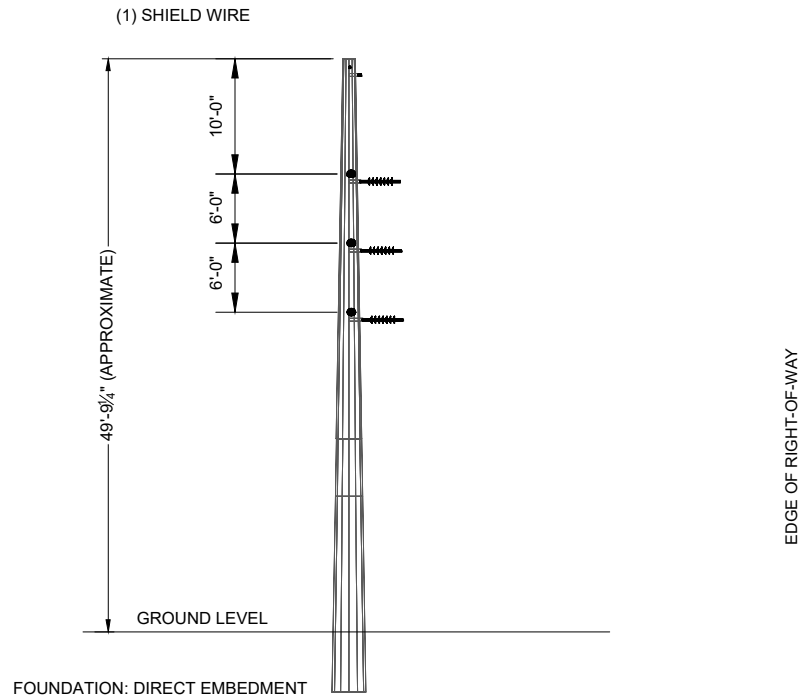
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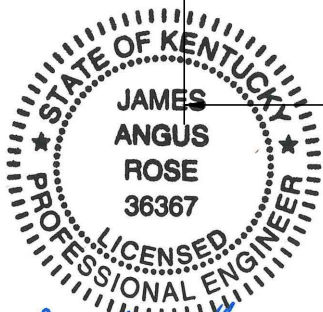
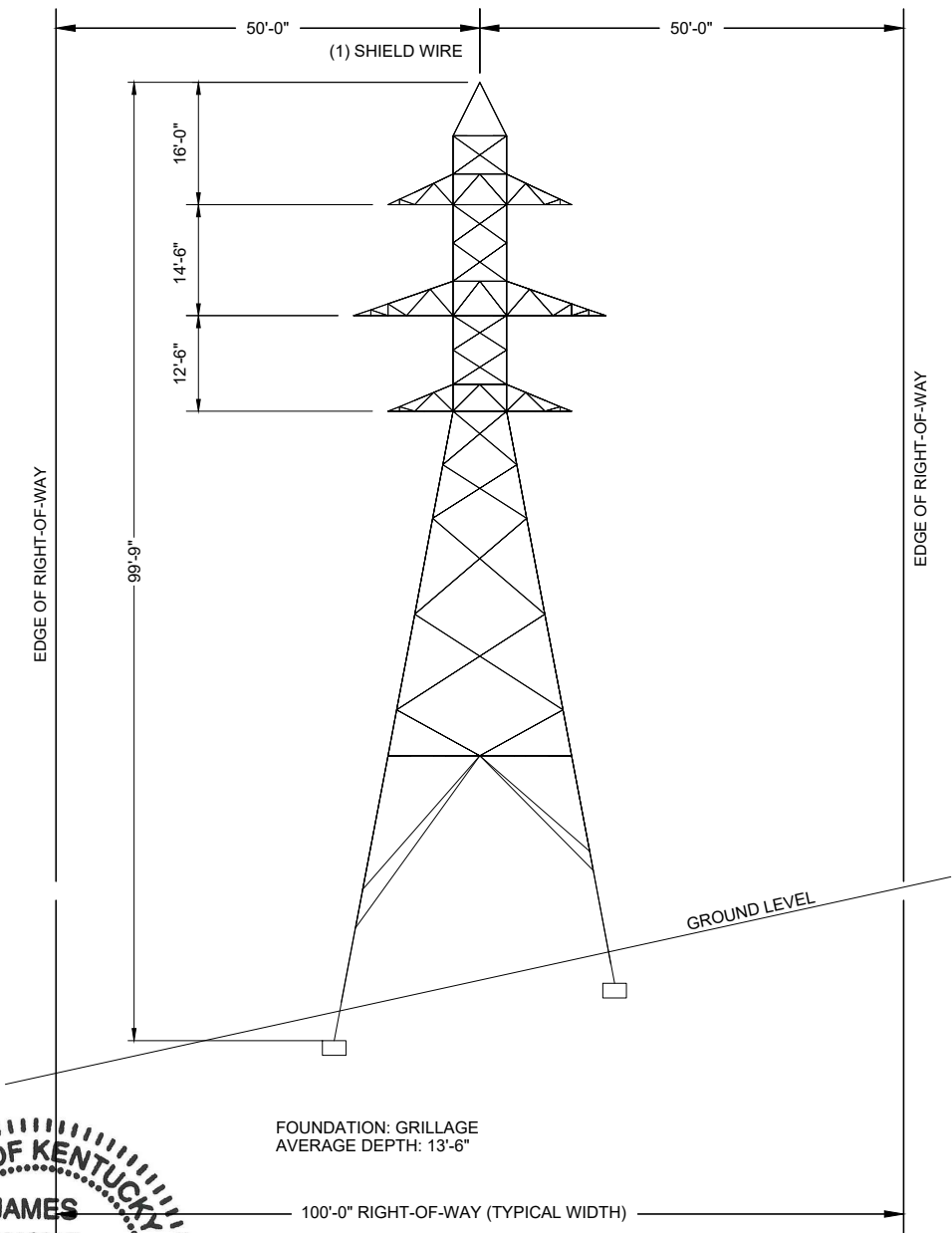


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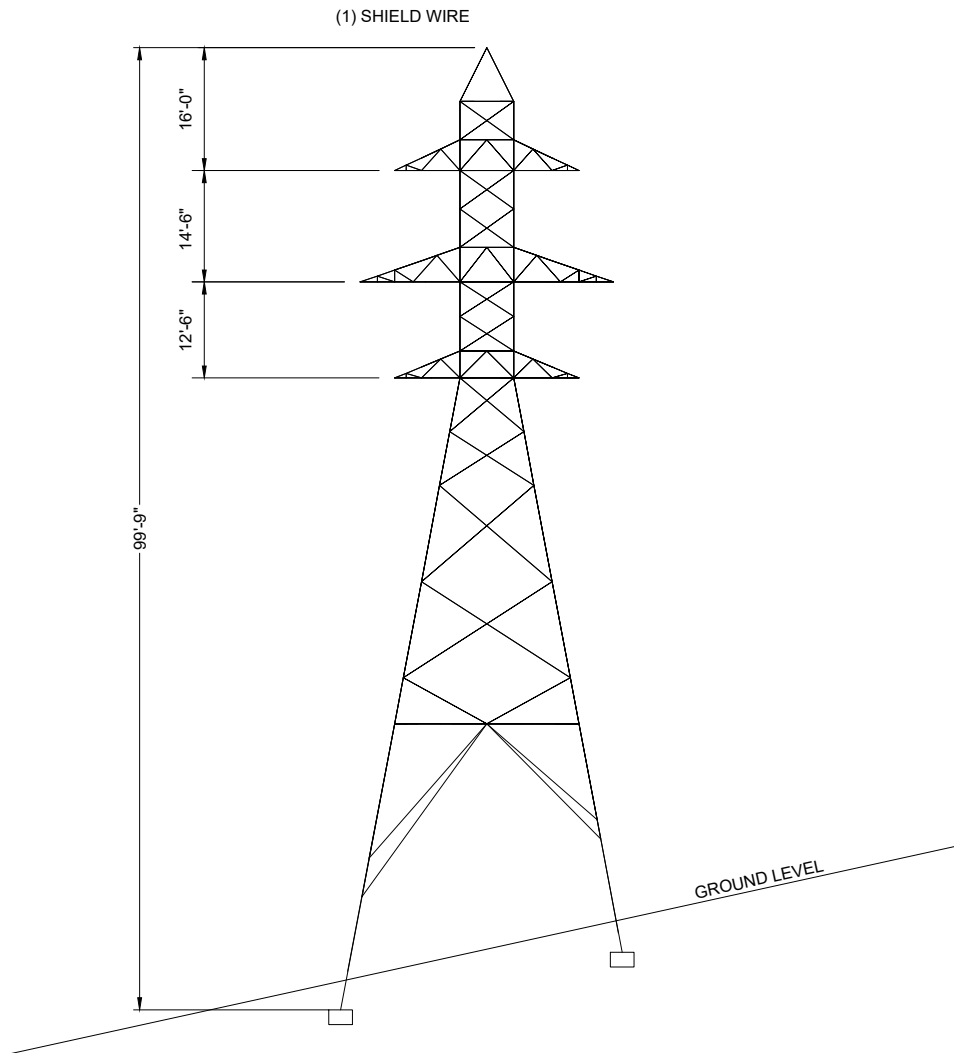


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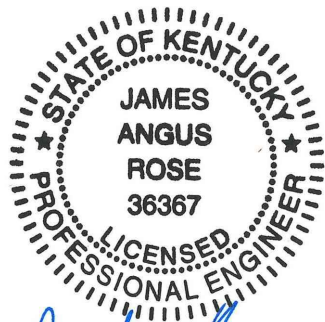




TYPICAL SCHEMATIC



FOUNDATION: GRILLAGE
AVERAGE DEPTH: 13'-6"



TYPICAL SCHEMATIC

EXHIBIT 6

Identifier from Project Description on Page 1 of Application	Project Section	One Line Identifier	Description	One Line Asset ID	Associated Assets	Purpose	Driver for Asset Replacement/Installation
(A) Dorton	Dorton Substation	(1)	As a result, the 46KV Breaks Elwood Line will be retired at Dorton Station. The existing 46kV bus will be converted to 69kV in order to maintain the tie switch for Burdine Station which is radially fed from Dorton. This Scope will establish a new 69KV Line to Breaks (Via Henry Clay Station) by converting the 46KV Bus to 69kV, replacing surge arresters with 48KV MCOV, Replacing Potential Transformers with 69KV CCVTs reusing existing structure. The distribution fed station service will be replaced with a new 69kV SSVT to improve reliability of the station AC system.	69kV Breaks Line Exit	Three Phase 69kV CCVT	PCE utilizes the Line Potential Transformers to measure voltage changes on the line which informs their protection relays.	Due to the baseline voltage violation in the area the Breaks – Dorton line is being rebuilt to 69 kV. The associated station work at Dorton includes shunt elements that are undersized for the new voltage are being replaced with appropriately sized equipment.
					69kV Surge Arresters	Surge Arresters limit the voltage that can appear across the transformer terminals, preventing damage from transient over voltages to nearby equipment.	
				69kV Burdine Line Exit	Three Phase 69kV CCVT	PCE utilizes the Line Potential Transformers to measure voltage changes on the line which informs their protection relays.	
					69kV Surge Arresters	Surge Arresters limit the voltage that can appear across the transformer terminals, preventing damage from transient over voltages to nearby equipment.	
				69kV Bus	Three Phase 69kV CCVT	PCE utilizes the Line Potential Transformers to measure voltage changes on the line which informs their protection relays.	
				Transformer T1 low side (69kV)	Three Phase 69kV CCVT	PCE utilizes the Line Potential Transformers to measure voltage changes on the line which informs their protection relays.	
				50KVA Station Service Transformer	50kVA SSVT, 48kV MCOV Surge Arrester	Provides necessary electrical power to auxiliary systems and equipment. Previously installed local distribution backup source is less reliable. Supports control systems, protection devices, and communication equipment.	
(B) Burdine	Burdine Substation		As a result of the 69kV conversion of the Breaks line at Dorton, The Burdine-Dorton Line will also be converted to 69kV to avoid leaving Burdine station single sourced with no tie options. This scope will make upgrades at Burdine, the existing 46kV Transformer T1 will be removed and a new 69kV Transformer will be installed. The existing fused protection will be updated with a new fuse and a gang-operated disconnect switch will be installed. The existing station service transformer is undersized and in poor condition, a new 12kV 25kVA transformer will be installed. A new RTU cabinet will also be installed on a new direct embed structure.	69/12kV Transformer TR1	69/12kV 9.375MVA Transformer	69kV conversion of the Dorton-Burdine line requires replacing the existing power transformer. This power transformer is sized to cover existing and expected growth while remaining small enough to maintain fused protection.	With Dorton's conversion to 69 kV, Burdine would also need to be converted to 69 kV to avoid leaving Burdine on a 46 kV island should there be a circuit breaker or transformer failure at Dorton Station.
					Disconnect SW A00789. Fuse A07795, 69&12kV Surge Arresters	Fuse A07795 provides overcurrent protection for the transformer to prevent damage from overload conditions. SW A00789 is provided to give a means to disconnect the transformer from the line without taking individual phases out at a time using the fuses. Surge Arresters limit the voltage that can appear across the transformer terminals, preventing damage from transient over voltages to nearby equipment.	

