COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF DUKE ENERGY KENTUCKY, INC. FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AUTHORIZING THE PHASE FOUR REPLACEMENT OF THE AM07 PIPELINE	)))))	CASE NO. 2025-00057

APPLICATION

Now comes Duke Energy Kentucky, Inc. (Duke Energy Kentucky or the Company), pursuant to KRS 278.020 and 807 KAR 5:001, Sections 14 and 15, and other applicable law, and hereby respectfully requests from the Kentucky Public Service Commission (Commission) an Order granting a Certificate of Public Convenience and Necessity (CPCN) for approval of the construction of the fourth phase of its AM07 Pipeline Replacement Project (Phase Four).

The AM07 Pipeline (AM07) is approximately sixteen miles in total length and is the primary artery for Duke Energy Kentucky's natural gas delivery system. AM07 extends to the Ohio River, transporting natural gas from upstream suppliers, and supports natural gas delivery throughout the Duke Energy Kentucky natural gas delivery system via connected pipelines. The AM07 pipeline was constructed in the 1950's, in accordance with existing regulations at the time. Today, AM07 is of a vintage where the materials are no longer industry standard, and the pipeline is unable to meet regulations promulgated by the U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA).

Duke Energy Kentucky needs to replace certain sections of its AM07 pipeline, totaling approximately 13.7 miles, and associated regulator stations through its northern Kentucky territory over the next few years to comply with PHMSA integrity regulations. This replacement will occur over several years, in five phases.

The first phase of the AM07 replacement, consisting of an approximately 2.0-mile segment, was approved by the Commission in Case No. 2022-00084[1] (Phase One). The second phase of the AM07 replacement, consisting of an approximately 3.2-mile segment, was approved by the Commission in Case No. 2023-00210[2] (Phase Two). The third phase of the AM07 replacement, consisting of an approximately 4.3-mile segment, was approved by the Commission in Case No. 2024-00189[3] (Phase Three). Construction activities for Phase Three have commenced. In order to maximize cost efficiencies, minimize work stoppages, and to complete the entire 13.7-mile AM07 replacement in 2027 to meet PHMSA regulations for inspections of natural gas pipelines, the Company needs to seek Commission authorization now to construct Phase Four, so its construction can commence immediately upon completion of Phase Three.

Phase Four of the AM07 replacement includes replacement of approximately 2.5 miles of section of the existing AM07 east of the existing AM07 section that is currently being replaced via Phase Three. The new route is approximately 2.3 miles in length and will include new industry standard material that will comply with PHMSA regulations.

---

[1] *In the Matter of the Electronic Application of Duke Energy Kentucky, Inc., for a Certificate of Public Convenience and Necessity Authorizing the Phase One Replacement of the AM07 Pipeline,* Case No. 2022-00084 (Ky. PSC Feb. 24, 2023) Order at 7.

[2] *In the Matter of the Electronic Application of Duke Energy Kentucky, Inc., for a Certificate of Public Convenience and Necessity Authorizing the Phase Two Replacement of the AM07 Pipeline,* Case No. 2023-00210 (Ky. PSC April 2, 2024) Order at 8.

[3] *In the Matter of the Electronic Application of Duke Energy Kentucky, Inc., for a Certificate of Public Convenience and Necessity Authorizing the Phase Three Replacement of the AM07 Pipeline,* Case No. 2024-00189 (Ky. PSC Jan. 17, 2025) Order at 8.

Phase Four will be located in areas in which Duke Energy Kentucky is currently already supplying natural gas service and will be placed primarily in a new right of way, east of the existing AM07 Section that is currently being replaced via Phase Three. Maps depicting the precise location of Phase Four are included as an exhibit to this Application.[4] In support of this Application, Duke Energy Kentucky respectfully states as follows:

Introduction

1. Pursuant to 807 KAR 5:001, Section 14(2), Duke Energy Kentucky is a Kentucky corporation originally incorporated on March 20, 1901, in good standing, and a "public utility" as that term is defined in KRS 278.010(3), and, therefore, is subject to the Commission's jurisdiction. Attached as Exhibit 1 is a copy of a recent Certificate of Good Standing. Duke Energy Kentucky is engaged in the business of furnishing natural gas and electric services to various municipalities and unincorporated areas in Boone, Bracken, Campbell, Gallatin, Grant, Kenton, and Pendleton Counties in the Commonwealth of Kentucky.

2. Pursuant to 807 KAR 5:001, Section 14(1), Duke Energy Kentucky's business address is 139 East Fourth Street, Cincinnati, Ohio 45202. The Company's local office address in Kentucky is Duke Energy Erlanger Ops Center, 1262 Cox Road, Erlanger, Kentucky 41018. The facts upon which the Application are based are set forth herein.

[4] *See* Confidential Exhibit 4. This exhibit also depicts construction specifications and engineering drawings stamped by a licensed Kentucky Engineer.

3. Copies of all orders, pleadings and other communications related to this proceeding should be sent to:

Rocco O. D'Ascenzo
Deputy General Counsel
Larisa Vaysman
Associate General Counsel
Duke Energy Kentucky, Inc.
139 E. 4th St.
Cincinnati, OH 45202
Rocco.D'Ascenzo@duke-energy.com
Larisa.Vaysman@duke-energy.com
KYfilings@duke-energy.com

Background

4. Duke Energy Kentucky has identified a need to construct and replace its AM07 Pipeline in order to comply with PHMSA regulations. For Phase Four of the AM07 replacement that is the subject of this Application, Duke Energy Kentucky is proposing to replace approximately 2.5 miles of section of AM07 east of the existing AM07 section that is currently being replaced via Phase Three. The new route will consist of an approximately 2.3-mile section of 24-inch industry standard steel natural gas transmission line that will comply with PHMSA regulations.

5. The AM07 replacement will improve safety and reliability to the main portion of the Company's natural gas delivery system in Northern Kentucky. Although Duke Energy Kentucky has been able to meet customer needs with safe and reliable natural gas service, replacement of AM07 infrastructure is required under recent updates to federal regulations, known as the new pipeline safety regulation, "Pipeline Safety: Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments" (New Transmission Rule). The New Transmission Rule went into effect July 2020 mandating Operators to review and reconfirm transmission

pipeline Maximum Allowable Operating Pressure (MAOP). The Project is also necessary for complying with other relevant regulations, specifically, Subpart L §192.607, Verification of Pipeline Materials Properties and Attributes, Subpart L §192.624, Maximum allowable operating pressure reconfirmation, Subpart M §192.710, Transmission lines: Assessments outside of high consequence areas, and Subpart O, Gas Transmission Pipeline Integrity Management.

6. To properly assess for the threats on each pipeline, under the New Transmission Rule, natural gas companies that do not have the necessary traceable, verifiable, and complete records must pressure test, perform in-line inspection (ILI), or replace the pipe. The 1956 vintage pipe within the AM07 pipeline does not have traceable, verifiable, and complete pressure test records and is incapable of ILI. Additionally, because the AM07 is the backbone of the Company's natural gas delivery system, is it not possible to take it out of service to perform pressure testing due to complexity, timing, and extensive excavation that would be required. Moreover, due to its length and age, the Company may not be able to complete corrective action on any identified deficiencies in the existing pipeline segments in time to place them back into service for winter heating seasons. Because the majority of AM07 is comprised of 1956 vintage pipe with active manufacturing and construction threats, the Company must take action to address these threats to comply with these regulations. The new AM07 will provide additional reliability to Duke Energy Kentucky's natural gas delivery system by replacing aging, non-piggable infrastructure with new pipe constructed from modern materials allowing the Company to continue to provide safe and reliable service and conduct cost-effective necessary inspections in the future. The new pipeline will be designed and constructed for safe

passage of ILI tools allowing the Company to continue providing safe natural gas service for current and future customers

7. The purpose of, and need for, the Project is to meet PHMSA regulations and ensure the Company's natural gas delivery system continues to function in a safe and reliable manner for customers. The Project is necessary to support future load growth in the area and maintain sufficient natural gas system pressures. Additionally, the timing of the project, including the priority of completion of the project in five phases is to spread out the timing of the investments in a reasonable manner but within the compliance timeline per PHMSA regulations. The Company estimates the timeline of construction for the Phase Four to be approximately eight months.

8. Duke Energy Kentucky anticipates that the majority of the Project will be located in private easements that will be obtained following approval of this Application. Where private easements are not possible, the Company will locate the Phase Four pipeline within existing public rights-of-way. Private easements are preferable as they allow the Company to maintain greater control over the pipeline and to mitigate any impact to system integrity and reliability due to municipal street widening or improvement projects.

9. The current estimated project cost is approximately $ 43.1 million dollars as detailed in the chart below:

Task	**Total in millions**
Design	$ 2.2
Land	$ 3.9
Construction	$ 32.4
Materials	$ 4.6
Total	**$ 43.1**

Request for Certificate of Public Convenience and Necessity

10. In accordance with KRS 278.020, No utility may construct or acquire any facility to be used in providing utility service to the public until it has obtained a CPCN from the Kentucky Public Service Commission.[5] To obtain a CPCN, the utility must demonstrate a need for such facilities and an absence of wasteful duplication.[6] "Need" requires:

> [A] showing of a substantial inadequacy of existing service, involving a consumer market sufficiently large to make it economically feasible for the new system or facility to be constructed or operated. [T]he inadequacy must be due either to a substantial deficiency of service facilities, beyond what could be supplied by normal improvements in the ordinary course of business; or to indifference, poor management or disregard of the rights of consumers, persisting over such a period of time as to establish an inability or unwillingness to render adequate service.[7]

"Wasteful duplication" is defined as "an excess of capacity over need" and "an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of physical properties."[8] To demonstrate that a proposed facility does not result in wasteful duplication, Duke Energy Kentucky must demonstrate that a thorough review of all reasonable alternatives has been performed. Although cost is a factor, selection of a proposal that costs more than an alternative does not necessarily result in wasteful duplication.[9] All relevant factors must be balanced.[10]

---

[5] KRS 278.020(1)(a).
[6] *Kentucky Utilities Co. v. Pub. Serv. Comm 'n*, 252 S.W.2d 885 (Ky. 1952).
[7] *Id*., at 890.
[8] *Id.*
[9] *See Kentucky Utilities Co. v. Pub. Serv. Comm'n*, 390 S.W.2d 168, 175 (Ky. 1965). *See also*, *Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity for the Construction of a 138 kV Electric Transmission Line in Rowan County, Kentucky*, Case No. 2005-00089 (Ky. PSC Aug. 19, 2005), Final Order.
[10] *Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for a Certificate of Public Convenience and Necessity for the Construction of Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky*, Case No. 2005-00142 (Ky. PSC Sept. 8, 2005).

11. Duke Energy Kentucky respectfully states that AM07 replacement is needed to meet PHMSA Regulations as the existing pipeline does not and cannot do so. As such, the AM07 replacement is necessary to enable the Company to continue to provide safe and reliable natural gas service to our customers, as well as, to provide greater reliability to the overall system. The AM07 replacement will support future load growth and maintain sufficient natural gas system pressures to respond to an identified integrity risk to its natural gas delivery system.

12. As the Company will be taking the current pipeline out of service, the Project will not result in a wasteful duplication of facilities.

13. As explained more thoroughly in accompanying testimony, the AM07 replacement project is the most efficient and least cost solution to provide service as it provides greater access for maintenance inspections through the use of ILI tools going forward. Absent the use of the ILI tool for PHMSA testing, Duke Kentucky would be required to perform pressure testing at an estimated that the cost of pressure testing the existing portion of pipeline to be replaced in the Phase Four segment would be $ 11 million every seven years. This would include providing a mobile source of temporary liquid natural gas while bypassing portions of the existing pipeline, so service would not be interrupted for lengthy periods of time. Another option to comply with PHMSA testing requirements would be retrofitting existing pipeline for use with the ILI tool. This would also require using temporary gas during the retrofit but would prevent the future need for bypassing during testing because the ILI tool allows testing without pipeline interruption. The estimated cost of this option is $ 8.75 million. The estimated costs for an ILI inspection on a seven-year basis is between $400,000 to $500,000 per inspection. The estimated costs

for both pressure testing and ILI retrofit does not include the cost of remedying deficiencies in the aging pipeline discovered during pressure testing or ILI testing after retrofit, which cannot be predicted, and which would also increase the downtime of the pipeline and therefore increase temporary gas costs as well as risk of extended outages for customers.

14. In accordance with 807 KAR 5:001 Section 12(2)(a)-(i), Duke Energy Kentucky is filing the following information in Exhibit 2, which is incorporated herein and made a part of this Application filed in this proceeding:

Exhibit 2 Page	**Description**	**807 KAR 5:001 Section Reference**
	Financial Exhibit	12 (2)
1	Amount and kinds of stock authorized	12(2)(a)
1	Amount and kinds of stock issued and outstanding	12(2)(b)
1	Terms of preference or preferred stock	12(2)(c)
1	Brief description of each mortgage on property of Duke Energy Kentucky	12(2)(d)
1-2	Amount of bonds authorized and issued and related information	12(2)(e)
2	Notes outstanding and related information	12(2)(f)
3	Other indebtedness and related information	12(2)(g)
4	Dividend information	12(2)(h)
4-5	Detailed Income Statement and Balance Sheet	12(2)(i)

15. 807 KAR 5:001, Section 15 sets forth the filing requirements to seek a CPCN. In accordance with Section 15(2)(a), the Application and supporting testimonies describe the facts relied upon to show the Phase Four replacement is required by public convenience or necessity in that the project is necessary to comply with Federal regulations, and from an integrity and reliability standpoint as well as, to provide adequate, efficient, and reliable service.

16. In accordance with Section 15(2)(b), the Company has previously filed with the Commission the applicable franchises from the proper public authorities. Additionally,

the following permits will be required to complete Phase Four:

a) Kentucky Transportation Cabinet permit to cross state and federal roads and to install the pipeline inside road right-of-way, and construction access;

b) Energy and Environmental Protection Cabinet - Division of Water, Application for a Permit to Construct Along or Across a Stream and/or Water Quality Certification;

c) US Army Corp Section 404/General Nationwide Permit 12 (including Section 7 Threatened and Endangered Species Act of 1973, Section 106 National Historic Preservation Act of 1966, and Section 10 – River and Harbors Act of 1899 clearances);

d) City of Cold Spring stormwater management permit and ROW encroachment permit to cross jurisdictional roads;

e) Coordination with the Kentucky Heritage Council (KHC) regarding cultural resources, including cultural resource investigations/digs and potential viewshed impacts to architectural resources along the project route;

f) Coordination with the U.S. Fish and Wildlife Service (USFWS) and Kentucky Department of Fish and Wildlife Resources (KDFWR) with respect to federal and state endangered, threatened, and otherwise protected species;

g) Sanitation District No. 1 Land Disturbing Permit; and

h) KDOW Construction Storm Water Permit KYR10.

Duke Energy Kentucky has already applied for permits (a), (e), and (f). Permits (b) and (c) will be applied for in the coming weeks while permits (d), (g), and (h) will be

applied for closer to construction as those permits are required immediately before actual construction begins. There has been no indication that the permit applications will not be approved. The Company's permits are included in Exhibit 3 of the Application. The Company will supplement the application as additional permit approvals are received. The Company anticipates commencing construction in early 2026 for an in-service date in late 2026, before the beginning of the winter heating season.

17. In accordance with Section 15(2)(c), which requires the Company to provide a full description of the proposed location, route, or routes of the proposed construction or extension, including a description of the manner in which the facilities will be constructed, Duke Energy Kentucky respectfully states that this information is provided in Confidential Exhibit 4 to this Application and the direct testimony of Company Witness Kelsey M. Pace submitted in support thereof. A copy of Confidential Exhibit 4 is being provided under a petition for confidential treatment.

18. In accordance with Section 15(2)(d)(1)-(2), requiring maps showing the location or route of the proposed construction or extension and plans and specifications and drawings of the proposed plant, equipment, and facilities, Duke Energy Kentucky respectfully states that Confidential Exhibit 4 contains, among other things, maps, and engineering drawings, respectively, showing the route, location and nature of the proposed construction. Because the Project is situated solely within the Company's service territory, it will not compete with any public utilities, corporations, or persons. Confidential Exhibit 4 further contains the preliminary work specifications for the Project.

19. In accordance with Section 15(2)(e), the Company states that it proposes to finance the construction through continuing operations and debt instruments, as necessary.

20. In accordance with Section 15(2)(f), the total estimated cost of construction for Phase Four is approximately $ 43.1 million. The annual ongoing cost of operation of the Project once completed is expected to be minimal, and less than $10,000 except for required periodic inspections and/or testing. The Company does not anticipate any incremental cost savings for the ongoing operation and maintenance of the new pipeline as compared to amounts currently in base rates as the cost to maintain the new AM07 pipeline will not substantially differ from existing costs to maintain the existing pipeline currently reflected in base rates. In fact, the new pipeline will avoid future incremental Operations and Maintenance expense that would be incurred to comply with more recent PHMSA regulations if the Company were required to pursue a more expensive and riskier alternative of taking the existing AM07 segments out of service for excavation and hydro-static testing and make any then identified necessary repairs/replacements.

Testimony and Exhibits

21. Additional facts supporting this Application are set forth in the following direct testimonies attached to this Application as Exhibits 5 through 7:

a) Melton A. Huey, General Manager Engineering, Planning & Pipeline Integrity, provides an overview of the Company's gas operations and the Project;[11]

b) Kelsey M. Pace, Senior Project Manager, discusses the Phase Four construction specifications, the permits required, and estimated costs of construction and ongoing operation;[12] and,

[11] Exhibit 5.
[12] Exhibit 6.

c) Jefferson "Jay" P. Brown, Director of Rates and Regulatory Planning, discusses the estimated impacts to the Company's rates of the Project.[13]

WHEREFORE, Duke Energy Kentucky respectfully requests that the Commission:

1) Issue a CPCN for approval of the construction of Phase Four of the AM07 replacement Project; and

2) Grant any other relief to which the Company may be entitled.

Respectfully submitted,

/s/Rocco O. D'Ascenzo

Rocco O. D'Ascenzo (92796)
Deputy General Counsel
Larisa M. Vaysman (98944)
Associate General Counsel
Duke Energy Business Services LLC
139 East Fourth Street, 1303-Main
Cincinnati, Ohio 45201-0960
Phone: (513) 287-4320
Fax: (513) 370-5720
rocco.d'ascenzo@duke-energy.com
larisa.vaysman@duke-energy.com
Counsel for Duke Energy Kentucky, Inc.

[13] Exhibit 7.

CERTIFICATE OF SERVICE

This is to certify that the foregoing electronic filing is a true and accurate copy of the document in paper medium; that the electronic filing was transmitted to the Commission on March 13, 2025 that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and that submitting the original filing to the Commission in paper medium is no longer required as it has been granted a permanent deviation.[14]

John G. Horne, II
The Office of the Attorney General
Utility Intervention and Rate Division
700 Capital Avenue, Ste 118
Frankfort, Kentucky 40601-8204

/s/Rocco O. D'Ascenzo
Counsel for Duke Energy Kentucky, Inc.

[14] *In the Matter of Electronic Emergency Docket Related to the Novel Coronavirus COVID-19*, Order, Case No. 2020-00085 (Ky. P.S.C. July 22, 2021).

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: 330329
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,

DUKE ENERGY KENTUCKY, INC.

DUKE ENERGY KENTUCKY, INC. is a corporation duly incorporated and existing under KRS Chapter 14A and KRS Chapter 271B, whose date of incorporation is March 20, 1901 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; and that the most recent annual report required by KRS 14A.6-010 has been delivered to the Secretary of State.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at Frankfort, Kentucky, this 11th day of March, 2025, in the 233rd year of the Commonwealth.

Michael G. Adams
Secretary of State
Commonwealth of Kentucky
330329/0052929

FINANCIAL EXHIBIT

(1) Section 12(2)(a) Amount and kinds of stock authorized.

1,000,000 shares of Capital Stock $15 par value amounting to $15,000,000 par value.

(2) Section 12(2)(b) Amount and kinds of stock issued and outstanding.

585,333 shares of Capital Stock $15 par value amounting to $8,779,995 total par value. Total Capital Stock and Additional Paid-in Capital as of December 31, 2024:

Capital Stock and Additional Paid-in Capital
As of December 31, 2024
($ per 1,000)

Capital Stock	$8,780
Premiums thereon	18,839
Total Capital Contributions from Parent (since 2006)	334,311
Contribution from Parent Company for Purchase of Generation Assets	140,061
Total Capital Stock and Additional Paid-in-Capital	$501,991

(3) Section 12(2)(c) Terms of preference or preferred stock, cumulative or participating, or on dividends or assets or otherwise.

There is no preferred stock authorized, issued or outstanding.

(4) Section 12(2)(d) Brief description of each mortgage on property of applicant, giving date of execution, name of mortgagor, name or mortgagee, or trustee, amount of indebtedness authorized to be secured, and the amount of indebtedness actually secured, together with any sinking fund provision.

Duke Energy Kentucky does not have any liabilities secured by a mortgage.

(5) Section 12(2)(e) Amount of bonds authorized, and amount issued, giving the name of the public utility which issued the same, describing each class separately, and giving the date of issue, face value, rate of interest, date of maturity and how secured, together with the amount of interest paid thereon during the last fiscal year.

The Company has sixteen outstanding issues of unsecured senior debentures issued under an Indenture dated December 1, 2004, between itself and Deutsche Bank Trust Company Americas, as Trustee, as supplemented by nine Supplemental Indentures. The Indenture allows

the Company to issue debt securities in an unlimited amount from time to time. The Debentures issued and outstanding under the Indenture are the following:

Supplemental Indenture	Date of Issue	Principal Amount Authorized and Issued	Principal Amount Outstanding	Rate of Interest	Date of Maturity	Interest Paid Year 2024
1st Supplemental	3/7/2006	65,000,000	65,000,000	6.20%	3/10/2036	4,030,000
3rd Supplemental	1/5/2016	45,000,000	45,000,000	3.42%	1/15/2026	1,539,000
3rd Supplemental	1/5/2016	50,000,000	50,000,000	4.45%	1/15/2046	2,225,000
4th Supplemental	9/7/2017	30,000,000	30,000,000	3.35%	9/15/2029	1,005,000
4th Supplemental	9/7/2017	30,000,000	30,000,000	4.11%	9/15/2047	1,233,000
4th Supplemental	9/7/2017	30,000,000	30,000,000	4.26%	9/15/2057	1,278,000
5th Supplemental	10/3/2018	40,000,000	40,000,000	4.18%	10/15/2028	1,672,000
5th Supplemental	12/12/2018	35,000,000	35,000,000	4.62%	12/15/2048	1,617,000
6th Supplemental	7/17/2019	40,000,000	40,000,000	4.32%	7/15/2049	1,728,000
7th Supplemental	9/15/2019	95,000,000	95,000,000	3.23%	10/1/2025	3,068,500
7th Supplemental	9/15/2019	75,000,000	75,000,000	3.56%	10/1/2029	2,670,000
8th Supplemental	9/15/2020	35,000,000	35,000,000	2.65%	9/15/2030	927,500
8th Supplemental	9/15/2020	35,000,000	35,000,000	3.66%	9/15/2050	1,281,000
9th Supplemental	7/15/2024	80,000,000	80,000,000	5.90%	7/15/2031	0(1)
9th Supplemental	7/15/2024	95,000,000	95,000,000	6.00%	7/15/2034	0(1)
9th Supplemental	7/15/2024	50,000,000	50,000,000	6.17%	07/15/2039	0(1)
			880,000,000			24,274,000

(1) Initial interest payments of $475,000; 257,083 and 106,750 were paid in January 2025

(6) Section 12(2)(f) Each note outstanding, giving date of issue, amount, date of maturity, rate of interest, in whose favor, together with amount of interest paid thereon during the last fiscal year.

