

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In The Matter Of:**

<b>ELECTRONIC APPLICATION OF EAST</b>	)	
<b>KENTUCKY POWER COOPERATIVE, INC. FOR</b>	)	
<b>APPROVAL TO AMEND ITS ENVIRONMENTAL</b>	)	
<b>COMPLIANCE PLAN AND RECOVER COSTS</b>	)	<b>CASE NO.</b>
<b>PURSUANT TO ITS ENVIRONMENTAL</b>	)	<b>2024-00109</b>
<b>SURCHARGE, AND FOR THE ISSUANCE OF</b>	)	
<b>A CERTIFICATE OF PUBLIC CONVENIENCE</b>	)	
<b>AND NECESSITY AND OTHER RELIEF</b>	)	

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**VERIFIED APPLICATION**

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Comes now East Kentucky Power Cooperative, Inc. (“EKPC”), by counsel, pursuant to KRS 278.020, KRS 278.183, 807 KAR 5:001 and other applicable law, and hereby requests this Commission enter an Order: (1) approving EKPC’s proposed amendment of its Environmental Compliance Plan (“Compliance Plan”); (2) granting EKPC authority to recover the costs associated with said Compliance Plan amendment through its existing environmental surcharge; (3) issuing a Certificate of Public Convenience and Necessity (“CPCN”) for the construction of certain facilities associated with said Compliance Plan amendment; and (4) granting all other required relief. In support of its requested relief, EKPC respectfully states as follows:

**I. Introduction**

1. EKPC requests Commission authorization to amend its Compliance Plan to include an additional project necessary to comply with the Disposal of Coal Combustion Residuals (“CCR”) from Electric Utilities Rule (“CCR Rule”), the federal Clean Water Act (“CWA”), and other environmental requirements and obligations that arise from the use of coal in the generation

of electric energy. EKPC seeks to include in its Compliance Plan a proposed project for which it requests Commission pre-approval and a CPCN — specifically, a project to construct Peg’s Hill (Area D) Phase 3 of the landfill at its Hugh L. Spurlock Station in Mason County, Kentucky (“Spurlock Station”). Finally, in conjunction with its request to amend its Compliance Plan and seek issuance of appropriate CPCNs, EKPC also proposes to recover the costs associated with this project through its environmental surcharge pursuant to KRS 278.183.

## **II. Background**

### **A. General Filing Requirements**

2. Pursuant to 807 KAR 5:001 Section 14(1), EKPC’s business address is 4775 Lexington Road, Winchester, Kentucky 40391 and its mailing address is P.O. Box 707, Winchester, Kentucky 40392-0707. EKPC’s telephone number is 859-744-4812 and its fax number is 859-744-6008. EKPC’s email address is psc@ekpc.coop. EKPC requests the following individuals be included on the service list:

Chris Adams, EKPC’s Director of Power Supply:

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3. Pursuant to 807 KAR 5:001, Section 14(1), the grounds for EKPC’s request for an amendment of its Compliance Plan, recovery of costs through its environmental surcharge and issuance of a CPCN are set forth herein and in the testimony filed in support hereof.



4. Pursuant to 807 KAR 5:001, Section 14(2), EKPC is a Kentucky corporation, in good standing, and was incorporated on July 9, 1941. A certificate of good standing is attached to this Application as Exhibit 1.

**B. Overview of East Kentucky Power Cooperative, Inc.**

5. EKPC is a not-for-profit, rural electric cooperative corporation established under KRS Chapter 279 with its headquarters in Winchester, Kentucky. Pursuant to various agreements, EKPC provides electric generation capacity and electric energy to its sixteen (16) Owner-Member Cooperatives (“owner-members”), which in turn serve over 565,000 Kentucky homes, farms and commercial and industrial establishments in eighty-nine (89) Kentucky counties. EKPC’s Board has stated its strategic objective is to maintain a generation fleet that prudently diversifies its fuel sources while maximizing the potential of its capital investments and minimizing stranded assets.

6. EKPC is a “utility” as that term is defined in KRS 278.010(3)(a) and a “generation and transmission cooperative” as that term is defined in KRS 278.010(9). Each of EKPC’s sixteen (16) owner-members is a “utility” under KRS 278.010(3)(a), as well as a “distribution cooperative” under KRS 278.010(10) and a “retail electric supplier” under KRS 278.010(4).

7. In total, EKPC owns and operates approximately 2,963 MW of net summer generating capacity and 3,265 MW of net winter generating capacity. EKPC owns and operates coal-fired generation at the John S. Cooper Station in Pulaski County, Kentucky (341 MW) and the Hugh L. Spurlock Station (1,346 MW) in Mason County, Kentucky. EKPC also owns and operates natural gas-fired generation at the J. K. Smith Station in Clark County, Kentucky (753 MW (summer)/989 MW (winter)) and the Bluegrass Generating Station in Oldham County, Kentucky (501 MW (summer)/567 MW (winter)), landfill gas-to-energy facilities in Boone County, Greenup County, Hardin County, Pendleton County and Barren County (13 MW total),

and a Community Solar facility (8.5 MW) in Clark County, Kentucky. Finally, EKPC purchases hydropower from the Southeastern Power Administration at Laurel Dam in Laurel County, Kentucky (70 MW), and the Cumberland River system of dams in Kentucky and Tennessee (100 MW). EKPC also has 200 MWs of interruptible load and approximately 26 MWs in peak reduction mechanisms. EKPC's record peak demand of 3,754 MW occurred on January 17, 2024.

8. EKPC owns 2,995 circuit miles of high voltage transmission lines in various voltages, mainly 69kV and greater. EKPC also owns the substations necessary to support this transmission line infrastructure. Currently, EKPC has seventy-seven (77) free-flowing interconnections with its neighboring utilities. EKPC's transmission system is operated by PJM Interconnection, LLC ("PJM"), of which EKPC has been a fully integrated member since June 1, 2013. PJM is a regional electric grid and market operator with operational control of over 185,000 MW of regional electric generation. It operates the largest capacity and energy market in North America.

### **C. The Spurlock Station**

9. EKPC's largest coal-fired electric generation facility is the Spurlock Station located a few miles west of downtown Maysville, Kentucky.<sup>1</sup> The Spurlock Station is situated along the Ohio River and consists of four (4) electric generation units. Spurlock Station Unit #1 ("Spurlock 1") began commercial operation on September 1, 1977, and has a net capacity of 300 MW. Spurlock Station Unit #2 ("Spurlock 2") became operational on March 2, 1981; at 510 MW of net capacity, it is the largest electric generation unit at the Spurlock Station. Spurlock 1 and Spurlock 2 are both conventional, pulverized coal units. Spurlock Station Unit #3 is known as the E. A.

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<sup>1</sup> Aerial maps/photographs of the Spurlock Station with its major components labeled are attached hereto and incorporated herein as Exhibit 3 Attachment JB-3.

Gilbert Unit (“Gilbert Unit”) and began commercial operations on March 1, 2005. The Gilbert Unit utilizes a Circulating Fluidized Bed (“CFB”) technology and boasts a net generating capacity of 268 MW. Spurlock Station Unit #4 (“Spurlock 4”) is a sister unit to the Gilbert Unit and also has 268 MW of generating capacity. Spurlock 4 became operational on April 1, 2009. The combined coal storage capacity of the Spurlock Station is 490,000 tons and the Spurlock Station primarily burns a range of eastern bituminous coals delivered by barge.

10. EKPC has already heavily invested in environmental control equipment at the Spurlock Station. Spurlock 1 is equipped with low NOx burners, selective catalytic reduction (“SCR”) technology, a cold-side electrostatic precipitator (“ESP”), a wet flue gas desulfurization (“FGD”) scrubber; and a wet ESP. Spurlock 2 is equipped with low NOx burners, SCR technology, a hot-side ESP, wet FGD scrubber and a wet ESP. The Gilbert Unit and Spurlock 4 employ CFB combustion technology which in itself is an environmental control technology. The Gilbert Unit and Spurlock 4 are further equipped with selective non-catalytic reduction technology, dry FGD scrubbers and baghouses.

11. On May 18, 2018, the Commission approved EKPC’s 2018 Compliance Plan amendment with various proposed modifications of existing Spurlock Station facilities to comply with state and federal environmental requirements.<sup>2</sup> These improvements include conversion of the plant’s bottom ash handling system, construction of a new wastewater treatment plant and fly ash storage silo, and the closure and repurposing of the on-site coal ash pond. These projects help ensure the ongoing safety and stability of EKPC’s generation fleet.

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<sup>2</sup> *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for Approval to Amend its Environmental Compliance Plan and Recover Costs pursuant to its Environmental Surcharge, Settlement of Certain Asset Retirement Obligations and Issuance of a Certificate of Public Convenience and Necessity and Other Relief*, Order, Case No. 2017-00376 (Ky. P.S.C., May 18, 2018).

12. The four (4) units at the Spurlock Station are among the least expensive electric generation units in the EKPC fleet and have maintained favorable capacity factors following EKPC's full integration into the Reliability Pricing Model ("RPM") Capacity Market administered by PJM. Likewise, prudent management practices have assured that the Spurlock Station's units have a high availability factor. In light of their consistent availability and low-cost operations, the Spurlock Station's units are the workhorses of the EKPC electric generation fleet.

#### **D. Overview of Environmental Regulation**

##### **1. Breadth of Requirements at the State and Federal Levels**

13. Electric utilities are among the most heavily environmentally regulated companies in the United States. Authorities at the federal and state levels oversee nearly every aspect of EKPC's operations, with particular emphasis on the monitoring and abatement of the wastes and by-products that accompany coal-fired electric generation. EKPC has devoted and continues to devote substantial resources to ensure its proactive compliance with environmental requirements, especially at its Cooper and Spurlock Stations as described herein.

14. EKPC currently complies with a dozen federal rules that have been promulgated under the authority of the Clean Air Act ("CAA"), including: New Source Performance Standards; New Source Review; Title IV of the CAA, including rules governing pollutants that contribute to acid deposition; Title V operating permit requirements; Mercury and Air Toxics Standards; Acid Rain; summer ozone trading program requirements promulgated after the United States Environmental Protection Agency ("EPA") acted upon Section 126 Petitions and the Ozone State Implementation Plan Call; National Ambient Air Quality Standards for Sulfur Dioxide, Nitrogen Dioxide, Carbon Monoxide, Ozone, Particulate Matter, Particulate Matter of 2.5 microns or less and Lead; the Cross State Air Pollution Rule; and the Regional Haze Rule.

15. As the Commission is aware, much of EKPC's environmental compliance activity in recent years has been undertaken as a result of the CCR Rule, which governs the classification, collection and disposal of certain by-products of the combustion of coal (fly ash, bottom ash, boiler slag and flue gas desulfurization materials). The final CCR Rule,<sup>3</sup> which became effective October 19, 2015, applies to owners and operators of new and existing landfills and new and existing surface impoundments (including all lateral expansions of such landfills and surface impoundments) where CCR material is disposed. The CCR Rule also has applicability to inactive CCR surface impoundments.<sup>4</sup> The principal objectives of the CCR Rule are as follows: (1) to impose structural integrity requirements to reduce the risk of catastrophic failure of CCR landfills and impoundments; (2) protecting groundwater through monitoring and corrective actions, location restrictions and landfill and impoundment liner design criteria; (3) adopting operating criteria for CCR landfills and impoundments; (4) record-keeping, notification and publicly-available internet website posting obligations; (5) obligations for inactive CCR landfills and impoundments; (6) administration of state programs to implement the CCR Rule; (7) CCR landfill and impoundment closure obligations; and (8) guidelines for beneficial reuse of CCR materials. Numerous projects contained in EKPC's existing and proposed Compliance Plan are the result of the CCR Rule, as further detailed in testimony submitted herewith.

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<sup>3</sup> See 80 Fed. Reg. 21302 (April 17, 2015).

<sup>4</sup> The CCR Rule currently does not apply to: CCR landfills that ceased receiving CCR materials prior to the effective date of the CCR Rule; CCR landfills and impoundments at facilities that have ceased producing electricity prior to the effective date of the CCR Rule; CCR materials generated at facilities that are not part of an electric utility or independent power producer, such as manufacturing facilities, universities and hospitals; CCR materials generated primarily from the combustion of fuels other than coal; CCR that is beneficially reused; CCR placement at active or abandoned underground or surface coal mines; or CCR material that is placed at municipal solid waste landfills.

## 2. Additional Environmental Requirements

16. EKPC is aware that EPA promulgated five (5) new final rules, May 1, 2024, NEPA Phase 2, GHG, MATs, Legacy CCR and Supplemental ELG on May 8-9, 2024 respectively; Section 111(b) and 111(d) Power Sector Greenhouse Gas Rule (GHG) Final Rule for New Sources and Existing Sources under 40 CFR Subparts TTTTa and UUUUb, existing coal-fired and new gas-fired generation, Mercury Air Toxics Rule (MATs) that sets new standards for lignite and bituminous coal-fired units with regards to Hg, particulate matter (PM) and hazardous air pollutants (HAPs); legacy coal combustion residual that defines new units for CCR regulation not captured in the 2015 rule; EPA defines new categories for CCR as legacy surface impoundments (LSI) and coal combustion residual management units (CCRMU), supplemental Effluent Limitation Guidelines and Standards for the Steam Electric Power Generating Point Source Category sets new standards for zero liquid discharges for flue gas desulfurization waste water (FGD WWT), bottom ash transport water (BATW) and coal combustion residual leachate (CRL) and lastly, National Environmental Policy Act Phase 2 rule. The Council on Environmental Quality (CEQ) revised its regulations for implementing the procedural provisions for NEPA, including the implementation of the Fiscal Responsibility Act's amendment, the standards to promote better decision making; ensure full and fair public involvement; provide for an efficient process and regulatory certainty; decision making based in science, including considerations of relevant environmental impacts, and administrative obligations contained in the new EPA rules.

### **III. Environmental Compliance Efforts**

#### **A. The Spurlock Station Landfill, Peg’s Hill (Area D) Phase 3**

18. In 1982, EKPC received an operational permit for an inert landfill, located to the southwest of the Spurlock Station. Since 1982, EKPC continued to develop the Spurlock Landfill under the Kentucky Division of Waste Management (“KDWM”) inert landfill program, special waste landfill program, and currently the CCR program. The initial landfill began with Area A and there have been two horizontal expansions, identified as Areas B and C. In March 2019, EKPC was issued an Agreed Order by KDWM for the development, construction, and operation of a unique, adjacent landfill, which is identified as Area D.<sup>5</sup> The sediment pond for the Area D Landfill was constructed in 2022. The first landfill cell, Phase 1, was constructed in 2023.<sup>6</sup> The second landfill cell, Phase 2, is currently under construction and was approved by the Commission in Case No. 2023-00177.<sup>7</sup>

19. Sufficient capacity to dispose of CCR must be maintained at all times to ensure the uninterrupted operation of Spurlock Station. The risk of running out of capacity at the Spurlock Landfill has significant financial implications for the operational costs for Spurlock Station and EKPC as a whole. To manage this risk, EKPC developed and follows its Landfill Management Plan. The Landfill Management Plan provides operational limits on the minimum amount of

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<sup>5</sup> The Area D Landfill has also been referred to as the “Peg’s Hill” Landfill.

<sup>6</sup> In its May 18, 2018 Order in Case No. 2017-00376, the Commission found that a CPCN was required prior to the construction of the expansion of the Spurlock Landfill, with a separate CPCN required prior to commencing construction on each future phase of the Spurlock Landfill. The Commission further found that the first phase expansion was needed for the continued operation of the Spurlock Station and that expansion represented the least-cost option of complying with the CCR and ELG Rules and consequently granted EKPC a CPCN for Area D, Phase 1.

<sup>7</sup> *In the Matter of: Electronic Application of East Kentucky Power Cooperative, Inc., for Approval to Amend its Environmental Compliance Plan and Recover Costs Pursuant to its Environmental Surcharge, and for the Issuance of a Certificate of Public Convenience and Necessity and Other Relief*, Case No. 2023-00177, Order (Ky.P.S.C. Jan, 11, 2024).

constructed and permitted landfill capacity at all times, as well as outlines risk mitigation components related to environmental and regulatory compliance at EKPC's landfill facilities.

20. Consistent with its Landfill Management Plan, EKPC has designed the Peg's Hill (Area D) Phase 3 landfill cell. This landfill cell will be 31.47 acres and will provide approximately 4,000,000 cubic yards of ash disposal capacity for the Spurlock Station. Landfill cells are designed to target two to three years of CCR disposal capacity and the landfill cells are expected to be constructed in one calendar year. The Peg's Hill (Area D) Phase 3 construction is projected to provide capacity through 2028. The design construction will comply with all state and federal regulations and will include a composite liner system<sup>8</sup> and a continuous leachate collection system. Additional scope elements of the landfill cell construction include perimeter ditches and drainage features, subgrade preparation, and access roads. The anticipated cost of the Peg's Hill (Area D) Phase 3 landfill cell is \$24.6 million. The annual on-going operation and maintenance expense is estimated to be \$242,000.

21. When considering whether to develop the Area D Landfill, EKPC evaluated several onsite and offsite CCR disposal alternatives. Among the alternatives EKPC considered was disposal of CCR material in an existing permitted municipal solid waste landfill, a new landfill constructed by EKPC at a site located less than ten miles from the Spurlock Station, and the various means of CCR transportation to each disposal option. Of the alternatives evaluated, the Area D Landfill site at Spurlock Station was identified as the preferred alternative due to the ability to minimize impacts to natural features, provide a large buffer from adjacent property owners, utilize existing infrastructure, and reduce transportation and disposal costs. The Peg's Hill (Area D) Phase 3 landfill cell is the reasonable, least-cost option to address the Spurlock Station CCR

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<sup>8</sup> The composite liner system utilizes geosynthetic clay and 60-mil HDPE.



disposal needs, and the EKPC Board of Directors has directed management to pursue this Commission's approval of same.<sup>9</sup>

22. EKPC will finance the Peg's Hill (Area D) Phase 3 project through funds available to it from normal operations or funds available through its unsecured Credit Facility. Once completed, any short-term debt associated with the Peg's Hill (Area D) Phase 3 project will be refinanced using long-term debt available under EKPC's Trust Indenture.

23. EKPC is also requesting to include the Peg's Hill (Area D) Phase 3 project in its Compliance Plan and recover the costs associated with the project through its environmental surcharge mechanism. The Commission has previously approved the inclusion of landfill cell projects in the environmental compliance plans and authorized cost recovery through the environmental surcharge mechanism for both EKPC<sup>10</sup> and other electric investor-owned utilities.<sup>11</sup>

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<sup>9</sup> A copy of the Board's April 16, 2024 Resolution is provided as Attachment JB-2 to Exhibit 3 Direct Testimony of Jarrad Burton.

<sup>10</sup> See *In the Matter of Application of East Kentucky Power Cooperative, Inc. for Approval of an Amendment to Its Environmental Compliance Plan and Environmental Surcharge*, Order, Case No. 2010-00083 (Ky. P.S.C., Sep. 24, 2010), see *In the Matter of Application of East Kentucky Power Cooperative, Inc. for Approval to Amend Its Environmental Compliance Plan and Recover Costs Pursuant to Its Environmental Surcharge, and for the Issuance of a Certificate of Public Convenience and Necessity*, Order, Case No. 2018-00270 (Ky. P.S.C., Apr. 1, 2019), and see *In the Matter of Application of East Kentucky Power Cooperative, Inc. for Approval to Amend Its Environmental Compliance Plan and Recover Costs Pursuant to Its Environmental Surcharge, and for the Issuance of a Certificate of Public Convenience and Necessity and Other Relief*, Order, Case No. 2023-00177 (Ky. P.S.C., Jan. 11, 2024)

<sup>11</sup> See *In the Matter of Application of Kentucky Utilities Company for Certificates of Public Convenience and Necessity and Approval of Its 2009 Compliance Plan for Recovery by Environmental Surcharge*, Order, Case No. 2009-00197 (Ky. P.S.C., Dec. 23, 2009); *In the Matter of Application of Louisville Gas and Electric Company for a Certificate of Public Convenience and Necessity and Approval of Its 2009 Compliance Plan for Recovery by Environmental Surcharge*, Order, Case No. 2009-00198 (Ky. P.S.C., Dec. 23, 2009); *In the Matter of Application of Kentucky Utilities Company for Certificates of Public Convenience and Necessity and Approval of Its 2011 Compliance Plan for Recovery by Environmental Surcharge*, Order, Case No. 2011-00161, (Ky. P.S.C., Dec. 15, 2011); *In the Matter of Electronic Application of Kentucky Utilities Company for a Certificate of Public Convenience and Necessity and Approval of Amendment to Its 2016 Compliance Plan for Recovery by Environmental Surcharge*, Order, Case No. 2017-00483 (Ky. P.S.C., Jul. 9, 2018); and *In the Matter of Electronic Application of Duke Energy Kentucky, Inc. for a Certificate of Public Convenience and Necessity to Construct Phase Two of Its West Landfill and Approval to Amend Its Environmental Compliance Plan for Recovery by Environmental Surcharge Mechanism*, Order, Case No. 2018-00156 (Ky. P.S.C., Dec. 10, 2018).

24. In summary, the Peg’s Hill (Area D) Phase 3 project will provide many benefits to EKPC, including, without limitation, the following:

- a. Complying with the CCR Rule in a reasonable, least-cost manner;
- b. Furthering EKPC’s efforts to provide reliable, safe, adequate and reasonable service to its owner-members at rates that are fair, just and reasonable;
- c. Ensuring the continued safe and responsible disposal of CCR materials, particularly in light of Spurlock Station’s proximity to one of the largest rivers in North America and its location within the 100-year flood plain; and
- d. Preserving EKPC’s ability to comply with future environmental regulations that may be imposed by state and federal authorities.

#### **IV. Request for CPCN and Amendment of Compliance Plan**

25. It is well established that the Commission only possesses such powers as granted by the General Assembly.<sup>12</sup> However, the scope of the powers expressly granted by the General Assembly to the Commission to regulate the “rates” and “service” of utilities is plenary in nature, unless otherwise expressly limited or expressed by statute.<sup>13</sup> In the context of a request for issuance of a CPCN, the Commission’s authority under KRS 278.020(1) remains very broad. The General Assembly has, however, chosen to limit the Commission’s authority to prohibit or delay recovery of certain costs arising from compliance with environmental laws and regulations by enacting KRS 278.183, the environmental surcharge statute.

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<sup>12</sup> See *Boone Co. Water and Sewer Dist. v. Public Service Comm’n*, Ky., 949 S.W.2d 588, 591 (1997); *Simpson Co. Water Dist. v. City of Franklin*, 872 S.W.2d 460, 462 (Ky. 1994); *Com., ex rel. Stumbo v. Kentucky Public Service Comm’n*, 243 S.W.3d 374, 378 (Ky. App. 2007); *Cincinnati Bell Tel. Co. v. Kentucky Public Service Comm’n*, 223 S.W.3d 829, 836 (Ky. App. 2007); *Public Service Comm’n v. Jackson Co. Rural Elec. Co-op., Inc.*, 50 S.W.3d 764, 767 (Ky. App. 2000).

<sup>13</sup> See KRS 278.040(2); *Kentucky Public Service Comm’n v. Commonwealth of Kentucky, ex rel. Conway*, 324 S.W.3d 373, 383 (Ky. 2010); *Southern Bell Tel. & Tel. Co. v. City of Louisville*, 265 Ky. 286, 96 S.W.2d 695, 697 (Ky. 1936).

**A. Certificate of Public Convenience and Necessity**

**1. KRS 278.020(1) Requires Analysis of “Need” and “Wasteful Duplication”**

26. Before undertaking a construction project that is not in the ordinary course of business, a utility must obtain a CPCN from the Commission under the authority of KRS 278.020(1), which states in relevant part:

No person, partnership, public or private corporation, or combination thereof shall...begin the construction of any plant, equipment, property, or facility for furnishing to the public any of the services enumerated in KRS 278.010...until that person has obtained from the Public Service Commission a certificate that public convenience and necessity require the service or construction.... The commission, when considering an application for a certificate to construct a base load electric generating facility, may consider the policy of the General Assembly to foster and encourage use of Kentucky coal by electric utilities serving the Commonwealth.

27. The statute is silent, however, with regard to the criteria which the Commission should apply to any such request from a utility. Accordingly, case law construing KRS 278.020(1) provides the appropriate standard for evaluating EKPC’s request for a CPCN in this proceeding. The leading authority on CPCNs is *Kentucky Utilities Co. v. Public Service Comm’n*, which articulates a two-part test for demonstrating entitlement to a CPCN: (1) need; and (2) absence of wasteful duplication. *Kentucky Utilities Co.* provides significant guidance as to what further considerations should be taken into account when evaluating a request for a CPCN under these two criteria.