Identifier from Project Description on Page 1 of Application	Project Section	One Line Identifier	Description	One Line Asset ID	Associated Assets	Purpose	Driver for Asset Replacement/Installation
(C) Henry Clay	Henry Clay Substation		As a result of the 69kV conversion of the Breaks-Dorton line, the existing Henry Clay 46kV line, Cap Bank, Transformer and 35kV Distribution equipment will be retired. New 69kV box bays (initial and adder) will be installed to bring in lines from Dorton and Breaks. The lines will have disconnects. Also, a new 69/34.5kV Transformer will be installed along with a new 34.5kV rural bay and three 34.5kV feeders. Controls will be housed in a new 18’ long DICM. The new station will be on the existing Henry Clay site, with most of the construction being in the clear behind the existing substation.	Breaks Line Exit	One Phase 69kV CCVT	PCE utilizes the Line Potential Transformers to measure voltage changes on the line which informs their protection relays.	Due to the baseline voltage violation in the area the Breaks – Dorton line is being rebuilt to 69 kV. 69kV rebuild of line requires most high side equipment and transformers to be replaced at Henry Clay. New Transmission line right of way and new station dead end structures to support this requires replacing the remaining 46kV equipment.
					Line Switch A00771	Motorized Disconnect switch with interrupter for line dropping and load breaking. This switch is capable of opening to separate the station from the transmission line during regular loading conditions. The switch is capable of relay-controlled operation and remote operation.	
				Dorton Line Exit	One Phase 69kV CCVT	PCE utilizes the Line Potential Transformers to measure voltage changes on the line which informs their protection relays.	
					Line Switch A00773	Motorized Disconnect switch with interrupter for line dropping and load breaking. This switch is capable of opening to separate the station from the transmission line during regular loading conditions. The switch is capable of relay-controlled operation and remote operation.	
				50KVA Station Service Transformer	50kVA SSVT, 48kV MCOV Surge Arrester	Provides necessary electrical power to auxiliary systems and equipment. Supports control systems, protection devices, and communication equipment.	
				69/35kV Transformer TR1	69/35kV 30 MVA Transformer	69kV conversion of the Dorton-Burdine line requires replacing the existing power transformer. This power transformer is sized to cover existing and expected growth while remaining small enough to maintain fused protection.	
					Disconnect SW A008X9. Circuit Switcher A008X8, 69&35kV Surge Arresters, 35kV Circuit Breaker A009A2, Disconnect SWs A009A1 & A009A3	Circuit Switcher A008X8 and Breaker A009A2is provided to separate TR1 from the transmission lines and is controlled via PCE Relays. Switches provide a means to disconnect the transformer and breakers from energized buses for maintenance. Surge Arresters limit the voltage that can appear across the transformer terminals, preventing damage from transient over voltages to nearby equipment.	
				Voltage Regulator	Three 19.9kV 1490kVA Voltage Regulators, Disconnect,35kV PTs, Arresters	Voltage Regulators provide stable voltage support for the 35kV system in response to load changes and voltage support needs. Switches provided to provide a means to disconnect and bypass the regulator from energized bus for maintenance,	The new 69/35 kV Transformer and need for an additional feeder requires a new distribution bay and related equipment installation.
				35kV Feeder Exits	Circuit Breakers A009A5, A009A8, A009B2, Disconnect Switches, 24kV MCOV Arresters	Circuit Breakers provide protection and disconnect means for the feeders providing distribution service to the local area. Disconnect switches provide means to separate the breaker and transfer feeder service for maintenance. Arresters limit the voltage that can appear across the transformer terminals, preventing damage from transient over voltages to nearby equipment.	

Identifier from Project Description on Page 1 of Application	Project Section	One Line Identifier	Description	One Line Asset ID	Associated Assets	Purpose	Driver for Asset Replacement/Installation
(D) Ratliff	Ratliff Substation		As a result of the 69kV conversion of the Breaks-Dorton line, the new Ratliff substation will replace the existing Draffin station. Ratliff will be a new greenfield station, comprising of 2 69kV lines, an initial and adder 69kV Box Bay, a 69/12kV transformer, and a new 12 Rural Bay with 2 feeders. A 69kV Cap bank and Cap Bank breaker will be installed as well. The station will also include a site-built control building. The new station will be built in the clear, off of US 460 in Draffin KY.	Breaks Line Exit	Line Switch A00776	Disconnect switch with interrupter for line dropping and load breaking. This switch can open to separate the station from the transmission line during regular loading conditions.	Due to the baseline voltage violation in the area the Breaks – Dorton line is being rebuilt to 69 kV. Existing Draffin Station site could not support new line equipment in a safe/efficient manner. Ratliff station will replace Draffin.
				Dorton Line Exit	One Phase 69kV CCVT	PCE utilizes the Line Potential Transformers to measure voltage changes on the line which informs their protection relays.	
					Line Switch A00782	Motorized Disconnect switch with interrupter for line dropping and load breaking. This switch can open to separate the station from the transmission line during regular loading conditions. The switch is capable of relay-controlled operation and remote operation.	
				50KVA Station Service Transformer	50kVA SSVT, 48kV MCOV Surge Arrester	Provides necessary electrical power to auxiliary systems and equipment. Supports control systems, protection devices, and communication equipment.	
				69/12kV Transformer TR1	69/12kV 20 MVA Transformer	69kV conversion of the Dorton-Burdine line requires replacing the existing power transformer. This power transformer is sized to cover existing and expected growth while remaining small enough to maintain fused protection.	
					Disconnect SW A009B9. Circuit Switcher A009B8, 69&12kV Surge Arresters, 12kV Circuit Breaker A009C2, Disconnect SWs A009C1 & A009C3	Circuit Switcher A009B8 and Breaker A009C2 is provided to separate TR1 from the transmission lines and is controlled via PCE Relays. Switches provide a means to disconnect the transformer and breakers from energized buses for maintenance. Surge Arresters limit the voltage that can appear across the transformer terminals, preventing damage from transient over voltages to nearby equipment.	
				69kV Capacitor Bank	69kV 17.2MVAR Capacitor Bank CAP1	Capacitor banks are installed in substations to provide localized reactive power compensation. This improves the overall power factor, regulates voltage levels, minimizes energy losses in transmission lines and transformers, and increases the active power transfer capacity of the grid.	
					Circuit Breaker A009B5, Switch A009B6, Surge Arresters & Reactors	Circuit Switcher Breaker A009B5 is provided to separate Cap Bank CAP1 from the transmission lines and is controlled via PCE Relays. Switches provide a means to disconnect the transformer and breakers from energized buses for maintenance. Surge Arresters & Reactors limit the voltage and current that can appear across the cap bank terminals, preventing damage from transient over voltages and inrush currents the capacitor bank.	
				Voltage Regulator	Three 7.6kV 933kVA Voltage Regulators, Disconnect, 12kV PTs, Arresters	Voltage Regulators provide stable voltage support for the 12kV system in response to load changes and voltage support needs. Switches provided to provide a means to disconnect and bypass the regulator from energized bus for maintenance,	
				12kV Feeder Exits	Circuit Breakers A009C5, A009C8, Disconnect Switches, 8.4kV MCOV Arresters	Circuit Breakers provide protection and disconnect means for the feeders providing distribution service to the local area. Disconnect switches provide means to separate the breaker and transfer feeder service for maintenance. Arresters limit the voltage that can appear across the transformer terminals, preventing damage from transient over voltages to nearby equipment.	
(E) Henry Clay SS	Henry Clay SS		As a result of the 69kV conversion of the Breaks-Dorton line, the 46KV Henry Clay SS- Elwood Line will be retired along with Henry Clay SS.	Whole Station	46kV Phase-Over-Phase Switch	Line to Elwood no longer needed, New Henry Clay layout brings lines in directly and no longer needs a POP switch outside the station.	New system configuration removes 3 terminal line, thus no longer requiring Henry Clay SS.

Identifier from Project Description on Page 1 of Application	Project Section	One Line Identifier	Description	One Line Asset ID	Associated Assets	Purpose	Driver for Asset Replacement/Installation
(F) Draffin	Draffin Station		This scope is for the Removal and retirement of Draffin Station, retire 46KV POP switch, 5MVA 46/12KV LTC Transformer, 12KV bay with 2 line exits and associated equipment. The existing station site will be leveled and returned to a “normal” state.	Whole Station	Switch, Transformer, Distribution Feeders	Station to be retired due to space constraints, access limitations, and poor condition of existing equipment.	This station is being replaced by Ratliff Station, which will have better access and safer conditions for utility personnel access.
(G) Breaks	Breaks Station		As a result of the 69kV conversion of the Breaks-Dorton line, the 46KV Dorton Elwood Line will be retired at Breaks Station. Retirement of the 69/46kV Transformer (XF1), Circuit Switcher (X1), 46kV Potential Transformers, Surge Arresters and associated jumpers and components. Retirement is under Transco BPID P19037026. This scope will establish a new 69KV Line to Dorton (Via Ratliff Station) by extending the 69KV Bus with strain bus and reutilizing Box Bay, CB-A and disconnects. Replace CB-A switch jumpers. Replace surge arresters with 48KV MCOV. Replace Potential Transformers with 69KV CCVTs reusing existing structure. The distribution fed station service will be replaced with a new 69kV SSVT to improve reliability of the station AC system. A motor operator will be added to the Transformer 2 HS Switch to support relayed operation.	69kV Dorton Line Exit	Three Phase 69kV CCVT	PCE utilizes the Line Potential Transformers to measure voltage changes on the line which informs their protection relays.	Due to the baseline voltage violation in the area the Breaks – Dorton line is being rebuilt to 69 kV. This project is being constructed to convert the existing 46kV bus to 69kV. The shunt elements that are undersized for the new voltage are being replaced with appropriately sized equipment.
					69kV Surge Arresters	Surge Arresters limit the voltage that can appear across the transformer terminals, preventing damage from transient over voltages to nearby equipment.	
				100KVA Station Service Transformer	100kVA SSVT, 48kV MCOV Surge Arrester	Provides necessary electrical power to auxiliary systems and equipment. Previously installed local distribution backup source is less reliable. Supports control systems, protection devices, and communication equipment.	
				Switch X2 Motor Operator	Switch X2 Motor Operator	Provides automatic operation to switch X2 during relayed control schemes.	
(H) Elwood	Elwood Station		As a result of the 69kV conversion of the Breaks-Dorton line, the 46KV Henry Clay SS- Elwood Line will be retired. Terminal equipment will be removed at Elwood Station	Breaks/Dorton Line terminal	CB-C and related equipment	Removal of equipment no longer needed, CB-C and Line disconnect.	Line is being removed from station, and the required equipment will be removed.

EXHIBIT 7
Part 1 of 2

Siting Study

Breaks - Dorton Transmission Improvements Project

Prepared for:



Prepared by:



December 2025

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Attachment F: Official Information for Planning and Consultation (IPaC)
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Key Terminology

Alternative Routes	Assemblage of Study Segments that form routes for analysis and comparison.
Conceptual Routes	Initial routes for the project that adhere to a series of general siting and technical guidelines.
Constraints	Specific areas that should be avoided to the extent reasonably practical during the route development and site selection process.
Distribution Line	An electric line that delivers power from a substation to households and businesses.
Diversion	A minor adjustment to the existing route where no other alternative is considered.
Encroachment	Any structure or activity within an existing right-of-way that could interfere with the safe, reliable operation of transmission facilities is called an encroachment and is prohibited under the terms of a right-of-way.
Endpoints	The project starting and ending point(s) (“Project Endpoints), which may include substations, switch stations, tap points, or other locations defined by the Company’s planners and engineers.
Environmental Justice	“The fair treatment and meaningful involvement of every person, regardless of race, color, national origin, income, faith, or disability...” (EPA.gov).
Focus Area	Areas along an existing transmission line route where rebuilding may not be feasible due to the presence of constraints and alternative route analysis is necessary.
Greenfield	New transmission line route or substation site constructed in an area or along a route where no previous substation or transmission line route existed.
Incompatible Use	Any structure or activity in close proximity to a transmission line that could interfere with the safe, reliable operation of transmission facilities.
Land Use	Describes the human use of the land and activities at a given location such as agricultural, residential, industrial, mining, commercial, and recreational uses. It differs from land cover which only describes the physical characteristics (summarized from EPA.gov).
Opportunity Feature(s)	Areas or existing linear features along which the transmission line may have less disruption to area land uses and the natural and cultural environment.
Project	The proposed transmission facilities studied in the siting report.
Proposed Route	The alignment on which the applicant/Siting Team proposes to construct a transmission line. The Proposed Route: (1) reasonably

	minimizes adverse impacts on area land uses and the natural and cultural environment; (2) minimizes special design requirements and unreasonable costs; and (3) can be constructed and operated in a safe, timely, and reliable manner.
Rebuild Route	Rebuilding in or near the existing transmission line right-of-way.
Reroute Segment	Off existing transmission line centerline alignments.
Segment Endpoint	The intersection of two or more Study Segments.
Siting Team	A multidisciplinary team of experts, in transmission line routing, environmental impact assessment, impact mitigation, engineering, construction management, etc., that works together to develop the Project's transmission line routes.
Study Area	The territory in which line route alternatives can be sited to feasibly meet the Project's functional requirements and, at the same time, minimize environmental impacts and Project costs.
Study Segments	Study Segments are partial alignments that when combined form a complete route.
Study Segment Network	The assemblage of study segments between project endpoints.
Substation or Station (the terms are often used interchangeably)	Substations or stations are facilities that transform bulk electric voltage down to distribution levels and/or provide protection and controls for the transmission electric grid. Typical equipment includes switches, circuit breakers, buses, and transformers.
Substation Study Site	When identifying a new substation site, typically multiple potential substation study sites are reviewed if available. Many associated variables are compared to determine a suitable site such as environmental, visual, engineering, size, line exits, willing seller, safety and operation.
Switching Station	A particular type of substation without transformers and cannot increase or reduce the voltage.
Tap Point	The location where power is tapped from an existing transmission line to source a substation or customer.
Transmission Line	An electric line that operates at 69 kilovolts and/or above and has the purpose of moving power from a generation facility to a substation or between substations.
Transmission Line Extension	An electric transmission line from a tap point on an existing transmission line to a substation or customer facility.

ACRONYMS

AEP	American Electric Power (parent company for Kentucky Power)
CBG	Census Block Group
EHV	Extra-high voltage
EJ	Environmental Justice
GIS	Geographic Information System
GPS	Global Positioning System
kV	kilovolt
NHD	National Hydrography Dataset
NLCD	National Land Cover Database
NRHP	National Register of Historic Places
ROW	right-of-way
SHPO	State Historic Preservation Office
USFWS	United States Fish and Wildlife Service

1.0 INTRODUCTION

1.1 Project Description

American Electric Power (AEP) and its affiliated operating company, Kentucky Power Company (Kentucky Power or the Company), are proposing the Breaks – Dorton Transmission Improvements Project to upgrade the existing transmission line and associated substations to 69-kilovolt (kV) standards. The overall project will retire approximately 26 miles of existing 46-kV **Transmission Line** and a substation, upgrade approximately 18 miles of 46-kV transmission line and associated substations to 69-kV standards, and build a new substation in Pike County, Kentucky. See **Figure 1**, Project Location Map. The 18-mile rebuild of the Henry Clay – Elkhorn City 46-kV and Henry Clay – Dorton 46-kV transmission lines, called Breaks – Dorton Transmission Line is the focus of this study (Project). The area is generally mountainous and rugged with several retired mining operations and scattered residential areas.