Duke Energy Kentucky does not have any outstanding notes as of 12/31/2024.

(7) Section 12(2)(g) Other indebtedness, giving same by classes and describing security, if any, with a brief statement of the devolution or assumption of any portion of such indebtedness upon or by person or corporation if the original liability has been transferred, together with amount of interest paid thereon during the last fiscal year.

The Company has two series of Pollution Control Revenue Refunding Bonds issued under a Trust Indenture dated as of August 1, 2006 and a Trust Indenture dated as of December 1, 2008, between the County of Boone, Kentucky and Deutsche Bank National Trust Company as Trustee. The Company's obligation to make payments equal to debt service on the Bonds is evidenced by a Loan Agreement dated as of August 1, 2006 and December 1, 2008 between the County of Boone, Kentucky and Duke Energy Kentucky. The Bonds issued under the Indentures are below. On Nov 1, 2021, the Company bought in the Series 2008A bond, and remarketed the bond in June 2022.

Indenture	Date of Issue	Principal Amount Authorized and Issued	Principal Amount Outstanding	Rate of Interest	Date of Maturity	Interest Paid Year 2024
Series 2010	11/24/2010	26,720,000	26,720,000	3.86% (1)	8/1/2027	942,813
Series 2008A	12/01/2011	50,000,000	50,000,000	3.70% (2)	8/1/2027	1,850,000
			76,720,000			2,792,813

(1) The bonds were issued at a variable-rate and were swapped to a fixed rate of 3.86% for the life of the debt.

(2) Bonds were remarketed in June 2022 under a fixed-to-maturity interest rate mode (3.70% coupon).

The Company has no outstanding financing leases as of December 31, 2024.

The Company also has $25,000,000 of money pool borrowings outstanding as of December 31, 2024, all of which is classified as Long-Term Debt payable to affiliated companies. This obligation, which is short-term by nature, is classified as long-term due to Duke Energy Kentucky's intent and ability to utilize such borrowings as long-term financing.

(8) Section 12(2)(h) Rate and amount of dividends paid during the last five (5) previous fiscal years, and the amount of capital stock on which dividends were paid each year.

DIVIDENDS PER SHARE

Year Ending	Per Share	Total	No. of Shares	Par Value of Stock
31-Dec-20	0	0	585,333	8,779,995
31-Dec-21	0	0	585,333	8,779,995
31-Dec-22	0	0	585,333	8,779,995
31-Dec-23	0	0	585,333	8,779,995
31-Dec-24	$15.94534	140,000,000	585,333	8,779,995

(9) Section 12(2)(i) Detailed Income Statement and Balance Sheet.

See below for detailed Income Statement for the twelve months ended December 31, 2024 and the detailed Balance Sheet as of December 31, 2024.

DUKE ENERGY KENTUCKY, INC.
CONDENSED STATEMENTS OF OPERATIONS
(Unaudited)
(In thousands)

	Twelve Months Ended December 31 2024
Operating Revenues	
Electric	507,620
Gas	130,352
Total operating revenues	**637,972**
Operating Expenses	
Fuel used in electric generation and purchased power	163,999
Natural gas purchased	45,564
Operation, maintenance and other	154,202
Depreciation and amortization	108,819
Property and other taxes	14,777
Goodwill and other impairment charges	-
Total operating expenses	**487,361**
Gains on Sales of Other Assets and Other, net	**813**
Operating Income	**151,424**
Other Income and Expenses, net	**10,601**
Interest Expense	**35,615**
Income Before Income Taxes	**126,410**
Income Tax Expense	**24,965**
Income From Continuing Operations	**101,445**
Income From Discontinued Operations, net of tax	**-**
Net Income	**101,445**

DUKE ENERGY KENTUCKY, INC.
Condensed Balance Sheets
(Unaudited)

(in thousands, except share amounts)	December 31, 2024
ASSETS	
Current Assets	
Cash and Cash Equivalents	4,659
Receivables (net of allowance for doubtful accounts)	88,018
Receivables from affiliated companies	132
Notes Receivables from affiliated companies	29,611
Inventory	58,105
Regulatory Assets	19,305
Other	8,794
Total Current Assets	208,624
Property, Plant and Equipment	
Cost	3,574,937
Less Accumulated Depreciation and Amortization	(1,179,346)
Generation Facilities To Be Retired	
Net Property Plant and Equipment	2,395,591
Other Noncurrent Assets	
Regulatory Assets	110,294
Operating Lease Right-of-Use assets	3,955
Other	20,396
Total Other Noncurrent Assets	134,645
Total Assets	**2,738,860**
LIABILITIES AND COMMON STOCKHOLDERS' EQUITY	
Current Liabilities	
Accounts Payable	60,332
Accounts payable to affiliated companies	17,354
Notes payable to affiliated companies	-
Taxes Accrued	31,679
Interest Accrued	14,502
Current Maturities of Long-Term Debt	94,948
Asset Retirement Obligations	7,590
Regulatory Liabilities	12,076
Other	14,426
Total Current Liabilities	252,907
Long-Term Debt	**808,976**
Notes payable to affiliated companies	**25,000**
Other Noncurrent Liabilities	
Deferred Income Taxes	312,932
Asset Retirement Obligations	79,529
Regulatory Liabilities	96,750
Operating Lease Liabilities	3,849
Accrued Pension and Other Post-Retirement Benefit Costs	27,785
Other	23,626
Total Other Noncurrent Liabilities	544,471
Commitments and Contingencies	
Equity	
Common Stock, $15.00 par value, 1,000,000 shares authorized and 585,333 shares outstanding	8,780
Additional Paid in Capital	493,211
Retained Earnings	605,515
Total Duke Energy Corporation Stockholders' Equity	1,107,506
Noncontrolling Interests	
Total Liabilities and Equity	**2,738,860**

TEAM KENTUCKY TRANSPORTATION CABINET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

TC 99-1A
Rev. 10/2020
Page 1 of 4

APPLICATION FOR ENCROACHMENT PERMIT

KYTC KEPT #: _____

SECTION 1: APPLICANT CONTACT INFORMATION

APPLICANT	**ADDRESS**		
Duke Energy	139 E 4th St		
EMAIL	**CITY**	**STATE**	**ZIP**
n/a	Cincinnati	OH	45202
CONTACT NAME 1	**EMAIL**	**PHONE #**	
Brittany Webb (on behalf of Duke [illegible])	bnwebb@burnsmcd.com	**CELL #**	330-495-4624
CONTACT NAME 2 (*if applicable*)	**EMAIL**	**PHONE #**	
John Perkins	john.perkins@duke-energy.com	**CELL #**	513-315-8338

SECTION 2: PROPOSED WORK LOCATION

ADDRESS	**CITY**		**STATE**	**ZIP**
see below	see below		Kentucky	see below
COUNTY	**ROUTE #**	**MILE POINT**	**LONGITUDE** (*X*)	**LATITUDE** (*Y*)
Campbell	see below	see below	see below	see below

ADDITIONAL LOCATION INFORMATION:

FOR KYTC USE ONLY

PERMIT TYPE: ☐ Air Right ☐ Entrance ☐ Utilities ☐ Vegetation Removal ☐ Other: _____

ACCESS: ☐ Full ☐ Partial ☐ by Permit **LOCATION:** ☐ Left ☐ Right ☐ Crossing

SECTION 3: GENERAL DESCRIPTION OF WORK

1) STA ~36+50 through STA 40+60: Open cut installation of pipeline within KYTC ROW
Address: Martha Layne Collins Blvd, Highland Heights, KY 41076, Milepost: 0.85, Route: KY-2345, Lat/Long: 39.027092°/ 39.027092°
2) STA ~47+55 through STA 51+25: Bore installation UNDER roundabout along Martha Layne Collins Blvd
Address: Martha Layne Collins Blvd, Highland Heights, KY 41076, Milepost: 0.65 , Route: KY-2345, Lat/Long: 39.027100°/-84.460920°
3) STA 122+50 through STA 124+80: Bore installation under Industrial Rd
Address: Industrial Rd, Cold Spring, KY, 41076, Milepost 0.8, Route: KY8, Lat/Long: 39.026488°/-84.444845°

THE UNDERSIGNED APPLICANT(s), being duly authorized representative(s) or owner(s), DO AGREE TO ALL ORIGINAL UNEDITED TERMS AND CONDITIONS ON THE TC 99-1A, pages 1-4.

John Perkins
SIGNATURE

1-14-25
DATE

This is not a permit unless and until the applicant(s) receives an approved TC 99-1B from KYTC. This application shall become void if not approved by the cancellation date. The cancellation date shall be a minimum of one year from the date the applicant submits their application.

APPLICATION FOR ENCROACHMENT PERMIT

TERMS AND CONDITIONS

1. The permit, including this application and all related and accompanying documents and drawings making up the permit, remains in effect and is binding upon the Applicant/Permittee, its successors and assigns, as long as the encroachment(s) exists and also until the permittee is finally relieved by the Department of Highways from all its obligations.

2. Applicant shall meet all requirements of the Clean Water Act if the project will disturb one acre or more, the applicant shall obtain a KPDES KYR10 Permit from the Kentucky Division of Water. All disturbed areas shall meet the requirements of the Department of Highway's Standard Specifications, Sections 212 and 213, as amended.

3. INDEMNITY:

- **A.** PERFORMANCE BOND: The permittee shall provide to the Department a performance bond according to the Permits Manual, Section PE-203 as a guarantee of conformance with the Department's Encroachment Permit requirements.
- **B.** PAYMENT BOND: At the discretion of the department, a payment bond shall be required of the permittee to ensure payment of liquidated damages assessed to the permittee.
- **C.** LIABILITY INSURANCE: Liability insurance shall be required of the permittee (in an amount approved by the department) to cover all liabilities associated with the encroachment.
- **D.** It shall be the responsibility of the permittee, its successors and assigns, to maintain all indemnities in full force and effect until the permittee is authorized to release the indemnity by the Department.

4. A copy of this application and all related documents making up the approved permit shall be given to the applicant and shall be made readily available for review at the work site at all times.

5. Perpetual maintenance of the encroachment is the responsibility of the permittee, its successors and assigns, with the approval of the Department as required, unless otherwise stated.

6. Permittee, its successors and assigns, shall comply with and agree to be bound by the requirements and terms of (a) this application and all related documents making up the approved permit, (b) by the Department's Permits Manual, and (c) by the Manual on Uniform Traffic Control Devices, both manuals as revised to and in effect on the date of issuance of the permit, all of which documents are made a part thereof by this reference. Compliance by the permittee, its successors and assigns, with subsequent revisions to applicable provisions of either manual or other policy of the Department may be made a condition of allowing the encroachment to persist under the permit.

7. Permittee agrees that this and any encroachment may be ordered removed by the Department at any time, and for any reason, upon thirty days written notice to the last known address of the applicant or to the address at the location of the encroachment. The permittee agrees that the cost of removing and of restoring the associated right-of-way is the responsibility of the permittee, its successors and assigns.

8. Permittee, its successors and assigns, agree that if the Department determines that motor vehicular safety deficiencies develop as a result of the installation or use of the encroachment, the permittee, its successors and assigns, shall provide and bear the expenses to adjust, relocate, or reconstruct the facilities, add signs, auxiliary lanes, or other corrective measures reasonably deemed necessary by the Department within a reasonable time after receipt of a written notice of such deficiency. The period within which such adjustments, relocations, additions, modifications, or other corrective measures must be completed will be specified in the notice.

9. Where traffic signals are required as a condition of granting the requested permit or are thereafter required to correct motor vehicular safety deficiencies, as determined by the Department, the costs for signal equipment and installation(s) shall be borne by the permittee, its successors and assigns and the Department in its reasonable discretion and only in accordance with the Department's current policy set forth in the Traffic Operations Manual and Permits Manual. Any modifications to the permittee's entrance necessary to accommodate signalization (including necessary easement(s) on private property) shall be the responsibility of the permittee, its successors and assigns, at no expense to the Department.

APPLICATION FOR ENCROACHMENT PERMIT

10. The requested encroachment shall not infringe on the frontage rights of an abutting owner without their written consent as hereinafter described. Each abutting owner shall express their consent, which shall be binding on their successors and assigns, by the submission of a notarized statement as follows, "I (we), _____, hereby consent to the granting of the permit requested by the applicant along Route _____, which permit does affect frontage rights along my (our) adjacent real property." By signature(s) _____, subscribed and sworn by _____, on this date _____.

11. The permit, if approved, is subject to the agreement that it shall not interfere with any similar rights or permit(s) previously granted to any other party, except as otherwise provided by law.

12. Permittee shall include documentation which describes the facilities to be constructed. Permittee, its successors and assigns, agree as a condition of the granting of the permit to construct and maintain any and all permitted facilities or other encroachments in strict accordance with the submitted and approved permit documentation and the policies and procedures of the Department. Permittee, its successors and assigns, shall not use facilities authorized herein in any manner contrary to that prescribed by the approved permit. Only normal usage as contemplated by the parties and by this application and routine maintenance are authorized by the permit.

13. Permittee, its successors and assigns, at all times from the date permitted work is commenced until such time as all permitted facilities or other encroachments are removed from the right-of-way and the right-of-way restored, **shall defend, protect, indemnify and save harmless** the Department from any and all liability claims and demands arising out of the work, encroachment, maintenance, or other undertaking by the permittee, its successors and assigns, related or undertaken pursuant to the granted permit, due to any claimed act or omission by the permittee, its servants, agents, employees, or contractors. This provision shall not inure to the benefit of any third party nor operate to enlarge any liability of the Department beyond that existing at common law or otherwise if this right to indemnity did not exist.

14. Upon a violation of any provision of the permit, or otherwise in its reasonable discretion, the Department may require additional action by the permittee, its successors and assigns, up to and including the removal of the encroachment and restoration of the right-of-way. In the event additional actions required by the Department under the permit are not undertaken as ordered and within a reasonable time, the Department may in its discretion cause those or other additional corrective actions to be undertaken and the Department shall recover the reasonable costs of those corrective actions from the permittee, its successors and assigns.

15. Permittee, its successors and assigns, shall use the encroachment premises in compliance with all requirements of federal law and regulation, including those imposed pursuant to Title VI of the Civil Right Act of 1964 (42 U.S.C. § 2000d et seq.) and the related regulations of the U.S. Department of Transportation in Title 49 C.F.R. Part 21, all as amended.

16. Permittee, its successors and assigns, agree that if the Department determines it is necessary for the facilities or other encroachment authorized by the permit to be removed, relocated or reconstructed in connection with the reconstruction, relocation or improvement of a highway, the Department may revoke permission for the encroachment to remain under the permit and may order its removal, relocation or reconstruction by the permittee, its successors and assigns, at the expense of the permittee, except where the Department is required by law to pay any or all of those costs.

TEAM KENTUCKY TRANSPORTATION CABINET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

TC 99-1A
Rev. 10/2020
Page 4 of 4

APPLICATION FOR ENCROACHMENT PERMIT

17. Permittee agrees that the authorized permit is personal to the permittee and shall remain in effect until such time as (a) the permittee's rights to the adjoining real property to have benefitted from the requested encroachment have been relinquished, (b) until all permit obligations have been assumed by appropriate successors and assigns, and (c) unless and until a written release from permit obligations has been granted by the Department. The permit and its requirements shall also bind the real property to have benefitted from the requested encroachment to the extent permitted by law. The permit and the related encroachment become the responsibility of the successors and assigns of the permittee and the successors and assigns of each property owner benefitting from the encroachment, or the encroachment may not otherwise permissibly continue to be maintained on the right-of-way. (Does not apply to utility encroachments serving the general public.)

18. If work authorized by the permit is within a highway construction project in the construction phase, it shall be the responsibility of the permittee to make personal contact with the Department's Engineer on the project in order to coordinate all permitted work with the Department's prime contractor on the project.

19. This permit is not intended to, nor shall it, affect, alter or alleviate any requirement imposed upon the permittee, its successors and assigns, by any other agency.

20. Permittee, its successors and assigns, agree to contain and maintain all dirt, mud, and other debris emanating from the encroachment away from the surrounding right-of-way and the travel way of the highway hereafter and at all times that its obligations under the permit remain in effect.

21. Before You Dig: The contractor is instructed to call 1-800-752-6007 to reach KY 811, the One-Call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that the owners of underground facilities are not required to be members of the KY 811 One-Call Before U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Clerk to determine what utility companies have facilities in the area.

22. The undersigned Utility acknowledges ownership and control of the facilities proposed to be installed, modified, or extended by the Applicant/Permittee and agrees to be bound by the requirements and terms of this application and all related documents making up the approved permit, by the Department's Permits Guidance Manual, and by all applicable regulations and statutes in effect on the date of issuance of the permit. This information and application is certified correct to the best knowledge and belief of the undersigned Utility.

Duke Energy
UTILITY

John Perkins
NAME (Utility Representative)

Senior Engineer
TITLE (Utility Representative)

John Perkins
SIGNATURE (Utility Representative)

1-14-25
DATE

Kentucky811 Know what's below. Call before you dig.

To Submit a Locate Request
24 Hours a Day, Seven Days a Week:
Call 811 or 800-752-6007

RIGHT-OF-WAY

STATIONING

PLAN

PIPE DATA (SLOPE STATIONING)

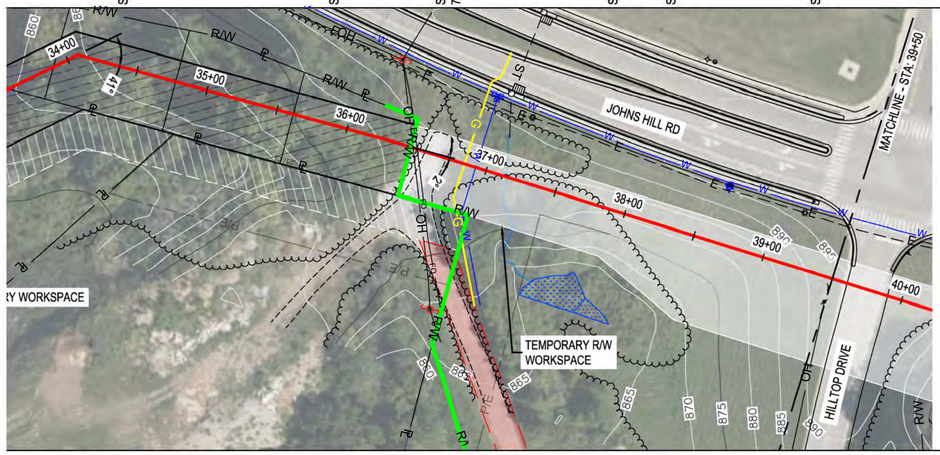
PROFILE

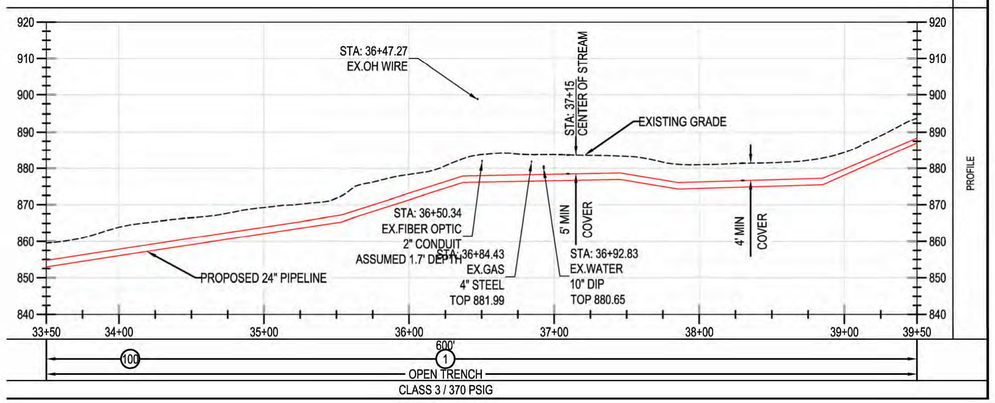
HORIZONTAL SCALE: 1" = 50'

PIDN 999-99-19-034.00
NORTHERN KENTUCKY UNIVERSITY

PIDN 999-99-19-774.01 NORTHERN KENTUCKY UNIVERSITY	PIDN 999-99-34-126.00 NORTHERN KENTUCKY UNIVERSITY	PIDN 999-99-34-127.01 NORTHERN KENTUCKY UNIVERSITY	PIDN 999-99-36-032.00 NORTHERN KENTUCKY UNIVERSITY	HILLTOP DR. R.O.W

STA: 34+08 FTG 41° (H-RT)
STA: 35+53 BEND 4° SAG (V)
STA: 36+37 BEND 2° (H-RT) 7° OVER (V)
STA: 37+46 BEND 4° OVER (V)
STA: 37+85 BEND 5° SAG (V)
STA: 38+85 BEND 9° SAG (V)





PROFILE

PIPE DATA

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
A	09/03/2024				
B	12/18/2024				

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	AW7866
DWG TYPE	
SERVICE ID	-
STATION ID	

AM07 PHASE 4
ALIGNMENT SHEET 2
COLD SPRING, KY

1 OF X

AS NOTED

DRAWING NUMBER

PNG -C-043-0002168

REVISION

B

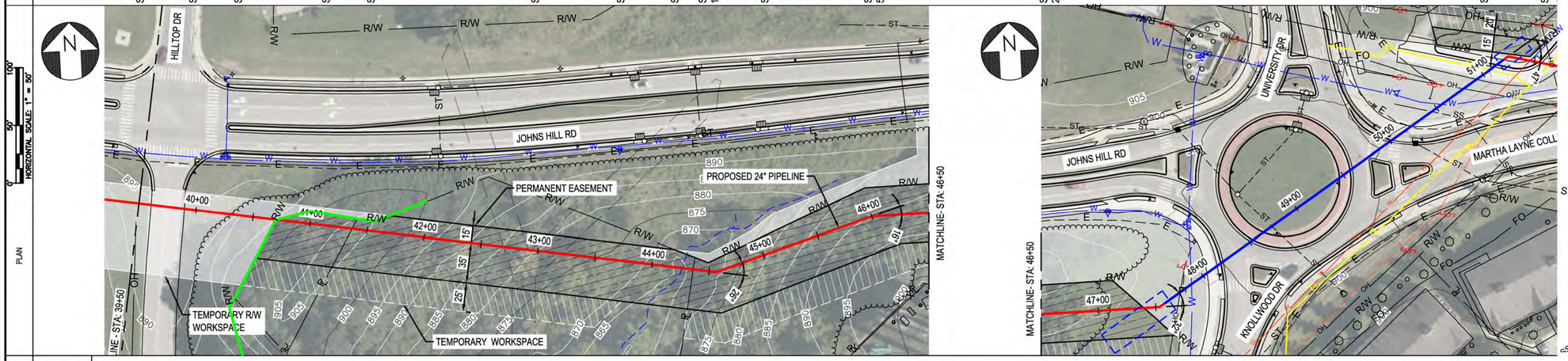
C / ERLANGER RESOURCE CENTER / AM07

RIGHT-OF-WAY	OWNERSHIP	HILLTOP DR. R.O.W	PIDN 999-99-22-268.00 SANDHAS FAMILY LIMITED	PIDN 999-99-34-969.00 NORTHERN KENTUCKY UNIVERSITY	PIDN 999-99-17-648.02 NORTHERN KENTUCKY UNIVERSITY	KNOLLWOOD DR. R.O.W	MARTHA LAYNE COLLINS BLVD R.O.W
	ACREAGE						
	EASEMENTS						
	REF. DWG. NO.						