28. As to “need,” Kentucky’s highest Court wrote:

We think it is obvious that the establishment of convenience and necessity for a new service system or a new service facility requires first 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 and operated. Second, the 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.<sup>14</sup>

29. The need for the Spurlock Station landfill, Peg’s Hill (Area D) Phase 3 described herein is demonstrated by the fact that, without it, EKPC would be unable to continue to safely and appropriately operate the Spurlock Station in a manner consistent and compliant with federal and state environmental mandates.

30. With regard to what constitutes “wasteful duplication”, the Court opined:

[W]e think that ‘duplication’ also embraces the meaning of an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of physical properties, such as right of ways, poles and wires. An inadequacy of service might be such as to require construction of an additional service facility to supplement an inadequate existing facility, yet the public interest would be better served by substituting one large facility, adequate to serve all the consumers, in place of the inadequate existing facility, rather than constructing a new small facility to supplement the existing small facility. A supplementary small facility might be constructed that would not create duplication from the standpoint of an excess of capacity, but would result in duplication from the standpoint of an excessive investment in relation to efficiency and a multiplicity of physical properties.<sup>15</sup>

31. In evaluating the “wasteful duplication” aspect of CPCN analysis, the Court further instructed, “[w]e are of the opinion that the Public Service Commission should have considered the question of duplication from the standpoints of excessive investment in relation to efficiency,

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<sup>14</sup> *Kentucky Utilities Co.*, at 890.

<sup>15</sup> *Id.*, at 891.

and an unnecessary multiplicity of physical properties.”<sup>16</sup> While the avoidance of “wasteful duplication” is a primary consideration for evaluating a request for a CPCN, *Kentucky Utilities Co.* makes clear that the Commission must not focus exclusively upon the cost of a proposal alone. The Commission must also look at an application for a CPCN in relation to the service to be provided by the utility:

[W]e do not mean to say that *cost* (as embraced in the question of duplication) is to be given more consideration than the need for *service*. If, from the past record of an existing utility, it should appear that the utility cannot or will not provide adequate service, we think it might be proper to permit some duplication to take place, and some economic loss to be suffered so long as the duplication and resulting loss be not greatly out of proportion to the need for service.<sup>17</sup>

32. In other words, the complete absence of “wasteful duplication” need not be shown to an absolute certainty, “it is sufficient that there is a reasonable basis of anticipation” that the “consumer market in the immediately foreseeable future will be sufficiently large to make it economically feasible for a proposed system or facility to be constructed....”<sup>18</sup> As recently as 2012, the Commission affirmed this point:

To demonstrate that a proposed facility does not result in wasteful duplication, we have held that the applicant must demonstrate that a thorough review of all alternatives has been performed. Selection of a proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication. All relevant factors must be balanced.<sup>19</sup>

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<sup>16</sup> *Id.*

<sup>17</sup> *Id.*, at 892 (emphasis in original).

<sup>18</sup> *Kentucky Utilities Co. v. Public Service Commission*, 59 P.U.R.3d 219, 390 S.W.2d 168, 172 (Ky. 1965).

<sup>19</sup> *In re the Application of Big Rivers Electric Corporation for Approval of its 2012 Environmental Compliance Plan*, Case No. 2012-00063, Final Order, pp. 14-15 (Ky. P.S.C. Oct. 1, 2012) (citations omitted).

33. EKPC satisfies the “wasteful duplication” component of the CPCN analysis by virtue of the due diligence it has undertaken to determine the investment should be made in the Spurlock Station landfill, Peg’s Hill (Area D) Phase 3, to ensure its continued use as a valuable coal-fired generation resource. The proposed Spurlock Station landfill, Peg’s Hill (Area D) Phase 3 presents the reasonable, least cost option for continued operation of the Spurlock Station and the safe and compliant storage of by-products from the burning of coal on the property.

## **2. Filing Requirements**

34. Pursuant to 807 KAR 5:001, Section 15(2)(a), the facts relied upon to show that the proposed construction or extension is or will be required by public convenience or necessity are specifically set forth in numerical paragraphs 18 through 21 of this Application for the Spurlock Landfill Peg’s Hill (Area D) Phase 3 project and in the testimony submitted herewith.

35. Pursuant to 807 KAR 5:001, Section 15(2)(b), EKPC states that it is in the process of obtaining all environmental permits and approvals necessary for the proposed construction. A listing of the permits and approvals relevant to the Spurlock Station landfill, Peg’s Hill (Area D) Phase 3 are included with the Direct Testimony and Attachments of Mr. Jerry Purvis included as Exhibit 2 to this Application.

36. Pursuant to 807 KAR 5:001, Section 15(2)(c), a full description of the proposed location, route, or routes of the proposed construction or extension is contained in the testimony of Mr. Jarrad Burton included as Exhibit 3 to this Application, as well as reflected in the maps attached as Attachment JB-3 hereto and incorporated herein. A description of the manner of construction is set forth fully in the testimony of Mr. Jarrad Burton. There are no public utilities, corporations or persons with whom the proposed construction or extension is likely to compete.

37. Pursuant to 807 KAR 5:001, Section 15(2)(d)(1), EKPC is providing herewith one (1) copy in portable document format on electronic storage medium: maps to suitable scale showing the location or route of the proposed construction or extension, as well as the location to scale of like facilities owned by others located anywhere within the map area with adequate identification as to the ownership of the other facilities (see Exhibit 3, Attachment JB-3). Pursuant to the Commission's Order in Case No. 2020-00085,<sup>20</sup> EKPC is not providing paper copies of the aforementioned maps.

38. Pursuant to 807 KAR 5:001, Section 15(2)(d)(2) plans and specifications and drawings of the proposed plant, equipment, and facilities are included in Exhibit 3, Direct Testimony of Mr. Jarrad Burton, Attachment JB-3.

39. Pursuant to 807 KAR 5:001, Section 15(2)(e), a detailed description of the manner in which EKPC intends to finance the proposed construction or extension is set forth in numerical paragraph 22 herein and the testimony of Mr. Thomas Stachnik contained in Exhibit 4 to this Application.

40. Pursuant to 807 KAR 5:001, Section 15(2)(f), EKPC estimates that the annual cost of operation of the Spurlock Station will increase approximately \$242,000 after the Peg's Hill (Area D) Phase 3 is placed into service.

41. Pursuant to KRS 322.340, engineering plans, specifications and drawings for the proposed construction project prepared by a registered engineer licensed in Kentucky and signed, sealed and dated are included in Exhibit 3 Attachment JB-3.

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<sup>20</sup> See *In the Matter of Electronic Emergency Docket Related to the Novel Coronavirus COVID-19*, Order, Case No. 2020-00085, (Ky. P.S.C., Jul. 22, 2021).

## **B. Request for Approval of an Environmental Compliance Plan Amendment**

42. When a utility applies for a CPCN for the construction of a facility that is necessary to comply with an environmental mandate, KRS 278.183 is also implicated. The environmental surcharge statute was enacted “to promote the use of high sulfur Kentucky coal by permitting utilities to surcharge their customers for the cost of a scrubber which is part of a power plant that cleans high sulfur coal in order to meet the acid rain provisions of the Federal Clean Air Act amendment of 1990.”<sup>21</sup> Section 1 of the statute contains the guarantee of cost recovery for such environmental compliance costs:

Notwithstanding any other provision of this chapter, effective January 1, 1993, a utility shall be entitled to the current recovery of its costs of complying with the Federal Clean Air Act as amended and those federal, state, or local environmental requirements which apply to coal combustion wastes and by-products from facilities utilized for production of energy from coal in accordance with the utility's compliance plan as designated in subsection (2) of this section. These costs shall include a reasonable return on construction and other capital expenditures and reasonable operating expenses for any plant, equipment, property, facility, or other action to be used to comply with applicable environmental requirements set forth in this section. Operating expenses include all costs of operating and maintaining environmental facilities, income taxes, property taxes, other applicable taxes, and depreciation expenses as these expenses relate to compliance with the environmental requirements set forth in this section.<sup>22</sup>

43. In order to obtain rate relief under the environmental surcharge statute, a utility must “submit to the commission a plan, including any application required by KRS 278.020(1), for complying with the applicable environmental requirements set forth in [KRS 278.183(1)].”

Following that:

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<sup>21</sup> *Kentucky Indus. Utility Customers, Inc. v. Kentucky Utilities Co.*, 983 S.W.2d 493, 496 (Ky. 1998).

<sup>22</sup> KRS 278.183(1).



...[T]he commission shall conduct a hearing to: (a) Consider and approve the plan and rate surcharge if the commission finds the plan and rate surcharge reasonable and cost-effective for compliance with the applicable environmental requirements set forth in subsection (1) of this section; (b) Establish a reasonable return on compliance-related capital expenditures; and (c) Approve the application of the surcharge.<sup>23</sup>

44. The Kentucky Supreme Court characterized KRS 278.183 as “a new right” that “did not exist before the enactment of the surcharge.”<sup>24</sup> Thus, the Kentucky General Assembly has chosen to encourage the use of coal by enacting a surcharge mechanism that guarantees a utility the ability to recover costs associated with compliance with environmental mandates. The Commission has commented upon the prescriptive nature of the KRS 278.183 by observing that it “must consider the plan and the proposed rate surcharge, and approve them if [the Commission] finds the plan and rate surcharge to be reasonable and cost effective.”<sup>25</sup> The environmental surcharge statute, therefore, relates to and is an important adjunct to the traditional CPCN analysis required by KRS 278.020(1).

45. EKPC implemented its first Compliance Plan following Commission approval in 2005.<sup>26</sup> EKPC has subsequently amended its Compliance Plan on seven (7) occasions.<sup>27</sup>

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<sup>23</sup> KRS 278.183(2).

<sup>24</sup> *Kentucky Indus. Utility Customers, Inc.*, at 500.

<sup>25</sup> *In re the Application of Big Rivers Electric Corporation for Approval of its 2012 Environmental Compliance Plan*, Case No. 2012-00063, Final Order, p. 16 (Ky. P.S.C. Oct. 1, 2012).

<sup>26</sup> *See In the Matter of Application of East Kentucky Power Cooperative, Inc. for Approval of an Environmental Compliance Plan and Authority to Implement an Environmental Surcharge*, Order, Case No. 2004-00321 (Ky. P.S.C., Mar. 17, 2005).

<sup>27</sup> *See In the Matter of the Application of East Kentucky Power Cooperative, Inc. for Approval of an Amendment to Its Environmental Compliance Plan and Environmental Surcharge*, Order, Case No. 2008-00115, (Ky. P.S.C., Sep. 29, 2008); *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for Approval of an Amendment to Its Environmental Compliance Plan and Environmental Surcharge*, Order, Case No. 2010-00083, (Ky. P.S.C., Sep. 24, 2010); *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity for Alteration of Certain Equipment at the Cooper Station and Approval of a Compliance Plan Amendment for Environmental Surcharge Cost Recovery*, Order, Case No. 2013-00259, (Ky. P.S.C., Feb. 20, 2014); *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public*

46. EKPC is seeking a CPCN and approval to amend its Compliance Plan to include the Spurlock Station Landfill, Peg's Hill (Area D) Phase 3 project, as well as recover through its environmental surcharge the costs associated with this project, which is approximately \$24.6 million. In addition, EKPC estimates that the incremental annual operations and maintenance expense associated with the project EKPC seeks to add to its Compliance Plan will be approximately \$242,000.

47. EKPC intends to finance the Spurlock Station Landfill, Peg's Hill (Area D) Phase 3 as set forth in numerical paragraph 22 above. Ultimately, this project will be financed through long-term debt instruments issued pursuant to EKPC's Trust Indenture.

48. EKPC has given the required notice of intent as to the filing of this Application and has provided the requisite notice to its owner-members as well.<sup>28</sup>

49. Under KRS 278.183(2), EKPC is entitled to earn a return on its investment. The original (and still utilized) methodology for determining an appropriate return is the product of the weighted average debt cost of the debt issuances directly related to the projects in EKPC's Compliance Plan, multiplied by a Times Interest Earned Ratio ("TIER") factor.<sup>29</sup> EKPC has

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*Convenience and Necessity for construction of an Ash Landfill at J.K. Smith Station, the Removal of Impounded Ash from William C. Dale Station for Transport to J.K. Smith and Approval of a Compliance Plan Amendment for Environmental Surcharge Recovery*, Order, Case No. 2014-00252 (Ky. P.S.C., Mar. 6, 2015); *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for Approval to Amend its Environmental Compliance Plan and Recover Costs pursuant to its Environmental Surcharge, Settlement of Certain Asset Retirement Obligations and Issuance of a Certificate of Public Convenience and Necessity and Other Relief*, Order, Case No. 2017-00376 (Ky. P.S.C., May 18, 2018); *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for Approval to Amend Its Environmental Compliance Plan and Recover Costs Pursuant to Its Environmental Surcharge, and for the Issuance of a Certificate of Public Convenience and Necessity*, Order, Case No. 2018-00270 (Ky. P.S.C., Apr. 1, 2019); *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for Approval to Amend Its Environmental Compliance Plan and Recover Costs Pursuant to Its Environmental Surcharge, and for the Issuance of Certificates of Public Convenience and Necessity and Other Relief*, Order, Case No. 2023-00177 (Ky. P.S.C., Jul. 21, 2023).

<sup>28</sup> A copy of the Notice of Intent is attached hereto and incorporated herein as Exhibit 5. A copy of the Notice given to EKPC's owner-members is attached hereto and incorporated herein as Exhibit 6.

<sup>29</sup> This determination of the overall rate of return for the environmental compliance rate base utilizing the weighted average cost of debt issuances directly related to projects in the approved Compliance Plan multiplied by the

updated its weighted average debt cost as of December 31, 2023 and states that its current weighted average debt cost is 4.396%. EKPC is requesting the Commission use its updated weighted average debt cost of 4.396% and a 1.475 TIER factor to arrive at an overall rate of return of 6.484%.<sup>30</sup>

50. Based upon the foregoing, EKPC estimates that the annual environmental surcharge impact of its amended Compliance Plan to a residential customer using 1,125 kWh of electricity each month would be as follows:<sup>31</sup>

Calendar Year Ending	Estimated Annual Revenue Requirement	Percentage Increase Wholesale	Percentage Increase Retail	Estimated Increase in Average Residential Monthly Bill
2025	\$1,610,563	0.15%	0.11%	\$0.11
2026	\$2,768,511	0.26%	0.19%	\$0.18
2027	\$2,707,717	0.25%	0.18%	\$0.18
2028	\$2,646,924	0.25%	0.18%	\$0.17

## V. Overview of Testimony

51. EKPC is providing written testimony to support its Application from the following individuals:

- a. Mr. Jerry Purvis, Vice President of Environmental Affairs, will offer testimony concerning the environmental obligations that EKPC must satisfy. He will

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authorized TIER was established in Case No. 2004-00321. EKPC has consistently followed this approach in every six-month and two-year surcharge review proceeding.

<sup>30</sup> See *In the Matter of Electronic Application of East Kentucky Power Cooperative, Inc. for a General Adjustment of Rates, Approval of Depreciation Study, Amortization of Certain Regulatory Assets, and Other General Relief*, Order, Case No. 2021-00103, (Ky. P.S.C., Sep. 30, 2021). The use of a TIER of 1.475 for surcharge purposes was a result of the settlement agreement approved in Case No. 2021-00103.

<sup>31</sup> EKPC's rate schedules do not directly correspond to retail customer classifications. For illustrative purposes EKPC has approximated the impact on an average monthly residential bill reflecting a monthly usage of 1,125 kWh. This approximation reflects EKPC's best estimate of the impact and is not based on an analysis of residential billing information.

also offer detailed testimony as to the purpose, scope and requirements of the CCR Rule, and other applicable environmental authorities.

- b. Mr. Jarrad Burton, P.E., Landfill Program Manager, will provide testimony concerning the Spurlock Landfill Peg's Hill (Area D) Phase 3 project.
- c. Mr. Thomas Stachnik, Vice President of Finance and Treasurer, will provide testimony concerning EKPC's plans to finance the Peg's Hill (Area D) Phase 3 project, as well as the calculation of EKPC's weighted average cost of debt associated with debt issuances relating to its Compliance Plan as of December 31, 2023. He will also provide testimony concerning EKPC's requested authorized return.
- d. Mr. Jacob Watson, Manager of Pricing, will provide testimony concerning the cost and rate impact of the proposed Compliance Plan amendment. He will also discuss the proposed revisions to the environmental surcharge tariff and, monthly reporting forms and implementing the new rate on the 1<sup>st</sup> day of the expense month following an Order.

## **VI. Conclusion**

52. For the past several years, state and federal environmental regulations have required EKPC to make significant modifications to its Spurlock coal-fired generating stations. The project is detailed in this Application and its supporting materials, and is appropriate for inclusion in EKPC's proposed amended Compliance Plan under KRS 278.183. Accordingly, EKPC respectfully requests that the Commission allow EKPC to recover the costs of the project through its environmental surcharge as described herein. Finally, EKPC requests that the Commission approve and issue a CPCN for the Spurlock Landfill Peg's Hill (Area D) Phase 3 project.

WHEREFORE, on the basis of the foregoing, EKPC respectfully requests the Commission enter an Order:

- 1) Approving the proposed amendment of EKPC's Compliance Plan to include the Spurlock Landfill Peg's Hill (Area D) Phase 3 project;
- 2) Authorizing recovery of the costs associated with said amendment, approximately \$24.6 million with an additional \$242,000 of annual operating and maintenance expense, through EKPC's existing environmental surcharge;
- 3) Issuing a CPCN for the Spurlock Landfill Peg's Hill (Area D) Phase 3, as described herein; and
- 4) Granting all other relief to which EKPC may be entitled.

This 17<sup>th</sup> day of May, 2024.

**VERIFICATION**

COMMONWEALTH OF KENTUCKY    )  
  )  
COUNTY OF CLARK                    )

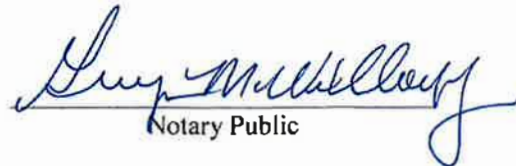
Comes now Don Mosier, Executive Vice President and Chief Operating Officer of East Kentucky Power Cooperative, Inc., and, after being duly sworn, does hereby verify, swear and affirm that the averments set forth in the foregoing Application are true and correct based upon my personal knowledge and belief, formed after reasonable inquiry, as of this 17th day of May 2024.

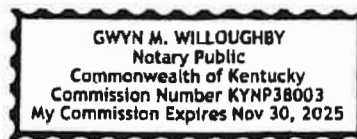
*Don Mosier*

\_\_\_\_\_  
Don Mosier, Executive Vice President  
and Chief Operating Officer

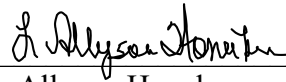
East Kentucky Power Cooperative, Inc.

The foregoing Verification was verified, sworn to and affirmed before me, by Don Mosier, Executive Vice President and Chief Operating Officer of East Kentucky Power Cooperative, Inc. on this 17th day of May 2024.

  
Notary Public



Respectfully submitted,



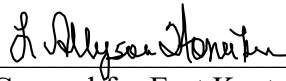
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allyson@hloky.com  
brittany@hloky.com  
(859) 368-8803

*Counsel for East Kentucky Power  
Cooperative, Inc.*

#### **CERTIFICATE OF SERVICE**

This is to certify that foregoing was submitted electronically to the Commission on May 17, 2024 and that there are no parties that have been excused from electronic filing. Pursuant to prior Commission orders, no paper copies of this filing will be submitted.



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Counsel for East Kentucky Power Cooperative, Inc.

## Exhibit List

EXHIBIT NO.	TITLE	WITNESS
1	Certificate of Good Standing	Jacob Watson
2	Testimony – Jerry Purvis <ul style="list-style-type: none"> <li>• Attachment JP-1-Spurlock Station Peg’s Hill/Area D Agreed Order</li> <li>• Attachment JP-2 – KPDES Water Permit and Spurlock Station CCR Landfill Permit</li> <li>• Attachment JP-3 – KY 59 Spurlock Station Peg’s Hill Landfill FONSI</li> <li>• Attachment JP-4 - RUS Environmental Assessment</li> <li>• Attachment JP-5 – 401 Water Quality Certification</li> <li>• Attachment JP-6 – Army Corp of Engineers 404 Permit</li> </ul>	Jerry Purvis
3	Testimony – Jarrad Burton <ul style="list-style-type: none"> <li>• Attachment JB-1 – EKPC Landfill Management Plan</li> <li>• Attachment JB-2 – EKPC Board Resolution (Area D Phase 3)</li> <li>• Attachment JB-3 – Preliminary Construction Plans (Maps, Plans, Specifications and Drawings pursuant to 807 KAR 5:001 Section 15(2)(d)(1))</li> <li>• Attachment JB-4 – Construction Quality Assurance Plan</li> <li>• Attachment JB-5 – Supporting Documentation for EKPC’s cost to develop, operate and maintain the Spurlock Landfill</li> <li>• Attachment JB-6 – Engineer’s Construction Cost Estimate for Area D Phase 3</li> </ul>	Jarrad Burton
4	Testimony – Thomas Stachnik <ul style="list-style-type: none"> <li>• Attachment TJS-1 - Determination of Rate of Return on Environmental Compliance Rate Base</li> </ul>	Thomas Stachnik
5	Notice of Intent to File Application	Jacob Watson
6	Notice to Owner-Members	Jacob Watson
7	Testimony – Jacob Watson <ul style="list-style-type: none"> <li>• Attachment JRW-1 - Schedule of Current Environmental Compliance Plan and the Project Amendment/Addition</li> <li>• Attachment JW-2 - Sample Copy of the Monthly Environmental Surcharge Reporting Formats which Reflect Inclusion of the Amended/Additional Project</li> <li>• Attachment JW-3 - Estimate of Revenue Increase and Estimated Bill Impact</li> <li>• Attachment JW-4- EKPC Board Resolution – Approval to Amend Environmental Compliance Plan and Seek to Recover Costs Associated with the Specifically Identified Project</li> </ul>	Jacob Watson



**EXHIBIT 1**  
**CERTIFICATE OF GOOD STANDING**

**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: 310267  
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,

**EAST KENTUCKY POWER COOPERATIVE, INC.**

EAST KENTUCKY POWER COOPERATIVE, INC. is a corporation duly incorporated and existing under KRS Chapter 14A and KRS Chapter 273, whose date of incorporation is July 9, 1941 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 26<sup>th</sup> day of April, 2024, in the 232<sup>nd</sup> year of the Commonwealth.



*Michael G. Adams*

Michael G. Adams  
Secretary of State  
Commonwealth of Kentucky  
310267/0015195

EXHIBIT 2  
DIRECT TESTIMONY OF JERRY PURVIS

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**IN THE MATTER OF:**

<b>ELECTRONIC APPLICATION OF EAST</b>	)	
<b>KENTUCKY POWER COOPERATIVE, INC. FOR</b>	)	
<b>APPROVAL TO AMEND ITS ENVIRONMENTAL</b>	)	
<b>COMPLIANCE PLAN AND RECOVER COSTS</b>	)	<b>CASE NO.</b>
<b>PURSUANT TO ITS ENVIRONMENTAL</b>	)	<b>2024-00109</b>
<b>SURCHARGE, AND FOR THE ISSUANCE OF</b>	)	
<b>CERTIFICATE OF PUBLIC CONVENIENCE</b>	)	
<b>AND NECESSITY AND OTHER RELIEF</b>	)	

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**DIRECT TESTIMONY OF JERRY B. PURVIS**  
**ON BEHALF OF EAST KENTUCKY POWER COOPERATIVE, INC.**

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**Filed: May 17, 2024**

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

<b>ELECTRONIC APPLICATION OF EAST</b>	)	
<b>KENTUCKY POWER COOPERATIVE, INC.</b>	)	
<b>FOR APPROVAL TO AMEND ITS ENVIROMENTAL</b>	)	<b>CASE NO.</b>
<b>COMPLIANCE PLAN AND RECOVER COSTS</b>	)	<b>2024-00109</b>
<b>PURSUANT TO ITS ENVIROMENTAL</b>	)	
<b>SURCHARGE, AND FOR THE ISSUANCE OF</b>	)	
<b>CERTIFICATE OF PUBLIC CONVENIENCE</b>	)	
<b>AND NECESSITY AND OTHER RELIEF</b>	)	

VERIFICATION OF JERRY PURVIS

STATE OF KENTUCKY     )  
  )  
COUNTY OF CLARK     )

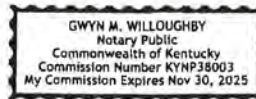
Jerry B. Purvis, Vice President of Environmental Affairs for East Kentucky Power Cooperative, Inc., being duly sworn, states that he has supervised the preparation of his Direct Testimony and certain filing requirements in the above referenced case and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

*Jerry Purvis*

\_\_\_\_\_  
Jerry Purvis

The foregoing Verification was signed, acknowledged and sworn to before me this 14th day of May 2024, by         Jerry Purvis        .