The Project will address aging infrastructure originally constructed in the 1960s subject to approximately 192,000 minutes of service interruption to customers over the last five years. Additionally, the Project will replace the 1960s 46-kV transmission lines and vintage wood poles with modern equipment capable of conducting a greater amount of electricity designed to 69-kV standards, which in turn will enhance reliability in the Project area and reduce customer outages.

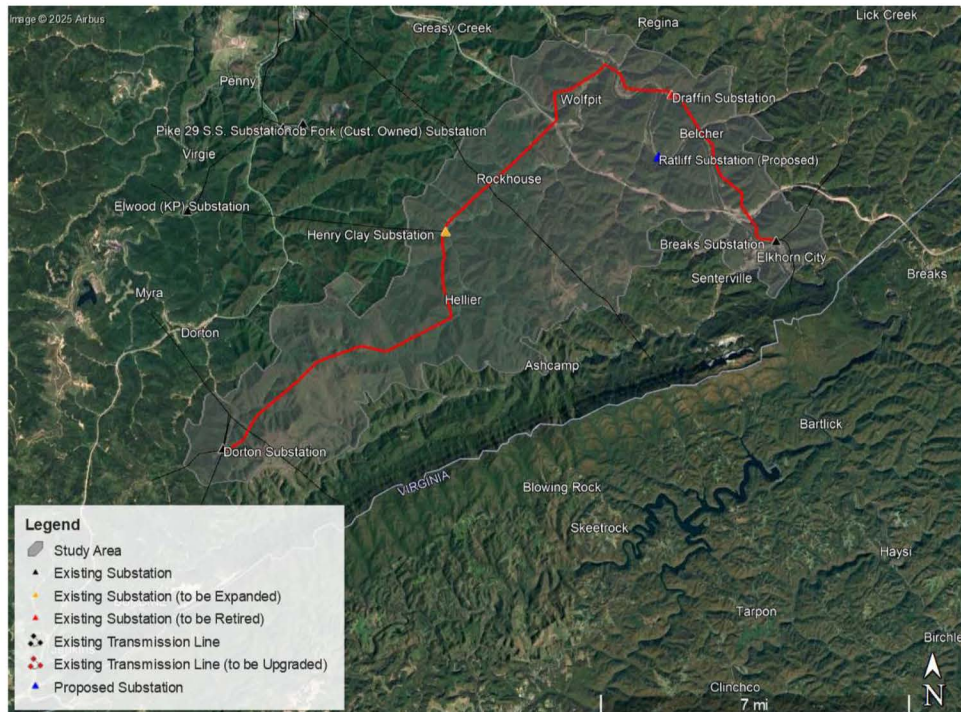


Figure 1. Project Location Map

1.2 Proposed Transmission Facilities Description

The Project will primarily be built using steel H-frame structures (**Figure 2**), replacing the existing 1960s wood H-frame structures. The heights of proposed structures are anticipated to typically range from 70 to 90 feet tall; however, in select locations, structure heights will range between 100 to 120 feet due to design requirements. The average height of the proposed structures is 80 feet, which is approximately 20 feet taller than the height of the existing structures to meeting current design standards. Heights of the proposed structures will vary along the route depending on the topography and constraints. To meet long-term maintenance and safety criteria, the Project will use a typical right-of-way (ROW) width of approximately 100 feet; however, this may vary along the route depending on Project needs, topography, and specific parcel uses and configurations. The final structure heights and ROW requirements will be determined during final engineering and after additional studies are conducting including, but not limited to, ground surveys, geotechnical and environmental studies, and additional interviews with landowners.



Figure 2. Typical Proposed Transmission Line Structure (Steel H-Frame) approximately 70 - 120 feet tall

1.3 Proposed Construction Activities Description

Ground surveying and environmental field surveys/studies are necessary to prepare for transmission line construction. Typical transmission line construction activities include ROW clearing, erosion and sediment control installation, temporary access road construction, crane pad grading, foundation installation, structure assembly and erection, conductor and shield wire installation, and restoration after construction is completed (**Figure 3**). Construction activities sometimes create temporary inconveniences such as traffic delays and detours, brief electrical outages to customers, increased heavy equipment traffic, dust, and noise.

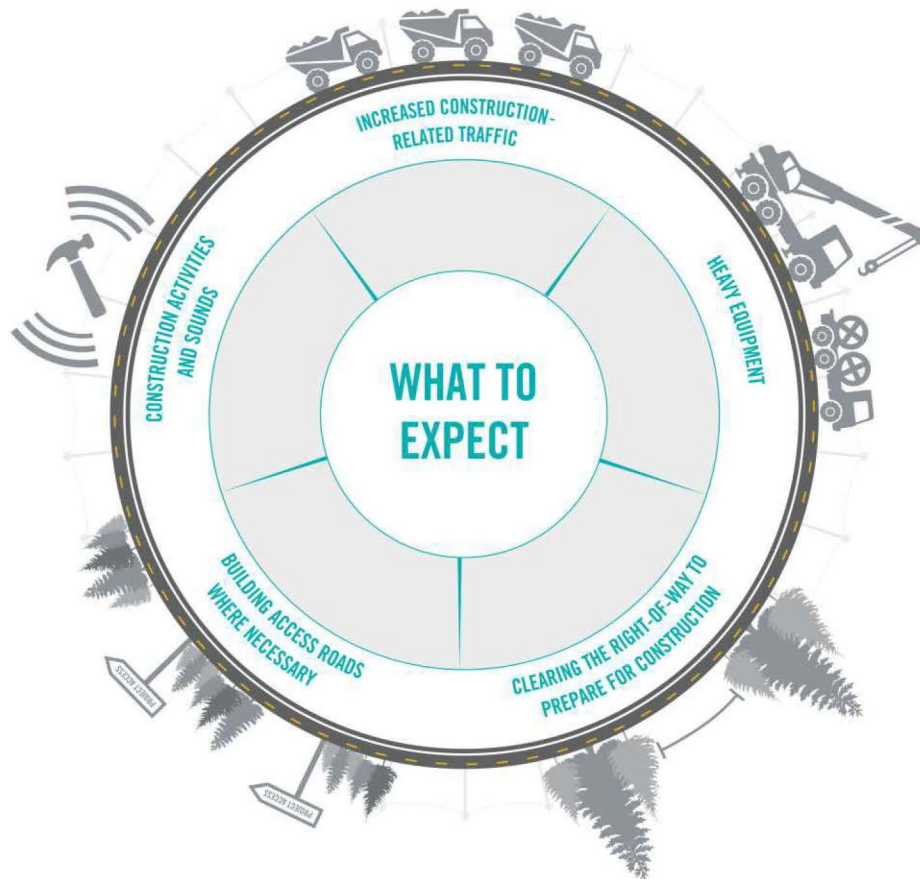


Figure 3. Typical Transmission Line Construction Activities

The Company will make every effort to be respectful of the natural and human environment during construction. All work will be conducted in accordance with applicable federal, state, and/or local requirements. General maintenance after construction includes periodic ROW vegetative management and inspections to ensure safe and reliable transmission line operation.

1.4 Project Timeline and Overview of Regulatory Approvals

The Company initiated the routing process in March 2023, with the development of **Conceptual Routes**, followed by the development of **Study Segments** between April 2023 and June 2024. The Study Segments were reviewed in the field in June 2024. Following field reviews, the Study Segments were refined and presented to the public during open houses in January 2025. Following the open house meeting, the siting team analyzed the Study Segments. **Route Options** for the Project were determined from January to March 2025. A **Proposed Route** for the Project was selected in late March 2025 and publicly announced on December 5, 2025.

The Breaks – Dorton Transmission Improvements Project will be filed with the Kentucky Public Service Commission to obtain a Certificate of Public Convenience and Necessity. Pending the acquisition of all required federal, state, and/or local permits, construction is expected to begin in Fall 2026 to meet a Summer 2028 in-service date.

1.5 Goal of the Siting Study

The goal of the Breaks – Dorton Transmission Improvements Project Siting Study (**Siting Study**) is to gain an understanding of the constraints and opportunity features in the study area to facilitate the development of study segments, evaluate potential impacts associated with the study segments, and identify a proposed route. The proposed route is the route that: (1) is most consistent with the siting guidelines (see Section 2.4); (2) reasonably avoids or minimizes adverse impacts on the natural and human environments; (3) avoids or minimizes special design requirements and unreasonable costs; and (4) can be constructed, operated and maintained in a safe, timely, and reliable manner. This Siting Study describes the route development process and rationale for the proposed route selection.

2.0 ROUTE DEVELOPMENT PROCESS

2.1 Siting Team

The route development process was initiated in March 2023 when a siting team was assembled. It included Company employees and external consultants with diverse expertise including transmission line and substation siting, distribution planning, impact assessment for natural and human environments, impact mitigation, engineering, construction management, project management, ROW, and public relations (**Siting Team**).

The Siting Team works together to develop siting criteria, identify siting constraints and opportunity features, collect and analyze environmental and design data, solicit stakeholder input, coordinate with resource and permitting agencies, develop and revise study segments and alternative routes, and analyze and report on the proposed route selection.

2.2 Route Development Process Overview

Route development is an inherently iterative process with frequent modifications made throughout the Siting Study. Iterations result from identifying new constraints; inputs from agencies, landowners, residents, and other stakeholders; periodic route re-assessments with respect to siting criteria; and adjustments to the overall route network. The Siting Team uses specific vocabulary to describe routes at various stages of development. An overview of the route development process and related vocabulary follows.

Initial route development efforts start with identifying the **Project Endpoints**. Endpoints may include substations, switch stations, tap points, or other locations defined by the Company's planners and engineers. Next, the **Study Area** is defined to encompass the Project endpoints, including surrounding areas which may feasibly be developed for the Project (**Attachment A**). The Study Area for the Breaks – Dorton transmission improvements is generally bounded by **Constraints and Opportunity Features** identified within the Study Area, which encompasses the Project Endpoints and area in between (**Figure 4, Step 1**). The initial constraints and opportunity features are typically identified using readily available public data sources and supplemented with stakeholder input and field inspections.

Once the Project Endpoints, Study Area, and Constraints and Opportunity Features are identified, the **Siting Team** develops an array of **Conceptual Routes** for the Project adhering to a series of general siting and technical guidelines (**Step 2**).

Where two or more of these Conceptual Routes intersect, **Study Segments** are formed between two common points of intersection. Together, the assemblage of Study Segments is referred to as the **Study Segment Network (Step 3)**.

As route development progresses, the Siting Team continues to evaluate new data (e.g., public and stakeholder input and field inspections) and modifies Study Segments in the network, if necessary, to develop a **Refined Study Segment Network (Step 4)**. The Refined Study Segment Network features three key constraint areas where the Siting Team continues to evaluate. These three areas were used to develop **Focus Areas**. Eventually, **Route Options** are developed in each Focus Area, by assembling Study Segments that reasonably meet the **Siting Guidelines** into individual routes to be analyzed further (**Step 5**). Assessment and comparison of Route Options are undertaken by considering potential natural and cultural resources, land uses, and engineering and construction concerns. Ultimately, through a quantitative and qualitative analysis and comparison of Route Options, the Siting Team identifies a **Proposed Route (Step 6)**, which is the route that best meets Siting Study goals (Section 1.5). An overview of the route development process is depicted in **Figure 4**.

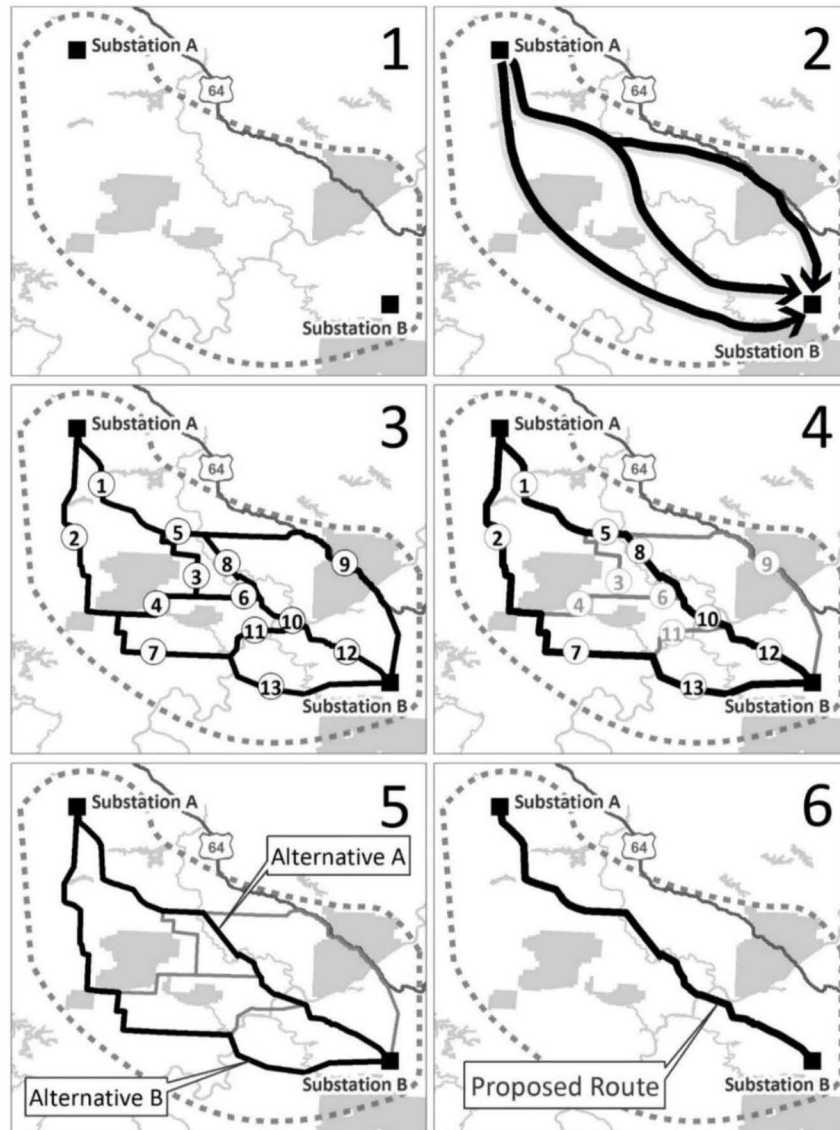


Figure 4. Route Development Steps

This figure shows the route development process and does not depict routes or segments related to this Project.