STATIONING

STA: 39+56 BEND 10° OVER (V) | STA: 40+02 BEND 8° OVER (V) | STA: 40+41 BEND 17° SAG (V) | STA: 41+18 BEND 11° OVER (V) | STA: 41+57 BEND 10° OVER (V) | STA: 43+00 BEND 6° SAG (V) | STA: 43+74 BEND 8° OVER (V) | STA: 44+22 BEND 18° SAG (V) | STA: 44+56 FTG 26° (H-LT) 10° SAG (V) | STA: 45+00 BEND 9° OVER (V) | STA: 46+00 BEND 16° (H-LT) 5° OVER (V) | STA: 47+53 FTG 32° (H-LT) 2° OVER (V) | STA: 51+27 FTG 47° (H-RT) | STA: 51+79 BEND 7° OVER (V)

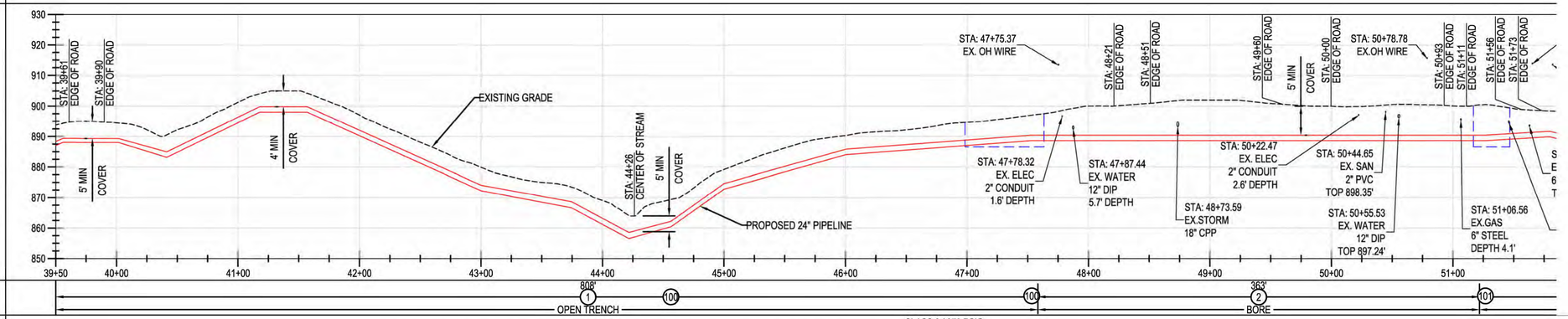
PLAN



PIPE DATA (SLOPE STATIONING)

STA.	WELD #	JOINT LENGTH (CON.)	JOINT #	HEAT #
STA.	WELD #	JOINT LENGTH (CON.)	JOINT #	HEAT #

PROFILE



MATERIAL		808'	363'
CONST. METHOD		1 OPEN TRENCH 100	100 2 BORE 101
CLASS / MAOP		CLASS 3 / 370 PSIG	

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
A	09/03/2024	ISSUED FOR 30% DESIGN REVIEW	CHS	JMP	JPF
B	12/18/2024	ISSUED FOR 60% DESIGN REVIEW	CHS	JMP	JPF

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	AW7866
DWG TYPE	PIPELINE
SERVICE ID	-
STATION ID	-

PROFESSIONAL ENG/ARCH STAMP

DUKE ENERGY. Piedmont Natural Gas

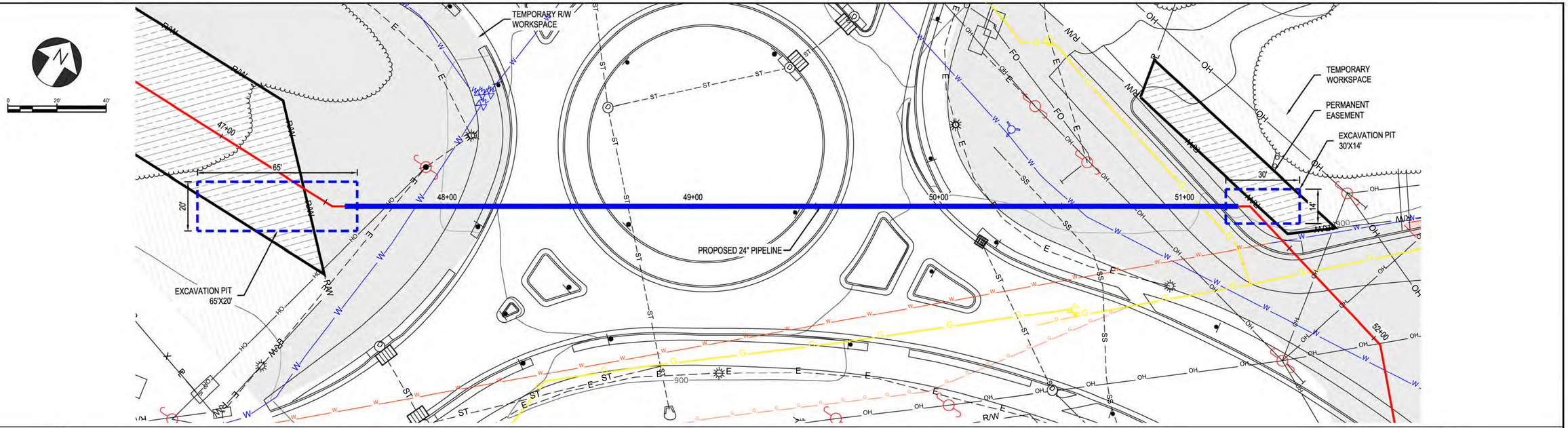
AM07 PHASE 4
ALIGNMENT SHEET 3
COLD SPRING, KY

Erlanger Resource Center

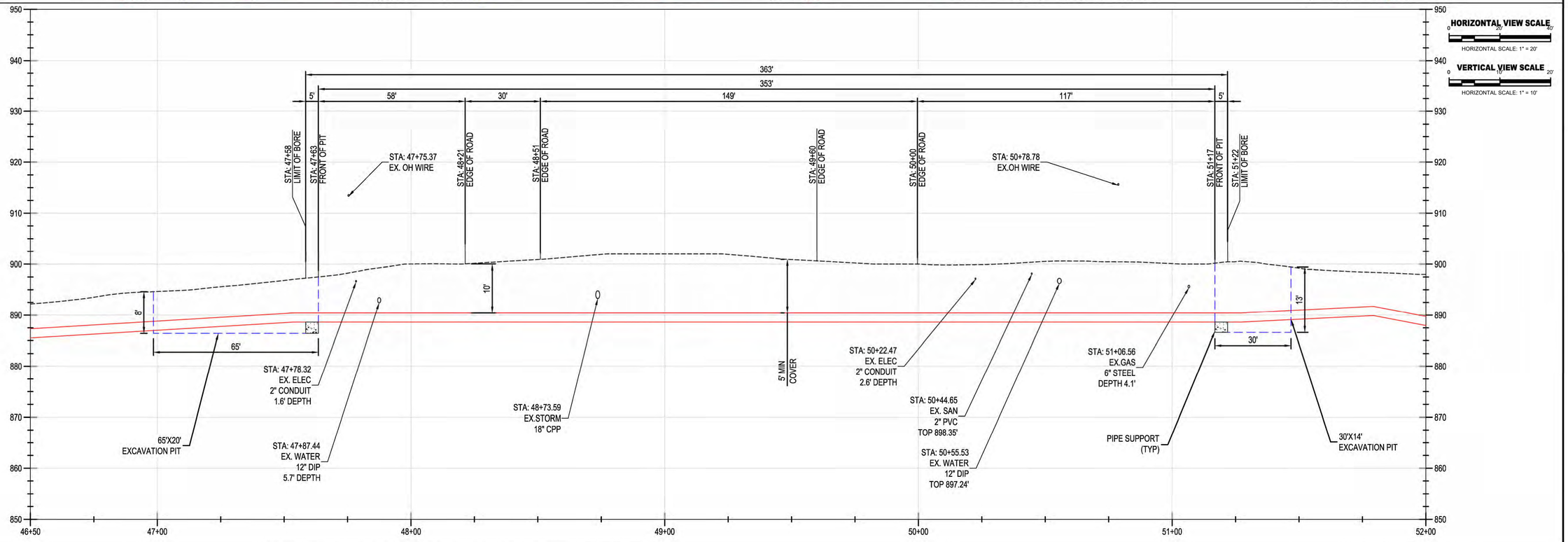
REF. DWG(S)	PNG-G-043-000XXX1
SHEET(S)	1 OF X
DWG SCALE	AS NOTED
DWG DATE	08/23/2024
SUPERSEDED	-
DRAWING NUMBER	PNG -C-043-0002169
REVISION	B

C / ERLANGER RESOURCE CENTER / AM07

PLAN



PROFILE



PROFESSIONAL ENG/ARCH STAMP

BURNS & MCDONNELL ENGINEERING COMPANY, INC. STATE LICENSE # 45

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
A	12/18/2024	ISSUED FOR 60% DESIGN REVIEW	CHS	JMP	JPF

AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	AW7866
DWG TYPE	PIPELINE
SERVICE ID	-
STATION ID	-

DUKE ENERGY. Piedmont Natural Gas

-

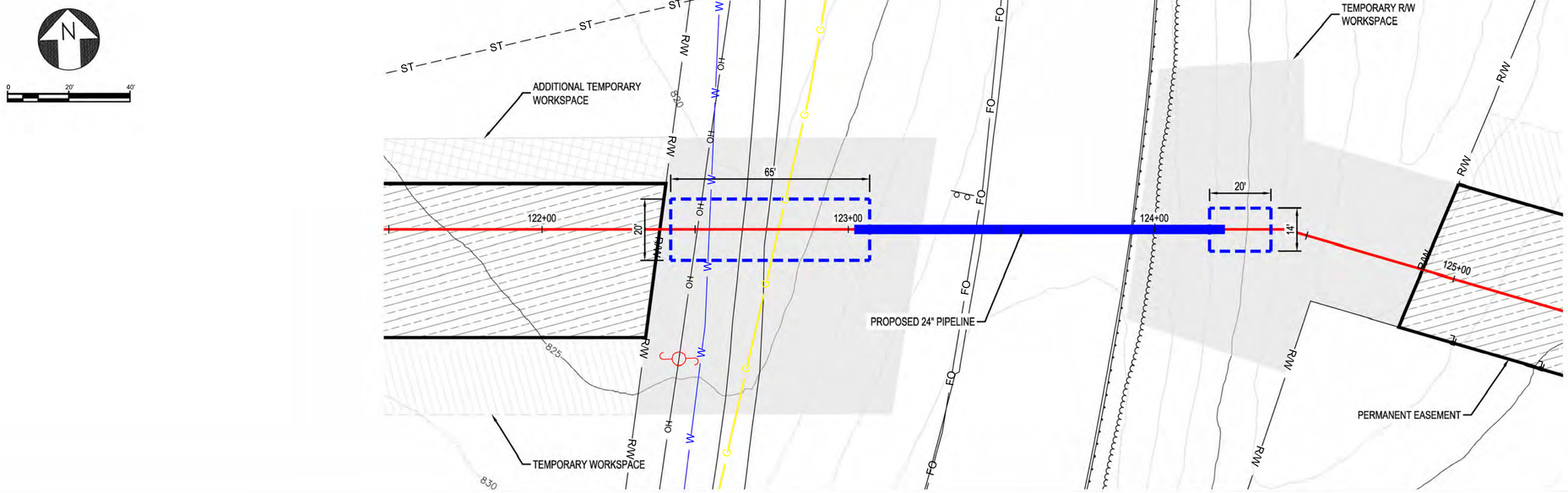
AM07 PHASE 4
BORE CROSSING DETAIL 1
COLD SPRING, KY

Enlanger Resource Center

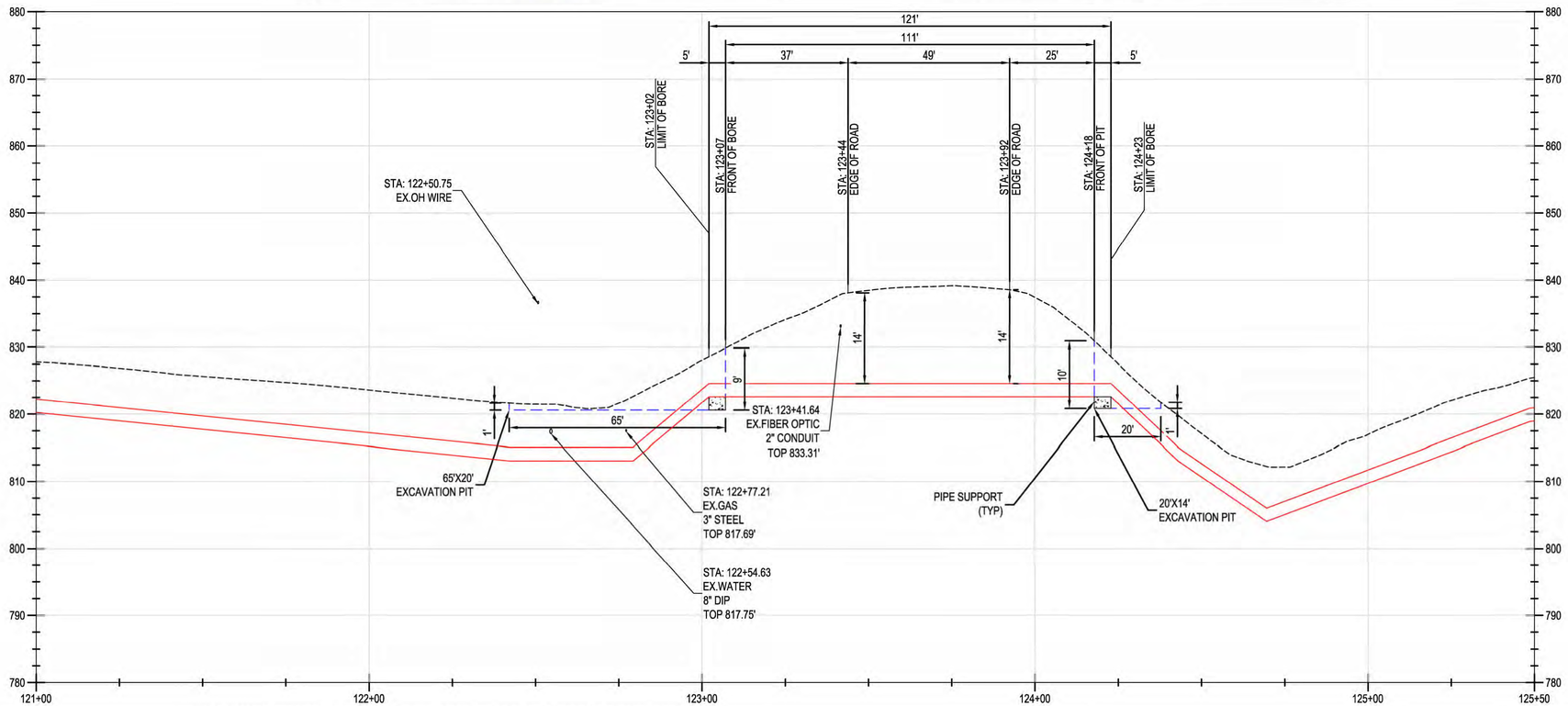
REF. DWG(S)	PNG-G-043-0001703
SHEET(S)	1 OF X
DWG SCALE	AS NOTED
DWG DATE	11/27/2024
SUPERSEDED	—
DRAWING NUMBER	PNG C-043-0002178
REVISION	A

C:\ ERLANGER RESOURCE CENTER \ AM07

PLAN



PROFILE



HORIZONTAL VIEW SCALE
0 20' 40'
HORIZONTAL SCALE: 1" = 20'

VERTICAL VIEW SCALE
0 10' 20'
HORIZONTAL SCALE: 1" = 10'

BURNS & MCDONNELL
ENGINEERING COMPANY, INC.
STATE LICENSE #43

PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
A	12/18/2024	ISSUED FOR 60% DESIGN REVIEW	CHS	JMP	JPF

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	AW7866
DWG TYPE	PIPELINE
SERVICE ID	-
STATION ID	-

DUKE ENERGY. Piedmont Natural Gas

-
AM07 PHASE 4
BORE CROSSING DETAIL 2
COLD SPRING, KY

Enlanger Resource Center

REF. DWG(S)	PNG-G-043-0001703
SHEET(S)	1 OF X
DWG SCALE	AS NOTED
DWG DATE	11/27/2024
SUPERSEDED	—
DRAWING NUMBER	PNG C-043-0002179
REVISION	A

C / ERLANGER RESOURCE CENTER / AM07

Justification Memorandum

Date	January 2025
To	KYTC
From	BMCD (on behalf of Duke Energy)
Subject	Martha Layne Collins Blvd Routing

Through review of KYTC standards and routing discussions with KYTC staff members, it has been identified that a proposed routing determination along Martha Layne Collins Blvd requires an SHE Exemption from KYTC standards.

Per KYTC's *Utility and Rails Manual*:

"New or relocated utilities installed longitudinally shall be located behind the ditch line and toe of slope as near to the edge of right of way as practical. Where curb and gutters are provided, underground utilities shall be located in the utility strip back of the curb when possible, and care shall be taken to avoid conflicts with the proposed storm drainage. On divided highways with medians, special circumstances may warrant location of longitudinal utility lines in the median strip.

Generally, facilities are not installed longitudinally under proposed pavement and shoulder areas. Only when there is no other practical location available may a facility be placed under the pavement and shoulder area. If this installation is allowed, it shall be constructed with long-life, maintenance-free materials. Every provision shall be made to minimize the need of having to cut the pavement or interfere with traffic in the future"

With the nature of the required scope for pipeline relocation to support Duke Energy's initiative to bring the existing pipeline into conformance with industry specifications, a request for SHE exemption is being presented based on the qualifications outlining the rationale for placement per the guidance noted in the specification above. Please refer to the affixed drawing sheets highlighting and supporting the notable justifications for routing within Martha Layne Collins Blvd below.

Justification 1: Topographic installation challenge due to storm drainage and detention system existing infrastructure

Justification 2: utility congestion would introduce significant lengths of parallel installation with impactful landscaping and business impacts

Justification 3: limit significant business and residential impacts

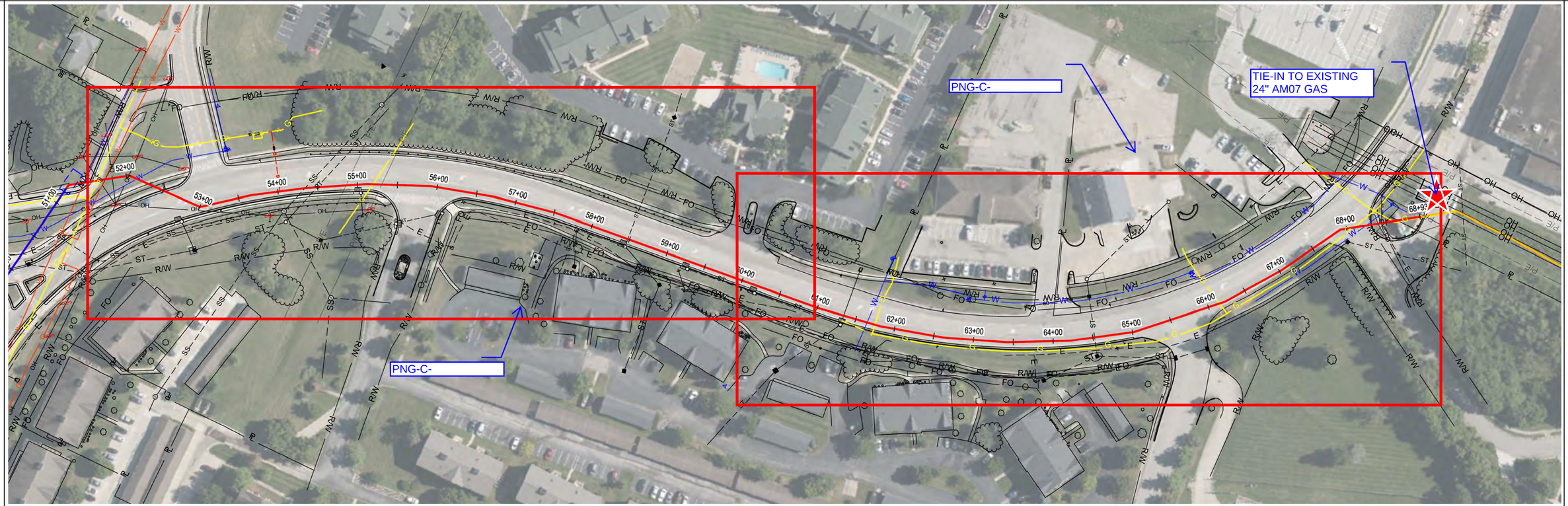
Please reach out with any questions regarding this SHE Exception Request.