*Gwyn M. Willoughby*  
Notary Public



1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.**

3 A. My name is Jerry B. Purvis. I am the Vice President of Environmental Affairs for East  
4 Kentucky Power Cooperative, Inc. (“EKPC”). My business address is 4775 Lexington  
5 Road, Winchester, Kentucky 40391.

6 **Q. PLEASE STATE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.**

7 A. I received a B.S. degree in Chemistry from Morehead State University and a B.S. degree  
8 in Chemical Engineering from the University of Kentucky. I also received a Master of  
9 Business Administration from Morehead State University. I have been employed by EKPC  
10 for 30 years serving in various positions. On May 28, 2017, I became the Vice President  
11 of Environmental Affairs at EKPC.

12 **Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF YOUR DUTIES AT EKPC.**

13 A. As Vice President of Environmental Affairs, I am responsible for compliance with  
14 environmental laws, the preparation of applications for all environmental compliance plans  
15 and permits required for the construction and operation of generation stations, transmission  
16 facilities and landfills, and the preparation of environmental impact statements and other  
17 documentation necessary to demonstrate compliance with the National Environmental  
18 Policy Act to achieve federally approved financing through the Rural Utilities Service. I  
19 report directly to the Chief Operating Officer/Executive Vice President, Mr. Don Mosier.

20 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

21 A. The purpose of my testimony is to describe the current status of the landfill at Hugh L.  
22 Spurlock Power Station (“Spurlock Station”), the environmental rules applicable to the  
23 storage and disposal of coal ash under which EKPC must operate, how those rules apply

1 to the coal ash currently stored at Spurlock Station at the prior phases of the landfill,  
2 EKPC's current permitting activities relating to the Spurlock Station Landfill, and EKPC's  
3 current plan to store the ash and the additional capacity provided by the additional phase.  
4 The terms "coal ash," "Coal Combustion Residuals" or "CCRs," "Coal Combustion By-  
5 Products" or "CCBs," and "ash materials" are somewhat synonymous and are often used  
6 interchangeably as terms for the coal combustion waste generated and disposed of at  
7 EKPC's H.L. Spurlock Station. The use of each term depends in large measure on the  
8 environmental regulations that were in effect at the time the coal combustion waste was  
9 generated.

10 **Q. ARE YOU SPONSORING ANY ATTACHMENTS?**

11 A. Yes. I am sponsoring the following attachments, which I ask to be incorporated into my  
12 testimony by reference:

- 13 • Attachment JP-1 is the Spurlock Station Peg's Hill / Area D Agreed Order received  
14 from the Commonwealth of Kentucky, Energy and Environment Cabinet ("EEC"),  
15 Kentucky Division of Waste Management ("KDWM"), dated 03/07/2019;
- 16 • Attachment JP-2 is the KPDES Water Permit and Spurlock Station Coal  
17 Combustion Residual landfill permit from the KDWM, dated 01/05/2024;
- 18 • Attachment JP-3 is the KY 59 Spurlock Station Peg's Hill Landfill FONSI, dated  
19 12/2017;
- 20 • Attachment JP-4 is the Rural Utility Service Environmental Assessment dated  
21 10/25/2017;
- 22 • Attachment JP-5 is the 401 Water Quality Certification, a shared permit between  
23 the Kentucky Energy and Environment Cabinet's Division of Water ("Division of

1 Water”) and the Louisville District Army Corp of Engineers dated 05/5/2020;

- 2 • Attachment JP-6 is the Army Corp of Engineers, Louisville District, 404 permit as  
3 authorized 9/12/2018.

4 **Q. DESCRIBE THE PERMITTING REQUIREMENTS AND EFFORTS OF EKPC**  
5 **REGARDING PERMITTING OF THE PROJECT.**

6 A. EKPC requested authorization for Area D / Peg’s Hill landfill under the Agreed Order as a  
7 duly authorized permit mechanism by the EEC to permit a horizontal expansion of the  
8 existing Spurlock Station landfill as Attachment JP-1 and JP-2. EKPC fulfilled the  
9 requirements pursuant to the terms and conditions of the Agreed Order and the KDWM  
10 issued a permit on 01/05/2024 increasing the landfill waste boundary and footprint. EKPC  
11 received the KY 59 Spurlock Station Peg’s Landfill FONSI in December 2017 as attached  
12 at JP-3. In addition, as required by the National Environmental Policy Act and the Rural  
13 Utilities Service’s regulations, EKPC prepared an environmental assessment that was  
14 reviewed by the RUS, public noticed and approved for Area D / Peg's Hill on 10/25/2017  
15 as Attachment JP-4. EKPC submitted an application to the Army Corp of Engineers  
16 seeking approval and permit authorization pursuant to the 401 Water Quality Certification,  
17 Attachment JP-5 and a 404 permit. The Army Corp of Engineers, Louisville District, issued  
18 EKPC a permit on 9/12/2018 for Area D / Peg’s Hill as Attachment JP-6.

19 **II. PEG’S HILL (AREA D) PHASE 3 SPURLOCK STATION LANDFILL**

20 **Q. WHAT IS COAL ASH?**

21 A. Coal ash is the result of the combustion of coal. Over the history of coal-fired electricity  
22 generation, the definition of coal ash (also known as CCR or CCB) has been modified,  
23 expanded and narrowed as EPA promulgated new standards for air quality and waste



1 disposal. Pursuant to the EPA's CCR rule in 2015, CCR is defined to include fly ash,  
2 bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal  
3 for the purpose of generating electricity by an electric utility.

4 **Q. HAS THE COMBUSTION OF COAL AT EKPC'S SPURLOCK STATION**  
5 **PRODUCED COAL ASH?**

6 A. Yes. When all Spurlock Station units are in full operation, approximately 1,300,000 tons  
7 of coal ash are typically produced annually consistent with the Landfill Management Plan,  
8 April 2023.

9 **Q. WHY IS AN ADDITIONAL PHASE OF THE LANDFILL NECESSARY AT**  
10 **SPURLOCK STATION?**

11 A. EKPC produces coal-fired electrical generation at Spurlock Station most days under  
12 normal operations for EKPC owner-members' systems. As a result of combusting coal to  
13 generate steam electricity, the coal-fired boilers produce large volumes of CCR, which  
14 require disposal. In addition, EKPC is completing the clean closure by removal of CCR  
15 from its on-site surface impoundment at Spurlock Station, which ceased receiving CCR in  
16 October 2022, as required by the federal CCR Rule. The remaining CCR is being removed  
17 as weather permits and placed in the existing permitted Spurlock CCR landfill. This  
18 removal and disposal of CCR from the surface impoundment has created the need to  
19 increase on-site CCR landfill disposal capacity. The additional landfill capacity will be  
20 provided by a new landfill phase, known as Area D / Peg's Hill, and has been permitted  
21 through an Agreed Order with the KDWM.

22 **Q. PLEASE DESCRIBE THE SIZE AND CONSTITUENCIES OF THE EXISTING**  
23 **LANDFILL AT SPURLOCK STATION.**

1 A. Spurlock’s landfill opened in 1981 to receive dry coal ash and by phasing increased landfill  
2 space over a number of years. The landfill was designed and built, modified and expanded  
3 to receive coal combustion residuals from Spurlock Station. This landfill does not receive  
4 waste from other outside facilities. The total permitted area is 1,602.06 acres with a total  
5 disposal area of 246.67 acres.

6 **Q. ARE YOU FAMILIAR WITH EXISTING AND/OR PROPOSED FEDERAL LAWS**  
7 **AND REGULATIONS GOVERNING THE STORAGE AND DISPOSAL OF COAL**  
8 **ASH WITH WHICH EKPC MUST COMPLY?**

9 A. Yes.

10 **Q. PLEASE BRIEFLY DESCRIBE ANY APPLICABLE EXISTING AND/OR**  
11 **PROPOSED FEDERAL LAWS AND REGULATIONS GOVERNING THE**  
12 **STORAGE AND DISPOSAL OF COAL ASH.**

13 A. EPA promulgated the first national standards for coal combustion residuals (CCR) disposal  
14 in December 2014, 40 CFR Part 257, Subpart D (the “CCR rule”). EPA’s CCR rule  
15 establishes national standards under Subtitle D of the Resource Conservation and Recovery  
16 Act (“RCRA”) for the disposal of CCR as non-hazardous waste. The promulgation of the  
17 CCR rule was prompted in part by the catastrophic releases of CCR at the TVA Kingston  
18 and Duke Dan River facilities in Kingston, TN and Eden, NC, respectively. Kentucky  
19 subsequently adopted new regulations at 401 KAR Chapter 46 that established permitting  
20 procedures and substantive standards based on the federal CCR rule for the regulation of  
21 CCR disposal in Kentucky. CCR disposal was formerly permitted under the special waste  
22 provisions of 401 KAR Chapter 45. However, the permitting provisions of Chapter 46 were  
23 invalidated by the Franklin Circuit Court, but the substantive performance standards for

1 the disposal of CCR in Chapter 46, which are consistent with the CCR rule, remain in  
2 effect. The KDWM has subsequently authorized new CCR disposal under its Chapter 45  
3 permitting authority and Chapter 46 substantive standards through the mechanism of  
4 Agreed Orders.

5 **Q. ARE YOU FAMILIAR WITH STATE LAWS AND REGULATIONS GOVERNING**  
6 **THE STORAGE AND DISPOSAL OF COAL ASH IN THE COMMONWEALTH**  
7 **OF KENTUCKY WITH WHICH EKPC MUST COMPLY?**

8 A. Yes.

9 **Q. IS COAL ASH CONSIDERED “SPECIAL WASTE” UNDER APPLICABLE LAW?**

10 A. Yes. KRS 224.50-760(1)(a) designates utility waste (fly ash, bottom ash, scrubber sludge)  
11 as special waste under Kentucky law. A special waste is a waste with a large volume and  
12 a low hazard.

13 **Q. WHEN DID THE COMMONWEALTH OF KENTUCKY BEGIN TO REGULATE**  
14 **COAL ASH AS A “SPECIAL WASTE”?**

15 A. KRS 224.50-760 was enacted in 1980. In 1982, the predecessor to the EEC promulgated  
16 regulations related to the disposal of waste, including special wastes. The regulations  
17 authorized the disposal of special waste in designated categories of landfills, including an  
18 inert landfill, with specific approval from the Cabinet. *See* 401 KAR 30:010 Section  
19 1(138)(a) (1983) (since repealed). Moreover, 401 KAR 47:040 (1983) (since repealed)  
20 established requirements for permit applications and general design requirements for inert  
21 landfills.

22 **Q. HAS THE REGULATION OF SPECIAL WASTE IN THE COMMONWEALTH**  
23 **OF KENTUCKY EVOLVED OR CHANGED SINCE THE EARLY 1980’s?**

1 A. Yes. In 1992, the Cabinet promulgated 401 KAR Chapter 45 to establish regulations  
2 specifically applicable to special waste, including utility waste. These regulations  
3 remained applicable until EPA promulgated 40 CFR Part 257, subpart D, the new federal  
4 minimum standards known as the CCR rule. Kentucky took action to effectively adopt the  
5 new federal standards by reference in 401 KAR Chapter 46. The Cabinet’s proposed  
6 permitting provisions in Chapter 46 were invalidated by the Franklin Circuit Court, and the  
7 Cabinet has since permitted CCR disposal under its Chapter 45 permitting authority  
8 through an Agreed Order mechanism.

9 **Q. WHAT ARE SOME OF THE PERMITTING REQUIREMENTS CONTAINED IN**  
10 **401 KAR CHAPTER 45 GOVERNING SPECIAL WASTE?**

11 A. There are a number of permitting requirements contained in 401 KAR Chapter 45  
12 governing the storage and disposal of special waste. For example, 401 KAR 45:020  
13 Section 2(1) requires a permit for a Special Waste Landfill, 401 KAR 45:030 Section 5  
14 prohibits unpermitted disposal facilities, and 401 KAR 45:030 Section 6 requires a permit  
15 for disposal of special waste. 401 KAR 45:110 establishes technical requirements for the  
16 design of Special Waste Landfills. Today, Kentucky utilizes the substantive standards of  
17 40 CFR Part 257, Subpart D, EPA’s CCR rule, through new regulations at 401 KAR  
18 Chapter 46.

19 **Q. WHAT IS A “PERMIT BY RULE” AS DESCRIBED IN 401 KAR 45:060?**

20 A. 401 KAR 45:060 designates specific types of facilities used to manage special wastes as  
21 having a permit by rule. A permit by rule does not require an application or approval from  
22 the Cabinet. While this was the case until the adoption of the 2015 federal CCR rule, EKPC  
23 subsequently transitioned the Spurlock landfill to the CCR disposal standards of 401 KAR

1 Chapter 46 and the CCR rule in January 2019. EKPC has permitted the new landfill space  
2 at Spurlock (known as Area D or Peg’s Hill) under the substantive standards of 401 KAR  
3 Chapter 46, using the Agreed Order mechanism (as approved by Franklin Circuit Court in  
4 the absence of effective permitting provisions under 401 KAR Chapter 46). This additional  
5 space was needed for the normal operation of Spurlock Station and the clean closure by  
6 removal of the existing surface impoundment on site as described in the existing landfill  
7 permit.

8 **Q. WAS AREA D / PEG’S HILL PERMITTED BY THE KENTUCKY DIVISION OF**  
9 **WASTE MANAGEMENT?**

10 A. The KDWM has entered into Agreed Orders with EKPC and the Tennessee Valley  
11 Authority (“TVA”) to permit new CCR landfill disposal after the Franklin Circuit Court  
12 invalidated the new CCR permitting procedures in 401 KAR Chapter 46 (and Kentucky  
13 has not adopted a U.S. EPA-approved CCR permitting program pursuant to the  
14 requirements of the federal CCR rule). The terms of EKPC’s Agreed Order for Area  
15 D/Peg’s Hill meets the applicable standards and requirements of 401 KAR Chapter 46 and  
16 40 CFR Part 257, Subpart D. EKPC fulfilled those requirements and KDWM issued EKPC  
17 a landfill permit under Activity 12, on October 20, 2022. EKPC has worked closely with  
18 KDWM to install a sedimentation basin and is now placing the landfill liner under  
19 KDWM’s oversight. EKPC submitted a construction progress report to KDWM  
20 concerning these activities in September 2023. The Division approved EKPC’s CPR and  
21 issued the landfill permit modification on 10/03/2023, additionally on 01/05/2024. The  
22 Agreed Order and KDWM landfill permit are in the appendices as Attachments JP-1 and  
23 JP-2 for reference.

1 **Q. PLEASE DESCRIBE THE CCR RULE AND WHAT CHANGES HAVE BEEN**  
2 **MADE.**

3 A. Prior to adoption of the federal CCR Rule in 2015, the KDWM adopted and administered  
4 special waste regulations under their Solid Waste program beginning in the mid- to late  
5 1990s. EKPC permitted its waste disposal facilities and complied with those regulations  
6 for many years.

7 **Rule History**

8 On December 22, 2008, a large coal ash spill occurred at the TVA power plant in Kingston,  
9 Tennessee, flooding more than 300 acres of land and releasing coal ash into the Emory and  
10 Clinch rivers. This catastrophic spill prompted EPA to assess coal ash surface  
11 impoundments and gather information from facilities managing coal ash nationwide. On  
12 June 21, 2010 (75 Federal Register 35128), EPA issued a proposal to regulate the disposal  
13 of CCR generated from the combustion of coal at electric utilities and independent power  
14 producers under the Resource Conservation and Recovery Act (“RCRA”). The proposal  
15 contained two regulatory options: to regulate CCR as hazardous waste under RCRA  
16 Subtitle C or to regulate CCR as non-hazardous waste under RCRA Subtitle D. Under both  
17 alternatives, EPA proposed to establish dam safety requirements to address the structural  
18 integrity of surface impoundments and prevent catastrophic releases.

19 After receipt and evaluation of extensive public comments, EPA opted to establish  
20 national standards for the disposal of CCR as non-hazardous waste under Subtitle D of  
21 RCRA. The rule was signed by the EPA Administrator on December 19, 2014, published  
22 in the Federal Register on April 17, 2015, and became effective on October 14, 2015. This

1 rule established a comprehensive set of requirements for the safe disposal of CCR from  
2 coal-fired power plants.

3 The CCR regulations address the risks from coal ash disposal, such as the leaking  
4 of contaminants into ground water, blowing of contaminants into the air as dust, and  
5 catastrophic failure of CCR surface impoundments. Additionally, the rule sets out  
6 recordkeeping and reporting requirements as well as the requirement for each facility to  
7 establish and post specific information to a publicly accessible website.

8 The CCR Rule has been altered and amended several times since 2015 as a result  
9 of several federal court decisions and subsequent EPA rulemakings. Some of the more  
10 notable changes include a U.S. Court of Appeals, Washington D.C. Circuit Court decision  
11 No. 15-1219, decided August 21, 2018, finding that unlined CCR surface impoundments  
12 (including those lined only with clay) pose an unreasonable risk to the environment and  
13 must be closed or retrofitted. In addition, Congress passed the Water Infrastructure  
14 Improvements for the National Act (WIIN Act) in 2016, authorizing EPA to approve State  
15 CCR permitting programs and to administer a federal permitting program in States without  
16 an approved program. EPA subsequently proposed and adopted multiple additional rule  
17 revisions in response to the WIIN Act and to address court decisions and other  
18 implementation issues.

19 EKPC currently has several regulated CCR units at its generating facilities,  
20 including four permitted CCR landfills and the CCR surface impoundment at Spurlock  
21 Station, which is in the process of closure by removal. (Ash from the Spurlock  
22 Impoundment closure is being placed in the on-site Spurlock Landfill.) EKPC maintains a

1 publicly available website on which all required CCR compliance documentation is  
2 maintained.

3 As I noted previously, EPA most recently issued a Notice of Proposed Rulemaking  
4 on May 18, 2023 regarding “legacy” surface impoundments. Those units are defined as  
5 CCR surface impoundments that ceased receiving waste before October 19, 2015; that  
6 nevertheless contained both CCR and liquids on or after October 19, 2015; and that are  
7 located at an inactive electric generating facility. The proposed rule also would regulate a  
8 new category of units identified as “CCR management units,” which are defined as any  
9 area of land on which any non-containerized accumulation of CCR is received, placed, or  
10 otherwise managed at any time, and that is not a CCR unit. EPA issued the final rule on  
11 May 8, 2024. The legacy CCR rule defines legacy surface impoundments (LSI) and coal  
12 combustion residual management units (CCRMU). LSI are defined as a “CCR surface  
13 impoundment that no longer receives CCR but contained both CCR and liquids on or after  
14 October 19, 2015, and that is located at an inactive electric utility or independent power  
15 producer.” A CCRMU is defined as an area of land on which any noncontainerized  
16 accumulation of CCR is received, is placed, or is otherwise managed, that is not a regulated  
17 CCR unit; this includes inactive CCR landfills and CCR units that closed prior to October  
18 19, 2015, but does not include roadbed and associated embankments...”. While the  
19 timelines within the rule are less stringent than originally proposed giving the applicant  
20 more time to comply, the rule remains self-implementing. Once the legacy rule appears in  
21 the federal register and its material contents are clear, EKPC will update the Commission.



1 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

2 A. EKPC proactively works with the EEC to gain insight, direction, interpretations on EPA  
3 rules and programs as delegated to Kentucky by EPA as its authority to act. After studying  
4 and vetting, EPA and State regulations, EKPC proactively updates and submits compliance  
5 plans once risk, impacts and costs are approved by EKPC leadership and Board. As a part  
6 of this regulatory process, EKPC seeks the required permits from the respective EPA and  
7 Kentucky Department of Environmental Protection agencies. In this case, EKPC worked  
8 with KDWM and Kentucky Division of Water to prepare, develop and make applications  
9 for their review.

10 For Spurlock Station, because EKPC performed closure by removal that precipitated more  
11 landfill space, EKPC actively worked with and submitted permit revisions in accordance  
12 to the Agreed Order by which the state granted EKPC a landfill permit on 10/20/2022 and  
13 again after a CPR was submitted on 10/03/2023. EKPC regularly permits new landfill  
14 space that includes multiple phases, in this case, Area D Phase 1-C, as required to meet the  
15 daily operational need of Spurlock Station. EKPC is in compliance with the existing  
16 landfill and surface impoundment permit issued by the KDWM. EKPC meets the  
17 requirement of EPA's CCR rule 40 CFR Part 257, Subpart D, and KY regulations pursuant  
18 to 401 KAR Chapters 45 and 46.

19 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

20 A. Yes.

ATTACHMENT JP-1  
SPURLOCK STATION PEG'S HILL/AREA D  
AGREED ORDER

COMMONWEALTH OF KENTUCKY  
ENERGY AND ENVIRONMENT CABINET  
DIVISION OF WASTE MANAGEMENT  
AI# 3004  
FILE NO. DWM-34484

FILED  
MAR 07 2019  
Office of Administrative Hearings

IN RE: East Kentucky Power Cooperative  
Peg's Hill Landfill  
Spurlock Station  
1301 West 2<sup>nd</sup> Street  
Maysville, KY 41056

East Kentucky Power Cooperative  
4775 Lexington Road  
Winchester, KY 40392

AGREED ORDER

\*\*\*\*\*

WHEREAS, on April 17, 2015, the United States Environmental Protection Agency promulgated its Final Disposal of Coal Combustion Residuals From Electric Utilities Rule, 40 CFR 257.50 - 257.107 ("CCR Rule"), which establishes self-implementing, national minimum siting, design, and operating criteria for the management and disposal of coal combustion residuals ("CCR") in landfills and surface impoundments.

WHEREAS, as part of the self-implementing nature of the CCR Rule, owners and operators of CCR units must complete, and make publicly available, demonstrations that new or existing CCR units comply with various location restrictions and groundwater monitoring standards ("demonstration documents") and design and operating criteria ("operating plans"), and to have those demonstration documents and operating plans certified by a qualified professional engineer ("PE certification").

WHEREAS, on May 5, 2017, the Energy and Environment Cabinet (“Cabinet”) promulgated (1) 401 KAR Chapter 46:110 to incorporate the CCR Rule standards into state law; (2) 401 KAR 46:120 to establish a registered-permit-by-rule for the management and disposal of CCR in landfills and surface impoundments in Kentucky; and (3) amended 401 KAR 45:010 to remove CCR from regulation under 401 KAR Chapter 45.

WHEREAS, on January 31, 2018, the Franklin Circuit Court issued an opinion and order in *Leach v. Commonwealth of Kentucky*, Civil Action No. 17-CI-00474, invalidating certain provisions of 401 KAR 46:120 and 401 KAR 45:010. The opinion and order was clarified by a subsequent order issued on February 26, 2018 (collectively the “FCC Order”). The FCC Order provides in part that the standards in the CCR Rule that have been incorporated into 401 KAR 46:110 control permit reviews for CCR units required under 401 KAR Chapter 45. The effect of the FCC Order is to require permits to be issued under 401 KAR Chapter 45 for the siting, construction, and operation of CCR Landfills that meet, and are regulated pursuant to, the standards in the CCR Rule and 401 KAR 46:110.

WHEREAS, the FCC Order recognizes certain facilities that were proceeding in good faith toward construction of CCR landfills in reliance on the CCR Rule, 401 KAR 46:110, and the registered permit-by-rule process in 401 KAR 46:120 may enter into Agreed Orders with the Cabinet to facilitate a review process for obtaining the necessary approvals for CCR landfills earlier than could be accomplished under the permitting procedures in 401 KAR Chapter 45.

WHEREAS, 401 KAR 45:030 Section 3 requires that “[p]ermits shall be issued in a manner and shall contain conditions consistent with requirements of applicable state and federal laws.”

WHEREAS, as acknowledged in the FCC Order, the Cabinet recognizes that it has the statutory authority to issue approval to construct and operate a new CCR landfill in compliance

with the standards in the CCR Rule and 401 KAR 46:110 by following the process as set forth in this Agreed Order.

WHEREAS, East Kentucky Power Cooperative (“EKPC”) has been proceeding in good faith in reliance on the CCR Rule, 401 KAR 46:110, and 401 KAR 46:120 to site, design, and plan for the construction of a new CCR landfill designated as Area D/Peg’s Hill Landfill (the “Landfill”) at the H.L. Spurlock Station (“Spurlock”), in Mason County, Kentucky, to provide long-term disposal capacity for its generating operations at Spurlock, including closing by removal its CCR surface impoundment, as required by the CCR Rule.