2.3 Data Collection

The following sources of information were used to develop data for the Siting Study. Data was reviewed and collected for existing and historic land uses, natural resources, cultural resources, transportation facilities, and existing utility and linear features. A detailed table of data sources used for this study is provided in **Attachment B – GIS Data Sources**. The Siting Team collected and reviewed the data, as described in the following sections, to support the Siting Study.

2.3.1 Geographic Information System (GIS) Data Collection

Aerial photography is an important tool for route selection. The primary sources of aerial imagery used in the route identification, analysis, and selection effort for the Project include:

- Google Earth (October 2015 – April 2024)
- Esri Imagery (January 2016 – March 2022)

Updated information, such as the location of new residences and other constraints, was annotated to the photography by either paper maps (at the public meetings) and transferred into the Geographic Information System (GIS) or digitized directly into GIS as identified during field inspections.

Existing GIS data sets obtained from many sources including federal, state, and local governments were used extensively during the Siting Study. Much of this information was obtained through official agency GIS data access websites, some was provided directly by government agencies, and the Siting Team created some by digitizing information from paper-based maps, aerial photo interpretation, interviews with stakeholders, and field inspections.

GIS data sources vary with respect to their accuracy and precision. For this reason, GIS-based calculations and maps presented throughout this study should be considered reasonable approximations of the resource or geographic feature they represent and not absolute measures or counts. The data and calculations presented in this study allow for relative comparisons among Project alternatives. Field reconnaissance is conducted to verify certain features (e.g., locations of residential, commercial, and industrial buildings).

2.3.2 Federal, State, and Local Government Coordination

The Siting Team obtained information from or contacted various federal, state, and local agencies and/or officials to inform them of the Project and request data for the route development process. On December 30, 2024, the Company contacted 17 agency representatives from 15 federal, state, and local agencies. As of December 19, 2024, a total of six responses from five agencies were received. The agencies contacted are listed below. Copies of agency correspondence are included as **Attachment C**.

Federal Agencies

- United States Army Corps of Engineers
- Federal Aviation Administration
- United States Environmental Protection Agency
- United States Fish and Wildlife Service

- United States Department of Agriculture
- United States Department of Transportation

State Agencies

- State of Kentucky Nature Preserves
- Kentucky Office of Energy Policy
- Kentucky Department of Environmental Protection
- Kentucky Heritage Council – State Historic Preservation Office
- Kentucky Transportation Cabinet – Department of Highways
- Kentucky Department of Natural Resources
- Kentucky Department of Aviation

Local Agencies and/or Officials

The Siting Team coordinated with local government agencies/officials to aid the route development process. These entities included:

- Pike County
- Elkhorn City

Other stakeholders and individual landowners were also identified and contacted as part of the siting process. Input received from landowner meetings and public open houses was used in the development and modification of line routes and is discussed further in Section 3.0.

2.3.3 Field Reconnaissance

Siting Team members conducted field inspections within the Study Area throughout the siting process (June 2024). Team members examined Study Segments by automobile from public roads and other points of public access and correlated observed features to information shown on aerial photography, United States Geological Survey 7.5-minute topographic maps, road maps, and GIS sources. Some key features (i.e., residences, outbuildings, places of worship, cemeteries, and commercial and industrial areas) were identified from desktop reviews and mapped in GIS before field inspections. These features were field-verified and added to the GIS database using tablets running GIS software supported by real-time Global Positioning System (GPS). Field visits provided the Siting Team with a high-level understanding of the Project area and the opportunity to review Study Segments in the field from points of public access. Additionally, LiDAR imagery from the existing transmission lines and Study Segments for the Project was used to verify building and structure locations and was considered the best available data before filing with the Kentucky Public Service Commission.

2.3.4 Public and Stakeholder Input

The consideration of public and stakeholder input is critical to the route development process. Landowners and stakeholders provide information and recommendations to aid the Siting Team in the development and refinement of study segments and alternative routes. More information on how public and stakeholder input was used for the Project can be found in Section 3.6.

2.4 Siting Guidelines

2.4.1 General Guidelines

To the extent reasonable and practical, the Siting Team used the following general siting guidelines to help develop study segments and route:

- Avoid or minimize new crossings of hydrologic features, avoid wetland complexes, critical and protected habitats, and other unique or distinct natural resources.
- Avoid or minimize habitat fragmentation in unfragmented areas and impacts on designated areas of biodiversity concern.
- Maximize the separation distance from and/or minimize impact on dwellings and community facilities, cemeteries, schools, daycare facilities, hospitals, historic resources, and designated landmarks.
- Avoid or minimize visibility from scenic resources.
- Avoid or minimize conflict with existing land uses and future development with a proposed plan, schedule, and permitting process underway.
- Consider using or paralleling existing ROWs or other linear features and infrastructure when feasible. When paralleling existing facilities, however, reliability issues and mitigation requirements must be evaluated.
- Consider paralleling property lines.
- Consider stakeholder input.
- Consider safety with respect to construction, maintenance, and operation of the facilities.
- Consider construction concerns such as access, outages, existing bridge and highway interactions, and existing transmission and distribution line conflicts, etc.
- Consider routes through terrain and land use where economical construction and environmental best management practices can be employed.

- Minimize environmental impact by considering routes that minimize the overall length of access roads, length on steep slopes, and waterbody crossings.
- The fair treatment and meaningful involvement of every person, regardless of race, color, national origin, income, faith, or disability.

2.4.2 Technical Guidelines

Technical guidelines are driven by the physical characteristics and engineering limitations of the structures and lines themselves, design criteria necessary to meet AEP design standards, North American Electric Reliability Corporation reliability standards, National Electric Safety Code standards, and industry best practices for construction. The technical guidelines were informed by: (1) the technical expertise of engineers and other industry professionals responsible for the reliable, safe and economical construction, operation, and maintenance of electric system facilities; (2) North American Electric Reliability Corporation reliability standards as implemented by PJM (the regional transmission organization that monitors the electric grid in 13 states); and (3) industry best practices.

The Siting Team considered the following technical guidelines during study segment and route development to extent practical:

- Minimize crossing lines of higher voltage.
- Minimize structure angles greater than 30 degrees.
- Minimize structures on steep slopes (generally, this is more than 20% slopes for angle structures and more than 30% for tangent structures), particularly if guy wires are required for construction.

3.0 ALTERNATIVE ROUTE IDENTIFICATION

3.1 Project Endpoints

The Project Endpoints include the Company's existing Breaks Substation and existing Dorton Substation. The Project also includes connecting into the expanded Henry Clay Substation and proposed Ratliff Substation, between the Project's identified endpoints. The location of the proposed substation directly affects route development process. Therefore, the Siting Team first conducted a Substation Siting Study (see **Attachment D**). The Siting Team evaluated five potential locations and selected a Proposed Site based on an evaluation of impacts to the human and natural environments (see **Map 1, Attachment A**). The proposed Ratliff Substation is located in reasonable proximity to the transmission line sources and existing distribution system, has a willing seller, and can be constructed to meet the engineering and operational requirements of

the Project. Additionally, the proposed Ratliff Substation allows the Company to reduce the overall length of the transmission line to be rebuilt.

3.2 Study Area Description

The Study Area is the territory in which line route options can be sited to feasibly meet the Project’s functional requirements and reasonably minimizes environmental impacts and Project costs. The boundaries of the Study Area were determined by geographic area encompassing the Project Endpoints, the existing Henry Clay – Elkhorn City and Henry Clay – Dorton transmission line ROW, and proposed Ratliff Substation. Given these considerations, the Siting Team identified a Study Area encompassing approximately 35,856 acres (55 square miles) in Pike County, Kentucky. (see **Attachment A**). This Study Area generally follows contour lines along an approximate 1-mile buffer to the north and east side of the existing centerline, Elkhorn Creek (Kentucky Route 197) to the south, and Dorton Jenkins Highway (State Highway-805) to the west. The Study Area consists of rugged mountainous terrain in the Appalachian Mountains of Kentucky. Forested areas with scattered residential and commercial development along roads and in valleys are common in the Study Area, although more dense development exists in the southeast of the Study Area in the City of Elkhorn (**Figure 5** and **Figure 6**).



Figure 5. Mountainous terrain in Pike County, Kentucky



Figure 6. Residential development in Pike County, Kentucky

3.3 Constraints and Opportunity Features

The Siting Team identified and mapped siting constraints and opportunity features within the Study Area as described below and shown on the Study Area map (**Attachment A, Map 1**).

Constraints

Constraints are specific areas that should be avoided to the extent practical during the route development process. Using readily available public data sources, the Siting Team initially identified large constraints during the beginning of the route development process including, but not limited to, the following:

- Populated areas, including towns, small villages, urban areas, and other high concentrations of residential, commercial and industrial development areas.
- National Register of Historic Places (listed and eligible).
- Recreational areas such as parks and large recreational reservoirs.
- Rivers, streams, wetlands, flood zones or unique natural resource features, and critical habitat areas.
- Designated federal or state forests, parks, state game lands, and other natural and conservation areas.
- Future land use plans and developments.

The Study Area includes the following larger constraints: rugged and mountainous terrain; retired and active mining; Jefferson National Forest; Elkhorn City; and the existing Cinch River – Beaver Creek 138-kV and Big Sandy – Broadford 765-kV high voltage transmission lines.

As the Siting Team developed Study Segments, smaller site-specific constraints were identified (using readily available public data sources, stakeholder input, and field inspections). Through the route development process (described in Section 2.0), the Study Segments were adjusted to avoid small constraints where feasible, including, but not limited to the following:

- Individual residences
- Commercial and industrial buildings
- Outbuildings and barns
- Cemeteries
- Places of worship
- Schools
- Hospitals
- Designated historic resources and landmarks
- Small wetlands
- Specific recreational sites, facilities, and trails
- Radio and communications towers
- Key and designated scenic vista points
- Site-specific future land use plans

Opportunity Features

Opportunity features are typically existing corridors, areas or edges where a transmission line would be a compatible land use or its presence would be reduced by an existing linear feature. Opportunity features typically considered include other linear infrastructure and utility corridors, rail lines, and roads, but may also include land cover edges, unused portions of industrial or commercial areas, or parcel boundaries. Siting opportunities identified within the Study Area are listed below and presented on the Study Area map (**Attachment A, Map 1**).

- Henry Clay – Dorton 46-kV Transmission Line
- Henry Clay – Elkhorn City 46-kV Transmission Line
- Existing roads in retired mining areas

Rebuilding the existing Henry Clay – Dorton 46-kV Transmission Line within or near the existing ROW was considered an attractive opportunity for most of the line. However, the existing Henry Clay – Elkhorn City 46-kV Transmission Line was only an attractive opportunity for the small portion north of the existing Breaks Substation because the location of the proposed Ratliff Substation is further south than the existing Draffin Substation to be retired. Other high voltage transmission lines are within the Study Area; however, do not present attractive opportunities because of the direction they traverse the Study Area.

3.4 Routing Concepts

Conceptual Routes were developed that connect the Project Endpoints primarily to utilize the existing transmission line corridors. These corridors included, but were not limited to, re-use of the existing Henry Clay – Dorton 46-kV Transmission Line in the northern portions of the Study Area. (**Attachment A, Map 2**). A total of 41 study segments were developed.

3.5 Routing Concepts

Conceptual Routes were developed to connect the Project Endpoints primarily utilizing the existing transmission line ROW while reducing the overall length of proposed transmission line needed between the proposed Ratliff Substation and existing Breaks Substation. The central portion of the Study Area allowed the Siting Team to identify a range of Conceptual Routes while avoiding the National Forest Proclamation/conservation land, Elkhorn Creek and residential development in the southern portion. The Siting Team considered three key constructability constraint locations – two Extra High Voltage (EHV) transmission lines and a highway bridge (KY-3174) crossing when developing Conceptual Routes (**Attachment A, Map 3: Pages 7 and 23**).

3.6 Study Segment Development

Study Segments are partial alignments connecting the Project Endpoints within the Study Area. A total of 41 study segments were developed. Steep and rugged mountainous terrain is present throughout the Study Area. Reclaimed mining land with existing access roads in the western portion of the Study Area presented a key opportunity to avoid the difficult-to-maintain existing Transmission Line ROW and contained the majority of Conceptual Routes for connection between the existing Dorton and Henry Clay Substations. The Siting Team developed Study Segments based on the route development process and criteria described in Section 2.0 (**Attachment A, Map 3: Pages 1 - 26**) to meet the Project’s functional requirements and, at the same time, minimize environmental and socioeconomic impacts, and Project costs. The Study Segments are evaluated and refined after public and stakeholder input as described in Section 3.7.