Thanks,

Josh Pedersen (on behalf of Duke Energy)

Enclosure Attachment: KY-2345 Justification Drawings

cc: Linzy Brefeld, Kenneth Koole



AM07 Phase 4 Pipeline Replacement Project

Justification for the Longitudinal Encroachment of Martha Layne Collins Boulevard

Background Duke Energy is proposing to replace their existing 24-inch AM07 natural gas pipeline originally installed in the 1950's. The pipeline is approximately 16 miles long and located in Kenton and Campbell Counties in Kentucky. The pipeline replacement is a mandatory effort to maintain conformance with updated industry specifications and consists of five phases, with a portion of the fourth phase being the focus of this document. The fourth phase consists of approximately 2.2 miles of 24-inch steel transmission pipeline in Campbell County, Kentucky. The purpose of this document is to provide justification for the proposed longitudinal routing of approximately 1,550 ft of pipeline within the limits of KY Route 2345 (Martha Layne Collins Blvd). The 1,550-foot section ranges from University Dr to Salmon Pass and is shown above. The route shown is currently at a stage 60% through design and is subject to change.

Routing Considerations There were general routing considerations implemented during the design of the Phase 4, 24" pipeline. Topography, foreign utilities, limited workspace, private business impact and increased number of bends/fittings all pose individual challenges to the successful and efficient installation of a larger diameter pipeline. The final tie-in point at Salmon Pass (shown above) also played a significant role in the selection of a final route. Drawings PNG-C-Sketch-0002 and PNG-C-Sketch-0003 aim to provide a detailed look into the reasoning for longitudinally installing within the KY-2345 pavement limits.

Design Considerations The AM07 Pipeline replacement project is designed to improve the integrity of the Duke Energy natural gas system. The pipeline is designed with a pipe diameter to wall thickness ratio of less than 50, which exceeds the minimum federal safety guidelines by a substantial margin. The yield strength of the steel pipe will also be specified to minimize the hoop stress exerted on the material due to internal and external loads. Combining the extra wall thickness with a higher material yield strength will result in a safer and robust design. The pipe will be thoroughly tested during and after installation to pro actively identify and address potential issues or defects in the material or welds. The pipeline will be coated with 16-18 mils of fusion bonded epoxy (FBE). The FBE coating will create a barrier between the pipeline and its external environment, minimizing the probability of corrosive activity. Sand padding will be placed at least a foot above the pipeline so that backfill/rock does not damage the FBE coating. Flowable fill (cdf) will be utilized to restore the trench above the sand padding. In an additional effort to protect the pipeline, it will be cathodically protected via a deep well anode bed, impressed current system. The extensive design efforts to protect the pipeline from corrosive activity are taken to limit need of future maintenance requiring impact to the roadway.

Pipeline Maintenance Typical maintenance on transmission pipelines is non-invasive, and often does not require excavation. The AM07 replacement project phases are designed to accommodate In-Line Inspection (ILI) efforts which are executed by running an internal device through the pipeline. These devices range in capability, but typically allow for detection of third-party damage, loss of wall thickness, coating loss and corrosion. If any of the preceding events were to be detected within KY-2345 R/W, an integrity dig would be required to inspect the condition of the pipe at the location it was detected.

0' 60' 120'
HORIZONTAL SCALE: 1" = 60'

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER

PROFESSIONAL ENG/ARCH STAMP

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	AW7866
DWG TYPE	PIPELINE
SERVICE ID	-
STATION ID	-

DUKE ENERGY. Piedmont Natural Gas

AM07 PHASE 4 MARTHA LAYNE COLLINS BLVD ENCROACHMENT
COLD SPRING, KY

Erlanger Resource Center

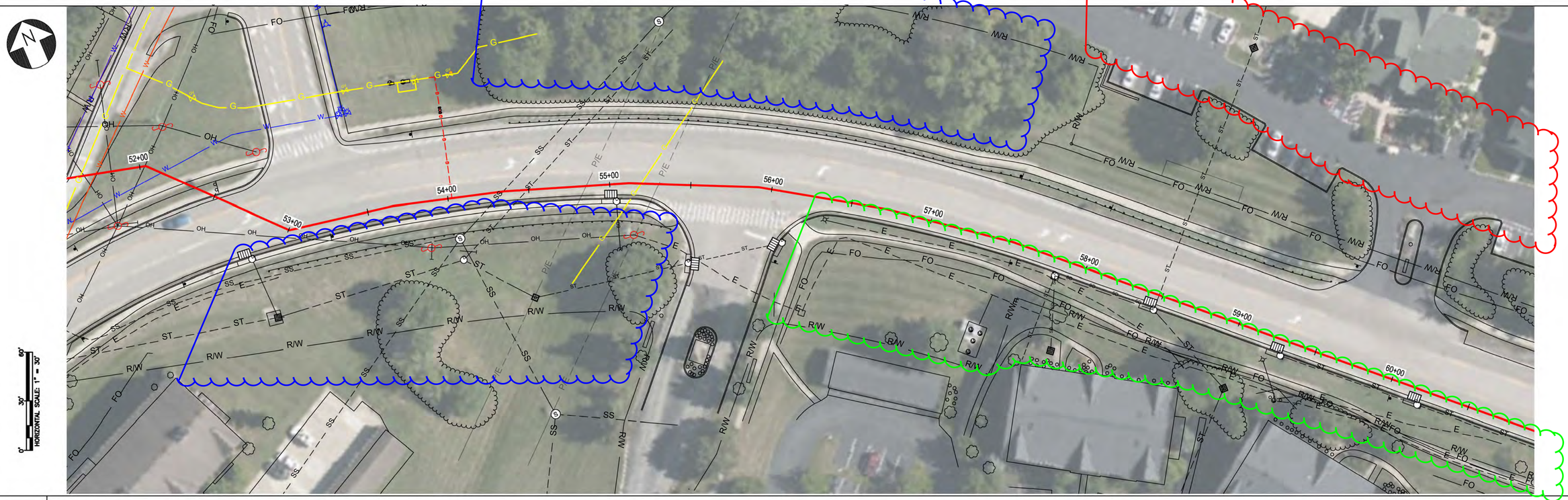
REF. DWG(S)

SHEET(S)	DWG SCALE
1 OF 3	AS NOTED
DWG DATE	SUPERSEDED

DRAWING NUMBER: PNG-C-SKETCH-0001
REVISION:
C / ERLANGER RESOURCE CENTER / AM07

C:\Users\jmcdonald\OneDrive - Duke Energy\Documents\AM07\Phase4\Permits\KY\C-2345 Justification.dwg, 1/15/2025 12:22:14 PM

RIGHT-OF-WAY			RIGHT-OF-WAY
	OWNERSHIP	KYTC R.O.W.	
	ACREAGE		
	EASEMENTS		
	REF. DWG. NO.		



General Routing Considerations:1) Avoid paralleling existing utilities for extended lengths (>100').2) Reduce impacts to businesses.3) Maintain consistency with the route. Avoid back and forth from private to public R/W.4) Limit foreign utility crossings.5) Tie-in location to existing gas line. (PNG-C-SKETCH-0003)

- Topographic installation challenge. Storm drainage/detention challenges.

- Utility congestion would require lengthy paralleled installation and/or excessive utility crossings and PI's. Tree clearing and landscaping impacts for both apartments and business owners.

- Significant business impacts to private landowners.

CLASS / MAOP	CLASS 3 / 370 PSIG

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER	DESCRIPTION

PROFESSIONAL ENG/ARCH STAMP

AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	AW7866
DWG TYPE	PIPELINE
SERVICE ID	-
STATION ID	
	-

DUKE ENERGY. Piedmont Natural Gas

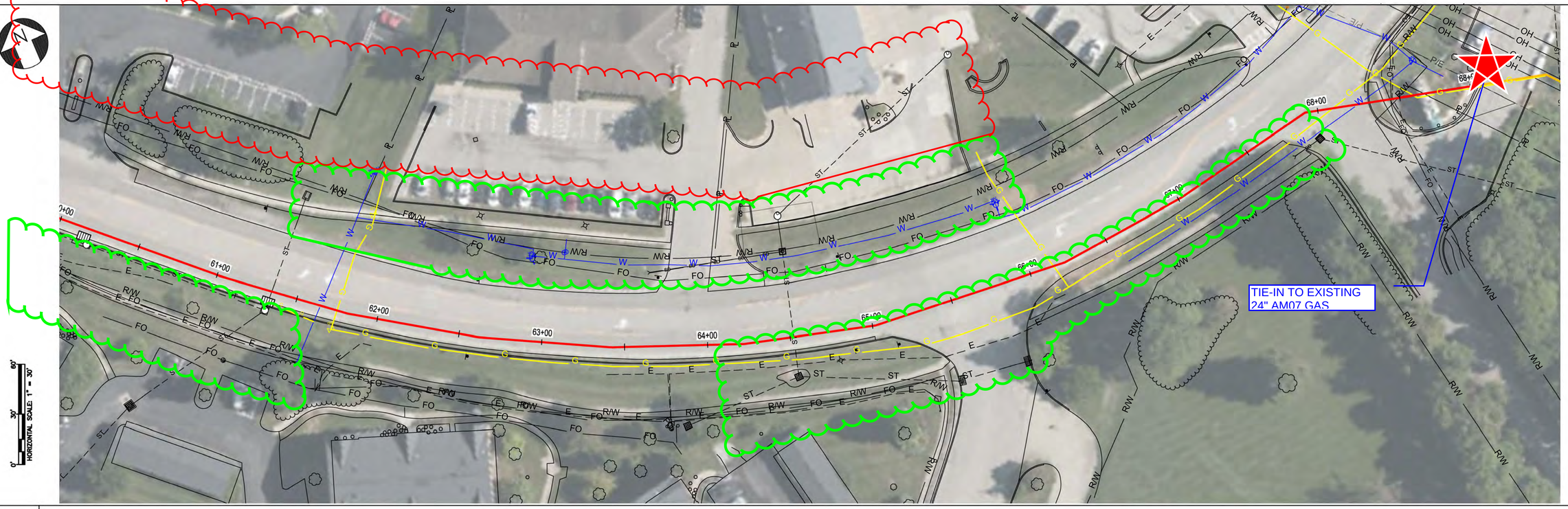
AM07 PHASE 4 MARTHA LAYNE COLLINS BLVD ENCROACHMENT COLD SPRING, KY

Erlanger Resource Center

REF. DWG(S)	PNG-G-043-000XXX1
SHEET(S)	2 OF 3
DWG SCALE	AS NOTED
DWG DATE	
SUPERSEDED	
DRAWING NUMBER	PNG-C-SKETCH-0002
REVISION	
C / ERLANGER RESOURCE CENTER / AM07	

C:\Users\jgoodman\OneDrive - Burns & McDonnell\AW7866\Phase4\Permits\KYTC_Exh3_addRoutes.dwg, 11/3/2025 10:43 AM

RIGHT-OF-WAY			RIGHT-OF-WAY
	OWNERSHIP	KYTC R.O.W.	
	ACREAGE		
	EASEMENTS		
	REF. DWG. NO.		



General Routing Considerations:1) Avoid paralleling existing utilities for extended lengths (>100').2) Reduce impacts to businesses.3) Maintain consistency with the route. Avoid back and forth from private to public R/W.4) Limit foreign utility crossings.5) Tie-in location to existing gas line. (PNG-C-SKETCH-0003)

- Topographic installation challenge. Storm drainage/detention challenges.

- Utility congestion would require lengthy paralleled installation and/or excessive utility crossings and PI's. Tree clearing and landscaping impacts for both apartments and business owners.

- Significant business impacts to private landowners.

CLASS / MAOP — CLASS 3 / 370 PSIG

PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER	DESCRIPTION

AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	AW7866
DWG TYPE	PIPELINE
SERVICE ID	-
STATION ID	
	-

AM07 PHASE 4 MARTHA LAYNE COLLINS BLVD ENCROACHMENT COLD SPRING, KY

Erlanger Resource Center

REF. DWG(S)	PNG-G-043-000XXX1
SHEET(S)	3 OF 3
DWG SCALE	AS NOTED
DWG DATE	SUPERSEDED
DRAWING NUMBER	REVISION
PNG-C-SKETCH-0003	
C / ERLANGER RESOURCE CENTER / AM07	

C:\Users\jrosenwinkel\OneDrive - Duke Energy\Documents\Projects\Kentucky\PNG-C-SKETCH-0003.dwg, 11/7/2025 10:55:56 AM

KYTC Permit Application and Drawings

TEAM KENTUCKY TRANSPORTATION CABINET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

TC 99-1A
Rev. 10/2020
Page 1 of 4

APPLICATION FOR ENCROACHMENT PERMIT

KYTC KEPT #: _____

SECTION 1: APPLICANT CONTACT INFORMATION

APPLICANT	**ADDRESS**		
Duke Energy	139 E 4th St		
EMAIL	**CITY**	**STATE**	**ZIP**
n/a	Cincinnati	OH	45202
CONTACT NAME 1	**EMAIL**	**PHONE #**	
Brittany Webb (on behalf of Duke [illegible])	bnwebb@burnsmcd.com	**CELL #**	330-495-4624
CONTACT NAME 2 (*if applicable*)	**EMAIL**	**PHONE #**	
John Perkins	john.perkins@duke-energy.com	**CELL #**	513-315-8338

SECTION 2: PROPOSED WORK LOCATION

ADDRESS	**CITY**		**STATE**	**ZIP**
Martha Layne Collins Blvd (KY2345)	Highland Heights		Kentucky	41076
COUNTY	**ROUTE #**	**MILE POINT**	**LONGITUDE** (*X*)	**LATITUDE** (*Y*)
Campbell	KY-2345	0.3-0.6	see below	see below

ADDITIONAL LOCATION INFORMATION:
nearby address: 201 Martha Layne Collins Blvd, Highland Heights, KY 41076

FOR KYTC USE ONLY

PERMIT TYPE: ☐ Air Right ☐ Entrance ☐ Utilities ☐ Vegetation Removal ☐ Other: _____

ACCESS: ☐ Full ☐ Partial ☐ by Permit **LOCATION:** ☐ Left ☐ Right ☐ Crossing

SECTION 3: GENERAL DESCRIPTION OF WORK

STA ~51+50 through STA 68+50: Open cut parallel installation of pipeline within Martha Layne Collins Blvd

Lat/Long START: 39.027512°/-84.459800°
Lat/Long FINISH: 39.025674°/-84.454783°

THE UNDERSIGNED APPLICANT(s), being duly authorized representative(s) or owner(s), DO AGREE TO ALL ORIGINAL UNEDITED TERMS AND CONDITIONS ON THE TC 99-1A, pages 1-4.

John Perkins
SIGNATURE

2-5-25
DATE

This is not a permit unless and until the applicant(s) receives an approved TC 99-1B from KYTC. This application shall become void if not approved by the cancellation date. The cancellation date shall be a minimum of one year from the date the applicant submits their application.

APPLICATION FOR ENCROACHMENT PERMIT

TERMS AND CONDITIONS

1. The permit, including this application and all related and accompanying documents and drawings making up the permit, remains in effect and is binding upon the Applicant/Permittee, its successors and assigns, as long as the encroachment(s) exists and also until the permittee is finally relieved by the Department of Highways from all its obligations.

2. Applicant shall meet all requirements of the Clean Water Act if the project will disturb one acre or more, the applicant shall obtain a KPDES KYR10 Permit from the Kentucky Division of Water. All disturbed areas shall meet the requirements of the Department of Highway's Standard Specifications, Sections 212 and 213, as amended.

3. INDEMNITY:

- **A.** PERFORMANCE BOND: The permittee shall provide to the Department a performance bond according to the Permits Manual, Section PE-203 as a guarantee of conformance with the Department's Encroachment Permit requirements.
- **B.** PAYMENT BOND: At the discretion of the department, a payment bond shall be required of the permittee to ensure payment of liquidated damages assessed to the permittee.
- **C.** LIABILITY INSURANCE: Liability insurance shall be required of the permittee (in an amount approved by the department) to cover all liabilities associated with the encroachment.
- **D.** It shall be the responsibility of the permittee, its successors and assigns, to maintain all indemnities in full force and effect until the permittee is authorized to release the indemnity by the Department.

4. A copy of this application and all related documents making up the approved permit shall be given to the applicant and shall be made readily available for review at the work site at all times.

5. Perpetual maintenance of the encroachment is the responsibility of the permittee, its successors and assigns, with the approval of the Department as required, unless otherwise stated.

6. Permittee, its successors and assigns, shall comply with and agree to be bound by the requirements and terms of (a) this application and all related documents making up the approved permit, (b) by the Department's Permits Manual, and (c) by the Manual on Uniform Traffic Control Devices, both manuals as revised to and in effect on the date of issuance of the permit, all of which documents are made a part thereof by this reference. Compliance by the permittee, its successors and assigns, with subsequent revisions to applicable provisions of either manual or other policy of the Department may be made a condition of allowing the encroachment to persist under the permit.

7. Permittee agrees that this and any encroachment may be ordered removed by the Department at any time, and for any reason, upon thirty days written notice to the last known address of the applicant or to the address at the location of the encroachment. The permittee agrees that the cost of removing and of restoring the associated right-of-way is the responsibility of the permittee, its successors and assigns.

8. Permittee, its successors and assigns, agree that if the Department determines that motor vehicular safety deficiencies develop as a result of the installation or use of the encroachment, the permittee, its successors and assigns, shall provide and bear the expenses to adjust, relocate, or reconstruct the facilities, add signs, auxiliary lanes, or other corrective measures reasonably deemed necessary by the Department within a reasonable time after receipt of a written notice of such deficiency. The period within which such adjustments, relocations, additions, modifications, or other corrective measures must be completed will be specified in the notice.

9. Where traffic signals are required as a condition of granting the requested permit or are thereafter required to correct motor vehicular safety deficiencies, as determined by the Department, the costs for signal equipment and installation(s) shall be borne by the permittee, its successors and assigns and the Department in its reasonable discretion and only in accordance with the Department's current policy set forth in the Traffic Operations Manual and Permits Manual. Any modifications to the permittee's entrance necessary to accommodate signalization (including necessary easement(s) on private property) shall be the responsibility of the permittee, its successors and assigns, at no expense to the Department.

APPLICATION FOR ENCROACHMENT PERMIT

10. The requested encroachment shall not infringe on the frontage rights of an abutting owner without their written consent as hereinafter described. Each abutting owner shall express their consent, which shall be binding on their successors and assigns, by the submission of a notarized statement as follows, "I (we), _____, hereby consent to the granting of the permit requested by the applicant along Route _____, which permit does affect frontage rights along my (our) adjacent real property." By signature(s) _____, subscribed and sworn by _____, on this date _____.

11. The permit, if approved, is subject to the agreement that it shall not interfere with any similar rights or permit(s) previously granted to any other party, except as otherwise provided by law.

12. Permittee shall include documentation which describes the facilities to be constructed. Permittee, its successors and assigns, agree as a condition of the granting of the permit to construct and maintain any and all permitted facilities or other encroachments in strict accordance with the submitted and approved permit documentation and the policies and procedures of the Department. Permittee, its successors and assigns, shall not use facilities authorized herein in any manner contrary to that prescribed by the approved permit. Only normal usage as contemplated by the parties and by this application and routine maintenance are authorized by the permit.

13. Permittee, its successors and assigns, at all times from the date permitted work is commenced until such time as all permitted facilities or other encroachments are removed from the right-of-way and the right-of-way restored, **shall defend, protect, indemnify and save harmless** the Department from any and all liability claims and demands arising out of the work, encroachment, maintenance, or other undertaking by the permittee, its successors and assigns, related or undertaken pursuant to the granted permit, due to any claimed act or omission by the permittee, its servants, agents, employees, or contractors. This provision shall not inure to the benefit of any third party nor operate to enlarge any liability of the Department beyond that existing at common law or otherwise if this right to indemnity did not exist.

14. Upon a violation of any provision of the permit, or otherwise in its reasonable discretion, the Department may require additional action by the permittee, its successors and assigns, up to and including the removal of the encroachment and restoration of the right-of-way. In the event additional actions required by the Department under the permit are not undertaken as ordered and within a reasonable time, the Department may in its discretion cause those or other additional corrective actions to be undertaken and the Department shall recover the reasonable costs of those corrective actions from the permittee, its successors and assigns.

15. Permittee, its successors and assigns, shall use the encroachment premises in compliance with all requirements of federal law and regulation, including those imposed pursuant to Title VI of the Civil Right Act of 1964 (42 U.S.C. § 2000d et seq.) and the related regulations of the U.S. Department of Transportation in Title 49 C.F.R. Part 21, all as amended.

16. Permittee, its successors and assigns, agree that if the Department determines it is necessary for the facilities or other encroachment authorized by the permit to be removed, relocated or reconstructed in connection with the reconstruction, relocation or improvement of a highway, the Department may revoke permission for the encroachment to remain under the permit and may order its removal, relocation or reconstruction by the permittee, its successors and assigns, at the expense of the permittee, except where the Department is required by law to pay any or all of those costs.

TEAM KENTUCKY TRANSPORTATION CABINET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

TC 99-1A
Rev. 10/2020
Page 4 of 4

APPLICATION FOR ENCROACHMENT PERMIT

17. Permittee agrees that the authorized permit is personal to the permittee and shall remain in effect until such time as (a) the permittee's rights to the adjoining real property to have benefitted from the requested encroachment have been relinquished, (b) until all permit obligations have been assumed by appropriate successors and assigns, and (c) unless and until a written release from permit obligations has been granted by the Department. The permit and its requirements shall also bind the real property to have benefitted from the requested encroachment to the extent permitted by law. The permit and the related encroachment become the responsibility of the successors and assigns of the permittee and the successors and assigns of each property owner benefitting from the encroachment, or the encroachment may not otherwise permissibly continue to be maintained on the right-of-way. (Does not apply to utility encroachments serving the general public.)

18. If work authorized by the permit is within a highway construction project in the construction phase, it shall be the responsibility of the permittee to make personal contact with the Department's Engineer on the project in order to coordinate all permitted work with the Department's prime contractor on the project.

19. This permit is not intended to, nor shall it, affect, alter or alleviate any requirement imposed upon the permittee, its successors and assigns, by any other agency.

20. Permittee, its successors and assigns, agree to contain and maintain all dirt, mud, and other debris emanating from the encroachment away from the surrounding right-of-way and the travel way of the highway hereafter and at all times that its obligations under the permit remain in effect.

21. Before You Dig: The contractor is instructed to call 1-800-752-6007 to reach KY 811, the One-Call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that the owners of underground facilities are not required to be members of the KY 811 One-Call Before U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Clerk to determine what utility companies have facilities in the area.

22. The undersigned Utility acknowledges ownership and control of the facilities proposed to be installed, modified, or extended by the Applicant/Permittee and agrees to be bound by the requirements and terms of this application and all related documents making up the approved permit, by the Department's Permits Guidance Manual, and by all applicable regulations and statutes in effect on the date of issuance of the permit. This information and application is certified correct to the best knowledge and belief of the undersigned Utility.

Duke Energy

UTILITY

John Perkins — NAME (Utility Representative)

Senior Engineer — TITLE (Utility Representative)

John Perkins — SIGNATURE (Utility Representative)

2/5/25 — DATE

Kentucky811 Know what's below. Call before you dig.