WHEREAS, EKPC projects that it will need the construction of its Landfill to be completed, and the authority to dispose of CCR in its Landfill, as early as November 2021, but no later than May 2022; and thus EKPC will need to begin subgrade excavation to the bottom of the Landfill in or around May 2020, to allow for the estimated construction time needed to complete the first Landfill cell, assuming favorable weather and other construction related conditions and variables to clean close by removal the CCR surface impoundment.

WHEREAS, the Cabinet and EKPC agree that, in accordance with the FCC Order, the parties should enter into an Agreed Order to facilitate review of EKPC’s plans and specifications to determine compliance with 401 KAR 46:110 and the issuance of a permit for the Landfill in a manner to minimize undue delay.

### **STATEMENT OF FACTS**

1. The Cabinet is charged with the statutory duty of implementing and enforcing KRS Chapter 224 and the regulations promulgated pursuant thereto.
2. EKPC is a not-for-profit electric cooperative owned by sixteen (16) electric distribution owner-member rural cooperatives in eighty-seven (87) counties in Kentucky. Through

its sixteen (16) owner-members, EKPC provides generation and transmission services to more than one million rural Kentuckians.

3. EKPC's Spurlock Station is located at 1301 West 2<sup>nd</sup> Street near Maysville in Mason County, Kentucky, and generally generates more than 6.9 million megawatt hours of electricity each year, enough to supply more than 627,000 homes.

4. The new Landfill will provide needed disposal capacity for dry CCR materials (such as fly ash, boiler slag, coal mill rejects and gypsum) generated as a result of the long-term operation of Spurlock Station, including the CCR stored in the Spurlock Station CCR surface impoundment, which must be closed to comply with the federal CCR Rule. The clean closure of the Spurlock Station CCR surface impoundment was approved by the Kentucky Public Service Commission by order dated May 21, 2018. The new Landfill will be located adjacent to the existing CCR landfill at Spurlock Station. It will encompass a total area of 102 acres for waste placement, and will be developed in seven phases. The total construction disturbance area for the project is estimated to be approximately 181 acres.

5. Because EKPC plans to submit a financing request to the U.S. Department of Agriculture, Rural Utilities Service ("RUS") to construct the Landfill, RUS issued an Environmental Assessment ("EA") in accordance with the National Environmental Policy Act ("NEPA") and applicable federal regulations that evaluates the environmental impacts of proposed alternatives to provide a long-term solution for the disposal of CCR produced from Spurlock Station. The EA concludes that the least environmentally damaging practicable alternative is the construction and operation of a new onsite landfill for the disposal of dry CCR. The Draft EA was released for public review and comment for 14 days beginning on November 10, 2017. The availability of the Draft EA was announced in the local newspaper, and RUS received no

comments. RUS issued the Final EA and Finding of No Significant Impact (“FONSI”) on December 12, 2017.

6. On October 4, 2017, EKPC published notice in the local newspaper of its intent to construct a new CCR Landfill in compliance with 401 KAR 46:120, which was Kentucky law prior to the FCC Order. On October 13, 2017, EKPC submitted its application to the Division of Waste Management (“DWM”) for a registered-permit-by-rule for the Landfill, which included demonstration documents and PE certifications for location restrictions related to the uppermost aquifer (401 KAR 46:110 Section 2, 40 CFR 257.60), wetlands (401 KAR 46:110 Section 2, 40 CFR 257.61), fault areas (401 KAR 46:110 Section 2, 40 CFR 257.62), seismic impact zones (401 KAR 46:110 Section 2, 40 CFR 257.63), and unstable areas (401 KAR 46:110 Section 2, 40 CFR 257.64) for the Landfill, and for the design standards for the Landfill’s liner and leachate collection and removal system (401 KAR 46:110 Section 3, 40 CFR 257.70).

7. Upon resubmission with the certification statement required by paragraph 10 below, the DWM shall acknowledge and accept the demonstration documents and PE certifications related to wetlands (401 KAR 46:110 Section 2, 40 CFR 257.61), fault areas (401 KAR 46:110 Section 2, 40 CFR 257.62), seismic impact zones (401 KAR 46:110 Section 2, 40 CFR 257.63), and unstable areas (401 KAR 46:110 Section 2, 40 CFR 257.64) described in paragraph 6 above as part of the administrative record for the Landfill. DWM shall accept, review, and approve the demonstration documents and PE certifications related to the uppermost aquifer (401 KAR 46:110 Section 2, 40 CFR 257.60) and liner and leachate collection and removal system (401 KAR 46:110 Section 3, 40 CFR 257.70) consistent with paragraphs 14 and 15 of this Agreed Order.

8. While negotiating this Agreed Order, the Cabinet and EKPC agreed that certain pre-construction activities, including but not limited to fencing, tree clearing, foundation



improvements, and road construction, could commence without any DWM review as may be necessary to maintain EKPC's construction schedule, assuming that any additional, necessary state or federal permits are obtained.

9. Upon the Cabinet's acceptance memorialized in paragraph 7, the Cabinet and EKPC have agreed that EKPC may commence certain initial construction activities, including but not limited to construction of the lay down yard, installation of construction trailers and ancillary buildings, installation of utilities, installation of stormwater and leachate basins, construction of the haul road and scales, and initial excavation to within five feet of the bottom of the Landfill, assuming that any additional, necessary state or federal permits are obtained prior to commencement.

**NOW, THEREFORE,** for the reasons stated and in reliance on the facts set forth above, EKPC and the Cabinet agree as follows:

**DOCUMENT SUBMISSION AND REVIEW**

10. Pursuant to 401 KAR 45:030 Section 10, for all submissions made by EKPC pursuant to this Agreed Order, EKPC shall provide a letter or statement signed by a responsible corporate officer containing the certification statement required by 401 KAR 45:030 Section 10 and set forth here:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for such violations.



11. EKPC shall provide to DWM its hydrological/geological report supporting EKPC's groundwater hydrogeological characterization of the Landfill site, including the required PE certification and demonstration documents for the groundwater monitoring system, sampling and analysis program, and detection monitoring program (401 KAR 46:110 Section 8, 40 CFR 257.91, .93, and .94) for the Landfill within sixty (60) days of the entry of this Agreed Order by the Secretary or his designee.

12. The DWM shall review of the report and information described in paragraph 11 above to determine adequacy of monitoring well placement and groundwater characterization compliance with 401 KAR 46:110, which incorporates by reference the CCR Rule, under the following terms:

a. DWM shall complete its initial review within thirty (30) days of receiving the submission. Upon completing its initial review or within seven (7) days of entry of this Agreed Order whichever is later, the DWM may in whole or in part approve the submission, or request additional information and a technical review meeting. Nothing in this Agreed Order prevents DWM from requesting a technical review meeting and providing questions to EKPC prior to the final execution of this Agreed Order.

b. Any request for additional information and a technical review meeting shall be in writing and sent via electronic and U.S. mail to Jerry Purvis, Vice President, Environmental Affairs, East Kentucky Power Cooperative, 4775 Lexington Road, Winchester, KY 40391, Jerry.Purvis@ekpc.coop. The request shall include a proposed date and time for the technical review meeting. The technical review meeting shall be held within ten (10) days of the written request, unless EKPC and DWM mutually agree to an alternate date to hold the technical review meeting. The purpose of the technical review

meeting is to clarify the scope of the additional information request, identify any information or data gaps, and to determine whether additional analysis is necessary to determine compliance with 401 KAR 46:110.

c. At or before the technical review meeting, EKPC shall provide initial responses and answers to any questions submitted by DWM in the request for additional information. EKPC may supplement its initial responses within ten (10) days following the meeting date, unless EKPC and DWM mutually agree to an alternate time period to submit supplemental information.

d. Within twenty-five (25) days of the technical review meeting, DWM shall review EKPC's initial responses to any DWM request for additional information, any supplemental response from EKPC, and any other information provided by EKPC before, at, or after the technical review meeting and either approve or disapprove the submission.

e. Approval or Denial

1. Any approval or denial issued pursuant to subparagraphs a. and d. above shall be in writing and sent via electronic and U.S. mail to Jerry Purvis, Vice President, Environmental Affairs, East Kentucky Power Cooperative, 4775 Lexington Road, Winchester, KY 40391, Jerry.Purvis@ekpc.coop. Any approval shall identify submissions and any additional information DWM relied on to determine that the applicable 401 KAR 46:110 standards, which incorporate by reference the CCR Rule standards, will be met.

2. If DWM denies the submission, EKPC shall either revise and resubmit information addressing the specific issues stated as the basis of denial within thirty days (30) days of receipt unless EKPC and DWM mutually agree to

an alternate time period, or request a hearing pursuant to KRS 224.10-420. DWM agrees that the resubmitted information shall be reviewed consistent with the process outlined subparagraphs a. – d. above except on an expedited basis. The Cabinet agrees that any request for a hearing shall be granted on an expedited basis.

13. Upon written approval of the report described in paragraph 11 above and any additional information provided to DWM before, during, or after a technical review meeting, EKPC shall have immediate authority to begin excavating/grading the Landfill site to the bottom of the cell.

14. Within ten (10) days of entry of this Agreed Order by the Secretary or his designee, EKPC shall submit the demonstration documents and PE certifications for the selected statistical method (401 KAR 46:110 Section 8, 40 CFR 257.91(f), .93(f)(6)) and resubmit the demonstration documents and PE certification related to the uppermost aquifer (401 KAR 46:110 Section 2, 40 CFR 257.60) with the statement required by paragraph 10 above. DWM shall review the submissions, and within ten (10) days of receipt, DWM shall send a letter, acknowledging receipt of the submissions, via electronic and U.S. mail to the EKPC contact set forth in paragraph 12.b.

15. At any time, but no later than five (5) days after receiving authorization to excavate pursuant to paragraph 13 above, EKPC shall resubmit the demonstration document and PE certification related to the design standards for the Landfill's liner and leachate collection and removal system (401 KAR 46:110 Section 3, 40 CFR 257.70). If the liner design supports the installation of an alternative composite liner as allowed by 40 CFR 257.70(c) (incorporated by reference into 401 KAR 46:110 Section 3), EKPC shall submit the supporting liner design information for DWM to review.

a. If the liner design meets the requirements of a composite liner set forth in 40 CFR 257.70(b) (incorporated by reference into 401 KAR 46:110 Section 3), within fifteen (15) days of receipt, DWM shall review and acknowledge in writing receipt of the demonstration and PE certification that the design of the Landfill's liner and leachate collection and removal system complies with specifications set forth in 40 CFR 257.70(a), (b), and (d) (incorporated by reference into 401 KAR 46:110 Section 3). Such acknowledgement shall be sent via electronic and U.S. mail to the EKPC contact identified in paragraph 12.b.

b. If the liner design meets the requirements of an alternative composite liner set forth in 40 CFR 257.70(c) (incorporated by reference into 401 KAR 46:110 Section 3), within thirty (30) days of receipt or of execution of this Agreed Order, whichever is later, DWM shall complete its review of the demonstration document, PE certification, and any liner design information submitted in support of the alternative specifications allowed by 40 CFR 257.70(c) (incorporated by reference into 401 KAR 46:110 Section 3). Except for the date which review shall begin, the review shall be consistent with the process set forth in paragraphs 12.a. – 12.e. above.

c. EKPC shall line the landfill leachate collection basin and provide the DWM with information showing the design plan for the liner to be utilized for the basin.

16. Upon receipt of written acknowledgements or approvals described in paragraph 13 and 15 above, EKPC shall have immediate authority to install the liner, install the leachate collection and removal system, and to complete any unfinished storm drainage features at the Landfill.

17. EKPC shall submit draft closure and post-closure care plans to the DWM within ninety (90) days of entry of this Agreed Order by the Secretary or his designee, along with the signed

statement pursuant to paragraph 10 above. EKPC must resubmit the closure and post-closure care plans with a PE certification and a letter describing any differences between the draft and final plans no later than sixty (60) days prior to the initial receipt of CCR in the new Landfill.

a. Within fifteen (15) days of receiving the PE certified closure and post-closure care plans, DWM shall review and issue a letter acknowledging receipt of the final closure and post-closure care plans with the PE certification(s) and that the closure and post-closure care plans comply with specifications set forth in 40 CFR 257.102(d)(1)-(3)(i) (incorporated by reference into 401 KAR 46:110 Section 9). The letter shall be sent via electronic and U.S. mail to the EKPC contact set forth in paragraph 12.b.

b. If the closure plan includes an alternative final cover system design, DWM shall begin review of any alternative specifications allowed by 40 CFR 257.102(d)(3)(ii) (incorporated by reference into 401 KAR 46:110 Section 9) upon receipt. Except for the date which review shall begin, the review shall be consistent with the process set forth in paragraphs 12.a. – 12.e. above.

18. At any time, but no later than sixty (60) days before the first placement of CCR in the Landfill, EKPC shall submit a draft fugitive dust control plan, draft run-on and run-off control plan, and draft intermediate inspection checklist to the DWM, along with the signed statement pursuant to paragraph 10.

a. Within thirty (30) days of the initial receipt of CCR in the Landfill, EKPC must submit the final initial fugitive dust control plan and run-on and run-off control plan with PE certifications and a letter describing any deviations/changes from the drafts.

b. Within thirty (30) days of the initial receipt of CCR in the Landfill, EKPC shall certify to the DWM pursuant to paragraph 10 of this Agreed Order that EKPC will initiate the inspections required under 40 CFR 257.84(a) and (b) and that EKPC will have



a qualified professional engineer prepare an annual inspection report pursuant to 40 CFR 257.84(b)(2) no later than fourteen (14) months after the date of initial receipt of CCR in the new Landfill.

19. EKPC shall provide DWM notice at least forty-eight (48) hours (i.e., two business days) within completing subgrade excavation, top of soil liner construction, and final construction completion to allow for site inspection. Notice shall be sent via electronic mail to Permitting Section Supervisor, Ken Melton, PE at Ken.Melton@ky.gov and electronic carbon copy to Solid Waste Branch Manager, Danny Anderson, PE at Danny.Anderson@ky.gov. In the event that DWM does not complete the inspections within two (2) business days of the completion dates provided by EKPC, EKPC shall be allowed to continue with construction of the Landfill.

20. Upon completion of construction of the Landfill, but prior to the initial placement of CCR, EKPC shall submit to DWM a PE certification that the composite, or alternative composite, liner and the leachate collection and removal system have been constructed in accordance with the requirements of 40 CFR 257.70 as incorporated into 401 KAR 46:110 Section 3. Within ten (10) days of receiving the certification, DWM shall provide EKPC written authorization to place CCR in the Landfill.

21. Upon completion of construction of the landfill, but prior to the initial placement of CCR, EKPC shall demonstrate and maintain financial assurance sufficient to complete closure and post-closure as required by 401 KAR 46:120 Section 7 in accordance with 401 KAR 45:080 Sections 4 and 7. Within ten (10) days of receiving the demonstration, DWM shall provide EKPC written approval or denial of the demonstration.

22. All submissions, approval or acknowledgement letters, any identified additional information, and demonstration documents and PE certifications sent to DWM pursuant to

paragraphs 1-21 of this Agreed Order shall become part of the administrative record for the permit. Within forty-five (45) days of receiving all of the demonstration documents, plans, PE certifications, and additional information, and issuance of all required approval or acknowledgement letters as set forth in paragraphs 1-21 of this Agreed Order, DWM shall prepare and issue a permit for the operation of the Landfill based upon the completed administrative record as established above.

### **MISCELLANEOUS PROVISIONS**

23. This Agreed Order only addresses the permitting process for the facility described above. Other than those permit issuance matters resolved by entry of this Agreed Order, nothing contained herein shall be construed to waive or to limit any remedy or cause of action by the Cabinet based on statutes or regulations under its jurisdiction, and EKPC reserves its defenses thereto. The Cabinet expressly reserves its right at any time to issue administrative orders and to take any other action it deems necessary that is consistent with this Agreed Order, including the right to order all necessary remedial measures, assess penalties for violations, or recover all response costs incurred, and EKPC reserves its defenses thereto.

24. The Cabinet agrees the document submission and review process reflected in this Agreed Order shall substitute and satisfy EKPC's obligations to apply for a landfill permit pursuant to 401 KAR Chapter 45.

25. This Agreed Order shall not prevent the Cabinet from issuing, reissuing, renewing, modifying, revoking, suspending, denying, terminating, or reopening any permit to EKPC. EKPC reserves its defenses thereto, except that EKPC shall not use this Agreed Order as a defense to those permitting actions.

26. The Agreed Order may not be amended except by a written order of the Cabinet's Secretary or his designee. EKPC may request an amendment by writing the Director of Division

of Waste Management at 300 Sower Blvd. 2<sup>nd</sup> Floor, Frankfort, Kentucky 40601 and stating the reasons for the request. If granted, the amended Agreed Order shall not affect any provision of this Agreed Order unless expressly provided in the amended Agreed Order.

27. Unless otherwise stated in this Agreed Order, all submittals required of EKPC shall be sent to: Director, Division of Waste Management, 300 Sower Blvd. 2<sup>nd</sup> Floor, Frankfort, Kentucky 40601.

28. Except for the requirement to comply strictly with permitting regulations to obtain a permit, the Cabinet does not, by its consent to the entry of this Agreed Order, warrant or aver in any manner that EKPC's complete compliance with this Agreed Order will result in compliance with the provisions of KRS 224 and the regulations promulgated pursuant thereto. Notwithstanding the Cabinet's review and approval of any plans formulated pursuant to this Agreed Order, EKPC shall remain solely responsible for compliance with the terms of KRS Chapters 224 and the regulations promulgated pursuant thereto, this Agreed Order and any permit and compliance schedule requirements.

29. This Agreed Order shall be of no force and effect unless and until it is entered by the Secretary or his designee as evidenced by his signature thereon. If this Agreed Order contains any date by which the parties are to take any action or cease any activity, and the Secretary or his designee enters the Agreed Order after that date, then the parties are nonetheless obligated to have taken the action or ceased the activity by the date contained in this Agreed Order.

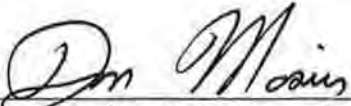
#### **TERMINATION**

30. This Agreed Order shall terminate upon the issuance of a permit pursuant to paragraph 22 above. EKPC reserves its right to file a petition for hearing pursuant to KRS 224.10-420(2) contesting the Cabinet's determination not to issue a permit under the terms of this Agreed Order.




[SIGNATURE PAGES FOLLOW]

AGREED TO BY:

  
\_\_\_\_\_  
Don Mosier, Chief Operating Officer and Executive Vice President  
East Kentucky Power Cooperative, Inc.

2/12/19  
Date


  
\_\_\_\_\_  
Jerry Purvis, Vice President of Environmental Affairs  
East Kentucky Power Cooperative, Inc.

2/8/19  
Date

  
\_\_\_\_\_  
Dennis J. Conruff  
Attorney for East Kentucky Power Cooperative, Inc.

2/15/19  
Date

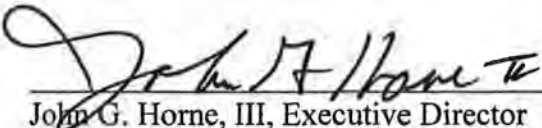
APPROVAL RECOMMENDED BY:

  
\_\_\_\_\_  
Daniel C. Cleveland, Attorney  
Office of Legal Services

2/20/19  
Date

  
\_\_\_\_\_  
Jon Maybriar, Director  
Division of Waste Management

3-1-19  
Date

  
\_\_\_\_\_  
John G. Horne, III, Executive Director  
Office of Legal Services

3-1-19  
Date

**ORDER**

Wherefore, the foregoing Agreed Order is entered as the final Order of the Energy and Environment Cabinet this 7<sup>th</sup> day of March, 2019.

ENERGY AND ENVIRONMENT CABINET



\_\_\_\_\_  
R. BRUCE SCOTT, DEPUTY SECRETARY

**CERTIFICATE OF SERVICE**

I hereby certify that a true and accurate copy of the foregoing AGREED ORDER was mailed, postage prepaid, to the following this 7<sup>th</sup> day of March, 2019.

Jerry Purvis  
Vice President, Environmental Affairs  
East Kentucky Power Cooperative, Inc.  
4775 Lexington Road  
P.O. Box 707  
Winchester, Kentucky 40392-0707

Dennis J. Conniff  
Frost Brown Todd LLC  
400 West Market Street  
32<sup>nd</sup> Floor  
Louisville, Kentucky 40202

and mailed, messenger to:

Jon Maybriar, Director  
Division of Waste Management

Daniel Cleveland, Attorney  
Office of Legal Services

  
\_\_\_\_\_  
DOCKET COORDINATOR

DWM  
BGO  
SH

ATTACHMENT JP-2  
KPDES WATER PERMIT  
AND KDWM SPURLOCK  
STATION CCR LANDFILL  
PERMIT

**KPDES**



**KENTUCKY POLLUTANT  
DISCHARGE ELIMINATION  
SYSTEM**

**PERMIT**

**AUTHORIZATION TO DISCHARGE UNDER THE  
KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM**

**PERMIT NO.:** KY0003611

**AGENCY INTEREST NO.:** 3808

**Pursuant to Authority in KRS 224,**

East Kentucky Power Cooperative, Inc.  
670 Cooper Power Plant Road  
Somerset, Kentucky 42501

**is authorized to discharge from a facility located at**

EKPC John S. Cooper Power Station  
670 Cooper Power Plant Road  
Somerset, Pulaski County, Kentucky

**to receiving waters named**

Cumberland River  
UT to Pitman Creek

**in accordance with effluent limitations, monitoring requirements and other conditions set forth in this permit.**

This permit shall become effective on October 1, 2023.

This permit and the authorization to discharge shall expire at midnight, September 30, 2028.

Date Signed: June 24, 2023

---

**Carey Johnson, Director  
Division of Water**

**THIS KPDES PERMIT CONSISTS OF THE FOLLOWING SECTIONS:**

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# **SECTION 1**

## **EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**



**1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

**1.1. Compliance Monitoring Locations (Outfalls)**

The following table lists the outfalls authorized by this permit, the location and description of each, and the DOW assigned KPDES outfall number:

TABLE 1.					
Outfall No.	Outfall Type	Latitude (N)	Longitude (W)	Receiving Water	Description of Outfall
001	External	36.99844°	84.59394°	Cumberland River (Lake Cumberland)	Stormwater Runoff from substation area, parking lots, and plant roads.
003	External	36.99736°	84.59319°	Cumberland River (Lake Cumberland)	Once-through cooling water with treated effluent from internal Outfall 008
004	Internal	36.99779°	84.58733°	Outfall 008	Boiler chemical metal cleaning waste
005	External	36.99778°	84.58278°	Cumberland River (Lake Cumberland)	Stormwater runoff from active coal combustion residuals landfill and intermittent leachate discharge
006	External	36.99814°	84.59256°	Cumberland River (Lake Cumberland)	Plant water intake
007	External	36.99714°	84.59078°	Cumberland River (Lake Cumberland)	Stormwater runoff from other plant areas
008	Internal	36.99779°	84.58733°	Outfall 003	Treated wastewater from total plant drain system, coal pile runoff, landfill leachate, and metal cleaning wastewater from Outfall 004
009	External	37.00681°	84.60032°	UT to Pitman Creek	Stormwater Runoff and Treated Construction Dewatering
010	External	37.00669°	84.60042°	UT to Pitman Creek	Stormwater Runoff and Treated Construction Dewatering

**1.2. Effluent Limitations and Monitoring Requirements**

**1.2.1. Outfall 001**

Beginning on the effective date and lasting through the term of this permit, discharges from Outfall 001 shall comply with the following effluent limitations:

TABLE 2.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Quarter	Instantaneous

TABLE 2.

EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Settleable Solids	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Quarter	Grab
Oil & Grease	mg/l	N/A	N/A	N/A	10	15	N/A	1/Quarter	Grab
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Quarter	Grab

1.2.2. Outfall 003

Beginning on the effective date and lasting through the term of this permit, discharges from Outfall 003 shall comply with the following effluent limitations:

TABLE 3.

EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	Continuous	Recorder
Temperature	°F	N/A	N/A	N/A	Report	100	N/A	Continuous	Recorder
Free Available Chlorine	mg/l	N/A	N/A	N/A	0.2	0.5	N/A	1/Occurrence <sup>1</sup>	Multiple Grab <sup>2</sup>
Total Residual Chlorine	mg/l	N/A	N/A	N/A	Report	0.019	N/A	1/Occurrence <sup>1</sup>	Multiple Grab <sup>2</sup>
Total Residual Oxidants <sup>3</sup>	mg/l	N/A	N/A	N/A	Report	0.2	N/A	1/Occurrence <sup>1</sup>	Multiple Grab <sup>2</sup>
Time of Oxidant Addition	Min/day	N/A	N/A	N/A	N/A	120	N/A	1/Occurrence <sup>1</sup>	Log
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Week	Grab
Hardness (as mg/l CaCO <sub>3</sub> )	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Recoverable Copper	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Chronic WET <sup>4</sup>	TU <sub>c</sub>	N/A	N/A	N/A	N/A	N/A	1.10	1/Year	( <sup>5</sup> )

<sup>1</sup>The measurement frequency "Occurrence" means during periods of chlorination or oxidation addition to cooling water, but no more frequent than once per week.

<sup>2</sup>The sample type 'Multiple Grab' means grab samples collected at the approximate beginning of oxidant discharge and once every fifteen (15) minutes thereafter until the end of the oxidant discharge.

<sup>3</sup>The term Total Residual Oxidants (TRO) means the value obtained by using the amperometric titration or DPD methods for Total Residual Chlorine described in 40 CFR Part 136. In the event of addition of an oxidant other than Chlorine, the permittee shall receive prior approval from the DOW permitting staff before the initial use. TRO monitoring and limits only apply if the applicant chooses to utilize an oxidant other than Chlorine.

**TABLE 3.**

EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
<sup>4</sup> WET – Whole Effluent Toxicity									
<sup>5</sup> See section 4 for WET sampling requirements									

**1.2.3. Outfall 004**

Beginning on the effective date and lasting through the term of this permit, discharges from Outfall 004 shall comply with the following effluent limitations:

**TABLE 4.**

EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Batch <sup>1</sup>	Calculated
Total Recoverable Copper	mg/l	N/A	N/A	N/A	1.0	1.0	N/A	1/Batch <sup>1</sup>	Grab
Total Recoverable Iron	mg/l	N/A	N/A	N/A	1.0	1.0	N/A	1/Batch <sup>1</sup>	Grab
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Batch <sup>1</sup>	Grab
<sup>1</sup> Monitoring shall be conducted once per metal cleaning operation.									

**1.2.4. Outfall 005**

Beginning on the effective date and lasting through the term of this permit, discharges from Outfall 005 shall comply with the following effluent limitations:

TABLE 5.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Quarter	Instantaneous
Total Suspended Solids	mg/l	N/A	N/A	N/A	30	60	N/A	1/Quarter	Grab
Oil & Grease	mg/l	N/A	N/A	N/A	5.0	5.0	N/A	1/Quarter	Grab
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Quarter	Grab

**1.2.5. Outfall 006**

Beginning on the effective date and lasting through the term of this permit, discharges from Outfall 006 shall comply with the following effluent limitations:

TABLE 6.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	Daily	Calculated
Temperature	°F	N/A	N/A	N/A	Report	Report	N/A	Daily	Grab
<sup>1</sup> Cooling Water Intake Inspection	Fail=1 Pass=0	N/A	N/A	N/A	N/A	N/A	Report <sup>2</sup>	1/Week	Inspection <sup>3</sup>
Hardness (as mg/l CaCO <sub>3</sub> )	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Recoverable Copper	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab

<sup>1</sup>Weekly monitoring of the cooling water intake system shall be performed, during the period the cooling water intake structure is in operation, to ensure that the design and construction technology comply with §125.94 is functioning as designed and is being appropriately maintained and operated.

<sup>2</sup>If intake system is not functioning as designed and described in the facilities 316(b) Report a “1” is to be reported. If intake system is functioning as designed a “0” is to be reported.

<sup>3</sup>This inspection may take the form of either visual inspections or the use of remote monitoring devices.

**TABLE 6.**

EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
An annual certification statement signed by the authorized representative shall be submitted to the DOW surface water permits branch no later than January 31 <sup>st</sup> for the previous year. See Section 5.8.3.3. "Reporting Requirements for Cooling Water Intake" for additional details.									

**1.2.6. Outfall 007**

Beginning on the effective date and lasting through the term of this permit, discharges from Outfall 007 shall comply with the following effluent limitations:

**TABLE 7.**

EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Quarter	Instantaneous
Settleable Solids	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Quarter	Grab
Oil & Grease	mg/l	N/A	N/A	N/A	10	15	N/A	1/Quarter	Grab
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Quarter	Grab

**1.2.7. Outfall 008**

Beginning on the effective date and lasting through the term of this permit, discharges from Outfall 008 shall comply with the following effluent limitations:

**TABLE 8.**

EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	2/Month	Instantaneous
Total Suspended Solids	mg/l	N/A	N/A	N/A	30.0	91.8	N/A	2/Month	Grab
Oil & Grease	mg/l	N/A	N/A	N/A	13.4	17.5	N/A	2/Month	Grab
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	2/Month	Grab

**1.2.8. Outfall 009**

Beginning on the effective date and lasting through the term of this permit, discharges from Outfall 009 shall comply with the following effluent limitations:

TABLE 9.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Quarter	Instantaneous
Total Suspended Solids	mg/l	N/A	N/A	N/A	30	60	N/A	1/Quarter	Grab
Oil & Grease	mg/l	N/A	N/A	N/A	10	15	N/A	1/Quarter	Grab
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Quarter	Grab

**1.2.9. Outfall 010**

Beginning on the effective date and lasting through the term of this permit, discharges from Outfall 010 shall comply with the following effluent limitations:

TABLE 10.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Quarter	Instantaneous
Total Suspended Solids	mg/l	N/A	N/A	N/A	30	60	N/A	1/Quarter	Grab
Oil & Grease	mg/l	N/A	N/A	N/A	10	15	N/A	1/Quarter	Grab
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Quarter	Grab

**1.3. Standard Effluent Requirements**

The discharges to Waters of the Commonwealth shall not produce floating solids, visible foam or a visible sheen on the surface of the receiving waters.

# **SECTION 2**

## **STANDARD CONDITIONS**

## **2. STANDARD CONDITIONS**

The following conditions apply to all KPDES permits.

### **2.1. Duty to Comply**

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of KRS Chapter 224 and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Any person who violates applicable statutes or who fails to perform any duty imposed, or who violates any determination, permit, administrative regulation, or order of the Cabinet promulgated pursuant thereto shall be liable for a civil penalty as provided at KRS 224.99.010.

### **2.2. Duty to Reapply**

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

### **2.3. Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

### **2.4. Duty to Mitigate**

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

### **2.5. Proper Operation and Maintenance**

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

### **2.6. Permit Actions**

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

### **2.7. Property Rights**

This permit does not convey any property rights of any sort, or any exclusive privilege.

### **2.8. Duty to Provide Information**

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.



**2.9. Inspection and Entry**

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

**2.10. Monitoring and Records**

- (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- (2) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 401 KAR 5:065, Section 2(10) [40 CFR 503]), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.
- (3) Records of monitoring information shall include:
  - a) The date, exact place, and time of sampling or measurements;
  - b) The individual(s) who performed the sampling or measurements;
  - c) The date(s) analyses were performed;
  - d) The individual(s) who performed the analyses;
  - e) The analytical techniques or methods used; and
  - f) The results of such analyses.
- (4) Monitoring must be conducted according to test procedures approved under 401 KAR 5:065, Section 2(8) [40 CFR 136] unless another method is required under 401 KAR 5:065, Section 2(9) or (10) [40 CFR subchapters N or O].
- (5) KRS 224.99-010 provides that any person who knowingly violates KRS 224.70-110 or other enumerated statutes, or who knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall be guilty of a Class D felony and, upon conviction, shall be punished by a fine of not more than \$25,000, or by imprisonment for not less than one (1) year and not more than five (5) years, or by both fine and imprisonment for each separate violation.. Each day upon which a violation occurs shall constitute a separate violation.

**2.11. Signatory Requirement**

- (1) All applications, reports, or information submitted to the Director shall be signed and certified pursuant to 401 KAR 5:060, Section 4 [40 CFR 122.22].

(2) KRS 224.99-010 provides that any person who knowingly provides false information in any document filed or required to be maintained under KRS Chapter 224 shall be guilty of a Class D felony and upon conviction thereof, shall be punished by a fine not to exceed twenty-five thousand dollars (\$25,000), or by imprisonment, or by fine and imprisonment, for each separate violation. Each day upon which a violation occurs shall constitute a separate violation.

## **2.12. Reporting Requirements**

### **2.12.1. Planned Changes**

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(1) The alteration or addition to a permitted facility may meet one (1) of the criteria for determining whether a facility is a new source in KRS 224.16-050 [40 CFR 122.29(b)]; or

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under KRS 224.16-050 [40 CFR 122.42(a)(1)].

(3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

### **2.12.2. Anticipated Noncompliance**

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

### **2.12.3. Transfers**

This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under KRS 224 [CWA; see 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory].

### **2.12.4. Monitoring Reports**

Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

(2) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 401 KAR 5:065, Section 2(8) [40 CFR 136], or another method required for an industry-specific waste stream under 401 KAR 5:065, Section 2(9) or (10) [40 CFR subchapters N or O], the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

### 2.12.5. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.

### 2.12.6. Twenty-four-Hour Reporting

1) The permittee shall report any noncompliance which may endanger health or the environment to the DOW Regional Office. Any information shall be provided orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2) The following shall be included as information which must be reported within twenty-four (24) hours under this paragraph:

- a) Any unanticipated bypass which exceeds any effluent limitation in the permit [40 CFR 122.41 (g)].
- b) Any upset which exceeds any effluent limitation in the permit.
- c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within twenty-four (24) hours.

3) The Director may waive the written report on a case-by-case basis under 40 CFR 122.41 (l), if the oral report has been received within twenty-four (24) hours.

4) The permittee is assigned to the Department for Environmental Protection's Columbia Regional Field Office.

- a. Reporting shall be as required in paragraphs 1 through 3 of this subsection except that, if a spill or release of pollutants or contaminants, bypass, upset, or other event of non-compliance occurs that may present an imminent or substantial danger to the environment or the public health or welfare, the permittee shall immediately notify the regional field office by calling the Columbia Regional Field Office at (270) 384-4734.
- b. If a report required by this subsection is made during other than normal business hours, it shall be made through the **twenty-four (24) hour environmental emergency telephone number at (800) 928-2380**.
- c. The reporting requirements of this subsection does not relieve the permittee of reporting required under other laws, regulations, programs, or emergency response plans.

### 2.12.7. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under Sections 2.12.1, 2.12.4, 2.12.5 and 2.12.6, at the time monitoring reports are submitted. The reports shall contain the information listed in Section 2.12.6.

### 2.12.8. Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

## **2.13. Bypass**

### **2.13.1. Definitions**

- (1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
- (2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

### **2.13.2. Bypass Not Exceeding Limitations**

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Section 2.13.3 and 2.13.4.

### **2.13.3. Notice**

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass.
- (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section 2.12.6.

### **2.13.4. Prohibition of Bypass**

- (1) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
  - a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
  - c) The permittee submitted notices as required under Section 2.13.3.
- (2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three (3) conditions listed above in Section 2.13.4

## **2.14. Upset**

### **2.14.1. Definition**

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

### **2.14.2. Effect of an Upset**

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Section 2.14.3 are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

**2.14.3. Conditions Necessary for a Demonstration of Upset**

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
- (2) The permitted facility was at the time being properly operated; and
- (3) The permittee submitted notice of the upset as required in Section 2.12.6; and
- (4) The permittee complied with any remedial measures required under Section 2.4.

**2.14.4. Burden of Proof**

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

**SECTION 3**  
**BEST MANAGEMENT PRACTICES PLAN (BMPP)**  
**REQUIREMENTS**

### **3. BEST MANAGEMENT PRACTICES PLAN (BMPP) REQUIREMENTS**

The permittee shall develop and implement a Best Management Practices Plan (BMPP) consistent with 401 KAR 5:065, Section 2(4).

#### **3.1. Applicability**

These conditions apply to all permittees who use, manufacture, store, handle, or discharge any pollutant listed as: (1) toxic under Section 307(a)(1) of the Clean Water Act; (2) oil, as defined in Section 311(a)(1) of the Act; (3) any pollutant listed as hazardous under Section 311 of the Act; or (4) is defined as a pollutant pursuant to KRS 224.1-010(35) and who have operations which could result in (1) the release of a hazardous substance, pollutant, or contaminant, or (2) an environmental emergency, as defined in KRS 224.1-400, as amended, or any regulation promulgated pursuant thereto (hereinafter, the "BMP pollutants"). These operations include material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas.

#### **3.2. Plan**

The permittee shall develop and implement a BMPP consistent with 401 KAR 5:065, Section 2(4) pursuant to KRS 224.70-110, which prevents or minimizes the potential for the release of "BMP pollutants" from ancillary activities through site runoff; spillage or leaks, sludge or waste disposal; or drainage from raw material storage.

#### **3.3. Implementation**

The permittee shall implement the BMPP upon the commencement of regulated activity. Modifications to the plan as a result of ineffectiveness or plan changes to the facility shall be implemented as soon as possible.

#### **3.4. General Requirements**

The BMPP shall:

- (1) Be documented in narrative form, and shall include any necessary plot plans, drawings, or maps.
- (2) Establish specific objectives for the control of toxic and hazardous pollutants.
  - a. Each facility component or system shall be examined for its potential for causing a release of "BMP pollutants" due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.
  - b. Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances which could result in a release of "BMP pollutants", the plan should include a prediction of the direction, rate of flow, and total quantity of the pollutants which could be released from the facility as result of each condition or circumstance.
- (3) Establish specific BMPs to meet the objectives identified under paragraph (2) b of this section, addressing each component or system capable of causing a release of "BMP pollutants".
- (4) Include any special conditions established in part b of this section.
- (5) Be reviewed by engineering staff and the site manager.

#### **3.5. Specific Requirements**

The plan shall be consistent with the general guidance contained in the publication entitled "NPDES Best Management Practices Guidance Document", and shall include the following baseline BMPs as a minimum:

- (1) BMP Committee

- (2) Reporting of BMP Incidents
- (3) Risk Identification and Assessment
- (4) Employee Training
- (5) Inspections and Records
- (6) Preventive Maintenance
- (7) Good Housekeeping
- (8) Materials Compatibility
- (9) Security
- (10) Materials Inventory

### **3.6. SPCC Plans**

The BMPP may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the Clean Water Act and 40 CFR Part 112, and may incorporate any part of such plans into the BMPP by reference.

### **3.7. Hazardous Waste Management**

The permittee shall assure the proper management of solids and hazardous waste in accordance with the regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1978 (RCRA) (40 U.S.C. 6901 et seq.) Management practices required under RCRA regulations shall be referenced in the BMP plan.

### **3.8. Documentation**

The permittee shall maintain a copy of the BMPP at the facility and shall make the plan available upon request to EEC personnel.

### **3.9. BMPP Modification**

The permittee shall modify the BMPP whenever there is a change in the facility or change in the operation of the facility that materially increases the potential for the release of "BMP pollutants".

### **3.10. Modification for Ineffectiveness**

The BMPs and the BMPP shall be reviewed and appropriate modifications implemented to utilize other practicable measures if any of the following events occur:

- (1) As a result of either a fixed or episodic event-driven evaluation, the permittee determines the selected BMPs are not achieving the established performance benchmarks;
- (2) As a result of an evaluation or inspection by Cabinet personnel; or
- (3) A release of any petroleum-based product, toxic or hazardous substance.

### **3.11. Periodically Discharged Wastewater Not Specifically Covered by Effluent Conditions**

The permittee shall include in this BMPP procedures and controls necessary for the handling of periodically discharged wastewaters such as intake screen backwash, meter calibration, fire protection, hydrostatic testing water, water associated with demolition projects, and emergency overflows from the plant drain system, etc.



# **SECTION 4**

## **WET TESTING REQUIREMENTS**

#### 4. WET TESTING REQUIREMENTS

At the frequency specified in the Effluent and Monitoring Requirements section of this permit, the permittee shall initiate or continue the series of tests described below to evaluate wastewater toxicity of the discharge from Outfall 003.

##### 4.1. Sampling Requirements

Three (3) sets of 2 discrete grab samples each shall be collected and composited on days 1, 3, and 5 of the discharge. The samples shall be collected during periods of discharge at least 2 hours apart but no more than 48 hours apart. The samples shall be iced and maintained at not greater than 6°C during collection, storage, transport until used in the test by the laboratory.

##### 4.2. Test Requirements

The chronic WET test consists of 1 short-term static-renewal fathead minnow (*Pimephales promelas*) growth test on 90.91% effluent (1.10 TU<sub>c</sub>) at the frequency specified. The test shall begin within 36 hours of the collection of the day 1 sample. The test shall be renewed daily using samples collected on days 1, 3; and 5 in accordance with test method specified in the Test Methods Section below.

##### 4.3. Serial Dilutions

Effluent concentrations for the tests must include the percent effluent required by the permit and at least four additional effluent concentrations.

For a required percent effluent of 100%, test concentrations shall be 20%, 40%, 60%, 80% and 100%.

For a required percent effluent less than 100% but greater than or equal to 75%, the test concentrations shall include the required percent effluent, two (2) concentrations below that are based on a 0.5 dilution factor, and two (2) concentrations above: one (1) at mid-point between 100% and the required percent effluent, and one (1) at 100% effluent.

For a required percent effluent less than 75%, test concentrations shall include the required percent effluent, two (2) concentrations below on a 0.5 dilution factor, and two (2) concentrations above the required percent effluent based on a 0.5 dilution factor, if possible; otherwise, one (1) at mid-point between 100% and the required percent effluent, and one (1) at 100% effluent.

Selection of different effluent concentrations must be approved by DOW prior to testing. Controls shall be conducted concurrently with effluent testing using synthetic water.

##### 4.4. Controls

Control tests shall be conducted concurrent with effluent testing using synthetic water. The analysis will be deemed reasonable and good only if the minimum control requirements are met.

Any test that does not meet the control acceptability criteria shall be repeated as soon as practicable within the monitoring period.

Within 30 days prior to initiating an effluent toxicity test, a reference toxicant test must be completed for the method used; alternatively, the reference toxicant test may be run concurrent with the effluent toxicity test.

For the fathead minnow test: at least 80% survival in controls and the average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg.

#### **4.5. Test Methods**

All test organisms, procedures and quality assurance criteria used shall be in accordance with Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (4<sup>th</sup> Edition), EPA-821-R-02-013, the most recent edition of this publication, or as approved in advance by DOW.

#### **4.6. Reduction to Single Species Testing**

In accordance with approval from DOW on February 3, 2020, whole effluent toxicity testing by East KY Power Cooperative – Cooper Station is reduced to testing with *Pimephales promelas* only. If subsequent testing should reveal concerns with toxicity of the effluent, testing with multiple species may again be required.

#### **4.7. Reporting Requirements**

Results of all toxicity tests conducted with any species shall be reported according to the most recent format provided by DOW (See the Section for Submission of DMRs of this permit). Notification of failed test shall be made to DOW within five days of test completion. Test reports shall be submitted to DOW within thirty (30) days of completion. A control chart including the most recent reference toxicant test endpoints for the effluent test method (minimum of 5, up to 20 if available) shall be part of the report.

#### **4.8. Test Results**

If noncompliance occurs in an initial test, the permittee shall repeat the test using new samples. Results of this second round of testing will be used to evaluate the persistence of the toxic event and the possible need for a Toxicity Reduction Evaluation (TRE).

Noncompliance with the toxicity limit is demonstrated if the IC<sub>25</sub> (inhibition concentration) for reproduction or growth is less than 90.91% effluent. If noncompliance occurs in an initial test, the permittee must repeat the test using a new set of three (3) composite samples. Sampling must be initiated within fifteen (15) days of completing the failed test.

#### **4.9. Accelerated Testing**

If the second round of testing also demonstrates noncompliance, the permittee will be required to perform accelerated testing as specified in the following paragraphs.

Complete four (4) additional rounds of testing to evaluate the frequency and degree of toxicity within sixty (60) days of completing the second failed round of testing. Results of the initial and second rounds of testing specified above plus the four (4) additional rounds of testing will be used in deciding if a TRE shall be required.

If results from any two (2) of six (6) rounds of testing show a significant noncompliance with the Toxicity limit, i.e.,  $\geq 1.2$  times the TU, or results from any four of the six tests show toxicity as defined above, a TRE will be required.

The permittee shall provide written notification to DOW within five (5) days of completing the accelerated testing, stating that: (1) toxicity persisted and that a TRE will be initiated; or (2) that toxicity did not persist and normal testing will resume.

Should toxicity prove not to be persistent during the accelerated testing period, but reoccur within twelve (12) months of the initial failure at a level  $\geq 1.2$  times the TU, then a TRE shall be required.

#### **4.10. WET TRE**

If a TRE is required, the permittee shall initiate and/or continue at least monthly testing with both species until such time as a specific TRE plan is approved by DOW. A TRE plan shall be developed by the permittee

and submitted to DOW within thirty (30) days of determining a TRE is required. The plan shall be developed in accordance with the most recent Environmental Protection Agency (EPA) and DOW guidance. Questions regarding this process may be submitted to DOW.

The TRE plan shall include Toxic Identification Evaluation (TIE) procedures, treatability studies, and evaluations of: chemical usage including changes in types, handling and suppliers; operational and process procedures; housekeeping and maintenance activities; and raw materials. The TRE plan will establish an implementation schedule to begin immediately upon approval by DOW, to have duration of at least six (6) months, and not to exceed twenty-four (24) months. The implementation schedule shall include quarterly progress reports being submitted to DOW, due the last day of the month following each calendar quarter.

Upon completion of the TRE, the permittee shall submit a final report detailing the findings of the TRE and actions taken or to be taken to prevent the reoccurrence of toxicity. This final report shall include: the toxicant(s), if any are identified; treatment options; operational changes; and the proposed resolutions including an implementation schedule not to exceed one-hundred-eighty (180) days.

Should the permittee determine the toxicant(s) and/or a workable treatment prior to the planned conclusion of the TRE, the permittee will notify DOW within five (5) days of making that determination and take appropriate actions to implement the solution within one-hundred-eighty (180) days of that notification.

# **SECTION 5**

## **OTHER CONDITIONS**

## **5. OTHER CONDITIONS**

### **5.1. Schedule of Compliance**

The permittee shall attain compliance with all requirements of this permit on the effective date of this permit unless otherwise stated.

### **5.2. Other Permits**

This permit has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal, and local agencies.

### **5.3. Continuation of Expiring Permit**

This permit shall be continued in effect and enforceable after the expiration date of the permit provided the permittee submits a timely and complete application in accordance with 401 KAR 5:060, Section 2(4).

### **5.4. Antidegradation**

For those discharges subject to the provisions of 401 KAR 10:030 Section, 1(3)(b)5, the permittee shall install, operate, and maintain wastewater treatment facilities consistent with those identified in the SDAA submitted with the KPDES permit application.

### **5.5. Reopener Clause**

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved in accordance with 401 KAR 5:050 through 5:080, if the effluent standard or limitation so issued or approved:

(1) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

(2) Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of KRS Chapter 224 when applicable.

### **5.6. Cooling Water Additives, FIFRA, and Mollusk Control**

The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) in cooling water which ultimately may be released to the waters of the Commonwealth is prohibited, except Herbicides, unless specifically identified and authorized by the KPDES permit. In the event the permittee needs to use a biocide or chemical not previously reported for mollusk control or other purpose, the permittee shall submit sufficient information, a minimum of thirty (30) days prior to the commencement of use of said biocides or chemicals to the Division of Water for review and establishment of appropriate control parameters.

### **5.7. 316(a)**

To support continuance of the alternate thermal effluent limitation in the next permit renewal, the permittee shall submit an alternative thermal effluent limitation request and demonstration, which shall meet the requirements in 40 CFR 125.72. The permittee shall submit the request and demonstration, whether the request is to continue the alternative daily maximum limitation of 100 °F or grant an alternative limitation which is higher than the current limitation. The permittee may base the 316(a)

demonstration upon the absence of prior harm in lieu of predictive studies consistent with 40 CFR 125.73(c).

Exemptions from some permit application requirements are possible where information already submitted is sufficient. If an exemption is desired, a request for reduced application material requirements must be submitted at least 2 years and 6 months prior to permit expiration. Past submittals and previously conducted studies may satisfy some or all of the application material requirements.