- Study Segments 1, 2, 3, 4, and 5 were developed to utilize the existing Henry Clay – Elkorn City 46-kV Transmission Line ROW to the extent possible while taking into consideration the proposed Ratliff Substation, located one mile southwest of the existing Draffin Substation, and reduce the overall length of proposed transmission line to be rebuilt. This area is heavily constrained by terrain and constructability concerns; therefore, minimal Study Segments were considered. The presence of historic and recent landslides west of the existing Breaks Substation guided Study Segment 1 away from the existing ROW to the ridge top. Study Segment 2 was identified as a feasible double-circuit connection, avoiding residences east and west of the proposed Ratliff Substation. Study Segments 3, 4, and 5 use ridgetops to safely span over the newly constructed KY-3174 bridge, one of the key constructability constraint areas.
- Study Segments 6 through 11 were developed to connect the proposed Ratliff Substation and the existing Henry Clay substation to be expanded. Study Segments 6 and 7 provide options for routing through the mountainous terrain in consideration of span lengths, turning angles, and number of structures. Continuing through Study Segment 8, which traverses the terrain in a generally tangent alignment, crosses an operational Kentucky/West Virginia Gas pipeline and the Company's existing Big Sandy – Broadford 765-kV Line. Routing abilities were constrained in this area due to required clearances to safely cross under an existing EHV transmission line, one of the key constructability constraint areas. Study Segments 9 and 10 avoid the geohazards of previous landslides and mining spoils in the area and were developed to consider engineering criteria such as span lengths and number of structures. Study Segment 11 is a connector Study Segment that crosses over a Kentucky/West Virginia Gas-managed natural gas pipeline.
- Study Segments 12, 13, 14, 15, 16, 17, and 18 were identified as a range of options for connection to the Henry Clay Substation while avoiding residences along Big Branch Road, Bowling Fork Road, and Marrowbone Creek Road. Study Segment 13 utilizes the opportunity to reduce the length of transmission line to be rebuilt and allows for single-circuit or double-circuit substation connection options.
- Study Segments 19, 22, 24, 25, 26, 33, and 35 represent rebuild options along the existing Breaks – Dorton 46-kV Transmission Line into Dorton Substation. Study Segment 23 avoids heavy angle structures while traversing in the same general area of the existing Breaks – Dorton 46-kV Transmission Line to be rebuilt.
- Study Segments 20 and 21 are connectors that utilize the opportunity to rebuild the existing Breaks – Dorton 46-kV Transmission Line and reduce length of transmission line to be rebuilt.

- Study Segments 27, 29, 30, 32 and 33 utilize the existing access roads built within the retired mining areas within the ARC Kentucky mining territory. Additionally, Study Segments 33 and 34 utilize constructible locations to cross under the existing Clinch River – Beaver Creek 138-kV Line, one of the key constructability constraint areas.

3.7 Stakeholder and Public Input

Once Study Segments were developed, the Company engaged with key stakeholders and later invited the public to provide comments and feedback on the Project.

3.7.1 Stakeholder Input

Prior to the Study Segments being presented to the public, the Siting Team met with representatives from local and planning organizations to introduce the Project and gather information about potential developments or projects in the Study Area. These meetings allowed the Company and the Siting Team to consider specific input and comments on the Study Segment Network prior to presenting information to the public.

Early in the development of the Project, in February 2024, the Project Team engaged with representatives from Pike County to introduce the Project and provide general information regarding the identified need for electrical improvements in the area and the Company's intent to upgrade the existing Breaks – Dorton 46-kV transmission line and associated substations. No conflicts were identified in the Study Area.

In November 2024, ahead of the Project announcement and in-person public open house, the Company met again with Pike County representatives to provide Project updates and gather information regarding the Study Segment Network. No conflicts were identified in the Study Area.

3.7.2 Public Communications and In-Person Open House

The Project was publicly announced with a news release on December 5, 2024.

Landowners within a 1,000-foot corridor (500 feet on either side of a Study Segment) were notified of the Project and of the upcoming public open house. Landowner addresses were obtained from Pike County in November 2024. Notifications included the following activities:

- A news release was distributed by the Company on December 5, 2024, to announce the Project and public open house.
- Mailings were sent to 293 landowner addresses on December 5, 2024. The outreach mailing included a postcard, letter, Project factsheet, a map showing the line segments pertinent to each landowner's property, and a comment card with prepaid postage

return envelope. Additionally, advertisements for the Open House events were posted on Facebook and operated between December 2024 and January 2025

The Company had an in-person open house scheduled for early-January 2025; however, the event was postponed due to severe inclement weather. The event was rescheduled and hosted on January 29, 2025, from 5:30 to 7:30 p.m. at Shelby Valley High School (125 Douglas Park, Pikeville, Kentucky). The Company presented the Study Segments for the Project at the open house to gather landowner and community feedback. Various stations were set up at the open house that provided information related to the engineering and design of structures, Project need, ROW activities, and construction process.

Printed maps at a scale of 1 inch = 200 feet were provided at the open house for the public to review and were used to record written comment concerning sensitive resources in their local environment. Members of the Siting Team greeted attendees, answered questions about the Project, and aided attendees in locating their property or other notable features on the maps showing existing infrastructure, human and natural resources, and Study Segments. Open house attendees were encouraged to document the location of their houses, buildings, places of business, or other sensitive resources on the maps.

In total, 24 people attended the in-person public open house and eight landowners provided mark-up comments on the presented map-books.

3.7.3 Project Website and Virtual Open House

A Project-specific website was launched concurrently with the Project announcement on December 5, 2024 (<https://aeptransmission.com/kentucky/BreaksDorton/>). The Project website includes updates and new releases, an interactive map, fact sheet, Project timeline, and the same Project maps that were presented at the in-person open house event. Information related to the Project need, ROW activities, and construction process was also accessible. In addition to comment cards collect at the open house, questions and comments were welcomed on the Project website through the contact page.

3.7.4 Other Stakeholder Input

In September 2024, the Company met with representatives from Elkhorn Mining Company and ARC Kentucky Resources, LLC. During these meetings, the Company reviewed the Project need and scope, including expected structure types and heights, ROW requirements, and Project timeline, received input on the Study Segment network, and discussed previous and active mining activities as they relate to the Study Segment network and considered construction access in such areas. No conflicts were identified in the Study Area.

In October 2024, the Company met the Trail Manager for the Hillbilly Trails, a UTV vehicle trail system, and Pike County Court, the property owner. During this meeting, the Company shared the Study Segment network with and received input on the potential impacts of the Project on their trail operations. The representatives mentioned a solar developer with plans for a proposed generation array to be located on the property with plans to connect into the existing Henry Clay – Dorton 46-kV transmission line. No additional conflicts were identified in the Study Area.

Following the October meeting with the Hillbilly Trails management, the Company reached out to the solar developer, Carolina Solar, for technical discussions to investigate the potential for collaboration. Company staff met with Carolina Solar for insights to the development plans and gather input relating to the Project. The solar generation facilities were in the PJM queue and coordination for interconnection into the Company's system had not yet been established. Preference for proximity to the transmission line rebuild was conveyed.

3.7.5 Consideration of Public and Stakeholder Input

Following the open houses, comments left in the Project map books were digitized and entered into the Project's GIS database. Likewise, the 36 comments submitted to the Company via phone, email, mailed-in comment cards, and the Project website were recorded and cataloged on a Comment Tracker sheet. Comments included concerns over diminished property values, noting of specific features on landowners' property (streams, barns, wildlife, etc.), future development plans, and support or opposition to specific Study Segments.

Upon reviewing the comments, the Siting Team incorporated the information, where applicable, when reviewing, revising, and comparing Study Segments as described in Section 3.8.

3.8 Study Segment Evaluation and Refinement

Study Segments were evaluated and refined using public and stakeholder input, updated mapping, additional field inspections, and engineering requirements to avoid or minimize impacts to Study Area resources. As a result, some Study Segments were removed, added, and modified as described below. **Attachment A, Map 4** shows the Refined Study Segments.

- Study Segment 4 was dismissed based on engineering preference for Study Segment 5 at the KY-3174 bridge crossing.
- Study Segments 6, 7, and a portion of 8 were dismissed following the open house where the Company was made aware of future development plans and an associated private airstrip crossed by the Study Segments. Study Segments 36 and 37 were developed to avoid the existing use and future development plans.

- Study Segments 14 and 15 were dismissed based on constructability preference to tie into the Henry Clay Substation with a double-circuit loop. As a result of this preference several western Study Segments (16, 17, 18, 19, and 20) were dismissed. Additionally, a connector Study Segment 38 was developed for connectivity with the options on either side of Marrowbone Creek Road (Study Segments 21 and 22).
- Study Segment 39 was added as an option to cross under the existing Clinch River – Beaver Creek 138-kV Transmission. This Study Segment minimizes length of transmission line to be rebuilt while utilizing the existing access roads within reclaimed mining areas; However, this crossing location would require the existing structure to be raised.
- Study Segments 1-3, 5, 8a, 11-13E, 35, 36, 40, and 41, and 35 were identified as preferred by the Siting Team and compiled as the Proposed Route. Remaining areas where further discussion and quantitative analysis was required were carried forward and discussed in Section 3.9.

3.9 Focus Areas and Routing Options

The Siting Team met frequently throughout the route development process, continually reviewing, modifying, and eliminating Study Segments based on field inspections, engineering requirements, and stakeholder input. At the end of the process, the Siting Team identified three distinct areas of the Project that required further analysis and comparison. Three Focus Areas were developed and Study Segments were compiled into Route Options for each of the areas. A total of 13 Route Options were identified and are described in the following sections. **Attachment A, Map 4 and Figures 7 through 9**, show the Focus Areas and Route Options.

3.9.1 Focus Area 1

Focus Area 1 is located at the crossing of the existing Clinch River – Beaver Creek 138-kV Line. Crossing existing transmission lines, especially those of higher voltage, is a key consideration in the routing of a transmission line. Focus Area 1 consisted of four Route Options for crossing under the existing 138-kV transmission line:

- Route Option A (Study Segment 26) rebuilds the existing Henry Clay – Dorton 46-kV transmission line and utilizes existing ROW; reducing the length of transmission line to be built, new ROW to be acquired, and required tree clearing. However, the existing transmission line is currently hard to access and has minimal existing access roads.
- Route Option B (Study Segment 33) represents a more direct route out of the Dorton Substation. This option traverses steep terrain and requires new ROW and tree clearing; however, minimizing outages required for construction and utilizes existing access roads.

- Route Option C (Study Segment 34) traverses to the south within the retired mining areas to utilize the existing access roads and cleared areas. This route would increase the length of transmission line to be built and new ROW to be acquired; however, minimize tree clearing.
- Route Option D (Study Segment 39) maintains the same opportunities as Route Option C; however, is further north and would require less length of transmission line to be built and new ROW to be acquired.

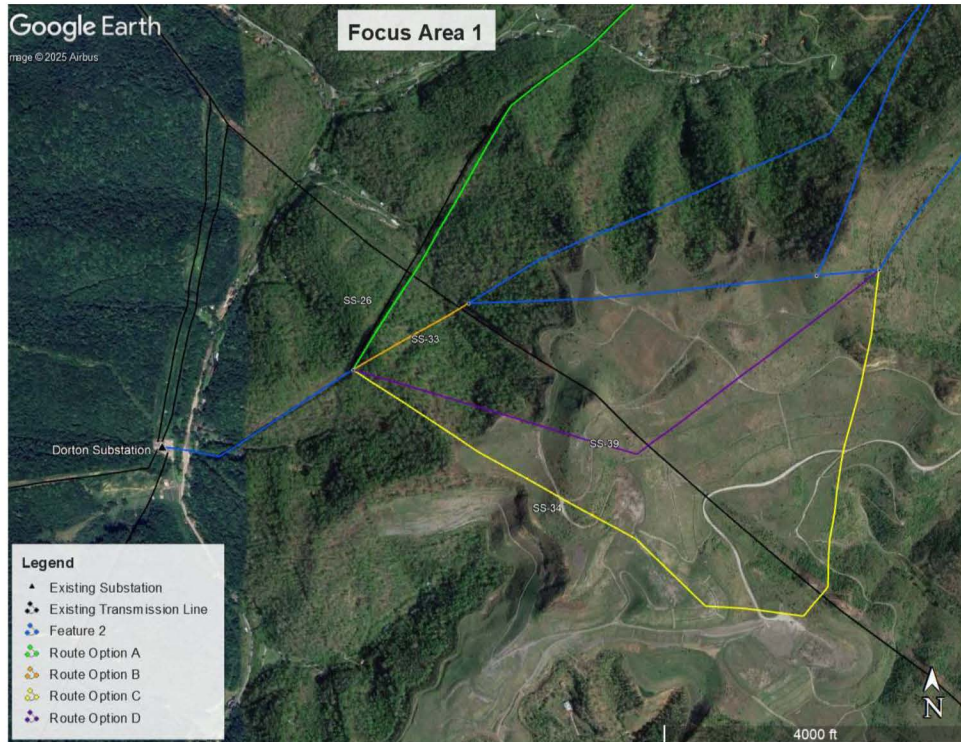


Figure 7: Focus Area 1

3.9.2 Focus Area 2

Focus Area 2 includes six route options between Dorton and Henry Clay substations, which consider rebuilding within the existing transmission line ROW, existing access within the ARC Kentucky retired mining areas, and constructability considerations associated with span lengths, turning angles, number of structures, and length of new transmission line and associated tree clearing and ROW. All Route Options of Focus Area 2 include Route Options from Focus Area 1 as they share a common location where the potential to deviate from the existing Henry Clay – Dorton 46-kV transmission line ROW for the crossing of the existing Clinch River – Beaver Creek 138-kV Transmission Line.

- Route Option A (Study Segments 26, 25, 23, 21b, and 38) rebuilds the existing Henry Clay – Dorton 46-kV transmission line and utilizes existing ROW for most of the route. Route Option A includes a greenfield portion to reduce length of transmission line and heavy turning angle structures associated with the existing transmission line ROW.
- Route Option B (Study Segments 33, 29, 27, and 22) is greenfield for most of the route. The western portion of the option minimizes the length of line and number of angles as it traverses forested mountainous terrain with long spans along ridgetops. However, the eastern portion of the option utilizes retired mining areas for existing access and previously cleared areas.
- Route Option C (Study Segments 33, 32, 30, 27, and 22) is similar to Route Option B; however, traverses south after the 138-kV line crossing to utilize existing access and avoid forested mountainous terrain, before angling back to the north towards ridge tops.
- Route Option D: (Study Segments 33, 32, 31, 28, and 22) is similar to Route Option C in angling south to avoid forested mountainous terrain; however, continues south traversing the retired mining areas in effort to minimize the number of heavy line angles.
- Route Option E: (Study Segments 39, 28 and 22) is greenfield for most of the route and traverses largely through the cleared and previously mined area and positions the under-crossing of the existing 138-kV line near to an existing structure. Engineering review indicated that the crossing point, would require the existing structure to be raised to maintain operation and maintenance clearances.
- Route Option F: (Study Segments 34, 28, and 22) is similar to Route Option E, however this crossing location would not impact the existing 138-kV line but requires additional line length and angles.