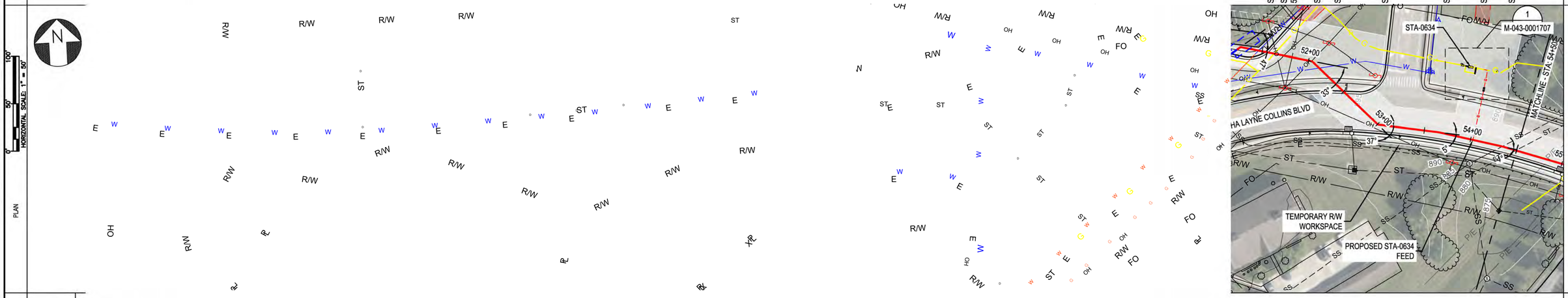
To Submit a Locate Request
24 Hours a Day, Seven Days a Week:
Call 811 or 800-752-6007

OWNERSHIP	HILLTOP DR. R.O.W	PIDN 999-99-22-268.00 SANDHAS FAMILY LIMITED	PIDN 999-99-34-969.00 NORTHERN KENTUCKY UNIVERSITY	PIDN 999-99-17-648.02 NORTHERN KENTUCKY UNIVERSITY	KNOLLWOOD DR. R.O.W	MARTHA LAYNE COLLINS BLVD R.O.W
ACREAGE						
EASEMENTS						
REF. DWG. NO.						

RIGHT-OF-WAY

STATIONING

PLAN



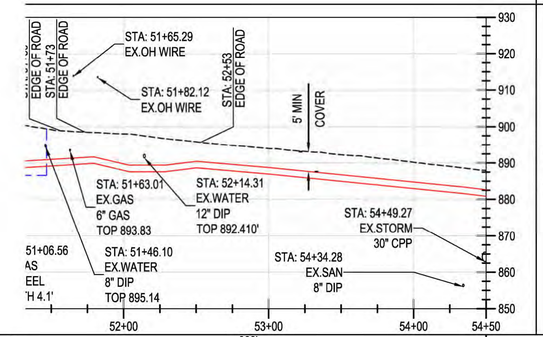
PLAN

PIPE DATA (SLOPE STATIONING)

STA.	WELD #	JOINT LENGTH (CONV.)	JOINT #	HEAT #	JOINT LENGTH (CONV.)	WELD #	STA.

PIPE DATA

PROFILE



PROFILE

MATERIAL				
CONST. METHOD	808' 1 OPEN TRENCH	363' 2 BORE	328' 1 OPEN TRENCH	
CLASS / MAOP	CLASS 3 / 370 PSIG			

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
A	09/03/2024	ISSUED FOR 30% DESIGN REVIEW	CHS	JMP	JPF
B	12/18/2024	ISSUED FOR 60% DESIGN REVIEW	CHS	JMP	JPF

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	AW7866
DWG TYPE	PIPELINE
SERVICE ID	-
STATION ID	-

PROFESSIONAL ENG/ARCH STAMP

DUKE ENERGY. Piedmont Natural Gas

AM07 PHASE 4
ALIGNMENT SHEET 3
COLD SPRING, KY

Erlanger Resource Center

REF. DWG(S)	PNG-G-043-000XXX1
SHEET(S)	1 OF X
DWG SCALE	AS NOTED
DWG DATE	08/23/2024
SUPERSEDED	-
DRAWING NUMBER	PNG -C-043-0002169
REVISION	B

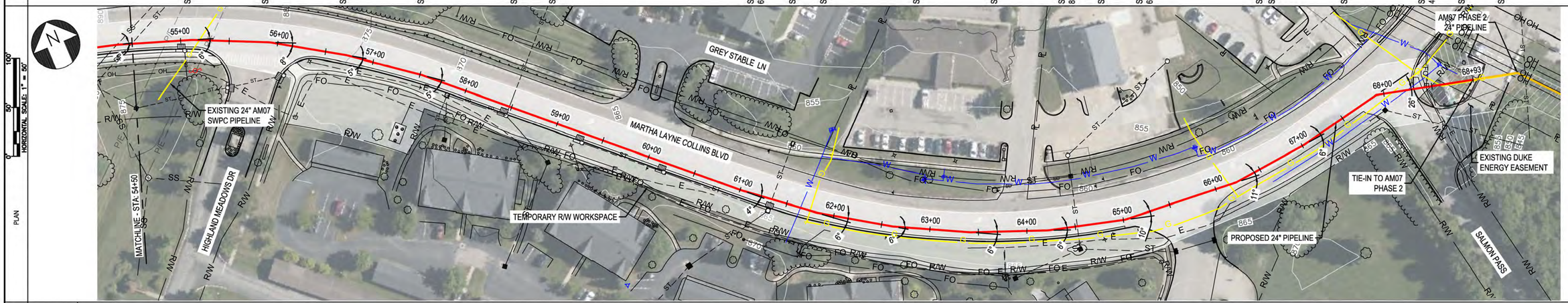
C / ERLANGER RESOURCE CENTER / AM07

RIGHT-OF-WAY				
OWNERSHIP	KYTC R.O.W.	PIDN 999-99-20-360.01 COLD SPRING TWONHOMES, LLC	DUKE ENERGY KENTUCKY, INC	
ACREAGE				
EASEMENTS				
REF. DWG. NO.				

STATIONING

STA: 55+12 BEND 6° (H-RT) | STA: 55+92 BEND 8° (H-RT) | STA: 56+72 BEND 5° (H-RT) | STA: 57+52 BEND 5° (H-RT) | STA: 58+48 BEND 3° SAG (V) | STA: 58+87 BEND 2° OVER (V) | STA: 61+02 BEND 4° (H-LT) 6" OVER (V) | STA: 61+34 BEND 13° SAG (V) | STA: 61+66 BEND 6° OVER (V) | STA: 62+82 BEND 6° (H-LT) | STA: 63+42 BEND 6° (H-LT) | STA: 64+22 BEND 8° (H-LT) 8" OVER (V) | STA: 64+52 FTG 14° SAG (V) | STA: 65+02 BEND 10° (H-LT) 6" OVER (V) | STA: 66+15 BEND 2° SAG (V) | STA: 66+22 BEND 11° (H-LT) | STA: 67+02 BEND 6° (H-LT) | STA: 67+92 FTG 26° (H-RT) 4" OVER (V) | STA: 68+23 BEND 7° SAG (V) | STA: 68+64 BEND 4° OVER (V)

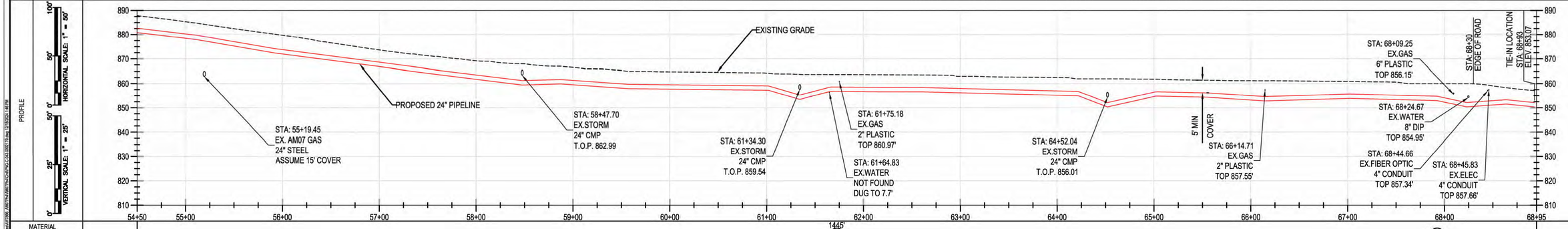
PLAN



PIPE DATA (SLOPE STATIONING)

STA.	WELD #	JOINT LENGTH	JOINT #	HEAT #
(CONV.)				(CONV.)

PROFILE



MATERIAL	
CONST. METHOD	1445' (1) OPEN TRENCH (100)
CLASS / MAOP	CLASS 3 / 370 PSIG

PROFESSIONAL ENG/ARCH STAMP

NO.	DATE	REVISION(S) DESCRIPTION	DRAFTING/DESIGN	CHECKER/REVIEWER	APPROVING ENGINEER
A	09/03/2024	ISSUED FOR 30% DESIGN REVIEW	CHS	JMP	JPF
B	12/18/2024	ISSUED FOR 60% DESIGN REVIEW	CHS	JMP	JPF

DESCRIPTION	
AREA CODE	-
ACCOUNT NUMBER	-
PROJECT NUMBER	AW7866
DWG TYPE	PIPELINE
SERVICE ID	-
STATION ID	-

DUKE ENERGY. Piedmont Natural Gas

AM07 PHASE 4
ALIGNMENT SHEET 4
COLD SPRING, KY

Erlanger Resource Center

REF. DWG(S)	PNG-G-043-000XXX1
SHEET(S)	1 OF X
DWG SCALE	AS NOTED
DWG DATE	08/23/2024
	SUPERSEDED
DRAWING NUMBER	PNG -C-043-0002170
REVISION	B
	C / ERLANGER RESOURCE CENTER / AM07

BURNS McDONNELL

DUKE ENERGY KENTUCKY, INC.

Phase I Archaeological Survey of the Duke Energy AM07 Pipeline Replacement Project (Phase 4), Campbell County, Kentucky

AM07 Pipeline Replacement (Phase 4)

PROJECT NO. 170197

JANUARY 2025

Phase I Archaeological Survey of the Duke Energy AM07 Pipeline Replacement Project (Phase 4), Campbell County, Kentucky

prepared for
Duke Energy Kentucky, Inc.

by
Douglas Kullen, Principal Investigator

Burns & McDonnell Engineering Company, Inc.
Downers Grove, Illinois

January 2025

Burns & McDonnell Project No. 170197

Kentucky Heritage Council
Project Registration #FY23-5199

Contents

Figures

Tables

List of Abbreviations

Abbreviation	Term/Phrase/Name
Duke	Duke Energy Kentucky, Inc.
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
KHC	Kentucky Heritage Council (aka SHPO)
NKU	Northern Kentucky University
NRHP	National Register of Historic Places
OSA	Office of the State Archaeologist
Project	AM07 (Phase 4) Pipeline and Station Replacement Project
SHPO	Kentucky State Historic Preservation Office (aka KHC)
USGS	U.S. Geological Survey

Abstract

Phase I archaeological survey was undertaken by Burns & McDonnell Engineering Company, Inc. for two previously unsurveyed segments of Duke Energy Kentucky's AM07 (Phase 4) Pipeline Replacement Project (Project). The Project is in the uplands of Campbell County, Kentucky, an area of intensive commercial, industrial, and residential urban development. Archaeological survey covered a roughly linear corridor totaling approximately 59.7 acres. Evidence of two archaeological sites, two historic buildings, and two cemeteries was found in the Project footprint. The archaeological sites are considered to be not historically significant, and Project clearance is recommended at those site locations. Avoidance of the two historic buildings and the two cemeteries is recommended.

1.0 Introduction

This introductory chapter provides a brief, general description of the proposed AM07 Pipeline (Phase 4) Replacement Project (Project). This chapter also addresses relevant regulatory issues, mentions some key project management considerations including survey scope, and acknowledges other specifics regarding the archaeological survey. It should be noted that the archaeological survey effort reported here supplements an archaeological survey that was previously undertaken by Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) for a short (1700 foot [ft]) segment of the Project that extended between Martha Layne Collins Boulevard and the Newport Elks Lodge property off the Alexandria Pike (Kullen 2023). Details of that previous survey are described more fully in Chapter 2.2.

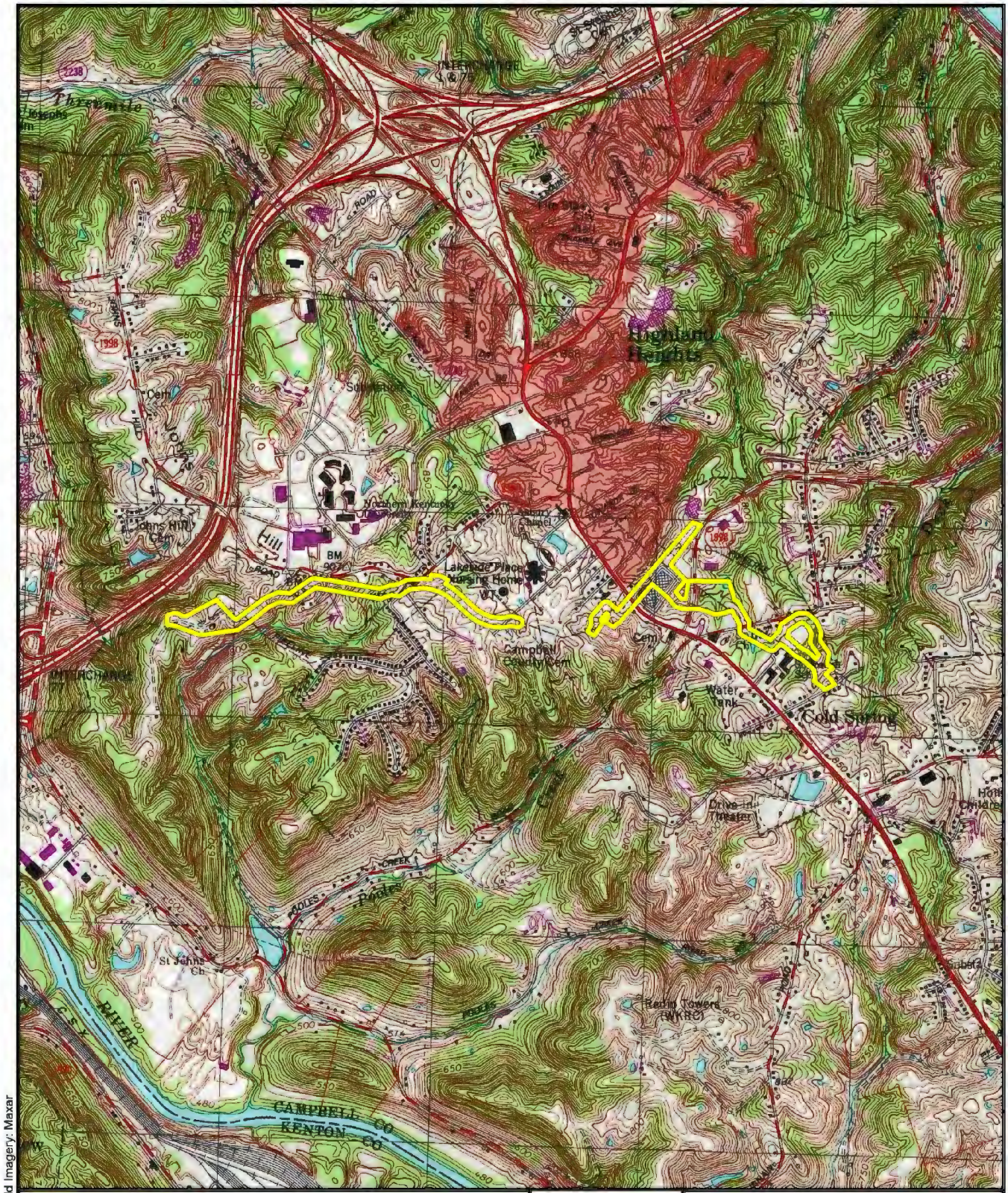
1.1 Project Description

The Project is planned by Duke Energy Kentucky, Inc. (Duke) as part of infrastructure upgrades and improvements to the local natural gas distribution system in the greater Cincinnati metropolitan area south of the Ohio River in Kentucky. The Project extends west-to-east across Campbell County, from unincorporated land on the grounds of Northern Kentucky University (NKU) eastward through the towns of Highland Heights and Cold Spring (Figure 1). The survey area was comprised of two separate segments of the proposed pipeline route that, in total, extended for about 2.2 miles within a survey corridor that was generally 150 ft wide, not including wider portions to accommodate alternate route segments and access roads. Altogether, the survey area covered approximately 59.7 acres. Within the Project corridor, proposed construction will consist of replacement of, or upgrade to, the existing AM07 natural gas pipeline. Work will mainly be done via open trenching, although horizontal directional drilling is planned at some locations. For the purposes of this survey, it is assumed that proposed construction will disturb soils within the entire Project area.

The Project extends across broken terrain inland from the Ohio River bluff line in the uplands of northern Kentucky. The natural landscape is characterized by finger ridges of variable width separated by deeply incised, wooded ravines. The area is also intensively urbanized, with an extensive patchwork of residential, commercial, and industrial developments framed within a relatively dense grid of local roads, state highways, and interstate expressways.

1.2 Regulatory Context

The Project will likely be regulated by the U.S. Army Corps of Engineers due to environmental permitting linked to wetlands considerations. The assumption is that the Project will be subject to Federal review. For that reason, the cultural resource investigation reported here was undertaken to address Project compliance under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800. Duke retained the services of Burns & McDonnell to assist in the permitting process.


Survey Area
NORTH
2,000 1,000 0 2,000
Scale in Feet
Service Layer Credits: World Imagery: Maxar
Source: ESRI, USGS, Duke Energy Kentucky, Burns & McDonnell
BURNS McDONNELL
Figure 1-1
Topographic Map
AM07 Phase 4 Pipeline
Replacement Project
Duke Energy Kentucky Inc.
Campbell County, KY
Issued: 1/15/2025

BURNS McDONNELL

Figure 1-2
Aerial Imagery Map
AM07 Phase 4 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Campbell County, KY
Page 1 of 4

Source: ESRI, Duke Energy Kentucky, Burns & McDonnell

Issued: 1/15/2025

Figure 1-2
Aerial Imagery Map
AM07 Phase 4 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Campbell County, KY
Page 2 of 4

BURNS McDONNELL

Figure 1-2
Aerial Imagery Map
AM07 Phase 4 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Campbell County, KY
Page 3 of 4

Source: ESRI, Duke Energy Kentucky, Burns & McDonnell

Issued: 1/15/2025


Cedar Pt
Barma Dr
Jude Pt
Saint Joseph School
Cold Spring
Alexandria Pl
Downing St
Friendship Park
Survey Area
NORTH
400 200 0 400
Scale in Feet
BURNS McDONNELL
Figure 1-2
Aerial Imagery Map
AM07 Phase 4 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Campbell County, KY
Page 4 of 4
Service Layer Credits: World Imagery: Maxar
Source: ESRI, Duke Energy Kentucky, Burns & McDonnell
Issued: 1/15/2025

1.3 Project Area Description

This cultural resources survey covered a roughly linear corridor that was divided into two separate segments. Each segment contained the main route and sections that comprise alternate routes. These are mapped in Figure 1-1 and Figure 1-2. To accommodate the alternate routes, as well as some short side-extensions of the main route, the survey area is not the same width throughout. Details of the route configurations, including descriptions of vegetation cover, terrain, and the existing built environment in the survey area, are discussed in the following narratives, in order from west to east.

1.3.1 West End to Bend in Meadow Trail Drive

The western end of the survey area begins on the grounds of NKU, on the crest of a finger ridge (Figures 1-1 and 1-2). The survey area begins in an existing pipeline corridor, in an area used for dumping landscape waste. Immediately to the east, the survey corridor widens to accommodate the proposed main pipeline route and an alternate route (Figure 1-3).

Figure 1-3: Overview of West End of Survey Area

NOTE: Looking east along crest of finger ridge. Gravel road at left is Meadow Trail Drive.

The main route leaves the existing pipeline corridor and roughly parallels the south side of Meadow Trail Drive, a one-lane gravel driveway that runs eastward along the ridge crest, flanked by open fields of mowed grass. At a bend in the driveway to the northeast, the main route turns northeast, too, and passes through archaeological site 15Cp81 (see Section 2.1.5.2 for further discussion), which is variably covered in mowed grass and dense brush (Figure 1-4 and Figure 1-5). Much of the site within the survey area has been visibly disturbed by demolition-related earthmoving. East of the site, the main route turns directly east and crosses steep slopes on the upper reaches of a ravine (Figure 1-6). On the east side of the ravine, the main route rejoins Meadow Trail Drive on the steeply sloping shoulder of the ridge crest.

An alternate route diverges from the main route just east of the western terminus. The alternate runs easterly, paralleling the existing pipeline corridor through weeds and mowed grass on the ridge crest before plunging into a ravine eroded into the north side of the ridge. The alternate route extends northeastward across steep

slopes variably covered in weeds and thick brush before making a sharp turn to the southeast at the edge of an existing apartment building complex. Soils on the apartment complex property have been thoroughly disturbed by housing, roadway, and parking lot construction, land-levelling, ornamental berm construction, and general landscaping. The alternate continues southeast, over the weed-covered ridge crest and into the weed-covered, steeply sloped ravine on the other side. The alternate route crosses Meadow Trail Drive and parallels that road southeasterly, rejoining the main route at a sharp bend in the driveway (Figure 1-6).

Figure 1-4: Overview of Site 15Cp81

NOTE: Looking east. Gravel road at left is Meadow Trail Drive. Site extends from mowed grass into brush at left.

Figure 1-5: Foundation Walls at Site 15Cp81

NOTE: Looking southeast from just inside the brush line south of Meadow Trail Drive.

Figure 1-6: View across Head of Ravine

NOTE: Looking east across head of ravine. Gravel road is Meadow Trail Drive. Note apartment buildings in background.

1.3.2 Meadow Trail Drive to Hilltop Drive

From the bend, Meadow Trail Drive runs northeastward, and the main route roughly parallels the southeast side of the road (Figures 1-1 and 1-2). The route mainly passes along steep slopes but also crosses some less-steep slopes on the shoulder of the ridge. That area is variably covered in tall grass, weeds, and dense black locust thickets (Figure 1-7). The main route bends eastward, leaving the side of Meadow Trail Drive and crossing steep slopes on the ridge flank. These slopes are covered in tall grass, weeds, and scattered brush, except in the mowed lawn south of an existing residence on NKU property. The main route turns directly east and crosses a large, steep-walled ravine covered in brushy woodland. The ravine contains a gully at the bottom, which is littered with chunks of bedrock and modern debris. Further east, the route regains relatively level ground on a low, narrow wooded headland and bends eastward to parallel John's Hill Road. Shovel testing determined that this area had been artificially leveled. The route continues eastward, mainly through brushy woodland, still on NKU property. The route crosses an old gravel driveway and enters an old landfill where the land surface has been visibly recontoured (Figure 1-8). Eastward, the main route extends across a mowed lawn with graded slopes south of John's Hill Road and west of Hilltop Drive.