## **5.8. 316(b) Cooling Water Intake Structure**

### **5.8.1 Authority to Operate**

The permittee shall at all times properly operate and maintain all water intake facilities. The permittee shall give advance notice to the Division of any planned changes in the location, design, operation, or capacity of the intake structure. The permittee is authorized to use the cooling water intake system which consists of the following:

Cooper Station consists of two once-through cooled coal-fired generating units with a capacity of 341 megawatts. Each unit has its own cooling water intake structure consisting of a single deep-water, offshore withdrawal. Cooper Station withdraws water from Lake Cumberland, which is a constructed reservoir that was completed in 1951 for flood control, production of hydroelectric power, and recreation. The design intake flow for the two intakes is 223 MGD. The actual intake flow for calendar years 2017 – 2021 was 84 MGD, which is 37.7 percent of the design intake flow. Cooper Station's two intakes are located at an invert depth of 57 feet during normal pool levels. EPA has acknowledged that deep-water intakes can substantially reduce impingement and entrainment due to lower biological abundance at depth. The deep intakes are also below the depth of naturally occurring seasonal thermocline which results in low dissolved oxygen levels below the thermocline. The deeper, colder water in the lake bottom enables Cooper Station to use less cooling water, particularly during winter when it is able to operate only one of two circulating pumps per unit to meet its condenser cooling requirements. Water is withdrawn by two separate intake structures which are similar, though not identical, in setup and size. One CWIS is designated at the Unit 1 CWIS while the second is designated as the Unit 2 CWIS; however, piping allows for water from either intake to supply cooling to either of the power generating units. The primary components of each CWIS include:

- A low submerged inlet with coarse bar rack screening
- Two hydraulic turbine pumps per CWIS used to lift water up to a raised wet well
- A single vertical traveling screen per CWIS housed within the raised wet well
- Two raw water circulating pumps per CWIS which withdraw water from the raised wet well and feed water to the units

The estimated intake velocities during design flow (with both pumps operating) at the vertical traveling screens for Unit 1 and Unit 2 are 1.9 fps and 2.62 fps respectively. The traveling screens are typically manually operated twice daily, approximately 10 minutes per shift, but may operate more frequently when the debris loads are high and increased differential pressure across the screens triggers automatic operation. Spray wash is provided to each traveling screen by a spray wash pump. Debris and any organisms that may be collected are washed into a debris trough on the front side of the traveling screen and conveyed out through the side of the CWIS, with open discharge to the water surface of Lake Cumberland. When possible, Cooper Station operates on one lift/circulating pump per unit when cooling demand conditions allow. The 84 MGD actual intake flow is equivalent to 257.8 acre-feet and an average

monthly withdrawal of 7,734 acre-feet. This withdrawal comprises only 0.42 percent of the minimum storage volume and 0.19 percent of the normal pool volume.

### **5.8.2. Best Technology Available (BTA) Determination**

The cooling water intake is approved as BTA for minimizing adverse environmental impact in accordance with the requirements in 40 CFR 125 Subpart J and section 316(b) of the Clean Water Act. The Division of Water has reviewed impingement data from the facility and determined that the impingement rate is *de minimis*. Therefore, no additional controls are warranted.

### **5.8.3. Intake Structure Standard Requirements**

#### **5.8.3.1. Future BTA Determinations for Cooling Water Intake Structure(s)**

BTA determinations for entrainment mortality and impingement mortality at cooling water intake structures will be re-confirmed in each permit reissuance, in accordance with 40 CFR 125.90-98. In subsequent permit reissuance applications, the permittee shall provide all the information required in 40 CFR 122.21(r).

Exemptions from some permit application requirements are possible in accordance with 40 CFR 125.95(c) and 125.98(g), where information already submitted is sufficient. If an exemption is desired, a request for reduced application material requirements must be submitted at least 2 years and 6 months prior to permit expiration. Past submittals and previously conducted studies may satisfy some or all of the application material requirements.

#### **5.8.3.2. Visual or Remote Inspection**

The permittee shall conduct a weekly visual inspection or employ a remote monitoring device during periods when the cooling water intake is in operation. The inspection frequency shall be weekly to ensure the intakes are maintained and operated to function as designed.

#### **5.8.3.3. Reporting Requirements for Cooling Water Intake**

The permittee shall adhere to the reporting requirements listed below:

##### Discharge Monitoring Reports (DMRs)

The monitoring requirements for units at existing facilities under 40 CFR 125.96 for cooling water withdrawals, blowdown volume, and visual or remote inspections have been established at the appropriate outfalls and shall be reported on the DMR for those outfalls.

##### Annual certification Statement and Report

Submit an annual certification statement to DOW Surface Water Permits Branch signed by the authorized representative with information on the following, no later than January 31<sup>st</sup> for the previous year:

- Certification that water intake structure technologies are being maintained and operated as set forth in this permit, or a justification to allow a modification of the practices.
- If there are substantial modifications to the operation of any unit that impacts the cooling water withdrawals or operation of the water intake structure, provide a summary of those changes.
- If the information contained in the previous year's annual certification is still applicable, the certification may simply state as such.



### Reporting Records Retention

In accordance with 40 CFR 125.97 (d) records of all submissions that are part of the permit application and reporting requirements must be retained until the subsequent permit is issued to document compliance. Additionally, all records supporting the determination of BTA for entrainment under 40 CFR 125.98(f) or (g) must be retained until such time the determination of BTA for entrainment in the permit is revised.

#### **5.8.3.4. Endangered Species Act**

Nothing in this permit authorizes take for the purpose of a facility's compliance with the Endangered Species Act. Refer to 40 CFR 125.98(b)(1) and (2).

#### **5.9. Polychlorinated Biphenyls**

Pursuant to the requirements of 40 CFR Part 423.12(b) (2), there shall be no discharge, from any point source, of Polychlorinated Biphenyl compounds such as those commonly used in transformer fluids. The permittee shall implement this requirement as a specific section of the BMP plan developed for this section.

#### **5.10. Combustion Residual Leachate**

Pursuant to 40 CFR 423.11(r), the term combustion residual leachate ("leachate") means "leachate from landfills or surface impoundments containing combustion residuals. Leachate is composed of liquid, including any suspended or dissolved constituents in the liquid, that has percolated through waste or other materials emplaced in a landfill, or that passes through the surface impoundment's containment structure (*e.g.*, bottom, dikes, berms). Combustion residual leachate includes seepage and/or leakage from a combustion residual landfill or impoundment unit. Combustion residual leachate includes wastewater from landfills and surface impoundments located on non-adjointing property when under the operational control of the permitted facility."

This permit authorizes the discharge of leachate from Outfalls 003 and 005. For newly discovered leachate seeps from a CCR surface impoundment or a CCR landfill, as defined at 40 CFR 257.53, to the surface that discharge or have a potential to discharge to a water of the commonwealth other than through Outfalls 003 and 005, the permittee shall develop and implement a plan to address such surface seeps. The plan shall be included as part of the on-site BMP Plan and shall address, at a minimum, (1) scheduled inspections for identifying surface leachate seeps, (2) maintenance of CCR landfills and/or impoundments to minimize the potential for surface leachate seeps, and (3) corrective measures that will be implemented upon the discovery of a surface leachate seep that is not being controlled by a permitted outfall authorized for discharge of leachate. The permittee shall notify the DOW Surface Water Permits Branch and the appropriate DOW Field Office of planned corrective measures for any identified surface seeps of leachate as soon as feasible after discovery of such a leachate seep, but no later than ten (10) days after the discovery. Such corrective measures may include: (1) plans to reduce or eliminate the leachate seep to the surface; (2) actions to route the surface leachate seep (via a conveyance designed to contain the flow or eliminate the possibility of infiltration) to an outfall permitted to discharge leachate; and (3) combinations of actions to eliminate or, if elimination is not feasible, reduce and control a surface leachate seep and ensure any discharge to a receiving stream is authorized by the permit. Please note that this does not exempt the permittee from 24-hour reporting Section 2.12 of the permit.

**5.11. Outfall Signage**

This KPDES permit establishes monitoring points, effluent limitations, and other conditions to address discharges from the permitted facility. In an effort to better document and clarify these locations the permittee should place and maintain a permanent marker at each of the monitoring locations.

# **SECTION 6**

## **MONITORING AND REPORTING REQUIREMENTS**

## **6. MONITORING AND REPORTING REQUIREMENTS**

### **6.1. KPDES Outfalls**

Discharge samples and measurements shall be collected at the compliance point for each KPDES Outfall identified in this permit. Each sample shall be representative of the volume and nature of the monitored discharge.

### **6.2. Sufficiently Sensitive Analytical Methods**

Analytical methods utilized to demonstrate compliance with the effluent limitations established in this permit shall be sufficiently sensitive to detect pollutant levels at or below the required effluent limit, i.e. the Method Minimum Level shall be at or below the effluent limit. In the instance where an EPA-approved method does not exist that has a Method Minimum Level at or below the established effluent limitation, the permittee shall:

- (1) Use the method specified in the permit; or
- (2) The EPA-approved method with an ML that is nearest to the established effluent limit.

It is the responsibility of the permittee to demonstrate compliance with permit parameter limitations by utilization of sufficiently sensitive analytical methods.

### **6.3. Certified Laboratory Requirements**

All laboratory analyses and tests required to demonstrate compliance with the conditions of this permit shall be performed by a laboratory holding the appropriate general or field-only certification issued by the Cabinet pursuant to 401 KAR 5:320.

### **6.4. Submission of DMRs**

The completed DMR for each monitoring period must be entered into the DOW approved electronic system no later than midnight on the 28<sup>th</sup> day of the month following the monitoring period for which monitoring results were obtained.

For more information regarding electronic submittal of DMRs, please visit the Division's website at: <https://eec.ky.gov/Environmental-Protection/Water/SubmitReport/Pages/NetDMR.aspx> or contact the DMR Coordinator at (502) 564-3410.



Kentucky Energy and Environment Cabinet  
Department for Environmental Protection  
Division of Waste Management

## PERMIT

**Facility:** **Spurlock Station Landfill and Ash Pond**  
**KY 8**  
**Maysville, KY 41056**

**Permittee:** **East Kentucky Power Cooperative Inc**  
**4775 Lexington Rd**  
**P O Box 707**  
**Winchester, KY 40392**

**Agency Interest:** **East KY Power Coop - H L Spurlock Power Station**  
**KY 8**  
**Maysville, KY 41056**

The Division has issued the permit under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. This permitted activity or activities are subject to all conditions and operating limitations contained herein. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses or approvals required by this Division or other state and local agencies.

No deviation from the plans and specifications submitted with your application or any condition specified herein is allowed, unless authorized in writing from the Division. Violation of the terms and conditions specified herein may render this permit null and void. All rights of inspection by representatives of the Division are reserved. Conformance with all applicable Waste Management Regulations is the responsibility of the permittee.

**Agency Interest ID #:** **3004**

**Solid Waste Permit #:** **sw08100019, sw08100020, sw08100005**

**County:** **Mason**

### Permitted Activities:

Subject Item	Activity	Type	Status
ACTV002	Special Waste Landfill-Coal/08100005	Construction/Operation	Converted
ACTV003	Coal Combustion Residuals Surface Impoundment/08100005	Permit-by-Rule	Converted
ACTV004	CDD Landfill <1 Acre-SW-RPBR/08100019	Registered Permit-by-Rule	Terminated
ACTV009	CCR Unit - Impoundment/08100020	Registered Permit-by-Rule	Voided
ACTV010	CCR Unit - Landfill/08100005	Construction/Operation	Active
ACTV011	CCR Unit - Impoundment/08100005	Construction/Operation	Active
ACTV012	CCR Unit - Landfill/08100005	Construction/Operation	Active

PERMIT

**Acreage Summary:**

**Waste Disposal Area (in Acres):**

Activity	Disposal Area
CCR Unit - Impoundment	70.00
CCR Unit - Landfill	101.00
CCR Unit - Landfill	176.67
<b>Total Disposal Area</b>	<b>347.67</b>
<b>Total Permitted Area</b>	<b>1,602.06</b>

**Cost Estimate Summary:**

Coverage Type	Cost Estimate	Effective	Comments
Closure	\$15,697,661.35	10/03/2023	Approved under APE20190003
Post-Closure	\$4,491,923.00	10/03/2023	Approved under APE20190003

**Financial Assurance Summary:**

The owner or operator shall maintain the following financial assurance approved by the Division in compliance with KRS Chapter 224.40-650, KRS Chapter 224.50-862, 401 KAR 45:080, and 401 KAR 48:310:

Instrument Type	Instrument Number	Amount	Date Received	Comments
Corporate Financial Test	1	\$17,378,039.00	04/28/2023	Spurlock Station CCR Landfill
Corporate Financial Test	1A	\$2,811,546.00	09/19/2023	Peg's Hill Landfill, or Area D

**First Operational Permit Effective Date: 09/20/1982 -- Inert Landfill**

**Permit Effective Date: 09/20/1992**

**Permit Expiration Date: Life of Facility**

**Permit issued: 01/05/2024**

Sincerely,



**Danny Anderson, P.E.  
Manager, Solid Waste Branch**

## PERMIT

**Permit Conditions:****Facility Information and/or Conditions**

1. ACTV0002 and ACTV0010 - These activity numbers are associated with the landfill known as the Spurlock Station Landfill.
2. ACTV0012 - This activity number is associated with the landfill known as the Peg's Hill Landfill or Area D.

**Subject Items****ACTV0002 - Special Waste Landfill-Coal****Variances, Alternate Specifications and Special Conditions:**

1. Buffer Zone: The Cabinet has granted a variance to 401 KAR 45:130, Section 1(2) which prohibits wastes to be placed within the zone of collapse of deep-mine workings or within the critical angle of draw of such workings. The permittee has approval to continue to operate the special waste landfill located above the proposed underground limestone mine. [401 KAR 45:130 Section 1(2)]
2. Buffer Zone: The Cabinet has granted a variance to 401 KAR 45:130 Section 1, (3) - 250 feet waste placement buffer from an existing karst feature. The karst feature is located at the western proposed waste boundary as shown on the engineering drawings (Sheets 2, 12, 13, 17, 18 of 68) of the application for Modification to Permit No. 081-00005, Special Waste Landfill. Attachment 51 (page 18, 6.3.10.) of this application describes the design to seal off the karst feature prior to construction of the soil liner system which is comprised of the excavation, cleaning, and backfilling with concrete of the feature. [401 KAR 30:020 Section 2(1)(a)]
3. General: The landfill consists of approximately 176.67 acres and was converted from a Special Waste Landfill (ACTV002) to a CCR Unit - Landfill (ACTV010) on January 9, 2019. The landfill is a CCR Unit as defined by 401 KAR 46:101 and is subject to the standards pursuant to 401 KAR 46:110, and the landfill remains subject to the procedural requirements in 401 KAR Chapter 45. [401 KAR 45:020, 401 KAR 45:025, 401 KAR 45:030, 401 KAR 45:040, 401 KAR 45:050, 401 KAR 45:080, 401 KAR 45:140, 401 KAR 46:110]

**Approved Applications - The owner or operator shall comply with applicable statutes and regulations and the following approved applications:**

1. 06-01-1979 - Plans Approved
2. 09-20-1982 - Operational Permit Issued for Inert Landfill (9-20-82 to 9-20-87)
3. 02-04-1988 - Permit Renewal Issued for Inert Landfill (9-20-87 to 9-20-92)
4. 11-09-1994 - Authorization to Continue Operation
5. 02-28-1996 - Permit Renewal - LI1PR1 (First Operational Permit Issued for Special Waste; effective 9-20-92)
6. 12-01-2004 - Revised Groundwater Monitoring Plan - LS1MOGW1, APE19960001
7. 02-22-2005 - Horizontal Expansion - LS1MOHX1, APE20020001
8. 02-08-2007 - Construction Progress Report - APE20070001, Area A and B (8.77 acres)
9. 04-10-2008 - Construction Progress Report - APE20070004, Area A and B (13.01 acres)
10. 02-10-2010 - Minor Modification - Variance request to allow construction of limestone mine below landfill - APE20080002

## PERMIT

11. 03-07-2011 - Construction Progress Report - APE20110003 (installation of MW-2A and MW-3A)
12. 04-25-2011 - Construction Progress Report - APE20110005, Area A Phase 1 (6.65 acres)
13. 04-25-2011 - Construction Progress Report - APE20110006 (abandonment of MW-2 and MW-3)
14. 06-08-2011 - Remedial Action Plan - ARM20110001 (arsenic exceedances)
15. 11-10-2011 - Minor Modification - APE20110010 (add waste stream, clarifier sludge)
16. 01-09-2012 - Construction Progress Report - APE20120001, Area A Phase 2 (5.59 acres)
17. 07-20-2012 - Construction Progress Report - APE20120004, Area C, Phase 1, Work Area 1 (16.52 acres)
18. 03-18-2013 - Construction Progress Report - APE20130002, Area C, Phase 1, Work Area 2 (20.38 acres)
19. 11-26-2013 - Minor Modification - APE20130006 (add additional soil borrow areas, expand existing permit boundary)
20. 08-14-2015 - Construction Progress Report - APE20150002, Area C, Phase 2, (15.25 acres)
21. 11-29-2017 - Construction Progress Report - APE20170009 (Abandonment of MW-2A)
22. 01-24-2018 - Construction Progress Report - APE20170014, Area C Phase 3-A (4.74 acres)
23. 01-09-2019 - See the CCR Unit-Landfill activity (ACTV0010) for additional information

**ACTV0003 - Coal Combustion Residuals Surface Impoundment****Variances, Alternate Specifications and Special Conditions:**

1. General: The Ash Pond was transitioned from a Coal Combustion Residuals Surface Impoundment (ACTV003) to a CCR Unit (ACTV009) pursuant to 401 KAR Chapter 46 on August 2, 2017; the transition was voided, and the Ash Pond was restored back to a Coal Combustion Residuals Surface Impoundment (ACTV003) on February 12, 2018 pursuant to Franklin Circuit Court Civil Action No. 17-CI-00474. [401 KAR 45:040]
2. General: The Ash Pond consists of approximately 70 acres and was converted from a Coal Combustion Residuals Surface Impoundment (ACTV003) to a CCR Unit - Impoundment (ACTV011) on January 9, 2019. The Ash Pond is a CCR Unit as defined by 401 KAR 46:101 and is subject to the standards pursuant to 401 KAR 46:110, and the Ash Pond remains subject to the procedural requirements in 401 KAR Chapter 45. [401 KAR 45:020, 401 KAR 45:025, 401 KAR 45:030, 401 KAR 45:040, 401 KAR 45:050, 401 KAR 45:080, 401 KAR 45:140, 401 KAR 46:110]

**ACTV0004 - CDD Landfill <1 Acre-SW-RPBR**

**Approved Applications - The owner or operator shall comply with applicable statutes and regulations and the following approved applications:**

1. 09-12-2016 - ARP20160002 - Approval of a Registered Permit-by-Rule Less Than One Acre CDD Landfill
2. 10-22-2018 - APE20180012 - Revised Permit Condition - Recorded Deed Notice
3. 10-03-2023 - ARP20230001 - Activity Terminated

**ACTV0009 - CCR Unit - Impoundment****Variances, Alternate Specifications and Special Conditions:**

1. General: The Ash Pond was transitioned from a Coal Combustion Residuals Surface Impoundment (ACTV003) to a CCR Unit (ACTV009) pursuant to 401 KAR Chapter 46 on August 2, 2017; the transition was voided, and the Ash Pond was restored back to a Coal Combustion Residuals Surface Impoundment (ACTV003) on February 12, 2018 pursuant to Franklin Circuit Court Civil Action No. 17-CI-00474. [401 KAR 45:040]



## PERMIT

**ACTV0010 - CCR Unit - Landfill****Variances, Alternate Specifications and Special Conditions:**

1. General: The owner or operator of a Coal Combustion Residuals (CCR) Unit shall comply with KRS Chapter 224 and 401 KAR Chapter 46 for the construction, operation, maintenance, and closure of a CCR Unit and other provisions pursuant to 401 KAR Chapters 30, 40, and 45 as applicable. The owner or operator shall comply with the applicable provisions in the Approved Applications listed on this permit document for ACTV0002 - Special Waste Landfill-Coal and with all provisions in the Approved Applications listed on this permit document for ACTV0010 - CCR Unit - Landfill. [401 KAR 45:030, 401 KAR 45:140]

2. General: The owner or operator shall submit the \$15,000 annual fee no later than July 31 of each year pursuant to 401 KAR 46:120. Applications and reports specific to only the Spurlock Station Landfill, or only other CCR Units, for this facility shall not be subject to the filing fees pursuant to 401 KAR 45:250. [401 KAR 46:120 Section 4]

3. General: The Spurlock Station Landfill consists of approximately 176.67 acres and was converted from a Special Waste Landfill (ACTV002) to a CCR Unit - Landfill (ACTV010) on January 9, 2019. The landfill is a CCR Unit as defined by 401 KAR 46:101 and is subject to the standards pursuant to 401 KAR 46:110, and the landfill remains subject to the procedural requirements in 401 KAR Chapter 45. [401 KAR 45:020, 401 KAR 45:025, 401 KAR 45:030, 401 KAR 45:040, 401 KAR 45:050, 401 KAR 45:080, 401 KAR 45:140, 401 KAR 46:110]

**Approved Applications - The owner or operator shall comply with applicable statutes and regulations and the following approved applications:**

1. 01-09-2019 - See the Special Waste Landfill-Coal activity (ACTV0002) for additional information and site history
2. 01-09-2019 - Construction Progress Report - Area C, Phase 3-B (1.16 Acres) - APE20180013
3. 03-04-2019 - Construction Progress Report - Final Cap, Portions of Areas A & B (38.2 Acres) - APE20190002
4. 07-31-2019 - Construction Progress Report - MW - 1A & MW - 3A Abandonment - APE20190009
5. 09-13-2019 - Construction Progress Report - Area C, Phase 3-C (2.12 Acres) - APE20190012
6. 12-20-2019 - Construction Progress Report - Area C, Phase 3-D (2.58 Acres) - APE20190013
7. 07-28-2020 - Construction Progress Report - Area C, Phase 4-A (7.47 Acres) - APE20200003
8. 02-23-2021 - Construction Progress Report - Area C, Phase 4-B (4.28 Acres) - APE20210005
9. 07-28-2021 - Construction Progress Report - Area C, Phase 4-C (3.41 Acres) - APE20210011
10. 01-10-2022 - Construction Progress Report - Area C, Phase 5-A (5.88 Acres) - APE20210015
11. 06-22-2022 - Construction Progress Report - Area C, Phase 5-B (3.77 Acres) - APE20220009

**ACTV0011 - CCR Unit - Impoundment****Variances, Alternate Specifications and Special Conditions:**

1. General: The owner or operator of a Coal Combustion Residuals (CCR) Unit shall comply with KRS Chapter 224 and 401 KAR Chapter 46 for the construction, operation, maintenance, and closure of a CCR Unit and other

## PERMIT

provisions pursuant to 401 KAR Chapters 30, 40, and 45 as applicable. The owner or operator shall comply with the provisions in the Approved Applications listed on this permit document for ACTV0011 - CCR Unit - Impoundment. [401 KAR 45:030, 401 KAR 45:140]

2. General: The owner or operator shall submit the \$15,000 annual fee no later than July 31 of each year pursuant to 401 KAR 46:120. Applications and reports specific to only Ash Pond, or only other CCR Units, for this facility shall not be subject to the filing fees pursuant to 401 KAR 45:250. [401 KAR 46:120 Section 4]

3. General: The Ash Pond consists of approximately 70 acres and was converted from a Coal Combustion Residuals Surface Impoundment (ACTV003) to a CCR Unit - Impoundment (ACTV011) on January 9, 2019. The Ash Pond is a CCR Unit as defined by 401 KAR 46:101 and is subject to the standards pursuant to 401 KAR 46:110, and the Ash Pond remains subject to the procedural requirements in 401 KAR Chapter 45. [401 KAR 45:020, 401 KAR 45:025, 401 KAR 45:030, 401 KAR 45:040, 401 KAR 45:050, 401 KAR 45:080, 401 KAR 45:140, 401 KAR 46:110]

4. General: The Ash Pond was transitioned from a Coal Combustion Residuals Surface Impoundment (ACTV003) to a CCR Unit (ACTV009) pursuant to 401 KAR Chapter 46 on August 2, 2017; the transition was voided, and the Ash Pond was restored back to a Coal Combustion Residuals Surface Impoundment (ACTV003) on February 12, 2018 pursuant to Franklin Circuit Court Civil Action No. 17-CI-00474. [401 KAR 45:040]

**Approved Applications - The owner or operator shall comply with applicable statutes and regulations and the following approved applications:**

1. 01-09-2019 - Permit issued in accordance with 401 KAR Chapter 46 technical standards - APE20180013
2. 09-01-2021 - Minor Modification (Closure plan modification for clean closure) - APE20210013

## **ACTV0012 - CCR Unit - Landfill**

### **Variances, Alternate Specifications and Special Conditions:**

1. General: The issuance of a permit does not supersede, and shall not negate, any term of the Agreed Order in Energy and Environment Cabinet, Division of Waste Management, DWM-34484, et al. [401 KAR 45:140 Section 2, KRS 224.50-760]