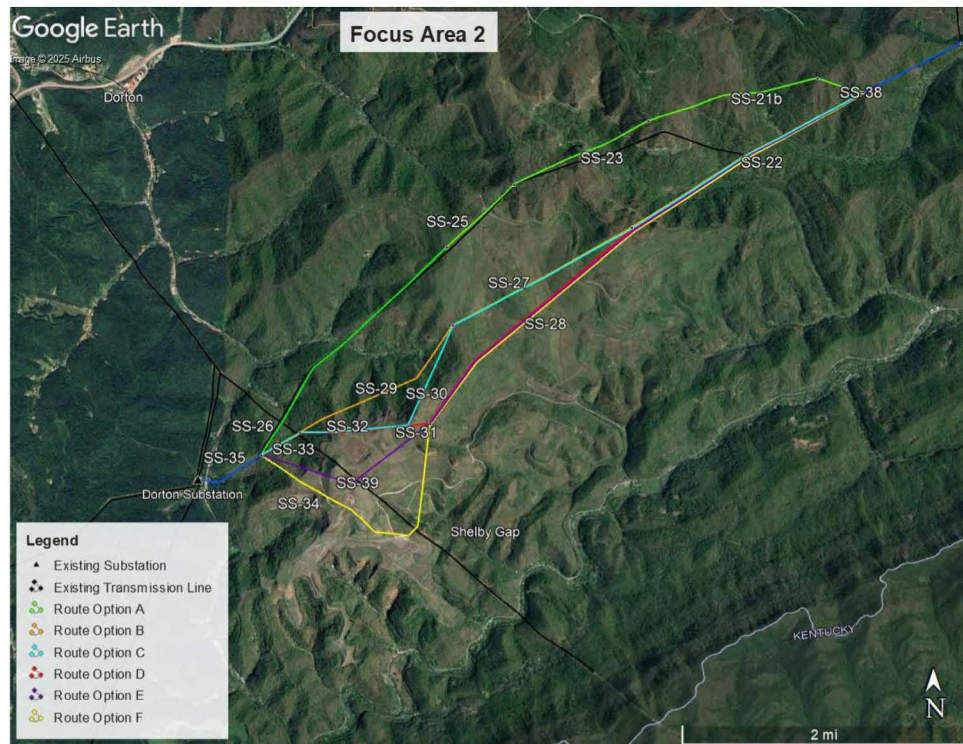


Figure 8: Focus Area 2

3.9.3 Focus Area 3

Focus Area 3 includes two route options, located east of Henry Clay Substation, which consider retired mining areas, documented geotechnical constraints, and constructability considerations associated with span lengths, turning angles, and number of structures.

- Route Option A (Study Segment 10) was developed during initial assessment to reduce the overall length of new transmission line needed between Henry Clay and the proposed Ratliff Substation while avoiding known geohazards in the area and residences along Marrow Creek and Song Branch roads.
- Route Option B (Study Segment 9) is similar to Route Option A; however, represents a more direct route to reduce length of transmission line and heavy turning angle structures.

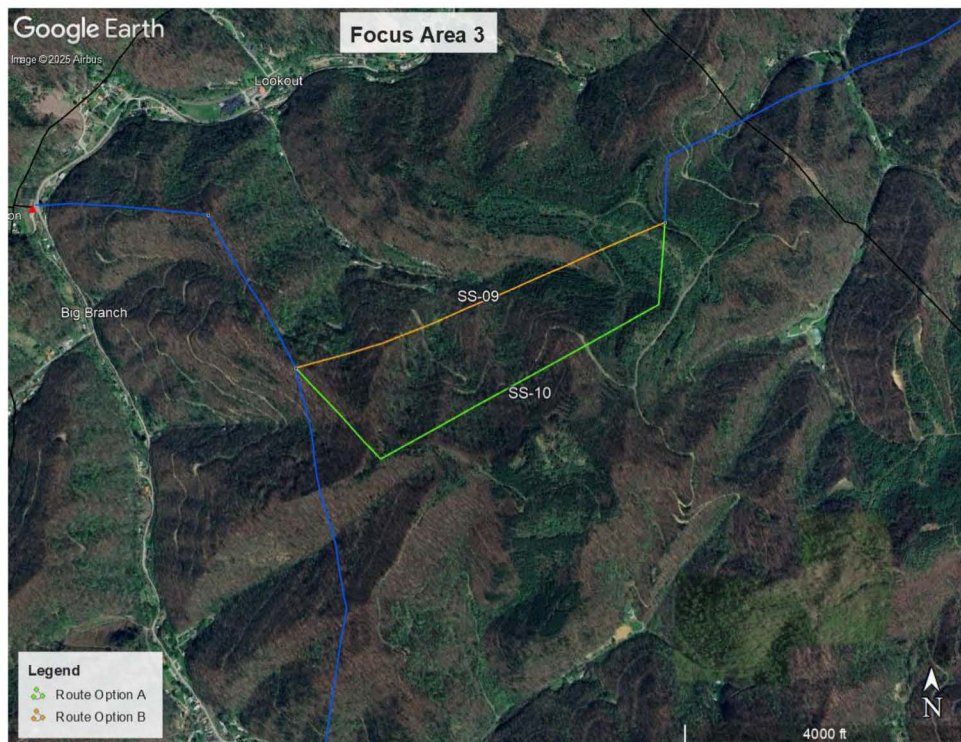


Figure 9: Focus Area 3

4.0 ROUTE OPTION COMPARISON

The Route Option comparison provides a quantitative and qualitative analysis of potential impacts to local communities, the environment, and cultural resources as well as engineering and constructability concerns. The Route Options were reviewed in detail and compared using a combination of information collected in the field, GIS data sources, public input, supporting documents, and the collective knowledge and experience of the Siting Team.

4.1 Natural Environment

The natural environment includes water, soil, sensitive species, and wildlife habitat. Potential impacts are based on publicly available maps and data as well as coordination with federal, state, and local agencies. The Siting Study goal is to avoid or minimize impacts on the natural environment to the extent practicable during construction, operation, and maintenance of the transmission facilities. A comparison of the natural environment considerations for each Focus Area and Route Option is presented at the end of this section in **Table 1**.

4.1.1 Geological, Soil, and Water

Resource Characteristics

The Study Area is characterized by steep and rugged mountainous terrain. The most prominent hydrogeographic resource in the Study Area is the Russell Fork and Morrow Bone Creek. Tributaries of the Russell Fork that drain stormwater from the mountainous terrain are present throughout the Study Area. A review of National Wetlands Inventory data indicates that wetlands are scarce within the Study Area. The primary land cover is forest, cleared lands in retired mining areas are also present. Constructability and geotechnical issues are discussed in Section 4.3.

Focus Area Overview: Route Options Comparison

Given the mountainous terrain, wetland features are not prominent within the Study Area or specific to Focus Areas; therefore, there are no major water resources difference between the Route Options.

4.1.2 Wildlife Habitat and Sensitive Species

Resource Characteristics

In August 2023 and again in January 2025, the Company utilized the United State Fish and Wildlife Service Information for Planning and Consultation (IPaC) web tool to research federal and state endangered species in the Study Area. Four bat species, the federally listed endangered northern long-eared bat, gray bat, Indiana bat and the federally proposed endangered tricolored bat were

identified by the IPaC. Additionally, the Big Sandy Crayfish, a federally listed threatened fish, was identified by the IPaC as the Study Area overlaps with the Big Sandy Crayfish's listed critical habitat. No federal or state listed mussel species were noted to occur within the Study Area.

Focus Area Overview: Route Options Comparison

The potential presence of threatened and endangered species, both listed and proposed, necessitates strict adherence to time of year restrictions for tree clearing. Focus Area 1 and 2 contain Route Options that propose rebuilding within existing ROW, thus minimizing the amount of required tree clearing; however, southern portions of Focus Area 1 and 2 propose construction through previously mined lands minimizing the amount of tree clearing that would be required. Focus Area 3 contains route options that both require tree clearing for the entire length of new ROW through mountainous terrain.

Focus Area 1

Route Options A and B require the largest amount of tree clearing through mountainous terrain with little existing access roads. The development of the Project including clearing and construction, and the overall Project schedule would be the most impacted by these restrictions. Route Options C and D require the least amount of tree clearing through previously mined lands, development and schedule would be the least impacted by these restrictions.

Focus Area 2

Route Options A and B require the largest amount of tree clearing through mountainous terrain with little existing access roads and development and schedule would be the most impacted by these restrictions. Route Options C and D are similar in length of new transmission line within new ROW; however, are shorter in length and cross through previously mined lands. Route Options E and F require the least amount of tree clearing through previously mined lands and development and the schedule would be the least impacted by these restrictions.

Focus Area 3

Route Option A, which requires the largest amount of tree clearing for new ROW and larger heavy angle structures, would be the most impacted by these restrictions.



Table 1. Natural Environment Evaluation Criteria													
FOCUS AREA		1				2						3	
ROUTE OPTION		A	B	C	D	A	B	C	D	E	F	A	B
General													
Length	miles	2	1	1.9	1.3	5	5	4.8	4.8	4.9	5.5	1	1
Acres of ROW	Acres	23	16	23.5	15.8	61	58	59	59	60	68	15	12
Water Resources													
Total streams crossed	count	2	0	2	0	4	6	6	6	5	7	1	2
<i>No water bodies (lakes, rivers etc.), wetlands, or FEMA-designated floodplains, or riparian buffers are crossed by Route Options.</i>													
Geological and Soil Resources													
Known caves or mines in the ROW	count	2	2	5	2	11	11	12	11	10	13	-	-
<i>No Preserved Lands are crossed by Routing Options. Prime and unique farmland or farmland of statewide importance is not found within the Study Area.</i>													
Wildlife and Habitat													
Tree clearing required in the ROW (digitized based on aerial photography)	acres	12.7	15.2	4.3	4.9	38.5	37.9	32.7	24.4	22.9	22.3	14.4	10.6
<i>No designated natural areas crossed by the ROW.</i>													

4.2 Human Environment

The human environment includes the use of the land and activities at a given location such as forestry, residential, industrial, mining, commercial, institutional, scenic assets, and recreational uses. A goal of the Siting Study is to avoid or minimize conflicts with existing and proposed land uses that are not compatible with a new transmission line. A comparison of the human environment considerations each Focus Area and Route Option is presented at the end of this section in **Table 2**. Land use within the Study Area is shown on **Attachment A, Map 2 and 3**.

4.2.1 Existing and Proposed Developed Land Use

Resource Characteristics

Residential and commercial development is scattered throughout the Study Area, with the highest concentration still considered low density development, located along Marrowbone Creek Road and near to Elkhorn City. During the public outreach phase of the Project, landowners and stakeholders provided various information regarding land use plans to the Siting Team. These plans included, among others, proposed residences and the expansion of commercial operations and development of solar generation facilities.

Focus Areas Overview: Route Options Comparison Utilizing information gathered during the public outreach phase of the Project, the Siting Team eliminated any Study Segments that directly impacted known proposed developments. As such, none of the Route Options impede any known existing or proposed development.

4.2.2 Mining Resources

Resource Characteristics

Active and previous mining operations are common throughout the Study Area, with the highest concentration located between the existing Dorton and Henry Clay substations. During the stakeholder input phase of the Project, multiple mining and resource companies were engaged for input and provided various information regarding existing and future plans to the Siting Team.

Focus Areas Overview: Route Options Comparison

Representatives from the various mining operations provided feedback based on the Study Segment network regarding the existing transmission line to be rebuilt, possible structure locations, and access through properties. No concerns for conflict with present or future mining operations was identified. Opportunity was identified for utilization of the existing access roads throughout the mining boundary areas.

4.2.3 Recreation and Conservation Lands

Resource Characteristics

There are no conservation lands or public parks located within the Study Area or anticipated to be impacted by the Project. The Hillbilly Trails system, a recreational UTV trail system located in the western portion of the Study Area, was identified by the Project Team. The existing line to be rebuilt currently crosses the property and associated trails. The Siting Team devised multiple Route Options for review and discussion with the landowner towards minimization of impacts.

Focus Areas Overview: Route Options Comparison

Scenic character is prevalent throughout the Project Area; however, only one designated recreational resource, The Hillbilly Trails, was identified. During engagement with stakeholders and landowners, the Project Team evaluated gathered input but no significant impacts to recreational resources are anticipated.

Table 2. Human Environment Evaluation Criteria

		1				2						3	
Route Option	Unit	A	B	C	D	A	B	C	D	E	F	A	B
General													
Length	miles	2	1	1.9	1.3	5	5	4.8	4.8	4.9	5.5	1	1
Number of parcels ¹ crossed	count	15	6	7	7	26	22	26	24	15	15	11	9
Landowners within ROW	count	12	6	6	5	22	18	21	19	10	11	10	8
Municipalities, Counties, and Townships Crossed													
Pike County, Kentucky	miles	2	1	1.9	1.3	5	5	4.8	4.8	4.9	5.5	1	1
Residential													
Residences/single-family dwellings within 250 feet of centerline	count	1	0	0	0	1	0	0	0	0	0	0	0
Residences/single-family dwellings within 500 feet of centerline	count	6	0	0	0	6	2	1	1	1	1	0	1
No barns, outbuildings, sheds, garages, or silos in the ROW; Residences/single-family dwellings within ROW or 100 feet of centerline; or multi-family dwellings within ROW or 500 feet of centerline.													
Commercial/Industrial													
Mining areas crossed	count	2	2	5	2	11	11	12	11	10	13	0	0
Businesses/commercial buildings within ROW or 500 feet of centerline													
Agricultural													
No Pasture/rangeland or cropland (based on National Land Cover Database data), tree farms/orchards, or agricultural easements within ROW													
Community/Recreational Facilities													
Recreation areas crossed by the ROW	count	0	0	0	0	1	1	1	1	1	1	0	0
No Schools or designated places of worship within 1,000 feet of centerline; cemeteries, hospitals, and assisted living facilities within 250 feet of centerline; or designated scenic byways or park areas crossed by the ROW.													
Protected Land													
No federal/state protected land, local public lands, or conservation easements crossed by the ROW.													
Cultural Resources													
No NHRP listed or eligible archaeological or architectural, historic districts, or landmarks are located within the centerline or one mile of the Project.													