1.3.3 Hilltop Drive to Salmon Pass

East of Hilltop Drive and the adjacent graded roadside, the main route passes into another wooded ravine (Figures 1-1 and 1-2). Ravine side slopes are very steep there. The route continues eastward into an area of mowed grass with graded slopes south of John's Hill Road and west of Knollwood Drive. Further east, the route passes through areas of existing roadway and graded roadsides at the modern turnabout at the intersection of John's Hill Road and University Drive (Figure 1-9) and further east at the intersection of John's Hill Road and Martha Layne Collins Road. Parts of the survey area beyond these graded roadsides extend across the landscaped grounds of adjacent apartment complexes to the south and southwest (Figure 1-10). The main route follows Martha Layne Collins Boulevard southeastward and eastward through a heavily urbanized landscape.

Figure 1-7: View of Steep Slopes South of Meadow Trail Drive

NOTE: Facing northeast.

Figure 1-8: View of Graded Area Near Landfill

NOTE: Facing southeast. Hilltop Drive in background.

Figure 1-9: Urban Area at John's Hill Road Turnabout

NOTE: Facing west.

Figure 1-10: Urban Area along Martha Layne Collins Boulevard

NOTE: Facing southeast.

East of Highland Meadows Drive and west of Salmon Pass, the southern part of the survey area overlaps with the north end of Campbell County Cemetery (see Section 2.1.3.1 for further discussion). The cemetery grounds are maintained in mowed grass with scattered trees. A distinct road cut bank is present just south of the sidewalk at the north edge of this cemetery (Figure 1-11).

Figure 1-11: North Edge of Campbell County Cemetery

NOTE: Facing west. Martha Layne Collins Boulevard at right. Note road cut bank to the left of the sidewalk.

The main route ends in the corner of a supermarket development just east of Salmon Pass. Salmon Pass is an asphalt-paved access road that leads into an apartment complex located south of the survey corridor. Soils in this section of the survey area have been severely disturbed by roadway construction, grading, buried storm sewers, buried water lines, buried gas lines, and general landscaping. East of Salmon Pass, the route joins with a previously surveyed segment of AM07 Phase 4 (Kullen 2023). That terminus defines the east end of the western segment of the current survey area.

1.3.4 Elks Lodge to Alexandria Pike

The west end of the eastern segment of the Project survey area begins at the bottom of a narrow headwater ravine south of Newport Elks Lodge 273 (Figures 1-1, 1-2, and 1-12). Soils at this western terminus have been severely disturbed by recent installation of a segment of the AM07 Phase 4 natural gas pipeline (Kullen 2023). The area was already previously disturbed by construction of an older natural gas pipeline, as well as mass grading for an adjacent retail shopping center. The eastern segment extends northward up a steep, lightly wooded ravine slope. At the slope crest, the survey area extends across Elks Lodge property. This area has been graded and leveled for a paved asphalt parking lot and a small recreation area featuring horseshoe pits and a frame shed built on a concrete pad (Figure 1-13). From the Elks Lodge, the survey area turns sharply southeast, then northeast, extending across the paved shopping center parking lot, along Monterey Lane, and through paved parking areas associated with fast food restaurants in the shopping center (Figure 1-14). This whole area has been mass-graded; areas that are not paved are landscaped, and buried utilities of all kinds are present. The survey area extends north-northeast to Alexandria Pike, a five-lane highway.

Figure 1-12: West End of Eastern Project Segment

NOTE: Facing north. Elks Lodge shed in left background. Retail building at far right.

Figure 1-13: View Behind the Elks Lodge

NOTE: Facing north.

Figure 1-14: Retail Center South of Alexandria Pike

NOTE: Facing north.

1.3.5 Alexandria Pike to Industrial Road

Across Alexandria Pike, the Project survey area enters the grounds of what appears to have once been offices and a warehouse for the Disabled American Veterans charitable organization (Figures 1-1 and 1-2). This facility appeared to be unoccupied at the time of survey. The one-story brick facility consists of an office complex at its southwest end and an attached warehouse at its northeast end. The complex is encircled by paved asphalt access roads, most with adjoining parking spaces, and a larger parking lot on the east side. Beyond the parking areas, the grounds seemed to be well-maintained with expansive mowed lawns and scattered ornamental trees. The grounds appeared to be heavily landscaped.

From Alexandria Pike, the Project survey area extends northward across the grounds and along the access road west of the building (Figure 1-15). West of the warehouse, the Project centerline turns sharply southeast and extends through the warehouse part of the facility. East of the building, the Project continues southeasterly across the parking lot and landscaped grounds to Industrial Road (Figure 1-16). A spur of the survey area extends northward along the west side of Industrial Road, following a paved ditch/gully and the adjacent landscaped grounds. A section of the survey area wraps around the north side of the warehouse, including the access road and adjacent landscaped grounds there.

Another spur extends north-northeast from the northern corner of the warehouse. That spur first crosses a leveled, graded recreation area north of the warehouse. The spur continues northward along steep ravine side slopes and more graded terrain, into a fenced, municipal public works truck facility (Figure 1-17). That facility includes a garage and shed surrounded by a leveled, gravel pad. North of the fenced facility, the spur extends along a steep ravine side slope and into a gravel pad built on adjacent levelled terrain (Figure 1-18).

Figure 1-15: West of the Disabled American Veterans Facility

NOTE: Facing north.

Figure 1-16: East of the Disabled American Veterans Facility

NOTE: Facing south.

Figure 1-17: West Side of Fenced Public Works Facility

NOTE: Facing south.

Figure 1-18: Leveled Area North of Public Works Facility

NOTE: Facing north.

1.3.6 Industrial Road to Winters Lane

East of Industrial Drive, the Project survey area covers a wide girth that includes the buffer along the Project centerline but also extends northward across Homan Drive (Figures 1-1 and 1-2). Soils across much of this area have been previously disturbed by roadside grading along Industrial Road and Homan Drive, as well as by mass grading related to the development of the industrial park in this location (Figure 1-19). The open fields here appear to have been graded in anticipation of future development. Steep slopes are also present along relatively small ravines in the southwest part of this area.

Figure 1-19: Landscaped and Graded Areas in Industrial Park

NOTE: Facing west. Homan Drive at right; Industrial Drive in background.

The south side of the Project survey area here overlaps with the north end of St. Joseph Cemetery. The survey area extends between 65 and 75 ft into the cemetery. Much of the overlap zone extends across steep slopes covered in mowed grass, stretching into a wooded tree line (Figure 1-20). No headstones or grave markers were observed in the zone of overlap.

East of the cemetery, the Project survey area narrows down to the standard buffer width of 150 ft. The centerline turns sharply and runs south-southeasterly along the west side of Homan Drive to Winters Lane (Figure 1-21). Terrain in this area is fairly level but has been visibly graded in otherwise undeveloped parts of the industrial park and along the paved roadways.

1.3.7 Winters Lane to Chapman Lane

Winters Lane is a paved, two-lane road that leads from the commercial and industrial strip along Alexandria Pike northeastward into an older residential area (Figures 1-1 and 1-2). East of Winters Lane, the Project survey area extends into a steep-walled, densely wooded ravine (Figure 1-21). The Project continues east-southeast through the ravine to the west side of the St. Joseph School property. There, it turns sharply northeast, exits the woodland, and extends across steep slopes in the mowed backyards of private residences (Figure 1-22) before crossing a fence and passing fully onto school property.

Figure 1-20: St. Joseph Cemetery

NOTE: Facing north. Project extends through tree line into lawn in background.

Figure 1-21: Intersection of Homan Drive and Winters Lane

NOTE: Facing southeast. Homan Drive at left; Winters Lane in centerground; wooded ravine in background.

Figure 1-22: Ravine West of St. Joseph School

NOTE: Facing southwest. St. Joseph School driveway and parking lot at left.

At that point, an alternate Project route diverges from the main route. The alternate alignment runs southeastward across steep slopes and onto a leveled, graded parking lot and playground area north of a gymnasium building (Historic Resource CP 353). The alternate route centerline extends southeast across a graded, paved access drive and parking area just outside the gymnasium. The Project survey area overlaps with the northeastern half of that building. Further on, the alternate route survey area drops down a steep slope, overlaps with the north end of a second historic school building (CP355), and crosses a leveled, infilled ravine before rejoining the main Project alignment (Figure 1-23).

Figure 1-23: Alternate Route Through St. Joseph School

NOTE: Facing west. Graded ball field in foreground; historic school buildings in background left.

The main Project survey area extends northeastward, crossing graded, leveled ball fields south of Winters Lane (Figure 1-24). Part of the survey area extends across Winters Lane into the front yards of residences located there. The survey area bends around the north, northeast, and east edges of more leveled ball fields (Figure 1-25), extending eastward onto steep, wooded slopes in an adjacent ravine.

Figure 1-24: Main Project Route Across Graded Playing Fields

NOTE: Facing northeast. Winters Lane in background left.

Figure 1-25: Main Project Route Across Graded Playing Fields

NOTE: Facing southeast. Ravine slopes in woods at left and in background center.

At the southeast side of the ball fields, the main Project rejoins the alternate route. The main route then continues southward across steep ravine slopes covered in mowed grass. Widened portions of the survey area extend east to an existing, fenced pipeline station, and southward to Chapman Lane (Figure 1-26). Soils in this easternmost end of the survey area have been severely disturbed by grading associated with new construction at the pipeline facility, including a graded, leveled, graveled yard/parking area. Older roadway grading has affected the extreme southeast end of the survey area along Chapman Lane, a paved, two-lane residential street.

Figure 1-26: East End of Eastern Project Segment

NOTE: Facing east. Existing pipeline facility at left; Chapman Lane in background.

1.4 Survey Summary

Burns & McDonnell received archaeological file search data from the Office of the State Archaeologist (OSA) on June 28, 2024. The Kentucky Heritage Council (KHC) provided historic resources data on June 28, 2024, although a project registration number had already been received from KHC in 2023. Historic resources were researched again on November 12, 2024, at the KHC's Site Check Web Service – a recently released online geodatabase accessible to the public at: https://kyshpo.maps.arcgis.com/apps/webappviewer/index.html. Because the visual Area of Potential Effects (APE) for below-ground pipeline construction does not extend beyond the direct APE, consideration of historic buildings and other above-ground cultural resources was restricted to the survey corridor and its immediate vicinity.

Archaeological field survey in the Project was undertaken on November 18, 19, and 20, 2024. Field work was conducted by Principal Investigator Douglas Kullen using visual inspection, pedestrian survey, and shovel testing. No archaeological sites were found during the survey. An alternate route for the Project passes very near historic buildings at St. Joseph School. The main Project alignment overlaps in two places with two different cemeteries. These are discussed below in Chapter 2.1.3, Chapter 2.1.4, and Chapter 4.0.

2.0 Previous Research and Known Sites

A main objective of this archaeological survey is to assess the historic significance of any cultural resources encountered in the survey area. This chapter provides context for assessing historic significance by supplying background information on local cultural resources known in the area and by addressing the results of previous investigations in the vicinity.

2.1 Previously Recorded Cultural Resources

The literature review was directed toward identifying previously recorded archaeological sites, cemeteries, and historic sites within a 500-foot (150 meter) radius of the survey area. This research universe was designated the Study Area. Research material was obtained through geospatial data requests from the KHC and the OSA, although other sources were researched. Online sources included the National Historic Landmark list, the National Register of Historic Places (NRHP), the U.S. Geological Survey (USGS) Historical Topographic Map Explorer, the Nationwide Environmental Title Research (2024) Historic Aerials website, Google Earth (2024) historical imagery, and Find-A-Grave (2024), among others.

2.1.1 National Historic Landmarks List

There are no National Historic Landmarks located in the Study Area.

2.1.2 National Register of Historic Places

No sites listed on the National Register of Historic Places are located within the Study Area.

2.1.3 Cemeteries and Burial Sites

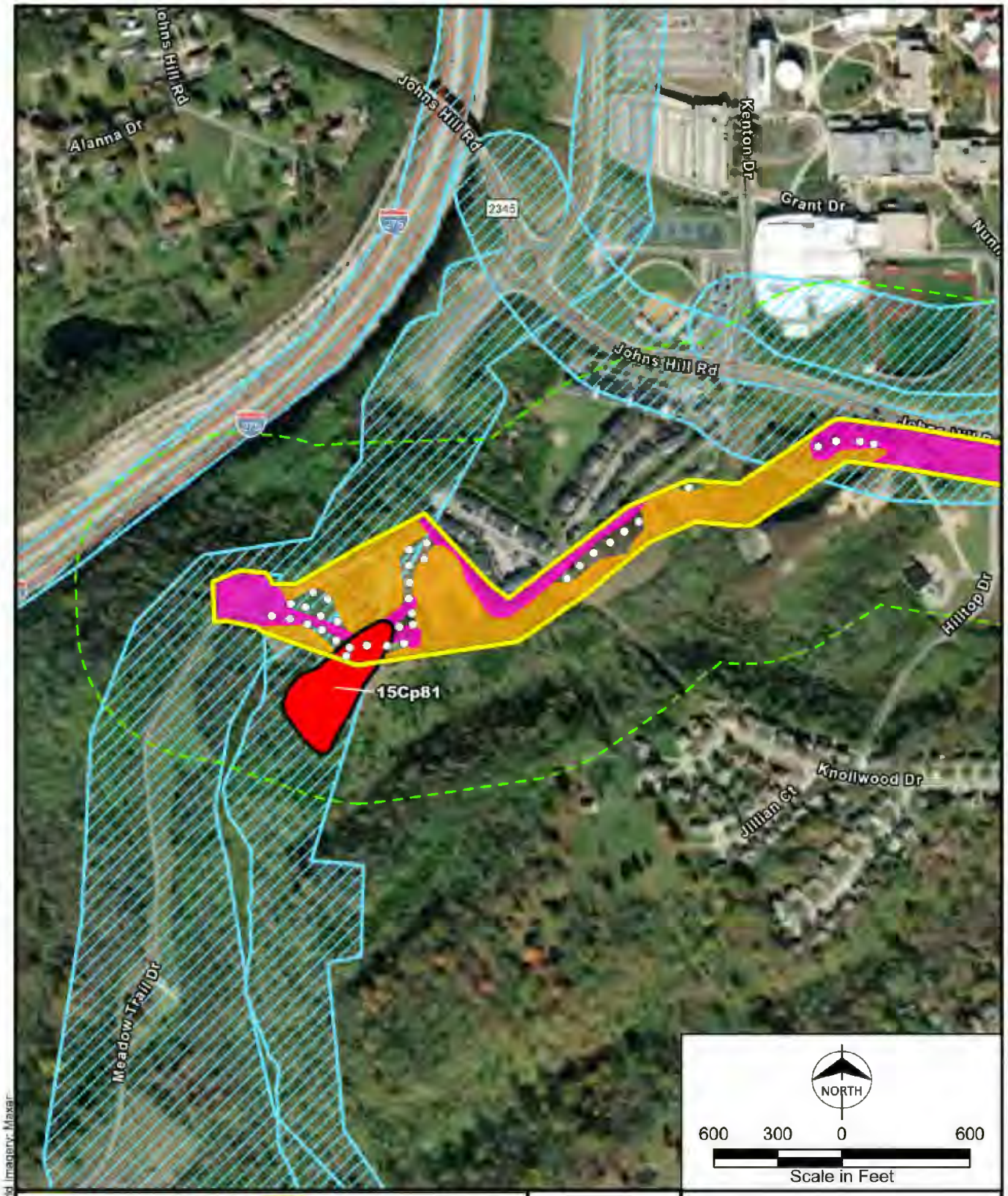
No prehistoric burial sites are reported within the Study Area; however, two historic-age cemeteries are known in the Study Area. The locations of each are mapped in Figure 2-1.

2.1.3.1 Campbell County Cemetery

The Campbell County Cemetery is located near the east end of the western Project segment. It is immediately south of Martha Layne Collins Boulevard (Highway 2345), west of Salmon Pass, and east of Highland Meadows Drive and the paved driveway that leads to the Campbell County Fire Training Center. The cemetery covers approximately 1.14 acres.

This cemetery is plotted on old U.S. Geological Survey (USGS) quadrangle maps from 1952 through 1987 (USGS 1952, 1955, 1961, 1970, 1974, 1983, 1987). It appears to have been associated with the Campbell County Infirmary, which is depicted on quadrangles from 1952 through 1974. Quadrangles from 1961 through 1974 specifically designate the cemetery as “Potter Field Cem,” whereas the later maps label it “Campbell County Cem.” The 1952 and 1955 quadrangles give it no label beyond the cemetery symbology. The cemetery was probably present earlier than 1952. Older quadrangles from 1898 and 1914 (USGS 1898, 1914) do not map cemeteries at all, but the County Infirmary buildings appear to be plotted on those older maps, so the cemetery would likely have been present, too.

The Campbell County Cemetery location is visible on old air photo imagery which dates back to 1955. It appears that the cemetery location was fenced off and maintained in grass or pasturage from 1955 to at least through 1993. Between 1993 and 2000, Salmon Pass was constructed through the eastern corner of the