2. General: The Peg's Hill Landfill consists of approximately 101.0 acres and is referenced in the Agreed Order in Energy and Environment Cabinet, Division of Waste Management, DWM-34484, et al. The landfill is a CCR Unit as defined by 401 KAR 46:101 and is subject to the standards pursuant to 401 KAR 46:110, and the landfill remains subject to the procedural requirements in 401 KAR Chapter 45. [401 KAR 45:020, 401 KAR 45:025, 401 KAR 45:030, 401 KAR 45:040, 401 KAR 45:050, 401 KAR 45:080, 401 KAR 45:140, 401 KAR 46:110]

3. General: The owner or operator of a Coal Combustion Residuals (CCR) Unit shall comply with KRS Chapter 224 and 401 KAR Chapter 46 for the construction, operation, maintenance, and closure of a CCR Unit and other provisions pursuant to 401 KAR Chapters 30, 40, and 45 as applicable. The owner or operator shall comply with the applicable provisions in the Approved Applications listed on this permit document for ACTV0012 - CCR Unit - Landfill; this includes provisions submitted pursuant to the Agreed Order DWM-34484, referenced in the Professional Engineer certifications and demonstrations documents. [401 KAR 45:030, 401 KAR 45:140]

4. General: The owner or operator shall submit the \$15,000 annual fee no later than July 31 of each year pursuant

## PERMIT

to 401 KAR 46:120. Applications and reports specific to only the Peg's Hill Landfill, or only other CCR Units, for this facility shall not be subject to the filing fees pursuant to 401 KAR 45:250. [401 KAR 46:120 Section 4]

**Approved Applications - The owner or operator shall comply with applicable statutes and regulations and the following approved applications:**

1. 03-07-2019 - Agreed Order DWM-34484 - APE20190003
2. 01-10-2022 - Construction Progress Report (Abandon MW-03, Install MW-3A) - APE20210007
3. 10-20-2022 - Construction Progress Report (Abandon PZ-1, PZ-8) - APE20220013
4. 09-26-2023 - Authorization to Operate Issued, Pursuant to Agreed Order DWM-34484 - Phase 1A (5.76 ac.) - APE20190003
5. 10-03-2023 - Permit Issued, Pursuant to Agreed Order DWM-34484 - APE20190003
6. 01-05-2024 - Construction Progress Report - Phase 1B Liner System (5.80 Acres) - APE20230008

**Financial Assurance****ACTV0001 - Financial Assurance**

**The following is a history of the financial assurance for this facility:**

1. 09-20-1982 - SB #0250-05-050741, \$63,000.00
2. 06-10-1988 - Escrow Account #CD912833EW6, \$258,000.00
3. 06-10-1988 - #0250-05-050741 released
4. 09-19-1996 - Escrow Account #CD912800AA7, \$258,000.00
5. 09-19-1996 - Escrow Account #CD912833EW6 released
6. 01-02-2002 - Escrow Account #CD912800AA7 increased to \$270,043.00
7. 11-18-2002 - Escrow Account #CD912800AA7 increased to \$275,984.00
8. 09-07-2004 - Escrow Account #CD912800AA7 increased to \$976,880.00
9. 06-09-2006 - Escrow Account #CD912800AA7 increased to \$1,019,253.68
10. 04-07-2008 - Escrow Account #CD912800AA7 increased to \$1,407,585.00
11. 07-10-2009 - Escrow Account #CD912800AA7 increased to \$1,793,015.58
12. 12-28-2010 - Escrow Account #CD912800AA7 increased to \$1,841,532.00
13. 07-19-2012 - Escrow Account #CD912800AA7 increased to \$2,085,000.00
14. 02-22-2013 - Treasury Bond CUSIP #912833KH2, \$2,949,339.00
15. 07-22-2015 - Treasury Bond CUSIP #912833KH2 increased to \$3,930,000.00
16. 05-23-2016 - Treasury Bond CUSIP #912833KH2 includes \$10,000.00
17. 08-01-2017 - Treasury CUSIP #912833KH2 succeeded by #912833KR0, increased to \$3,940,000.00
18. 01-05-2018 - Treasury CUSIP #912833HK2 succeeded by #912833KR0, increased to \$5,064,975.10
19. 12-17-2018 - Treasury CUSIP #912833KR0 succeeded by #912833KV1, increased to \$10,508,887.00
20. 05-22-2019 - Treasury CUSIP #912833KV1 succeeded by #912833KZ2, for \$10,508,887.00
21. 05-27-2020 - Treasury CUSIP #912833KZ2 increased to \$12,489,033.00
22. 11-19-2020 - Treasury CUSIP #91283KZ2 succeeded by #912796A25, increased to \$12,505,008.00
23. 05-25-2021 - Treasury CUSIP #912796A25 succeeded by #912796H51, for \$12,505,008.00
24. 12-16-2021 - Financial Test, \$14,291,179.00
25. 12-22-2021 - Treasury CUSIP #912796H51 released
26. 04-18-2022 - Financial Test updated, \$14,291,179.00
27. 04-28-2023 - Financial Test 1, \$17,378,039.00 - Spurlock Station CCR Landfill
28. 09-19-2023 - Financial Test 1A, \$2,811,546.00 - additional performance agreement for Peg's Hill

PERMIT

**Monitoring Conditions**

**GSTR0003 - Groundwater Monitoring - SWB: Chapter 46 Groundwater Monitoring Group**

**Group Members:** AIOO3004 -

**Variations, Alternate Specifications and Special Conditions:**

1. Groundwater Monitoring: The owner or operator shall monitor groundwater and provide notifications in accordance with 401 KAR Chapter 46 and submit the results and analysis to the Division of Waste Management, Solid Waste Branch upon request. [401 KAR 45:030, 401 KAR 46:110 Section 10, 401 KAR 46:110 Section 8]

**GSTR0004 - Groundwater Monitoring - SWB: Chapter 6 Groundwater Monitoring Group**

**Group Members:** AIOO3004 -

**Variations, Alternate Specifications and Special Conditions:**

1. Groundwater Well Construction: Prior to the installation, modification, or abandonment of a monitoring well at a unit regulated by the Division of Waste Management (DWM), the permittee shall obtain DWM approval of all monitoring-well construction designs and all monitoring-well construction materials. The approval request shall be submitted to the Solid Waste Branch of the DWM. [401 KAR 6:350 Section 12]

2. Groundwater Well Construction: The Division of Waste Management shall be notified at least ten (10) working days prior to monitoring well construction, modification, or abandonment so that a Cabinet representative may be present at the construction, modification, or abandonment. [401 KAR 6:350 Section 12]

3. Groundwater Well Construction: The owner or operator shall comply with the standards and provisions in 401 KAR Chapter 6. This includes, but not limited to, the provision each monitoring well shall be constructed, modified, or abandoned by a monitoring well driller or monitoring well driller assistant certified in accordance with KRS 223.425 and 401 KAR 6:320. [401 KAR 6:350]

4. Reports and Submittals: For recordkeeping purposes and in order to verify compliance with 401 KAR Chapter 6 standards, the owner or operator shall submit a Construction Progress Report (CPR) within 45 days of the completion of any groundwater monitoring well installation, modification, or abandonment activities. [401 KAR 45:140 Section 1(8), 401 KAR 6:350]

5. Groundwater Well Construction: As documented in the Monitoring Well Construction Progress Report associated with tracking number APE20210007, the Division of Waste Management (DWM) accepts that the well installation of monitoring well PH-MW-03A and abandonment of monitoring well PH-MW-03 was conducted in accordance with 401 KAR 6:350. This determination is limited to the installation of well PH-MW-03A and abandonment of well PH-MW-03 and does not constitute DWM acceptance of any other well construction detail. [401 KAR 6:350]

PERMIT

6. Groundwater Well Construction: The approval of the Monitoring Well Construction Progress Reports (CPRs) associated with tracking numbers APE20210007 and APE20220013 are limited to the construction activities specifically listed herein. The approval in no way constitutes the acceptance of any monitoring well construction, modification, or abandonment activities conducted previously and not specified in this permit. Approval of the CPRs does not constitute Division of Waste Management acceptance of any well or well network as being appropriate for monitoring groundwater in any particular aquifer or aquifer zone at any CCR Unit pursuant to the provision(s) of 401 KAR Chapter 46. [401 KAR 45:140 Section 2, 401 KAR 6:350]

7. Groundwater Well Construction: As documented in the Monitoring Well Construction Progress Report associated with tracking number APE20220013, the Division of Waste Management (DWM) accepts that the abandonment of piezometers PZ-1 and PZ-8 were conducted in accordance with 401 KAR 6:350. This determination is limited to the abandonments of piezometers PZ-1 and PZ-8 and does not constitute DWM acceptance of any other well construction detail. [401 KAR 6:350]



**Andy Beshear**  
GOVERNOR

**ENERGY AND ENVIRONMENT CABINET**  
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

300 Sower Boulevard  
Frankfort, Kentucky 40601  
Phone: (502) 564-2150  
Fax: 502-564-4245

**Rebecca Goodman**  
SECRETARY

**Anthony R. Hatton**  
COMMISSIONER

January 5, 2024

Mr. Jerry Purvis, Vice-President Environmental Affairs  
East Kentucky Power Cooperative  
4775 Lexington Road  
Winchester, Kentucky 40392

**Sent via e-mail only**

RE: Acceptance of Construction Progress Report (CPR) for Phase 1B Liner System  
Pegs Hill Landfill  
Agency Interest No. 3004  
Application I.D. No. APE20230008  
Mason County

Dear Mr. Purvis,

The Kentucky Division of Waste Management (DWM), Solid Waste Branch has completed review of the above-referenced CPR, received on November 16, 2023 with additional information received on December 8, 2023. The CPR, certified by Kenvirons Inc., documents construction of the Phase 1B liner system for the Coal Combustion Residual landfill (5.80 acres). On October 27, 2023, Ken Melton, P.E., of DWM conducted a final inspection. DWM hereby accepts the report and authorizes waste placement in the cell.

Enclosed is a copy of the revised permit. To receive an electronic copy of the accepted report, please utilize the Kentucky Department for Environmental Protection's eSearch tool via <https://dep.gateway.ky.gov/eSearch/AgencyInterest> on or around January 19, 2024.

Be advised that if you consider yourself aggrieved by the issuance of this permit, you have the right, pursuant to KRS 224.10-420(2) to file a petition demanding a hearing with the Cabinet. This right shall be limited to a period of thirty (30) days. The petition should be filed with The Office of Administrative Hearings located at 211 Sower Blvd., Frankfort, KY 40601. See <https://eec.ky.gov/About/Administrative-Hearings/Pages/default.aspx> for additional information.

If you need additional information, please contact Ken Melton, P.E., at [Ken.Melton@ky.gov](mailto:Ken.Melton@ky.gov).

Sincerely,



---

Signed by: Danny Anderson  
Danny Anderson, P.E.  
Manager, Solid Waste Branch

Enclosure  
DA/km/lkg/oy

c: Mr. Jerry Purvis: [jerry.purvis@ekpc.coop](mailto:jerry.purvis@ekpc.coop)  
Mr. Tim Oakes, P.E.: [toakes@kenvirons.com](mailto:toakes@kenvirons.com)

ATTACHMENT JP-3  
KY 59 SPURLOCK STATION PEG'S  
HILL LANDFILL - FONSI



# **FINDING OF NO SIGNIFICANT IMPACT**

**Spurlock Station Peg's Hill Landfill Project  
Mason County, Kentucky**

**RURAL UTILITIES SERVICE  
U.S. Department of Agriculture**

**East Kentucky Power Cooperative  
Kentucky 59**

**Prepared by:  
Engineering and Environmental Staff  
Rural Utilities Service**

**December 2017**

## **A. INTRODUCTION**

East Kentucky Power Cooperative (EKPC) plans to submit a financing request to the U.S. Department of Agriculture, Rural Utilities Service (RUS) to construct the proposed Spurlock Station Peg's Hill Landfill Project (Project) in Mason County, Kentucky. RUS may consider approving this financing request. Prior to taking a federal action (e.g., providing financial assistance), RUS is required to complete an environmental effects analysis in accordance with the National Environmental Policy Act of 1969 (NEPA) (U.S.C. 4231 et seq.), the Council on Environmental Quality's (CEQ) regulations for implementing NEPA (40 CFR Parts 1500-1508), and Rural Development's (RD) NEPA implementing regulations, Environmental Policies and Procedures (7 CFR Part 1970). After completing an independent analysis of an environmental report prepared by EKPC, RUS concurred with its scope and content. In accordance with 7 CFR § 1970.102(6), RUS adopted the report and issued it as the agency's Environmental Assessment (EA) for the proposed Project. RUS finds that the EA is consistent with federal regulations and meets the standards for an adequate EA. EKPC published three notices in a local newspaper, announcing the availability of the EA for public review, in accordance with 7 CFR §1970.102(6)(ii).

## **B. PURPOSE AND NEED**

### **1. Agency Purpose and Need**

RUS is authorized to make loans and loan guarantees to finance the construction of electric distribution, transmission, and generation facilities, including system improvements and replacements required to furnish and improve electric service to rural areas, as well as demand side management, energy conservation programs, and on-grid and off-grid renewable energy systems. The Rural Electrification Act of 1936, as amended (7 USC §901 et seq.), generally authorizes the Secretary of Agriculture to make rural electrification and telecommunication loans, including specifying eligible borrowers, references, purposes, terms and conditions, and security requirements.

### **2. Applicant Purpose and Need**

To provide a long-term solution to the disposal of Coal Combustion Residuals (CCR) produced from Spurlock Station, EKPC must find a new disposal site. At the current rate of production, the CCR disposal capacity at the existing Spurlock Station landfill will reach its full capacity as early as 2023. Lack of a long-term disposal facility for CCR from Spurlock Station would interfere with EKPC's ability to meet its obligation to provide reliable electric power to its owner-member distribution cooperatives and their residential and commercial customers.

## **C. ALTERNATIVES EVALUATED**

### **1. No Action**

Under the No Action Alternative, RUS would not provide financial assistance to EKPC, and the proposed Project would not be constructed. This alternative would not meet EKPC's need to provide reliable power to its member cooperatives.

### **2. Action Alternative (Preferred Alternative)**

Under the Action Alternative, RUS would consider financing the proposed Project, and EKPC would construct the Spurlock Station Peg's Hill Landfill Project. As a part of the proposed Project, EKPC would construct, operate, and maintain the new landfill at its H. L. Spurlock Power Station (Spurlock Station) in Mason County, Kentucky. Spurlock Station occupies just over 2,800 acres along the south bank of the Ohio River on either side of KY 8 (Mary Ingles Highway), approximately five miles northwest of the city of Maysville. The proposed landfill would be located along South Ripley Road, approximately 0.5-mile south of KY 8 and 0.5 mile west of KY 1597 (Charleston Bottom Road), and sited adjacent to an existing landfill facility. The project footprint for the proposed landfill activities would encompass approximately 1,476-acres, located in the west-central portion of the Spurlock Station property. Project activities may affect up to 591 acres of land within this footprint, including approximately 181 acres within the limits of disturbance associated with construction of the new CCR landfill, up to 390 acres within the soil borrow areas, and approximately 20 acres for stream mitigation activities. Also located within the project footprint is the approximately 250-acre existing CCR landfill and roughly 635-acres of forested and open lands, which would not be disturbed as a result of the proposed Project.

### **3. Alternatives Eliminated from Further Consideration**

In addition to the No Action Alternative and Action Alternative, EKPC considered other siting alternatives in the EA. **Section 4.0** of the EA, Alternatives, provides more detailed information as to why these other alternatives were eliminated from further consideration. Evaluation criteria included: costs, environmental impacts, and property area available for use as CCR landfill and soil borrow areas.

## **D. SUMMARY OF ENVIRONMENTAL EFFECTS**

The EA documented that the proposed Project would have no adverse effects to floodplains, important farmland soils, and land use. A summary of anticipated effects on the human environment is provided below.

Cultural Resources and Historic Properties. From 2011 through 2015, EKPC had 7 cultural resource surveys completed on the proposed Project site (i.e., the proposed new landfill site and burrow areas), which recommended eleven archaeological sites, a cemetery, and two historic sites as potentially eligible for listing in the National Register of Historic Places (NRHP). After Phase II evaluation studies, EKPC's consultants recommended that two sites (15Ms159 and 15Ms166) be considered eligible for listing in the NRHP; EKPC will establish a 100-foot exclusionary buffer around each of these sites. EKPC also treated the Driskell - Thomas Cemetery (associated with site 15Ms238) as eligible for listing the NRHP. This site is located in close proximity to a proposed borrow area, and EKPC would similarly establish a 100-foot exclusionary buffer around the site. Based upon these conditions, EKPC made a recommended finding that the proposed Project would have no adverse effects to historic properties. The Kentucky State Historic Preservation Office, administered through the Kentucky Heritage Council, concurred with this recommended finding. Accordingly, RUS has determined that the proposed Project would have no adverse effects to historic properties based on these recommended findings.

Threatened and Endangered Species. Eleven (11) federally listed species are known to occur or have the potential to occur in Mason County, Kentucky. They include: the Indiana bat, Gray bat, Northern long eared bat, running buffalo clover, and seven species of mussel. EKPC reviewed existing data and conducted surveys to determine the likelihood of the proposed Project affecting these species. Results are documented in a Biological Assessment included in Exhibit C of the EA. The U.S. Fish and Wildlife Service (USFWS) concurred with these findings.

- Indiana bat: Surveys showed that no hibernacula for bats were found on the proposed Project site; however, 97.13 acres of suitable summer roost trees for the species may be affected from Project activities. EKPC has entered into a conservation memorandum of agreement (MOA) with the USFWS to mitigate impacts that the proposed Project could have to the bat's summer roosting habitat. In addition, EKPC will restrict tree clearing activities to outside of the bat's summer roosting period (i.e., tree clearing would only be allowed from October 15 through March 31). With implementation of these conditions, the proposed Project would have no adverse effects to the Indiana bat.
- Northern long eared bat: this species has been documented by EKPC in close proximity to Spurlock Station during previously conducted surveys. Therefore, on behalf of RUS, EKPC completed a Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form as part of the USFWS streamlined consultation framework for the Northern long eared bat (NLEB). The proposed Project is consistent with the NLEB final 4(d) rule and the USFWS's January 5, 2016, intra-Service Programmatic Biological Opinion (4[d] BO) on the final 4(d) rule for the NLEB. The proposed Project does not (1) propose impacts to any known NLEB hibernacula; (2) propose the removal of any trees within 0.25 miles of a known NLEB hibernacula; or, (3) propose the removal of any known NLEB occupied maternity roost trees, or any tree removal activities within 150 feet of a known occupied maternity roost tree from June 1 through July 31.

- Gray bat: surveys showed that no hibernacula or potential roost sites for bats were found on the proposed Project site.
- Running buffalo clover: Multiple field surveys have been conducted during optimal search months in May and June of 2014, May and June 2015, and April 2016. Results of these surveys document that no suitable habitat for the species is present; therefore, the proposed Project would have no effects to this species.
- Mussels: The proposed area does not contain suitable aquatic habitat for protected mussel species; therefore, the proposed Project would have no effects to these species.

Section 404 of Clean Water Act and Executive Order 11990 Review. Construction of the proposed Project would result in unavoidable permanent impacts to approximately 5,755 linear feet (1.872 acre) of jurisdictional intermittent stream, 6,860 linear feet (0.482 acre) of jurisdictional ephemeral stream, and 0.048-acre of jurisdictional wetland within the identified landfill limits of disturbance through placement of the landfill material. The revised existing and proposed borrow areas were designed to avoid direct impacts to jurisdictional waters and wetlands by placing a 50-foot buffer around these features where no project disturbances would occur, although there would be some non-jurisdictional waters impacted as described above. Of the four non-jurisdictional wetlands, one (0.062-acre in size) may be impacted within the northwestern-most revised existing borrow area. In addition, 11 isolated ponds may be impacted by landfill and/or borrow activities. These ponds are predominantly located on ridgetops and were constructed for agricultural purposes (i.e., livestock watering).

EKPC designed the proposed Project to minimize the destruction, loss, or degradation to both non-jurisdictional and jurisdictional wetlands. However, for the reasons listed above, wetland impacts could not be entirely avoided, although the selected project alternative minimizes wetland impacts to the maximum extent practicable while still meeting the basic project purpose and need. The 0.048-acre jurisdictional wetland that would be impacted within the identified landfill limits of disturbance is a very small, low quality feature that has developed within a drainage ditch along an existing haul road, due to a poorly draining culvert. Through the alternatives analysis, EKPC determined that the proposed alternative (which impacts a poorer quality wetland) was preferred to minimize impacts to higher quality waters of the U.S. The proposed Project was identified as the least environmentally damaging practicable alternative through an analysis of multiple long-term disposal alternatives. To offset the unavoidable impacts to waters of the U.S, EKPC has prepared a comprehensive mitigation plan (see **Section 7.0** of the EA) consistent with its Section 404 permitting requirements. To mitigate impacts to waters of the U.S., EKPC would conduct stream restoration activities within the Beasley Creek drainage and purchase of wetland credits from the Northern Kentucky Mitigation Bank. The proposed compensatory mitigation would achieve the 12,556.25 adjusted mitigation units required to off-set the proposed Project impacts. The mitigation plan would be implemented after USACE permit issuance and concurrently with project construction.

Water Quality. EKPC will comply with the terms of its Kentucky Pollutant Discharge Elimination System (KPDES) permit and will implement a state-approved Storm Water Pollution Prevention Plan (SWPPP). By following this plan, erosion and sedimentation impacts to nearby water resources would be minimized.

Traffic. EKPC's new landfill would be located within the property boundaries of the Spurlock Station. EKPC anticipates minimal increases in traffic due to the Spurlock Station and landfill being a "captive facility." Therefore, only private roads on the Spurlock Station property would be used to transport CCR material to the landfill.

## **E. PUBLIC AND AGENCY INVOLVEMENT**

Local newspaper notices, announcing the availability of the EA were published on November 9, 10, and 11, 2017 in the Ledger-Independent. A copy of the EA was available for public review at the Mason County Public Library, located at: 218 East Third Street, Maysville, Kentucky 41056. The 14-day comment period ended on November 24, 2017. RUS received no comments.

## **F. FINDING OF NO SIGNIFICANT IMPACT**

Based on its EA, RUS has concluded that the proposed Project would have no significant effects to water quality, wetlands, the 100-year floodplain, land use, aesthetics, transportation, or human health and safety. The proposed Project will have no adverse effects to historic properties listed or eligible for listing on the National Register of Historic Places. RUS also has concluded that the proposed Project would have no adverse effects to federally listed threatened and endangered species, candidate species, or federally designated critical habitat. The proposed Project would not disproportionately affect minority or low-income populations.

In accordance with the National Environmental Policy Act, as amended (42 U.S.C. 4321 et seq.), the Council on Environmental Quality Regulations (40 CFR 1500–1508), and RD's Environmental Policies and Procedures (7 CFR Part 1970), RUS has determined that the environmental effects of the proposed Project have been adequately addressed and that no significant impacts to the quality of the human environment would result from construction and operation of the proposed Project. Any final action by RUS related to the proposed Project will be subject to, and contingent upon, compliance with all relevant federal and state environmental laws and regulations. Because RUS' action will not result in significant impacts to the quality of the human environment, an Environmental Impact Statement will not be prepared for the proposed Project.

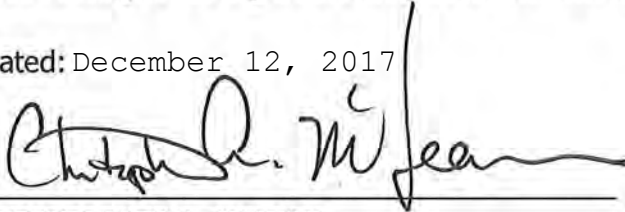
## **G. RUS LOAN REVIEW AND RIGHT OF ADMINISTRATIVE REVIEW**

This FONSI is not a decision on a loan application and therefore not an approval of the expenditure of federal funds. Issuance of the FONSI and its notices concludes RUS' environmental review process in accordance with NEPA and RD's Environmental Policies and Procedures (7 CFR Part 1970). The ultimate decision as to loan approval depends upon conclusion of this environmental review process in addition to financial and engineering reviews. Issuance of the FONSI and publication of notices will allow for these reviews to proceed. The decision to provide financial assistance is also subject to the availability of loan funds for the designated purpose in RUS' budget. There are no provisions to appeal this decision (i.e., issuance of a FONSI). Legal challenges to the FONSI may be filed in federal district court under the Administrative Procedures Act.

## **H. APPROVAL**

This Finding of No Significant Impact is effective on signature.