Notes:

¹ The number of parcels crossed refers to the number of individual plots of owned land recorded by each county. The number of landowners within the ROW represent the number of individual landowners, who each may own one or more parcels.

² Multi-family dwellings include townhome, condominium and apartment complexes, and duplexes.

³ Commercial development includes retail, service, office, restaurants, and lodging establishments.

4.2.4 Historic and Archaeological Resources

Resource Characteristics

Only one historic architectural resource within the Study Area is listed within the National Register of Historic Places (NRHP) and three others have been determined to meet NRHP criteria but have not been formally listed. Architectural resources are identified in **Table 3**. Measurement in the below table represent the closest study segment in each Focus Area and Route Option to the resource. No archaeological sites determined for listing within the NRHP have been identified within the Study Area.

Focus Areas Overview: Route Options Comparison

No Route Options as part of the Focus Area are within physical or visual proximity to the historic Elkhorn City elementary and high school resources. No impacts are anticipated.

Table 3. Architectural Resources within Study Area (NRHP Listed and Eligible)					
Resource No.	Resource Name	Distance from Focus Area 1	Distance from Focus Area 2	Distance from Focus Area 3	NRHP Status
15000085	ELKHORN CITY ELEMENTARY & HIGH SCHOOL	Approximately 11.5 miles	Approximately 8 miles	Approximately 6 miles	Listed

4.2.5 Scenic Resources

Resource Characteristics

Aesthetics are defined as a mix of landscape visual character, the context in which the landscape is viewed (view/user groups), and the scenic integrity of the landscape. This Siting Study reviewed the potential visibility and visual impact of the Alternative Routes through landscape character assessment, field inspections, and viewshed analysis.

Visual character encompasses the patterns of landform (topography), vegetation, land use, and aquatic resources (i.e., lakes, streams, and wetlands). Multiple elements influence visual character, such as natural systems, human interactions, and land use. In natural settings, the visual character attributes are natural elements such as forested mountains or scenic rivers and lakes, whereas rural or pastoral/agricultural settings may include manmade elements such as fences, walls, barns and outbuildings, and occasional residences. In a more developed setting, the visual character may include commercial or industrial buildings, manicured lawns, pavement, and other infrastructure.

The Siting Team observed two distinctive landscapes within the Study Area: the secluded portions of the Study Area where minimal residential and commercial development is located, portions mainly found along lightly used roads that travel into mountain valley communities; and the main thoroughfare corridors characterized by increased density of residential and commercial establishments centered along the larger roadways such as state routes and highways. Additionally, the Russell Fork is a defining scenic resource in the Study Area, traversing northwest to southeast through the historic Elkhorn City.

Focus Areas Overview: Route Options Comparison

Consideration of scenic integrity and visual impacts was reviewed for all route options and Focus Areas, however; Focus Area 1 contains the only resource pertaining to visuals within the Study Area. Laura's Point, a scenic overlook located in the western portion of the Study Area within the Hillbilly Trail System, looks to the south. Route Option A is located to the north and closest to the resource while Options B-F are located approximately one mile southeast of scenic overlook.

4.2.6 Environmental Justice

Resource Characteristics

It is the Company's long-standing practice in its route development processes to avoid or reasonably minimize impacts to the human environment, which includes environmental justice (EJ) communities and fence line communities within the meaning of the Kentucky Energy and Environment Cabinet (KYECC) EJ mission statement. "Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies" (KYECC 2023).

Focus Areas Overview: Route Option Comparison

The Siting Team reviewed the United States Environmental Protection Agency's EJSCREEN (2024) tool and data from the American Community Survey from the United States Census Bureau. The EJSCREEN and Census Block Group (CBG) data (the smallest geographic unit for which United States Census Bureau demographic data is available) was used to review the Project. Per the available EJSCREEN and American Community Survey data, there are 13 CBGs located within the Project study area. The results of the dataset are provided in **Table 4** and the CBGs identified within the Study Area are depicted in **Attachment G**. Of the 13 CBGs located within the Study

Area, 10 meet or exceed the threshold of at least one EJ community, namely low-income communities. Of these CBGs, seven are crossed by the Route Options for the Project.

The Company obtained meaningful involvement from all potentially affected groups through various methods to gain public input across the entire Study Area. Meaningful involvement included: gathering landowner input on the Study Segments at the open house, refining and rerouting the Study Segments while considering landowner preferences, and meeting with individual landowners throughout the siting process and other efforts outlined in Section 3.6. The Proposed Route and Route Options cross EJ communities along most of their length (see Attachment B, Map 6), and no one route would bear disproportionate impacts to such communities more than another. The Company will continue to engage all affected landowners, including EJ Communities, throughout the duration of the Project.

Table 4. EJ SCREEN Data Table

CBG within one mile of Centerline	Crossed by Centerline (Yes/No)	Focus Area	Study Segment	EJ Community	County	Population	% people of color	% low income	% linguistic isolation	% less than high school education	% under age 5	% over age 64
Kentucky						4,502,935	16%	37%	1%	13%	6%	18%
Pike County, KY						58,196	4%	47%	0%	20%	5%	19%
211959306003	No				Pike	1,311	1.6%	36.8%	0%	24%	2%	18%
211959308003	Yes		35	Low-income	Pike	491	0.0%	59.3%	0%	13%	1%	20%
211959308004	Yes	1, 2	23, 24, 25, 26, 27, 29, 30, 32, 33, 34, 35, 39	Low-income	Pike	593	0.0%	69.1%	0%	19%	5%	16%
211959309001	No	2		Low-income	Pike	1,126	5.2%	59.2%	0%	17%	7%	26%
211959309002	Yes	1, 2	22, 27, 28, 30, 31, 32, 34, 39	Low-income	Pike	554	8.5%	49.9%	0%	21%	3%	20%
211959310001	No			Low-income	Pike	1,224	1.1%	42.9%	0%	19%	0%	36%
211959310002	Yes	2	12, 13, 21, 22, 23, 24, 25, 38, 41	Low-income	Pike	358	0.0%	82.1%	0%	52%	0%	44%
211959310003	Yes	2, 3	8, 9, 10, 11, 12, 13, 22, 36, 37	Low-income	Pike	314	0.0%	59.2%	0%	13%	5%	22%
211959311012	No			Low-income	Pike	942	2.7%	56.5%	0%	15%	1%	22%
211959311021	No			Low-income	Pike	461	3.3%	47.3%	0%	22%	6%	18%
211959319001	Yes		1, 2, 3, 5, 36, 37, 40	Low-income	Pike	526	0.0%	78.5%	0%	7%	19%	10%
211959319002	No				Pike	1,222	9.4%	30.2%	0%	22%	2%	27%
Environmental Justice in Kentucky: The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. In the absence of specific definitions for low-income and minority populations, the 'meaningfully greater and/or fifty-percent' threshold is applied, using the more stringent comparison between the state and county reference populations. Source: 2018-2022 ACS 5 year estimates "Population of color" means a population of individuals who identify as belonging to one or more of the following groups: Black, African American, Asian, Pacific Islander, Native American, other non-white race, mixed race, Hispanic, Latino, or linguistically isolated. Gray shaded cells indicate reference populations. Green shaded cells indicate identified minority populations, which exceed the 'meaningfully greater and/or fifty-percent' threshold. Yellow shaded cells indicate identified low-income populations, which exceed or equal 37%.												

4.3 Constructability

Constructability is the ability to efficiently and cost-effectively engineer, acquire ROW, construct, operate, and maintain the proposed transmission line. Major factors include safety, steep topography, condensed ROWs, heavy angles, access, ability to parallel or use existing ROWs, features, proximity to major highways, etc. A comparison of the constructability considerations for the Alternative Routes is presented at the end of this section in **Table 5**.

4.3.1 Engineering

Potential engineering and construction challenges are important to consider when siting a transmission line. Heavy angles, steep topography, nearby communication towers, antennas, and airfields along with narrow ROW alignments are all elements that could ultimately require extensive or non-standard engineering and lead to increases in impacts and overall cost.

The proximity to existing roadway, transmission, and gas pipeline infrastructure could also pose potential engineering and construction challenges. As with paralleling existing infrastructure, crossing over transmission lines, distribution lines, and pipelines may require specialized construction techniques and scheduled outages on the existing lines. The Company attempted to minimize engineering challenges during route development.

Focus Areas Overview: Routing Options Comparison

Generally, across the Study Area, rugged and mountainous terrain is the overarching theme for consideration when routing the transmission line. Each of the Focus Areas and subsequent routing options have unique engineering challenges. Focus Area 1 interacts with the crossing underneath an existing 138-kV transmission line and identified geotechnical hazards near to the existing ROW. Focus Area 2 routes across previously mined land requiring consideration of below-ground activities and foundation stability for structures. Focus Area 3 primarily required assessment of geohazards as route options navigate along ridgetops across the landscape. The identification of suitable terrain was paramount for the feasible construction of the transmission line improvements in relation to both the placement of structures and access for construction and operation and maintenance activities. The Siting Team relied on the expertise of the Transmission Construction Representative, geotechnical engineers, and transmission line engineers in review of feasible route options presented in the Focus Areas.

4.3.2 Topographic and Geotechnical

The Study Area is located within the Eastern Coal Field physiographic region of Kentucky, which is characterized by forested mountain terrain and highly dissected by V-shaped valleys. The

topography of the Study Area exhibits these characteristics, with steep and rugged ridges prone to landslides and rock-falls.

Focus Areas Overview: Routing Options Comparison

Based on the nature of the Study Area, all route options contain some level of risk regarding geotechnical conditions. Focus Areas 1 and 3 contain geotechnical hazards as identified by Project subject matter expert review. Focus Area 2 navigates across previously mined lands creating uncertainty of the sub-terranean conditions.

4.3.3 Access Roads

Access roads will be vital to the construction and maintenance of the line due to the rugged and undeveloped nature of the Study Area. Currently, the Company is unable to access portions of the existing ROW near the Dorton Substation (Focus Area 1). Previous land slide locations and areas suspected for the potential to slide were identified and noted in the drafting and revision of Study Segments. Preliminary access road scouting sought to maximize the use of existing access roads or length of managed roadways near to Route Options.

Focus Areas Overview: Routing Options Comparison

Concerns related to access and geotechnical instability was noted along the existing ROW in Focus Area 1 for Route Options A and B. Route Options C and D in Focus Area 1 and Route Options E and F in Focus in Area 2 minimize the length of new access roads to be constructed as the options cross mined out areas containing existing access roads. Access is anticipated to be the same between both Route Options in Focus Area 3.

4.3.4 Right-of-Way

The Company attempted to minimize route length, number of parcels crossed, and ROW acquisition. Where possible and practical, The Company considered using existing transmission ROW, paralleling existing electric lines, or paralleling other infrastructure (i.e., roadways, railways, or gas lines). In mountainous terrain, the most ideal structure locations are often utilized by the existing line and parallel construction is not feasible. The presence of the existing Breaks – Dorton 46-kV transmission line to be rebuilt provided an opportunity to minimize the amount of new ROW to be acquired; however, may sections of the existing line were laden with geotechnical concerns. Additionally, outage availability as it restricted construction sequencing was considered in the drafting, revision, and selection of Routing Options.

Focus Areas Overview: Routing Options Comparison

Route Option A in both Focus Area 1 and 2 contained the most on-centerline length for approximately three miles. All other Routing Options minimally utilized exiting ROW with respect to geotechnical concerns and construction sequencing outside of outage availability.

4.3.5 Operation, Maintenance, and System Considerations

Paralleling existing transmission lines is listed as a routing opportunity; however, paralleling other EHV transmission lines can also pose reliability concerns.

Alternative Comparison

Based on the location and direction of other existing EHV transmission lines in the area, minimal paralleling was feasible. Extensive review was given to the locations where crossing under the Clinch River – Beaver Creek 138-kV in Focus Area 1. A variety of solutions were devised including the reuse of the existing line crossing (Route Option A), routing to a better crossing location with minimal geotechnical concerns (Route Options B and D), or the raising of a 138-kV transmission structure to improve the necessary clearances (Route Option D).

Table 5. Constructability Evaluation Criteria													
FOCUS AREA		1				2						3	
ALTERNATIVE ROUTE	UNIT	A	B	C	D	A	B	C	D	E	F	A	B
General													
Length	miles	2	1	1.9	1.3	5	5	4.8	4.8	4.9	5.5	1	1
Transportation Resources													
Local roads and streets crossed	count	1	0	0	0	0	0	0	0	0	0	0	0
No interstate highways, U.S. highways, state highways, or local roads are crossed nor are any airports located within one mile of the centerline.													
Utility Resources													
Oil and gas pipelines crossed	count	1	0	1	1	1	1	1	1	1	1	0	0
Oil and gas wells within 250 feet from edge of ROW	count	1	0	1	1	1	5	5	9	9	11	3	2
Existing 138-kV Transmission Lines Crossed	count	1	1	1	1	0	0	0	0	0	0	0	0
Engineering and Geotechnical Considerations													
Steep slopes crossed by ROW (greater than 20%), percent of total length	miles	21.5	15.2	14.3	11.8	48.5	50.8	49.5	48.5	49.5	52	11.8	10.1
Heavy angles, greater than 30 degrees	count	0	1	3	1	0	1	0	0	2	2	2	0
Rights-of-Way Rebuild/Parallel													
Existing 46-kV transmission lines rebuilt	miles	1	0	0	0	1	1	0.9	0.9	0.9	0.9	0	0
Total length rebuilt	miles	2	0	0	0	2.5	0	0	0	0	0	0	0

5.0 IDENTIFICATION OF THE PROPOSED ROUTE

The goal in selecting a suitable route for the Project is to minimize overall impacts on natural and human environments while avoiding indirect routes, unreasonable costs, and special design requirements. However, in practice, it is not usually possible to optimally minimize all potential impacts at all times. There are often inherent tradeoffs in potential impacts to every siting decision. For example, in heavily forested study areas, the route that avoids the most developed areas will likely require the greatest amount of forest clearing, while the route that has the least impact on vegetation and wildlife habitats often impacts more residences or farmlands. Thus, an underlying goal of a siting study is to reach a reasonable balance between minimizing potential impacts on one resource versus increasing the potential impacts on another. The rationale for selecting the Proposed Route is derived from an accumulation of siting decisions made throughout the process, Siting Team knowledge and experience, public and regulatory agencies' comments, and the comparative analysis of potential impacts. The following summarizes the Proposed Route selection.