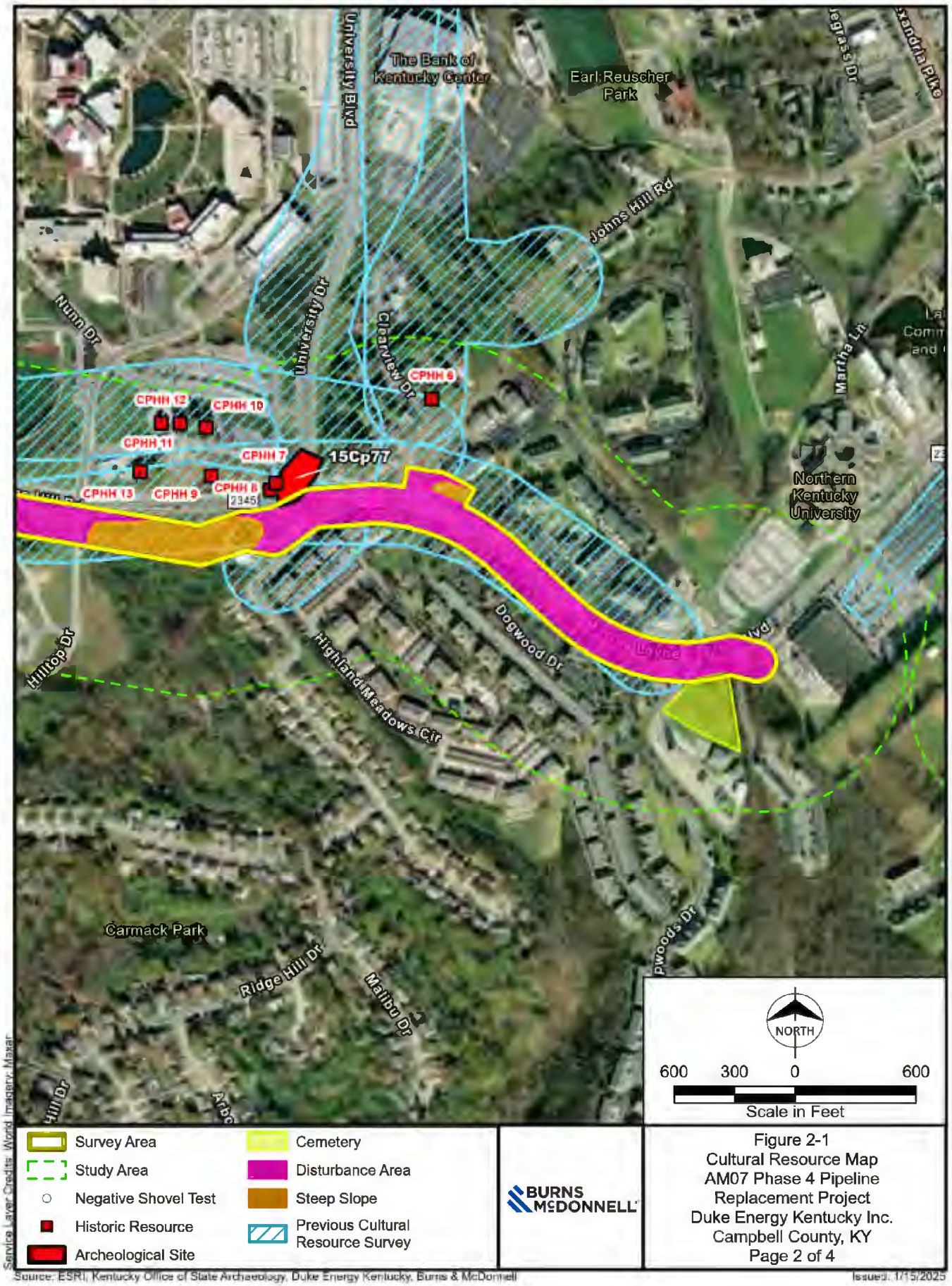


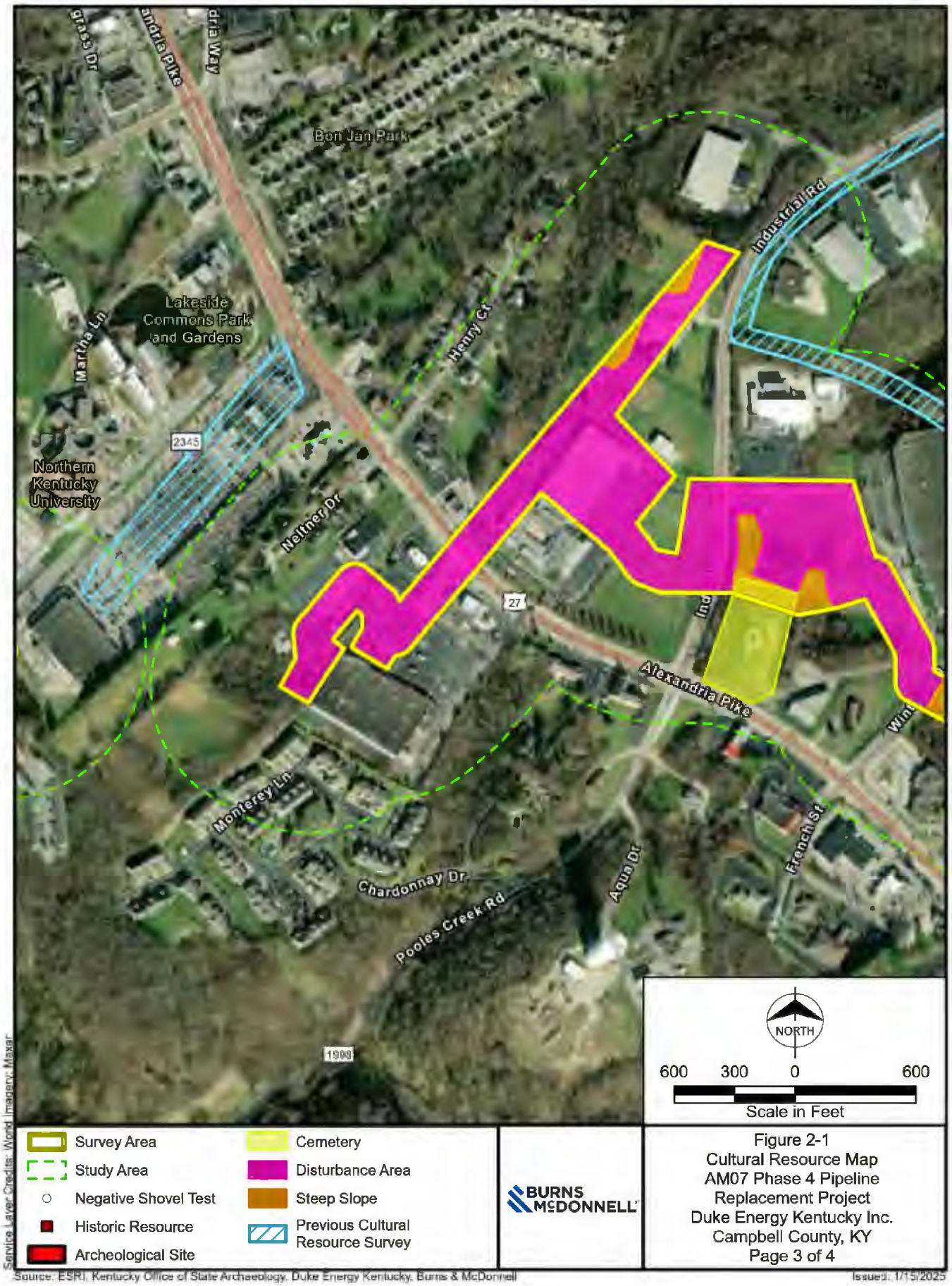
BURNS McDONNELL

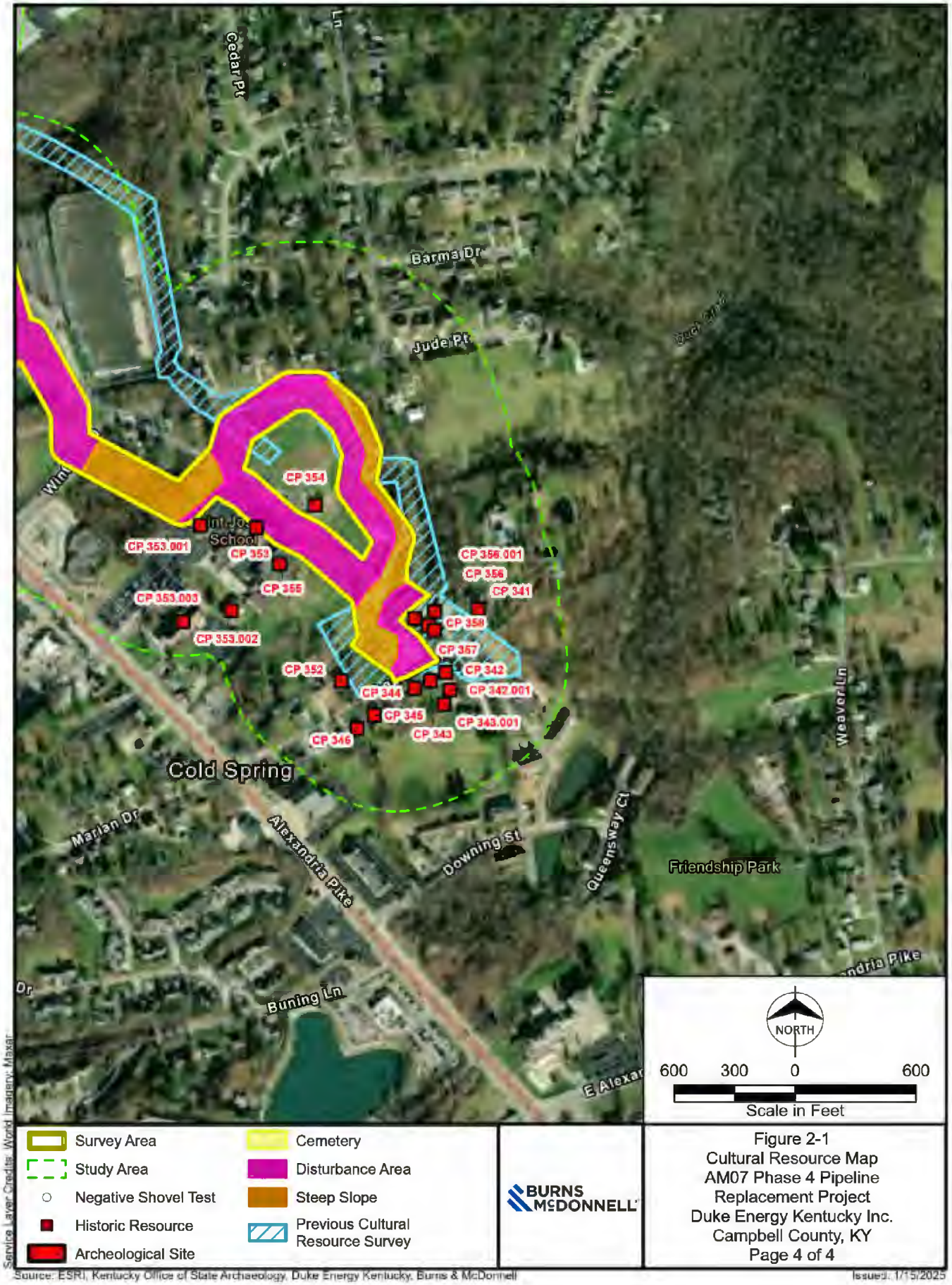
Figure 2-1
Cultural Resource Map
AM07 Phase 4 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Campbell County, KY
Page 1 of 4

Source: ESRI, Kentucky Office of State Archaeology, Duke Energy Kentucky, Burns & McDonnell

Issued: 1/15/2025


The Bank of Kentucky Center
Earl Reuscher Park
University Blvd
Johns Hill Rd
Nunn Dr
University Dr
Clearview Dr
Martha Ln
CPHH 6
CPHH 12
CPHH 10
CPHH 11
CPHH 7
15Cp77
CPHH 13
CPHH 9
CPHH 8
2345
Northern Kentucky University
Dogwood Dr
Highland Meadows Cir
Hilltop Dr
Carmack Park
Ridge Hill Dr
Malibu Dr
Hill Dr
NORTH
600 300 0 600
Scale in Feet
Survey Area
Study Area
Negative Shovel Test
Historic Resource
Archeological Site
Cemetery
Disturbance Area
Steep Slope
Previous Cultural Resource Survey
BURNS McDONNELL
Figure 2-1
Cultural Resource Map
AM07 Phase 4 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Campbell County, KY
Page 2 of 4
Service Layer Credits: World Imagery: Maxar
Source: ESRI, Kentucky Office of State Archaeology, Duke Energy Kentucky, Burns & McDonnell
Issued: 1/15/2025


Bon Jan Park
Lakeside Commons Park and Gardens
Northern Kentucky University
Martha Ln
Henry Ct
Neltner Dr
Industrial Rd
Alexandria Pike
Monterey Ln
Chardonnay Dr
Pooles Creek Rd
Aqua Dr
French St
2345
27
1998
NORTH
600 300 0 600
Scale in Feet
Survey Area
Study Area
Negative Shovel Test
Historic Resource
Archeological Site
Cemetery
Disturbance Area
Steep Slope
Previous Cultural Resource Survey
BURNS McDONNELL
Figure 2-1
Cultural Resource Map
AM07 Phase 4 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Campbell County, KY
Page 3 of 4
Service Layer Credits: World Imagery: Maxar
Source: ESRI, Kentucky Office of State Archaeology, Duke Energy Kentucky, Burns & McDonnell
Issued: 1/15/2025


Cedar Pt
Barma Dr
Jude Pl
CP 354
CP 353.001
CP 353
CP 355
CP 353.003
CP 353.002
CP 356.001
CP 356
CP 341
CP 358
CP 357
CP 342
CP 342.001
CP 352
CP 344
CP 345
CP 343.001
CP 343
CP 346
Cold Spring
Marian Dr
Alexandria Pike
Downing St
QueensWay Ct
Friendship Park
Weaver Ln
Buning Ln
NORTH
600 300 0 600
Scale in Feet
Survey Area
Study Area
Negative Shovel Test
Historic Resource
Archeological Site
Cemetery
Disturbance Area
Steep Slope
Previous Cultural Resource Survey
BURNS McDONNELL
Figure 2-1
Cultural Resource Map
AM07 Phase 4 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Campbell County, KY
Page 4 of 4
Service Layer Credits: World Imagery: Maxar
Source: ESRI, Kentucky Office of State Archaeology, Duke Energy Kentucky, Burns & McDonnell
Issued: 1/15/2025

cemetery grounds. The rest of the cemetery appears to have remained undeveloped on a tract bounded by Salmon Pass, Martha Layne Collins Boulevard (Highway 2345), and the Campbell County Fire Training Center.

The eastern corner of the Campbell County Cemetery, as mapped on older USGS quadrangles, extends into the extreme western end of the Project. That portion of the cemetery, however, appears to have been severely disturbed by development. Salmon Pass covers most of that area. Roadside grading and other grading associated with a buried storm sewer and existing natural gas pipeline have severely disturbed the remaining part of that area. It is assumed that any graves which had been present within the footprint of Salmon Pass would have been exhumed in the late 1990s when that roadway was constructed. It seems very unlikely that any human graves are still present in what is now the Project Area.

2.1.3.2 St. Joseph Cemetery

St. Joseph Cemetery is located along the central portion of the eastern segment of the Project (Figure 2-1). It fronts on the north side of the Alexandria Pike, just east of Industrial Drive. The cemetery is clearly associated with St. Joseph Catholic Church, which is located about 0.25 mile down the road to the southeast. Overall, this cemetery covers approximately 2.5 acres. The north end of the cemetery overlaps by as much as 75 ft with the Project footprint.

This cemetery is plotted on old USGS quadrangle maps from 1952 through 1987 (USGS 1952, 1955, 1961, 1970, 1974, 1983, 1987). Older quadrangles from 1898 and 1914 (USGS 1898, 1914) do not map cemeteries at all, but St. Joseph Church is plotted on those older maps, so the cemetery would likely have been present, too. According to Find-A-Grave (2024), St. Joseph Cemetery contains at least 1,294 grave markers and the oldest burials are from 1874.

2.1.4 Historic Resources

Twenty-seven historic resources are recorded and mapped in the Study Area (Figure 2-1). These include residences, outbuildings, institutional, and industrial buildings. These resources are listed in Table 2-1.

Table 2-1: Historic Resources Reported in the Study Area

Number	Name/Type	Construction Date	NRHP Status
CP 341	Residence	1950-1974	Unevaluated
CP 342	Residence	1900-1924	Unevaluated
CP 342.001	Outbuilding	Unknown	Unevaluated
CP 343	Residence	1925-1949	Unevaluated
CP 343.001	Outbuilding	Unknown	Unevaluated
CP 344	Residence (preliminary site)	Unknown	Unevaluated
CP 345	Residence	1925-1949	Unevaluated
CP 346	Residence	1925-1949	Unevaluated
CP 352	Residence	1950-1974	Unevaluated
CP 353	St. Joseph School Building 1	1925-1949	Unevaluated
CP 353.001	School Building	1925-1949	Unevaluated
CP 353.002	School Building	1950-1974	Unevaluated
CP 353.003	Church	1925-1949	Unevaluated

Number	Name/Type	Construction Date	NRHP Status
CP 354	St. Joseph School Building 2	1950-1974	Unevaluated
CP 355	St. Joseph School Building 3	1950-1974	Unevaluated
CP 356	Cold Spring Station 1	1950-1974	Unevaluated
CP 356.001	Drainage	1975-2000	Unevaluated
CP 357	Cold Spring Station 2	1950-1974	Unevaluated
CP 358	Cold Spring Station 3	1950-1974	Unevaluated
CPHH 6	Residence	1925-1949	Eligible
CPHH 7	Residence	1925-1949	Eligible (razed)
CPHH 8	Residence	1925-1949	Unevaluated (razed)
CPHH 9	NKU House/Office	1925-1949	Unevaluated (razed)
CPHH 10	NKU House/Office	1925-1949	Eligible
CPHH 11	NKU House/Office	1925-1949	Unevaluated
CPHH 12	NKU House/Federal Credit Union	1925-1949	Unevaluated
CPHH 13	House/Restaurant/Tavern	1925-1949	Unevaluated

Eight historic resources are clustered on or near the NKU campus in the western part of the Study Area. Three of those (CPHH 7, CPHH 8, CPHH 9) have been demolished, one (CPHH 10) is a NKU office, one (CPHH 11) houses the NKU Police Department, and another (CPHH 12) houses a Federal Credit Union. Nearby CPHH 13 is a former residence that now houses the Skyline Tavern. CPHH 6 is a residence located in a neighborhood just east of the campus. The two razed resources, CPHH 7 and CPHH 8, are both mapped within the Project footprint, at a location that also corresponds to previously reported archaeological site 15Cp77 (see discussion in Section 2.1.5, below).

Six other historic resources are clustered at St. Joseph School in the eastern part of the Study Area. Five of those (CP 353, CP 353.001, CP 353.002, CP 354, and CP 355) are buildings in active use at that parochial school. Resource CP 353.003 is the St. Joseph Roman Catholic Church that fronts on the Alexandria Pike. Two of the main school buildings (CP 353 and CP 355) fall within the Project footprint along an alternate route which shows the Project centerline running through a paved parking lot and access drive just outside the two buildings.

Four recorded historic resources (CP 356, CP 356.001, CP 357, and CP 358) are situated at the Cold Spring Compressor Station, at the east end of the Study Area, just west of Chapman Lane. These are all features of the natural gas pipeline station. None of them appear to have been built before 1970, but they may be just over 50 years old and therefore can be considered “historic.” All four are mapped just outside the Project footprint.

The nine other historic resources are homes and related outbuildings in the residential neighborhood along Chapman Lane at the east end of the Study Area (Figure 2-1). Seven (CP 341, CP 342, CP 343, CP 344, CP 345, CP 346, and CP 352) are residences. Resource CP 342.001 is a garage and CP 343.001 is a large shed. None of these nine resources have been evaluated for NRHP significance and none are located within the Project footprint.

2.1.5 Previously Recorded Archaeological Sites

According to the KY-OSA database, there are two recorded archaeological sites Study Area (Figure 2-1). Both of these archaeological sites, as mapped, extend into the Project footprint. Neither site has been determined to be eligible for NRHP listing.

2.1.5.1 Site15Cp77

Site 15Cp77 is reported on the crest of an upland ridge in the central part of the western Project segment. It is located at the northwest corner of the intersection of John's Hill Road and University Drive, in an area that has been substantially graded for the widening of these roadways and the construction of a modern roundabout that has replaced the former intersection. The site was recorded during an archaeological survey in advance of that roadway construction (see Section 2.2, below). The site as mapped extends slightly into the current Project footprint.

Site 15Cp77 is reported to be a historic Euro-American farmstead or residence dating to the twentieth century. The site lacked midden deposits and was previously disturbed to an unknown extent. Two historic residential buildings (CPHH7 and CPHH8) had also been present at the site location, but both have been demolished. Records indicate that the archaeological site 15Cp77 did not meet the criteria for NRHP listing. The site location was revisited and it appears to have been completely destroyed by roadway construction and related grading.

2.1.5.2 Site 15Cp81

Site 15Cp81 is reported on the crest of a finger ridge near the west end of the Study Area (Figure 2-1). It is on NKU property and is bisected by the gravel driveway that will serve as a Project access route. The site is reportedly a historic Euro-American farm and residence, now razed, dating from the period 1851 to 1950. When recorded, the site was in pasture with poor ground surface visibility. The site is currently in mowed turf grass and dense, brushy woodland.

This site was revisited during the current survey. No artifacts or foundation walls were visible in the turf-covered part of the site south of the gravel driveway. Four shovel tests excavated in that part of the site encountered no artifacts and either a thin plowzone or disturbed soils. In situ foundation walls of dry-laid limestone or flagstone blocks were observed in the dense brush immediately south of the driveway at the northeast end of the site. These foundations were mostly buried by pushed-in rubble consisting mainly of stone but also including concrete slabs and corrugated sheet iron. The brush outside and northeast of the mapped site boundary contained disturbed soils and more push-piles of rubble, which appears to be debris from farmstead demolition. Google Earth imagery indicates that the farm was razed sometime in the late 1990s, and a large part of the site near the driveway was scraped and bladed in 2017-2018 subsequent to tree removal.

The use of modern heavy equipment for demolition appears to have heavily impacted this site. For that reason, the presence of intact archaeological deposits seems unlikely. Site 15Cp81 is currently classified as an inventory site that does not presently meet NRHP criteria. The proposed Project centerline is routed through the northeast end of this site, paralleling the southeast edge of the gravel driveway. Pipeline trenching would likely destroy what remains of the stone foundation walls at Site 15Cp81.

2.2 Previous Archaeological Work

Six archaeological investigations have been undertaken in the Study Area, according to the OSA geodatabase. All of these included a survey component, but one also included limited test excavations. These investigations are listed in Table 2-2 and mapped in Figure 2-1.

Table 2-2: Previous Archaeological Investigations Reported in the Study Area

OSA Number	Project Name/Type	Institution	Author (Year)
575167	Borrow Pit in Highland Heights	CRAI	Boedy (1986)
575186	Interstate 275 Survey and Test Excavations	University of Louisville	Rodeffer (1968)
584137	Alternates for the I-275 and AA Highway Connector	AMEC Earth & Environment	Stallings (2006)
584440	KY 2345/Johns Hill Road and University Drive Reconstruction	CRAI	Kompanek (2006)
586131	NKU Connector	CRAI	Arnold (2009)
588617	AM-04B Pipeline	SEARCH, Inc.	Breetzke (2017)

The earliest reported archaeological investigation was undertaken by the University of Louisville in 1986 for Interstate 275 construction (Rodeffer 1968). The survey component of that work overlapped with the extreme west end of the Study Area. No sites were recorded in the Study Area as a result of that survey.

In 1986, Cultural Resource Analysts, Inc. (CRAI) conducted a survey in advance of borrow pit excavation on 4.6 acres at the intersection of Martha Layne Collins Boulevard and the Alexandria Pike (Boedy 1986). No sites were reported there. The location is now a shopping center parking lot.

In 2006, CRAI conducted a survey in advance of the reconstruction of John's Hill Road (State Highway 2345) and University Drive (Kompanek 2006). That survey area covered about two-thirds of the western segment of the current Project survey area, extending from west of Hilltop Drive eastward along John's Hill Road and Martha Layne Collins Boulevard nearly to Salmon Pass. That survey recorded historic farmstead site 15Cp77 within the Study Area.

Also in 2006, AMEC Earth & Environmental conducted a survey along proposed alternate routes for the Interstate 275 and AA Highway connector road (Stallings 2006). One of those corridors overlapped with the western end of the Study Area and part of the Project footprint. The AMEC survey recorded no sites within the Study Area, however.

In 2009, CRAI conducted a survey along a proposed route for the NKU connector road (Arnold 2009). The north end of that survey corridor overlaps with part of the western end of the current Project survey area. That survey recorded Site 15Cp81 within the Study Area (see Section 2.1.5, above).

In 2017, SEARCH, Inc. conducted a survey along a natural gas pipeline corridor that overlaps into the eastern part of Study Area, as well as the extreme eastern end of the Project footprint itself. No archaeological sites were reported within the Study Area as a result of that survey. However, the four modern structures inside the Cold Spring Compressor Station may have been reported by SEARCH investigators.

2.3 Summary of Previous Findings

Six previous archaeological surveys overlapped with the Study Area. Four of these recorded no archaeological sites in the current Project vicinity. Archaeological sites 15Cp77 and 15Cp81, which each overlap into the Project footprint, were reported by two separate previous surveys. Neither of these sites was determined to be NRHP-eligible.

Numerous historic resources have been previously reported in the Study Area. Most of those have not been evaluated for NRHP eligibility, but three were found to be eligible. Of those three, two have been demolished and the third is extant but located in an outlying residential neighborhood.

Two cemeteries are known in the Study Area. The Campbell County Cemetery is in the eastern segment of the Study Area and St. Joseph Cemetery is in the western segment. Parts of each of these cemeteries overlap into the Project footprint.

No cultural resources listed on the NRHP are reported in the Study Area.

3.0 Field Methods

The archaeological survey reported here was conducted to identify archaeological sites and other cultural resources located within the Project. Accepted methods and best practices were employed in the conduct of this archaeological survey. Permission to enter the Project was arranged by Duke. Most of the survey area is under private ownership, but parts of the west end extend across state-owned land administered by NKU.

The direction of archaeological field work was undertaken by a professional archaeologist whose experience exceeds the Secretary of the Interior's Professional Qualification Standards and who is a member of the Register of Professional Archaeologists. Survey procedures were conducted in accordance with guidelines outlined in the Kentucky State Historic Preservation Office (SHPO) *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* (Sanders 2006). Survey was intended to identify archaeological sites present in the Project and to provide preliminary evaluation of any cultural resources based on NRHP eligibility criteria.

3.1 Disturbances

Previous soil disturbance is ubiquitous throughout the survey area. Erosion is severe on ravine side slopes where, in some cases, bedrock is exposed as lag deposits on the ground surface. Some ravine floors have been graded, and in some areas deeply filled. Severe soil disturbances are present in most residential areas, in industrial, commercial, and retail developments, in and adjacent to all existing roadways and parking lots, across ball fields, and along existing pipeline corridors. Local disturbances are detailed in the description of the survey area in Chapter 1.3.

3.2 Survey Methods

Survey methods varied depending upon ground cover and slope. Guidelines published by SHPO outlining archaeological field work procedures in Kentucky were followed. Pedestrian reconnaissance at intervals of approximately 20 meters was the method used to survey steep slopes of 15 percent grade or higher. Pedestrian walkover was used to survey areas where surface observations clearly indicated severe soil disturbance, such as paved, graded, and landscaped areas. Standard, screened shovel testing at 20-meter intervals was used in locations where soils were found to be relatively undisturbed. In some locations, shovel tests were attempted, but rock, earthen fill, packed gravel, or subsoil was encountered directly below the ground surface. In those cases, severe soil disturbance was confirmed and backdirt was not screened. All shovel test holes were backfilled upon completion.

Other field notes were recorded. Digital photography documented terrain and other field conditions in the survey area. Global Positioning System-linked digital notes were used to record information regarding survey coverage, vegetation, landforms, and disturbances in various portions of the survey area.