Following an extensive data gathering, route development, and comparative analysis process, the Siting Team identified Route Option D (Focus Area 1), Route Option E (Focus Area 2), and Route Option B (Focus Area 3) as the **Proposed Route**, shown in **Attachment D**. The following summarizes the rationale for selection of the Proposed Route, and thus, the route that the Siting Team considered to best minimize the overall impacts of the Project. The rationale presented is derived from the accumulation of the siting decisions made throughout the process, the knowledge and experience of the Siting Team, comments from the public and regulatory agencies, and the comparative analysis of potential impacts presented in Section 5.0.

The Siting Team undertook an iterative process that moved from routing concepts to increasingly refined Study Segments and Route Options. First, a Study Area was defined and constraint data was collected (**Attachment A, Map 1 and 2**). Next, Study Segments were developed that connected the Breaks and Dorton Substations via opportunity corridors that were identified by the Siting Team. Study Segment Network, comprised of 41 69-kV Study Segments (**Attachment A, Map 3: Pages 1 - 26**) were reviewed in the field, discussed with Stakeholders, and presented at the Public Open House. Using Stakeholder input and analysis, field reconnaissance, and preliminary engineering review, the Study Segment Network was refined and three Focus Areas and 8 Route Options were developed to analyze the remaining Study Segments (**Attachment A, Map 4 and Figures 7 - 9**). The Siting Team reviewed and analyzed the Route Options based on resource and engineering constraints in the Study Area and arrived at a Proposed Route for the Breaks – Dorton 69-kV Transmission Line (**Attachment F**).

The Proposed Route for the Breaks – Dorton 69-kV Transmission Line is the most suitable route, minimizing impacts to residences and environmentally sensitive resources and considers engineering criteria such as access for construction, operation, and maintenance. It also addresses landowner input and concerns by shifting to avoid residences and future property development.

The Proposed Route proved to be the most feasible option for crossing under the existing Clinch River – Beaver Creek 138-kV and Big Sandy – Broadford 765-kV transmission lines to avoid geotechnical concerns along the existing transmission line ROW, most notably near the existing Breaks and Dorton substations. It also addresses maintenance access issues, reduces impacts to residences/single family dwellings, reduces the overall length of new transmission line, associated with a rebuild of the existing Breaks – Dorton 69-kV transmission line. Additionally, it rebuilds in the existing ROW to the extent possible, minimizing the amount of heavy angle structures and new ROW to be acquired.

The Company made extraordinary efforts working with the affected landowners and making reasonable route adjustments. Once the Siting Team identified the initial Proposed Route, mailings were sent out, the Project website updated, and the Company ROW agents started to contact the potentially affected landowners to make them aware of the final route, collect additional feedback, make reasonable adjustments, and secure permission to survey for future field studies. As of September 30, 2025, the majority of the affected landowners have been contacted and coordinated with for permissions to survey for transmission line easements or entered into option agreements for sale of property for substation development. Collectively, the Siting Team believes the Proposed Route: (1) has been well vetted with affected landowners; (2) is most consistent with federal and state siting guidelines; (3) reasonably avoids or minimizes adverse impacts on area land uses and the visual, natural, and cultural environment; (4) avoids or minimizes special design requirements and unreasonable costs; and (5) can be constructed, operated, and maintained in a safe, timely, and reliable manner.

6.0 SITING OUTCOME ADDENDUM (*August 2026*)

The following Siting Addendum provides an update to the Siting Team’s selection of the Proposed Route (**Attachment H**) initially identified in March 2025.

6.1 Facilitating Activities

In April 2025, Proposed Route notifications were sent to affected landowners. After notification, Project engineers identified constructability concerns of a double-circuit structure near the proposed Ratliff Substation where Study Segment 1 connected to Study Segments 2 and 3. The rugged, mountainous terrain raised concerns regarding feasibility of access road construction and structure placement.

6.2 Transmission Line Routing Outcome

To address these concerns, the Proposed Route was slightly adjusted to shift the double-circuit structure southeast to the adjacent ridge, in line with Study Segment 1. This adjustment changed the alignment angle of Study Segments 2 and 3 as it crosses the Russell Fork and connects into the proposed Ratliff Substation. This solution is expected to eliminate one structure and reduce length of access road construction. Impacts discussed in this report specific to Study Segments 1, 2, and 3 are not anticipated to change as the length of overall transmission line and the general location remain constant. Figures showing the Proposed Route contained within this report reflect the Proposed Route adjustment.

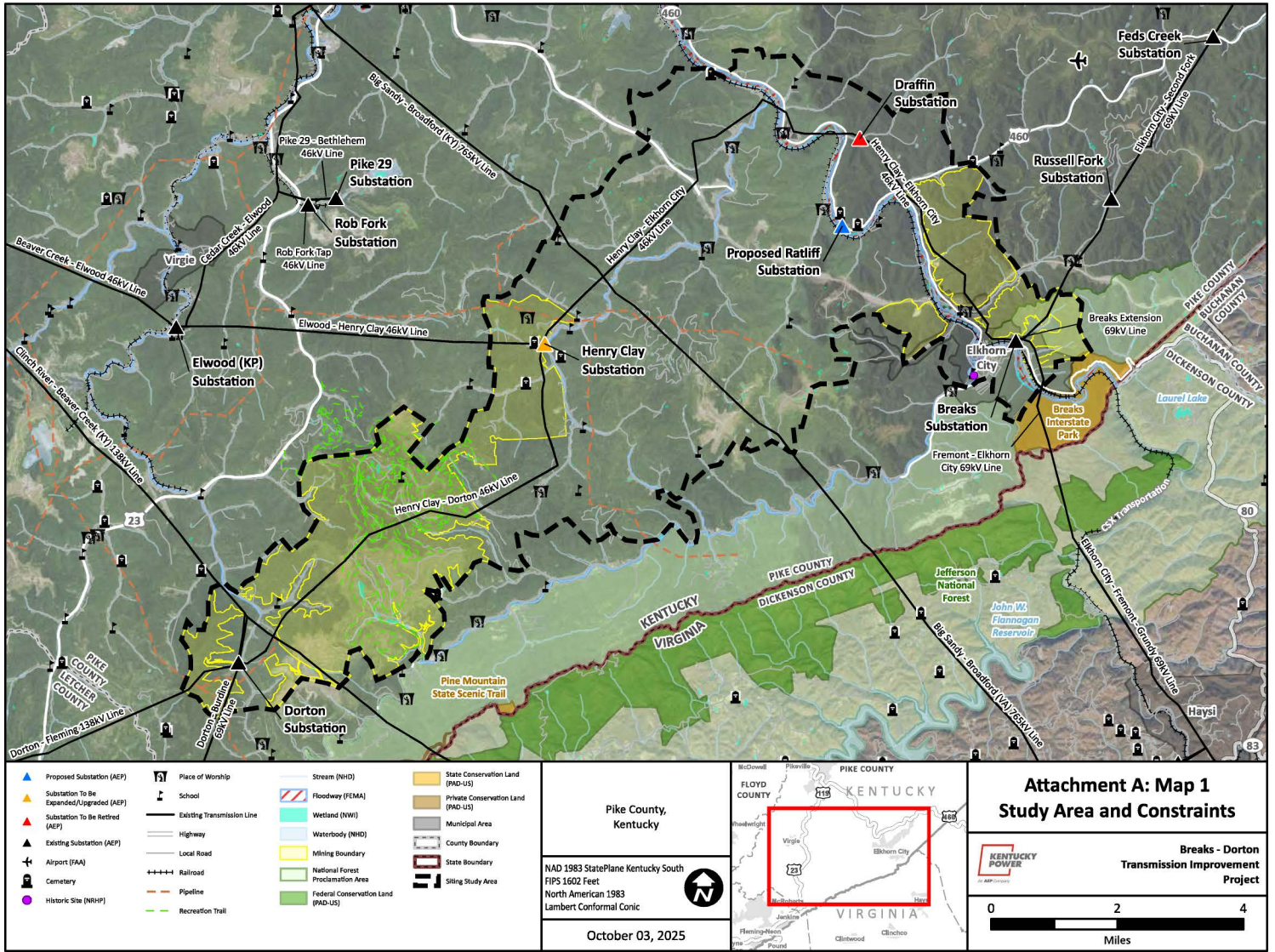
6.3 Additional Public Involvement

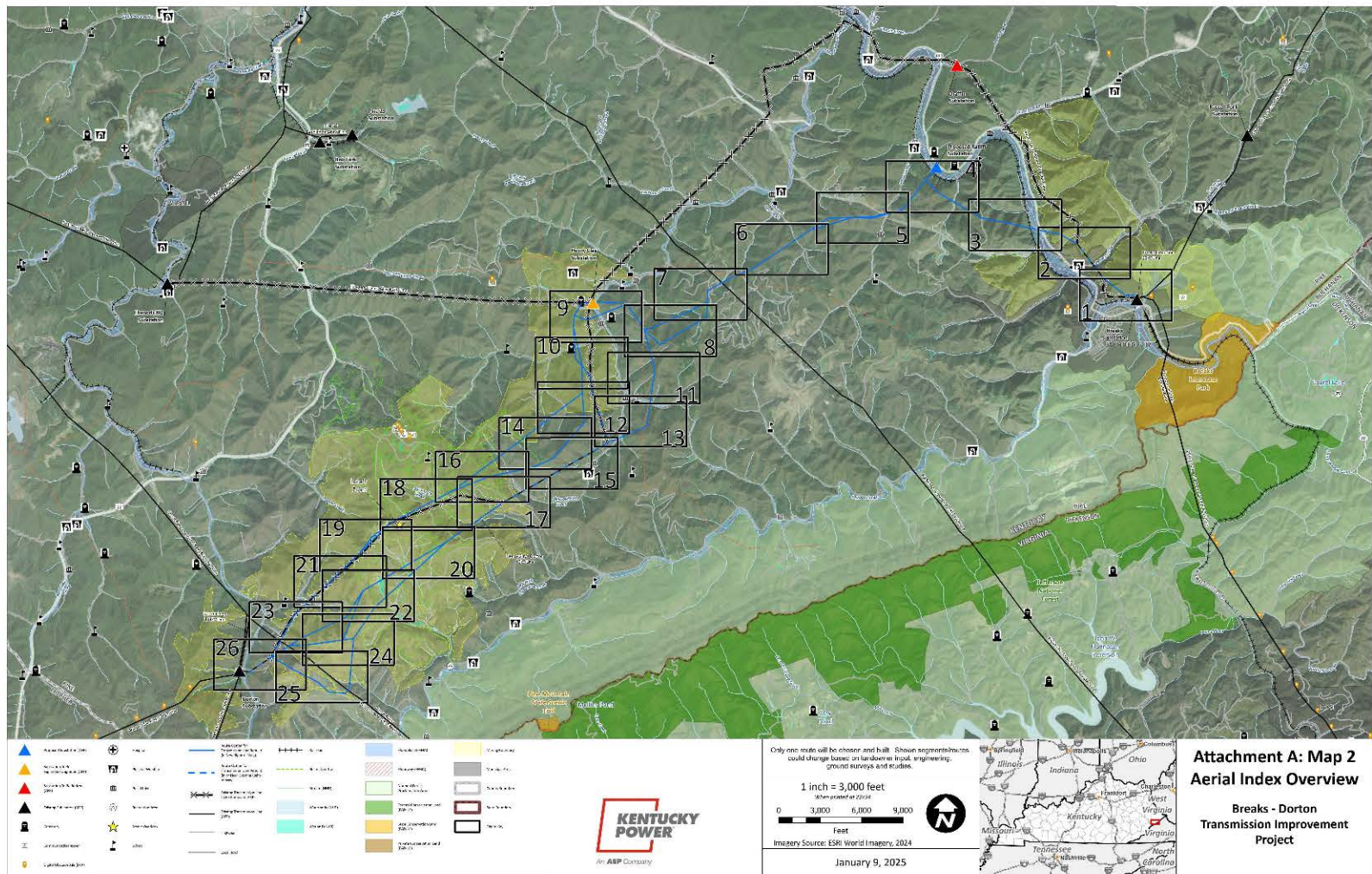
Affected landowners were contacted in April 2025 with information identifying the selected Proposed Route. All landowners affected by the Proposed Route adjustment were part of those initially notified by the Project announcement, no new landowners are necessary to be engaged. Coordination with landowners is ongoing. The Company ROW agents will work with all affected landowners to notify them regarding the Proposed Route adjustment and secure the appropriate and applicable easements.



▲ Proposed Substation (AEP) ☠ Cemetery 🏫 School — Adjusted Proposed Route (AEP) — Initial Proposed Route (AEP)	+++++ Railroad — Stream (NHD) ■ Floodplain (FEMA) ■ Wetland (NWI)	Pike County, Kentucky NAD 1983 StatePlane Kentucky South FIPS 1602 Feet North American 1983 Lambert Conformal Conic August 28, 2026	Figure 10: Proposed Route Adjustment KENTUCKY POWER Breaks - Dorton Transmission Improvement Project 0 700 1,400 Feet
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Attachment A: Route Development Maps





Attachment A: Map 2
Aerial Index Overview

Breaks - Dorton
Transmission Improvement
Project