4.0 Findings

Altogether, land surfaces throughout much of the survey area are either steeply sloped, are severely disturbed by previous development-related grading, or are both. Very few land surfaces in the survey area have the potential to contain intact archaeological deposits. The ridge crest along Meadow Trail Drive on NKU land was the only part of the survey area where such potential was observed. But even there, eroded plowzone contexts were ubiquitous and some areas had been bulldozed or otherwise modified.

4.1 Archaeological Sites

Razed farmstead 15Cp81 was previously reported in the survey area (Figure 2-1). The current investigation found visible evidence of the site but also observed that it had been severely disturbed by demolition and the passage of heavy equipment. The proposed Project centerline is routed through the northeast end of this site. Pipeline trenching would likely destroy what remains of the stone foundation walls at the site. Site 15Cp81 is currently classified as an inventory site that does not presently meet NRHP criteria. This investigation found no evidence that would alter that existing classification. Because the site is considered to be not historically significant, planned pipeline construction would not affect a significant historic resource.

Razed residence/farmstead 15Cp77 was previously reported at the intersection of John's Hill Road and University Drive (Figure 2-1). Previous investigation at Site 15Cp77 found that the site did not meet the criteria for NRHP listing. The current investigation found no visible evidence of the site, observing instead that the entire reported site area had been severely disturbed by the widening of those roadways and the construction of a modern roundabout. Site 15Cp77 appears to be destroyed.

4.2 Historic Resources

Twenty-seven historic resources were previously reported in the survey area vicinity, but only two overlap into the Project footprint (Figure 2-1). These are CP353 and CP355, two of the main buildings at St. Joseph School. Both are located along an alternate route which shows the Project centerline running just outside each of the two buildings. Neither of these two historic resources has been evaluated for NRHP significance.

4.3 Cemeteries

The north end of Campbell County Cemetery overlaps with the Project footprint, south of Martha Layne Colins Boulevard and west of Salmon Pass (Figure 2-1). Fairly recent headstones were observed in this cemetery, south of and outside the Project footprint. This cemetery is an old potter's field, however, so it is very likely that unmarked burials are present. Fortunately, the edge of intact terrain in the area of overlap is readily visible as a low road cut just south of the sidewalk along Martha Layne Colins Boulevard (Figure 1-11). That road cut ought to demarcate the furthest north that any unmarked burials would be located.

The north end of St. Joseph Cemetery overlaps with the Project survey area east of Industrial Drive (Figure 2-1). This cemetery is well-maintained and is in active use. Graves are concentrated on the ridge crest in the south and central parts of the cemetery grounds (Figure 1-20). More recent burials are present on the upper slope of the ridge in the north-central part of the cemetery. The mid- and lower slopes in the northern part of this cemetery appear to lack grave markers. The absence of grave markers generally indicates the absence of human burials in a given part of a cemetery. However, this cannot be definitively demonstrated on the basis of surface observations alone.

5.0 Summary and Recommendations

This concluding chapter summarizes the findings of the archaeological survey for the Duke AM07 (Phase 4) survey area. Included here are recommendations regarding archaeological sites and historic resources. Of special consideration are the cemeteries intersected by the Project.

5.1 Archaeological Sites

Two archaeological sites have been previously reported in the survey area. Site 15Cp77 appears to have been completely destroyed. Site 15Cp81 has been severely disturbed by demolition. Neither is considered eligible for NRHP listing. No further archaeological investigations are recommended at either site location.

5.2 Historic Resources

Two historic buildings on the grounds of St. Joseph School (CP 353 and CP 355) are reported immediately adjacent to the centerline of a proposed alternate Project route. To completely avoid these historic resources, abandonment of that alternate route is recommended. If abandonment of this alternate route is not feasible, a secondary recommendation would be to physically shield the superstructures of each historic building, as needed, to protect them from any damage that might occur from contact with heavy equipment.

5.3 Cemeteries

Parts of two cemeteries extend into the Project footprint. Avoidance of these cemeteries is recommended. Campbell County Cemetery should be simple to avoid since it does not overlap much with the Project footprint and a constriction of the proposed construction zone would suffice to prevent earthmoving from impacting the cemetery grounds. St. Joseph Cemetery may be more problematic since it overlaps substantially with the Project footprint. A shift in the Project alignment or use of an alternate route could suffice to avoid impacting this cemetery.

5.4 Recommendations

Archaeological clearance is recommended for construction within the Project area, except in two instances:

- Avoid impacts to historic resources CP 353 and CP 355 by abandoning the alternate route that would pass adjacent to these buildings, or institute measures that would protect the superstructures of each building from any construction-related damage.
- Avoid impacts to Campbell County Cemetery and St. Joseph Cemetery by constricting or revising the location of the Project footprint where it would otherwise overlap with these cemeteries.

Note that:

- If the Project configuration is changed, supplemental cultural resource investigations and NRHP evaluation may be necessary.
- If buried cultural resources are encountered during Project construction, land-disturbing activities in the immediate area should be halted, and the Principal Investigator and the KHC/SHPO will be notified. Then, any exposed cultural resources will be evaluated for their significance.
- These recommendations are subject to the approval of the KHC/SHPO.

6.0 References

Arnold, George C.
2009 *An Archaeological Survey of the Proposed Northern Kentucky University Connector Project in Campbell County, Kentucky*. Cultural Resource Analysts, Inc., Lexington, Kentucky.

Boedy, Randall D.
1986 *A Phase I Archaeological Assessment of a Borrow Pit in Highland Heights, Campbell County, Kentucky*. Cultural Resource Analysts, Inc., Lexington, Kentucky.

Breetzke, David
2017 *Phase I Archaeological Report for the AM-04B Pipeline Project, Campbell County, Kentucky*. SEARCH, Inc., Covington, Kentucky.

Find-A-Grave
2024 Find-A-Grave website. Accessed online in November and December 2024 at: https://www.findagrave.com.

Google Earth
2024 Google Earth Pro, Version 7.3.4.8248 (64-bit). Accessed online in November and December 2024 at: https://www.google.com/earth/versions/#earth-pro.

Kompanek, James
2006 An Archaeological Survey of the Proposed Reconstruction of KY 2345/Johns Hill Road and University Drive in Campbell County, Kentucky. Cultural Resource Analysts, Inc., Lexington, Kentucky.

Kullen, Douglas
2023 *Phase I Archaeological Survey of a Segment of the Duke Energy AM07 Pipeline Replacement Project (Phase 4), Campbell County, Kentucky*. Burns & McDonnell Engineering Company, Inc., Downers Grove, Illinois.

National Environmental Title Research
2024 Historic Aerials by NETRONLINE. Accessed online in November and December 2024 at: https://www.historicaerials.com.

Rodeffer, Michael J.
1968 *An Archaeological Survey and Preliminary Test Excavation: Interstate 275, Section 9, Boone, Campbell and Kenton Counties, Kentucky*. University of Louisville, Louisville, Kentucky.

Sanders, Thomas N.
2006 *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports*. Kentucky State Historic Preservation Office, Kentucky Heritage Council, Site Protection Program, Frankfort, Kentucky.

Stallings, Richard
2006 *Phase I Archaeological Survey of Two Alternates for the Proposed Connector between I-275 and AA Highway, Campbell County, Kentucky*. AMEC Earth & Environment, Louisville, Kentucky.

U.S. Geological Survey
1898 East Cincinnati, Kentucky-Ohio quadrangle map. 15-minute series. U.S. Geological Survey, Washington, D.C.

1914 East Cincinnati, Kentucky-Ohio quadrangle map. 15-minute series. U.S. Geological Survey, Washington, D.C.

1952 Newport, Kentucky quadrangle map. 7.5-minute series. U.S. Geological Survey, Washington, D.C.

1955 Newport, Kentucky-Ohio quadrangle map. 7.5-minute series. U.S. Geological Survey, Washington, D.C.

1961 Newport, Kentucky-Ohio quadrangle map. 7.5-minute series. U.S. Geological Survey, Washington, D.C.

1970 Newport, Kentucky-Ohio quadrangle map. 7.5-minute series. Photorevised from 1961 edition. U.S. Geological Survey, Washington, D.C.

1974 Newport, Kentucky-Ohio quadrangle map. 7.5-minute series. Photorevised from 1961 and 1970 editions. U.S. Geological Survey, Washington, D.C.

1983 Newport, Kentucky-Ohio quadrangle map. 7.5-minute series. U.S. Geological Survey, Washington, D.C.

1987 Newport, Kentucky-Ohio quadrangle map. 7.5-minute series. Photorevised from 1983 edition. U.S. Geological Survey, Washington, D.C.


BURNS
McDONNELL

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
330 West Broadway, Suite 265
Frankfort, Kentucky 40601
(502) 695-0468

January 31, 2025

Brooke Harrison
Burns & McDonnell
530 West Spring Street, Suite 100
Columbus, Ohio 43215

Subject: FWS 2024-0004246; AM07 Phase 4 Pipeline Replacement Project; Campbell County, Kentucky

Dear Brooke Harrison:

The U.S. Fish and Wildlife Service's (Service) Kentucky Field Office (KFO) has reviewed the request for concurrence for the above-referenced project received by our office on October 17, 2024, with additional information provided on January 15, 2025. Burns & McDonnell, on behalf of Duke Energy Kentucky Inc., a Federal Energy Regulatory Commission (FERC) non-federal representative is proposing to replace a natural gas pipeline in Campbell County, Kentucky. The KFO offers the following comments in accordance with the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Project Description
The project includes installation of approximately 2.08 miles of 24-inch pipeline with several road crossings and installation. In addition to the AMO7 24-inch relocation efforts, a new launcher at Cold Spring Station and automated MLV is required along with replacement of header pipe and evaluation of a bypass valve. Workspaces within the proposed routes may include access to and from excavation areas, tree clearing, bore pit locations for proposed bored pipe, open trench installation, stockpiling, and laydown/staging areas, as needed. When complete the pipeline will be completely underground. All impacts at the surface will be temporary, and the project area will be restored to pre-existing contours following construction. The project area consists of primarily of a mixture of maintained lawn, old field, and forest/scrub habitat within an urbanized area. No perennial streams are present onsite and tree clearing activities are anticipated to occur in the fall/winter 2025/2026.

Federally Listed Species
Burns & McDonnell has determined that the proposed project will have "no effect" on the clubshell (*Pleurobema clava*), fanshell (*Cyprogenia stegaria*), longsolid (*Fusconaia subrotunda*), northern riffleshell (*Epioblasma rangiana*), pink mucket (*Lampsilis abrupta*),

rabbitsfoot (*Quadrula cylindrica cylindrica*), sheepnose (*Plethobasus cyphyus),* and snuffbox (*Epioblasma triquetra*) based on lack of suitable habitat onsite. There is no requirement to request concurrence with a "no effect" determination; however, the KFO acknowledges this determination and has no additional comments or concerns regarding these species. Burns & McDonnell has determined that the proposed project has the potential to affect the gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), and the northern long-eared bat (*Myotis septentrionalis*). An acoustic survey was completed in June and July 2024 to document any bat species potentially found within the project site.

Gray Bat, Indiana Bat, Northern Long-eared Bat

According to the Statewide Determination Key completed by Burns & McDonnell, the project area does not contain any caves (including their associated sinkholes, fissures, or other karst features), rock shelters, underground quarries, or abandoned mine portals that would be considered suitable winter habitat for these species. The KFO does not have any records of known hibernacula or roosting habitat within the project area, and the closest known record is located more than 10 miles from the site. As a result, no impacts are anticipated for roosting or winter habitat for any of these species. Additionally, Burns & McDonnell found no foraging or commuting habitat during the surveys that could support the gray bat.

In accordance with Service guidelines, an acoustic survey was conducted between June 4 and July 7, 2024. Indiana bat and the northern long-eared bat were determined to be likely absent based on automated identification results. Acoustic survey results were shared with Mike Armstrong of the KFO on July 8, 2024 and he provided a concurrence for the probable absence of the Indiana bat and northern long-eared bat from the project site. Based on the lack of suitable gray bat habitat, lack of suitable winter habitat, and the probable absence of the Indiana and northern long-eared bat, impacts to these species are considered discountable. As a result, we concur that the proposed project "may affect but is not likely to adversely" affect the gray bat, Indiana bat, and northern long-eared bat.

Federally Proposed Species

Burns & McDonnell determined that the proposed project would have "no effect" on the salamander mussel (*Simpsonaias ambigua*) based on lack of suitable habitat onsite. There is no requirement to request a conference with a "no effect" determination; however, the KFO acknowledges this determination and has no additional comments or concerns regarding this species. Burns & McDonnell also determined that the proposed project has the potential to affect the tricolored bat (*Perimyotis subflavus*).

Proposed Endangered Tricolored Bat

According to the Statewide Determination Key completed by Burns & McDonnell, the project area does not contain any caves (including their associated sinkholes, fissures, or other karst features), rock shelters, underground quarries, or abandoned mine portals that could be used as suitable winter habitat by this species. The KFO does not have any records of known hibernacula or roosting habitat within the project area, and the closest known record is located more than 10 miles from the site. As a result, no impacts to tricolored bat winter habitat are anticipated to occur from the proposed project.

In accordance with Service guidelines, an acoustic survey was conducted between June 4 and July 7, 2024. Tricolored bats were determined to be likely absent based on automated identification results. Acoustic survey results were shared with Mike Armstrong of the KFO on July 8, 2024, and he provided a concurrence for the probable absence of the tricolored bat from the project site. Based on the lack of suitable winter habitat and the probable absence of the tricolored bat, impacts to the species are considered discountable. As a result, the KFO agrees that the proposed project is "not likely to jeopardize the continued existence" of the proposed endangered tricolored bat.

Summary

Burns & McDonnell has determined that the proposed project will have "no effect" on the clubshell, fanshell, longsolid, northern riffleshell, pink mucket, rabbitsfoot, sheepnose, snuffbox, and the proposed endangered salamander mussel. The KFO concurs that the proposed action "may affect but is not likely to adversely affect" the gray bat, Indiana bat, and northern long-eared bat. Additionally, the KFO agrees that the proposed action is "not likely to jeopardize the continued existence" of the tricolored bat. In view of these findings, we believe that the Section 7 requirements of the Endangered Species Act for this project are fulfilled. Burns & McDonnell should reconsider their Section 7 obligation if: (1) new information reveals that the proposed action may affect listed species in a manner or to an extent not previously considered; (2) the proposed action is subsequently modified to include activities that were not considered during this consultation; or (3) new species are listed or critical habitat is designated.

We appreciate the opportunity to review the proposed project. If you have any questions, please contact Taylor Fagin of my staff at taylor_fagin@fws.gov.

Sincerely,

JOSHUA LILLPOP

Digitally signed by JOSHUA LILLPOP
Date: 2025.01.31 13:37:59 -05'00'

for Virgil Lee Andrews, Jr.
Field Supervisor

KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES

Rich Storm
Commissioner

#1 Sportsman's Lane
Frankfort, Kentucky 40601
Phone (502) 564-3400
Fax (502) 564-0506

Brian Clark
Deputy Commissioner

Gabe Jenkins
Deputy Commissioner

January 9, 2024

Brooke Harrison,
Burns & McDonnell
530 West Spring Street, Suite 100
Columbus, OH 43215
Sent via e-mail

RE: **Project Review Request**
AM07 Phase 4 Pipeline Replacement Project
Campbell County, Kentucky

Dear Ms. Harrison:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has reviewed the proposed AM07 Phase 4 Pipeline Replacement Project in Campbell County, Kentucky for possible effects to listed species[1], designated critical habitat, and KDFWR-managed properties. KDFWR offers the following comments and recommendations:

Federally-listed species

Our records indicate the following federally-listed species[2] occur within ten (10) miles of the proposed project boundary. Be advised that the KDFWR does not have the authority to confirm compliance with the Endangered Species Act. Please continue to coordinate with the U.S. Fish and Wildlife Service for specific recommendations and compliance requirements for these federally-listed species.

Scientific Name	Common Name	Class	Federal Status	State Status	SGCN Species
Etheostoma lemniscatum	Tuxedo Darter	Actinopterygii	E	E	Y
Cumberlandia monodonta	Spectaclecase	Bivalvia	E	E	Y
Cyprogenia stegaria	Fanshell	Bivalvia	E	E	Y

[1] Be advised that the KDFWR database is dynamic and only represents the Department's current knowledge of various species distributions. The database is a compilation of collection records made available by individuals and resource agencies, and therefore does not conclusively determine that a listed species is present/absent at a given location.
[2] Federal status designations are as follows: *N=None, C=Candidate, T=Threatened, E=Endangered, PT=Proposed Threatened, PE=Proposed Endangered*.

Epioblasma obliquata	Catspaw	Bivalvia	E	E	Y
Epioblasma rangiana	Northern Riffleshell	Bivalvia	E	E	Y
Epioblasma triquetra	Snuffbox	Bivalvia	E	E	Y
Fusconaia subrotunda	Longsolid	Bivalvia	T	T	Y
Lampsilis abrupta	Pink Mucket	Bivalvia	E	E	Y
Obovaria retusa	Ring Pink	Bivalvia	E	E	Y
Obovaria subrotunda	Round Hickorynut	Bivalvia	T	T	Y
Plethobasus cyphyus	Sheepnose	Bivalvia	E	E	Y
Pleurobema plenum	Rough Pigtoe	Bivalvia	E	E	Y
Pleurobema rubrum	Pyramid Pigtoe	Bivalvia	PT	E	Y
Macrochelys temminckii	Alligator Snapping Turtle	Chelonia	PT	E	Y
Myotis septentrionalis	Northern Long-Eared Bat	Mammalia	E	E	Y
Myotis sodalis	Indiana Bat	Mammalia	E	E	Y
Perimyotis subflavus	Tricolored Bat	Mammalia	PE	T	Y

State-listed species and Kentucky Wildlife Action Plan Species of Greatest Conservation Need (SGCN)

A review of KDFWR records for state-listed[3] and SGCN species[4] identified the following within one (1) mile of the proposed project area:

Scientific Name	Common Name	Class	Federal Status	State Status	SGCN Species
Ambystoma barbouri	Streamside Salamander	Amphibia	N	N	Y
Plethodon cinereus	Eastern Red-backed Salamander	Amphibia	N	S	Y
Accipiter striatus	Sharp-shinned Hawk	Aves	N	S	Y
Certhia americana	Brown Creeper	Aves	N	T	N
Falco sparverius	American Kestrel	Aves	N	N	Y
Gallinago delicata	Wilson's Snipe	Aves	N	N	Y
Hylocichla mustelina	Wood Thrush	Aves	N	N	Y
Passerculus sandwichensis	Savannah Sparrow	Aves	N	S	Y
Pheucticus ludovicianus	Rose-breasted Grosbeak	Aves	N	S	N
Protonotaria citrea	Prothonotary Warbler	Aves	N	N	Y
Setophaga discolor	Prairie Warbler	Aves	N	N	Y

[3] State-listed species are assigned status designations by the Office of Kentucky Nature Preserves (OKNP). Designations are as follows: *N=None, E=Endangered, T=Threatened, S=Special Concern, H=Historic, X=Extirpated*.

[4] The KDFWR recently updated the Kentucky State Wildlife Action Plan (SWAP) under a federal grant from the U.S. Fish and Wildlife Service. The updated SWAP is a user-friendly guide for conservation of species of greatest conservation need (SGCN) in the state. The KDFWR invites you to review the updated SWAP on its website (https://app.fw.ky.gov/kyswap/). Species experts from the public and private sectors helped develop the SWAP by determining which species were rare, vulnerable, declining in population, or for which there was not enough information to determine status, and therefore had the greatest need for conservation actions. The SWAP is intended to provide guidance to developers, regulators, resource agencies, the public, and other stakeholders to conserve SGCN by prioritizing threats and recommending conservation actions for each species. The KDFWR is promoting the use of the SWAP to prevent declines in SGCN thereby preventing the need to list them in the Endangered Species Act. SGCN status does not invoke regulatory restrictions or requirements. However, the KDFWR encourages project sponsors to consider actions that provide conservation benefits to these species such as minimization of habitat encroachment, using buffer areas near projects to provide habitat, or other measures.

Setophaga virens	Black-throated Green Warbler	Aves	N	N	Y
Sitta canadensis	Red-breasted Nuthatch	Aves	N	E	N
Spizella pusilla	Field Sparrow	Aves	N	N	Y
Sturnella magna	Eastern Meadowlark	Aves	N	N	Y

KDFWR Comments/Recommendations

The species review identified records of multiple federally-listed species within ten (10) miles of the proposed project location. The correspondence provided (dated 10/16/2024) indicates that the applicant is coordinating with USFWS regarding the listed bat species. KDFWR recommends that tree clearing be conducted in the winter months (October 15th to March 31st) to minimize potential impacts to the listed bat species. As per the information provided by the applicant, tree clearing is proposed for fall/winter, correlating with this recommendation.

Given the nature of the project location and type of aquatic resources present (or lack thereof), KDFWR does not have specific concerns regarding direct impacts to the listed mussel species. However, to protect aquatic species downstream of the proposed project area, KDFWR recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways. Additionally, KDFWR recommends avoiding and minimizing parallel alignments adjacent to streams.

While state-listed and SGCN species are not afforded specific protections, the KDFWR asks that appropriate measures be taken to reduce impacts to these species. The Streamside Salamander utilizes headwater streams, ditches, and small ponds/pools for breeding sites. The Eastern Red-Backed Salamander typically occurs in mesic woodlands but can be found in suburban yards. Therefore, minimizing the area of disturbance to the extent practicable is recommended. To reduce the risk of bird take, KDFWR recommends scheduling all vegetation removal and maintenance activities (e.g., general landscaping activities, mowing, grubbing) outside of the peak bird breeding season. Breeding seasons can be determined using online tools (e.g., Avian Knowledge Network [AKN], Information for Planning and Conservation system [IPaC], Birds of North America Online) or by contacting qualified experts (e.g., local Audubon or birding groups, KDFWR avian specialist Michael Patton). When vegetation removal activities cannot avoid the bird breeding season, conduct nest clearance surveys:

- Surveys should be conducted no more than five (5) days prior to the scheduled activity to ensure recently constructed nests are identified;
- Timing and dimensions of the area to be surveyed should depend on the nature of the project, location, and expected level of vegetation disturbance; and
- If active nests are identified within or in the vicinity of the project site, the site should be avoided until nestlings have fledged or the nest fails. If the activity must occur, a buffer zone should be established around the nest and no activities should occur within that zone until nestlings have fledged. The dimension of the buffer zone depends on the proposed activity, habitat type, and species present. The buffer should be a distance that does not elicit a flight response by the adult birds and can be 0.5 – 1 mile for hawks and eagles. *Please note that KDFWR records did not identify any documented osprey/eagle nests within one (1) mile of the proposed project at the time of this review.*

Thank you for coordinating with the KDFWR. Please contact me at emilym.lawson@ky.gov if you have any questions.

Sincerely,

Emily Lawson
Environmental Coordinator