Dated: December 12, 2017



CHRISTOPHER A. MCLEAN  
Assistant Administrator  
Electric Programs  
Rural Utilities Service

### **Contact Person**

For additional information on this FONSI and EA, please contact Ms. Lauren McGee Rayburn, Environmental Scientist, at USDA, Rural Utilities Service, 160 Zillicoa Street, Suite 2, Asheville, North Carolina, 28801; telephone: (202) 695-2540; fax: (202) 690-0649; or e-mail: [lauren.rayburn@wdc.usda.gov](mailto:lauren.rayburn@wdc.usda.gov).

ATTACHMENT JP-4  
RUS ENVIRONMENTAL ASSESSMENT



**ENVIRONMENTAL ASSESSMENT  
FOR  
EAST KENTUCKY POWER COOPERATIVE, INC.  
KENTUCKY 59 FAYETTE**

**Project Designation:**

**Spurlock Power Station Peg's Hill Landfill Project  
Mason County, Kentucky**

**Project Contained in the 2017 – 2019 Generation Construction Work Plan  
RUS Project #1200.196**

**Prepared by:**



**East Kentucky Power Cooperative, Inc.**  
*Environmental Affairs*  
4775 Lexington Road  
Winchester, KY 40391

**For:**



**USDA Rural Utilities Service**  
*Engineering and Environmental Staff*  
South Agriculture Building  
1400 Independence Ave, SW  
Room 2242 South Agriculture Building, Stop 1570  
Washington, DC 20250-1571

*October 2017*

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## ACRONYMS

AMSL	Above Mean Sea Level
AMU	Adjusted Mitigation Unit
AOI	Area of Influence
APE	Area of Potential Effect
BA	Biological Assessment
BMPs	Best Management Practices
CAA	Clean Air Act
CCR	Coal Combustion Residuals
CEQ	Council on Environmental Quality
CFB	Circulating Fluidized Bed
CFR	Code of Federal Regulations
CQC	Construction Quality Control
CRA	Cultural Resource Analysts, Inc.
CWA	Clean Water Act
DBH	Diameter at Breast Height
EA	Environmental Assessment
EIS	Environmental Impact Statement
EKPC	East Kentucky Power Cooperative, Inc.
E.O.	Executive Order
EPA	U.S. Environmental Protection Agency
EPSCP	Erosion Prevention and Sediment Control Plan
ESA	Endangered Species Act of 1973, as amended
<i>et seq.</i>	<i>et sequential</i> (and following)
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act, as amended
GCL	Geosynthetic Clay Liner
GPD	Gallons Per Day
HUC	Hydrologic Unit Code
HUD	Housing and Urban Development
IWEM	Industrial Waste Management Evaluation Model
JD	Jurisdictional Determination
KAR	Kentucky Administrative Regulations
KDAQ	Kentucky Division for Air Quality
KDFWR	Kentucky Department of Fish and Wildlife Resources
KDOW	Kentucky Division of Water
KDWM	Kentucky Division of Waste Management
KGS	Kentucky Geological Survey
KHC	Kentucky Heritage Council
KPDES	Kentucky Pollutant Discharge Elimination System
KSNPC	Kentucky State Nature Preserves Commission
KYTC	Kentucky Transportation Cabinet
NAAQS	National Ambient Air Quality Standards

NEPA	National Environmental Policy Act of 1969, as amended
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act of 1966, as amended
NRHP	National Register of Historic Places
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
PPE	Personal Protection Equipment
QA/QC	Quality Assurance/Quality Control
RPBR	Registered Permit-By-Rule
ROD	Record of Decision
RCRA	Resource Conservation and Recovery Act
ROW	right-of-way
RUS	USDA Rural Utilities Service
§	Section
SPCC	Spill Prevention, Control, and Countermeasure Plan
SWPPP	Stormwater Pollution Prevention Plan
U.S.	United States
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WSS	Web Soil Survey
WWW	World Wide Web



**Environmental Assessment**  
**Spurlock Power Station Peg’s Hill Landfill Project**  
**East Kentucky Power Cooperative, Inc.**  
**Mason County, Kentucky**

**1.0 INTRODUCTION**

East Kentucky Power Cooperative, Inc. (EKPC) is proposing the construction, operation, and maintenance of the new Peg’s Hill Coal Combustion Residuals (CCR) landfill at its H. L. Spurlock Power Station (Spurlock Station) in Mason County, Kentucky. Spurlock Station occupies just over 2,800 acres along the south bank of the Ohio River on either side of KY 8 (Mary Ingles Highway), approximately five miles northwest of the city of Maysville. The proposed Spurlock Station Peg’s Hill CCR landfill would be located along South Ripley Road, approximately 0.5-mile south of KY 8 and 0.5 mile west of KY 1597 (Charleston Bottom Road), and sited adjacent to an existing landfill facility. The existing, permitted CCR landfill for Spurlock Station is reaching its operational capacity, necessitating the new landfill project. The new CCR Landfill would serve as the disposal facility for the CCR generated from the production of electricity at Spurlock Station. The purpose of the project is to provide an economically feasible and environmentally sound disposal site for CCR generated as a result of the long-term operation of Spurlock Station. Furthermore, the new landfill would provide disposal capacity for the CCR stored in the Spurlock Station CCR surface impoundment, which will require closure per the requirements of the federal CCR Rule.

Spurlock Station is the largest coal-fired electric generating facility owned by EKPC and has been in operation since 1977. The power produced at Spurlock Station is transmitted to EKPC’s 16 Owner-Member Electric Distribution Cooperatives, which serve approximately 530,000 homes, farms, and commercial and industrial customers in 87 Kentucky counties. Electric generation at Spurlock Station typically produces approximately 1,800,000 cubic yards of CCR annually (one cubic yard equals approximately one ton), which is transported via a private haul road and bridge across KY 8 to the active on site permitted CCR landfill for disposal. Per EKPC landfill management planning guidelines, the available waste disposal area must be of sufficient size to allow for long-term planning and operation of the facility. Based on an evaluation of the anticipated CCR production at Spurlock Station the existing landfill is projected to be at its operational capacity as early as 2023. The proposed new Peg’s Hill landfill would provide long-term CCR disposal capacity to allow for the clean closure of the existing Spurlock Station CCR surface impoundment and to support electric generating operations at Spurlock Station through approximately 2037. Per 40 CFR Part 257, the CCR produced at Spurlock Station is classified as a non-hazardous Resource Conservation and Recovery Act (RCRA) solid waste, and the landfill is not considered a major treatment, storage, or disposal facility for hazardous waste as designated in 40 CFR Part 261.

Based upon an analysis of project alternatives, EKPC has identified construction of the Peg’s Hill CCR landfill adjacent to the existing Spurlock Station landfill (Alternative X – Peg’s Hill)

as the least environmentally damaging practicable alternative. The project footprint for the proposed landfill activities would encompass approximately 1,476-acres, located in the west-central portion of the Spurlock Station property. Project activities may affect up to 591 acres of land within this footprint, including approximately 181 acres within the limits of disturbance associated with construction of the new CCR landfill, up to 390 acres within the soil borrow areas, and approximately 20 acres for stream mitigation activities. Included in Exhibit B – Project Maps, Pg. 99 are the *Project Area Map* (Exhibit B-1) that depicts the proposed project footprint and the general location of Spurlock Station, and the *Project Components Maps – Topography and Aerial* (Exhibits B-2 and B-3) that show the proposed project footprint, CCR landfill waste limits, limits of disturbance, revised existing borrow areas, proposed new borrow areas, and stream mitigation area. Also located within the project footprint is the approximately 250-acre existing CCR landfill and roughly 635-acres of forested and open lands, which would not be disturbed as a result of the proposed project.

Because EKPC plans to apply for project financing assistance from the U.S. Department of Agriculture (USDA), Rural Utilities Service (RUS), the proposed project constitutes a Federal action subject to review in accordance with Rural Development’s (RD) *Environmental Policy and Procedures* for implementing the National Environmental Policy Act (7 CFR Part 1970). Per Section 1970.101 of these regulations, the proposed landfill project requires the preparation of an Environmental Assessment (EA).

An adequate EA enables RUS to evaluate the environmental effects of a proposed project and fulfill its obligations under the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. § 4321 *et seq.*), and other environmental mandates. The EA will serve as a detailed written record of the environmental analysis completed for the proposed project and is intended to provide RUS officials with sufficient information to make a determination of the significance of the environmental impacts of its actions. RUS will use the results of the environmental impacts analysis in the EA to determine whether RUS can make a Finding of No Significant Impact (FONSI) or whether the preparation of an Environmental Impact Statement (EIS) will be necessary. RUS is solely responsible for determining the proposed project’s environmental acceptability based upon an understanding of the environmental consequences presented in this document. Regardless of whether an EIS is ultimately required, the information provided in this document must allow RUS to determine that its Federal action will not conflict with other environmental statutes, regulations, Executive Orders (E.O.), policies, and procedures that may be applicable to the project.

The EA incorporates a detailed description of the proposed project, including topographic maps and aerial photographs depicting the location of the project and a discussion of the need and alternatives considered for the proposed action. A discussion of the affected environment within the proposed project area, the environmental impacts of the proposed action, and mitigation of environmental impacts are included to support this EA.

## 1.1 Other Federal Statutes and Executive Orders

The following is a listing of federal statutes and E.O.s that may be applicable to the proposed action:

- Archeological Resources Protection Act, 16 U.S.C. 370aa *et seq.*
- Clean Air Act, 42 U.S.C. 7401 *et seq.*
- Clean Water Act, 33 U.S.C. 1251 *et seq.*
- Comprehensive Environmental Response, Compensation, & Liability Act, 42 U.S.C. 9601 *et seq.*
- Endangered Species Act, 16 U.S.C. 1531 *et seq.*
- Farmland Protection Policy Act, 7 U.S.C. 4201 *et seq.*
- National Environmental Policy Act, 42 U.S.C. 4321 *et seq.*
- National Historic Preservation Act, 16 U.S.C. 470 *et seq.*
- Resource Conservation & Recovery Act, 42 U.S.C. 6901 *et seq.*
- Solid Waste Disposal Act, 42 U.S.C. 3251
- Safe Drinking Water Act, 42 U.S.C. 300 *et seq.*
- E.O. 11514, Protection and Enhancement of Environmental Quality
- E.O. 11593, Protection and Enhancement of the Cultural Environment
- E.O. 11988, Floodplain Management
- E.O. 11990, Protection of Wetlands
- E.O. 12898, Environmental Justice
- E.O. 13084, Consultation and Coordination with American Indian Tribes
- E.O. 13112, Invasive Species
- E.O. 13212, Actions to Expedite Energy Related Projects

## 1.2 Required Permits

The following is a list of known permits that would be required for implementation of the proposed action:

- Kentucky Division of Water
  - ◆ 401 Individual Water Quality Certification
  - ◆ Kentucky Pollutant Discharge Elimination System Permit Modification
- U.S. Army Corps of Engineers
  - ◆ Section 404 Individual Permit
- Kentucky Division of Waste Management
  - ◆ 401 KAR Chapter 46 Registered Permit-By-Rule
- Coal Combustion Residual Rule
  - ◆ 40 Federal Code of Regulations Part 257 (self-implementing)

### **1.3 Federal Decisions to be Made**

The Federal actions related to EKPC's proposal would be RUS's granting of financial assistance for the construction of the Spurlock Station Peg's Hill Landfill project, and the U.S. Army Corps of Engineers' (USACE) issuance of an Individual Permit under Section 404 of the Clean Water Act (CWA) for the unavoidable water/wetland impacts resulting from the construction of the new CCR landfill. RUS's decision of whether or not to grant the requested financing assistance would be made based on the environmental analysis outlined in the EA and subsequent engineering and financial reviews. The USACE's decision of whether or not to issue the Section 404 Individual Permit would also be made, in part, based on the environmental analysis outlined in the EA. To fulfill its obligations under the CWA and NEPA, the USACE will use the information contained in this EA to conduct an environmental analysis and prepare its own environmental document under NEPA.

Issuance of this EA is not a decision on a loan application and therefore not an approval of the expenditure of federal funds. Issuance of the EA and any subsequent environmental findings is required in accordance with NEPA and RD's *Environmental Policies and Procedures* (7 CFR Part 1970). Legal challenges to the EA and any subsequent environmental findings may be filed in federal district court under the Administrative Procedures Act.

## 2.0 PROJECT DESCRIPTION

EKPC's Spurlock Station occupies just over 2,800 acres along the south bank of the Ohio River on either side of KY 8 (Mary Ingles Highway), approximately five miles northwest of the city of Maysville. The proposed Spurlock Station Peg's Hill CCR landfill would be located along South Ripley Road, approximately 0.5-mile south of KY 8 and 0.5 mile west of KY 1597 (Charleston Bottom Road), adjacent to an existing landfill facility. The new CCR landfill would serve as the disposal facility for the CCR generated from the production of electricity at Spurlock Station. To continue uninterrupted operations at the facility, EKPC is seeking to provide continued CCR disposal capacity by constructing the proposed landfill in light of the fact that the existing CCR landfill is reaching capacity.

The proposed new CCR landfill would be located on the north side of the existing landfill, approximately 1.0 mile to the southwest of the Spurlock Station electric generating facility. The project area is roughly bound by KY 8 and Spurlock Station to the north, the Lawrence Creek drainage to the east, KY 576 (Tuckahoe Road) to the south, and the Beasley Creek drainage to the west. The proposed waste limits for the new Peg's Hill CCR landfill are bounded by the existing CCR haul road to the north and west, the current landfill to the south, and the Lawrence Creek drainage to the east. The currently active Spurlock Station landfill is located directly to the south of the proposed new Peg's Hill CCR landfill, and in time, it is anticipated that the two areas would be combined, should regulations support this. Construction of the new landfill would require grading of the project area to allow placement of a composite liner system and leachate collection system throughout the proposed waste limits. Use of the landfill would also require soil for cover upon reaching final grade, with the proposed soil borrow areas located on the Spurlock Station property, in the vicinity of the landfill facility.

### 2.1 Site History

Spurlock Station is a four-unit, coal-fired baseload facility that operates around the clock, virtually every day of the year, working continuously to meet system demand. The first electric generating unit (Unit 1) went into operation in 1977 and is capable of producing 325 megawatts of electricity. A second unit (Unit 2), can produce up to 525-megawatts and was added in 1981. In March 2005 (Unit 3) and March 2009 (Unit 4), Spurlock Station dedicated new 268-megawatt (300 nominal) units that use a cutting-edge clean coal technology known as the circulating fluidized bed process, or CFB. In this process, coal is mixed with limestone and burns at lower temperatures than in conventional boilers. These units rank as two of the cleanest coal-powered units in the nation and the cleanest in Kentucky. Additionally, CFB boilers can be modified to burn alternative fuels and Spurlock Station Units 3 and 4 are permitted to burn used tires up to 10% by weight. Currently, EKPC is only burning tires in Unit 3, but plans to expand this operation to Unit 4 pending Kentucky Division for Air Quality testing. During normal operations Unit 3 burns an average of 1,500 tons of used tires per month. Based on the average passenger vehicle tire weight of 22 pounds, utilization of this alternative fuel is annually preventing up to 1.63 million tires from being discarded in Kentucky's streams, illegal dumps, and landfills.

In recent years, nearly \$600 million in new environmental-control equipment has been added at Spurlock Station. Flue gas desulfurization "scrubbers" have been added to Units #1 and #2,

and this equipment removes sulfur dioxide from plant emissions. Selective Catalytic Reactors (SCRs) have been added to reduce emissions of nitrous oxides. Electrostatic precipitators downstream of the boiler collect ash, a non-hazardous material that is a byproduct of burning coal, to be disposed of safely in the adjacent CCR landfill pursuant to Kentucky Administrative Regulations.

## **2.2 Site Review History**

The Rural Utilities Services (RUS) has conducted environmental reviews of three previous Spurlock Station CCR landfill projects. Prior to the initial construction of the Spurlock Station Landfill, RUS completed an Environmental Assessment (EA) in 1979 to determine if an Environmental Impact Statement (EIS) should be prepared for the proposed CCR landfill. RUS concluded that the landfill could be constructed and operated without significantly affecting the quality of the human environment and issued a negative determination under Section V.K. [2] of REA bulletin 20-21:320-21. This determination was published in the Federal Register Vol. 44, No. 151, Pg. 45655 on August 3, 1979. In 2010, RUS also reviewed a Site-Specific Environmental Report for the Spurlock Landfill Expansion project (Area C). By letter dated February 24, 2010, RUS concluded that the Area C expansion project met the criteria for a Categorical Exclusion in accordance with 7 CFR Part 1794, Environmental Policies and Procedures, as amended, and the preparation of an EA or EIS was not required for RUS's action related to the project. RUS also completed an EA and issued a Finding of No Significant Impact (FONSI) for the Spurlock Station Landfill Boundary Expansion project in November 2013. The landfill boundary expansion project established the current permit boundary for the existing CCR landfill and new soil borrow areas needed for the continued operation and construction of the landfill facility.

The landfill was initially permitted by the Kentucky Division of Waste Management (KDWM) in 1982. The KDWM has monitored construction of the landfill over the past 35 years with the latest permit action being a KDWM Construction Progress Report review of Area C, Phase 2 (15.25 acres) and authorization of waste placement, which occurred on August 14, 2015.

On April 17, 2015, the U.S. Environmental Protection Agency (EPA) issued the final version of the federal Coal Combustion Residual Rule (CCR Rule) to regulate the disposal of CCR materials generated at coal-fired electric utilities. The rule is administered as part of the Resource Conservation and Recovery Act (RCRA, 42 United States Code [U.S.C.] § 6901 et. seq.), under Subtitle D. EKPC is subject to the CCR Rule and as such must meet the requirements of the rule that pertain to existing landfills and surface impoundments, and also for any new landfills or expansions of existing landfills.

The KDWM recently promulgated the new 401 KAR Chapter 46 to regulate the management and disposal of CCR in accordance with the new federal CCR Rule. However, a lawsuit filed in May 3, 2017 challenged certain regulations in Chapter 46, and the future of transitioning from 401 KAR Chapter 45 Special Waste Permits to a Chapter 46 registered permit-by-rule is currently uncertain. Based on the new Chapter 46 regulations, the proposed Spurlock Station Peg's Hill Landfill project would require that EKPC obtain a Registered Permit-By-Rule (RPBR) from the KDWM for the new landfill construction. The Peg's Hill Landfill project is deemed to be a new CCR Landfill under both 401 KAR Chapter 46 and the federal CCR Rule,



40 CFR Part 257. Since 401 KAR 46:110 adopts by reference the requirements of the federal CCR Rule for construction and operation of a CCR landfill, the applicable requirements under 401 KAR Chapter 46 and the CCR Rule are identical. But, 401 KAR 46:120 Section 7 also requires financial assurance for closure and post closure care for the landfill. EKPC will provide the financial assurance for the project.

The USACE Huntington District Office has also reviewed projects associated with the Spurlock Station landfill, the most recent being the issuance of permit number LRH-2009-439-OHR, authorizing the placement of dredged and fill material within the Waters of the U.S. in conjunction with the Spurlock Station Waste Landfill Area C Expansion project on April 29, 2010. Due to recent USACE organizational changes, the proposed landfill project would be permitted through the USACE Louisville District Office (USACE ID No. LRL-2015-329).

### **2.3 Project Components and Phasing**

Based upon an analysis of project alternatives (Section 4.0), EKPC has identified construction of the new Peg's Hill CCR landfill as the least environmentally damaging practicable alternative. The proposed project will involve the construction, operation, and maintenance of the Spurlock Station Peg's Hill CCR landfill. The project would also include modification of the existing soil borrow areas and establishment of new soil borrow areas. In addition, a stream mitigation area is proposed in the adjacent Beasley Creek drainage, as required to mitigate for unavoidable stream impacts associated with the landfill project. All proposed Peg's Hill landfill project-related activities would occur within the identified project footprint.

The limits of disturbance directly associated with development of the proposed Peg's Hill landfill have been identified to encompass approximately 181 acres. Within the limits of disturbance, project activities would include preparation of the site for placement of the landfill liner system and CCR material within the proposed waste limits (102 acres), wastewater sedimentation pond to be constructed east of the proposed waste limits (2 acres), and 77 acres of potential ancillary disturbances associated with all required compliance structures (i.e. groundwater monitoring points, sediment control structures, diversion ditches [both run-on and run-off], roadways, underdrains, leachate containment structures, and composite landfill liner system), see *Project Components Maps (Topography and Aerial)* in Exhibit B-2 and B-3 – Project Maps, Pg. 99.

The necessary borrow areas needed to provide the identified liner and cover requirements were identified on the ridgetops located within the identified project footprint just to the north, south, and west of the proposed landfill area. The six existing borrow areas have been slightly modified from what is currently permitted to reflect the updated Waters of the U.S. jurisdictional determinations and account for an updated property boundary survey conducted following a recent property acquisition. The existing borrow areas would now encompass 117 acres (previously 115 acres). Additional soil borrow areas beyond those currently available would be needed to meet the long-term cover requirements for landfill activities; thus, eight new borrow areas covering an additional 273 acres would be established as part of the project. Therefore, a total of 390 acres associated with borrower areas may be disturbed. The proposed borrow areas have been designed to avoid all impacts to jurisdictional water/wetland features by placing a 50-foot buffer around jurisdictional waters where no project disturbances would

occur and also avoid cultural resources eligible for listing in the National Register of Historic Places and cemeteries. The use of these borrow areas would be phased over the course of landfill operations and the total area to be affected will be determined by the extent to which the identified borrow areas require utilization, which is dependent upon the actual soil volumes encountered.

EKPC has developed a mitigation plan (see Section 7.0 Mitigation Plan) to compensate for the unavoidable permanent stream impacts that would result from the Peg's Hill landfill construction project. Due to the significant cost savings, EKPC is proposing to mitigate for the stream impacts through an on-site stream restoration project within the 87.4-acre Beasley Creek Mitigation Area, located in the western portion of the project footprint. A *Conceptual Stream Mitigation Plan* has been prepared and provides detailed site information and conceptual stream mitigation designs following the current USACE compensatory mitigation guidelines (issued April 10, 2008). Mitigation activities would include re-establishment, rehabilitation, enhancement, and/or buffer enhancement along 18,223 linear feet of intermittent and ephemeral stream within the stream mitigation area. EKPC estimates that approximately 20 acres will be disturbed to complete the required stream mitigation activities. Of this total, nine acres would be disturbed within an anticipated 12 foot wide disturbance limit along each streambank for the stream channels that are proposed for rehabilitation and enhancement. Within these areas, mitigation activities would include channel re-alignment/re-establishment, bank grading, construction of step-pool-cascade complexes, and installation of in-stream structures (i.e. branch layering, live stakes, boulder j-hooks, and log vanes). In addition to these direct disturbances, it is expected that up to eleven acres of disturbance would occur in association with accessing the mitigation area and for material/equipment staging areas. To the maximum extent practical, existing native vegetation would be retained, although EKPC estimates that up to five acres of tree clearing would be required within the stream mitigation area. Riparian buffers, ranging from 50 – 150-foot wide, would be established or enhanced along each streambank for all of the included stream mitigation reaches. The stream reaches and associated riparian buffers would comprise the 87.4-acre mitigation area, and this acreage would be placed in a deed restriction and protected in perpetuity.

Also located within the project footprint is the approximately 250-acre existing CCR landfill and roughly 635-acres of forested and open lands that would not be disturbed as a result of the proposed project. This acreage is primarily located to the north and east of the proposed landfill and borrow areas and within the stream mitigation area, and would serve as a buffer between the proposed landfill activities and adjacent properties. New disturbance activities for construction of the Peg's Hill landfill would be limited to the limits of disturbance, identified soil borrow areas, and stream mitigation area. The individual components of the proposed CCR landfill are summarized in the following table and are depicted on the *General Site Plan* and the *General Subgrade Plan* drawings located in Exhibit A – Design Drawings, Pg. 94, and the *Project Components Maps (Topography and Aerial)* included in Exhibit B-2 and B-3 – Project Maps, Pg. 99.



**Table 1. Project Components**

<b>Component</b>	<b>Proposed Acreage</b>
<b>Landfill Limits of Disturbance</b>	<b>181</b>
<i>Waste Limits</i>	<i>102</i>
<i>Sediment Pond</i>	<i>2</i>
<i>Ancillary Impacts</i>	<i>77</i>
<b>Soil Borrow Areas</b>	<b>390</b>
<i>Revised Existing Borrow Areas</i>	<i>117</i>
<i>Proposed New Borrow Areas</i>	<i>273</i>
<b>Stream Mitigation Area</b>	<b>20</b>
<b>Total</b>	<b>591</b>

EKPC would utilize a phased approach for construction of the Peg’s Hill CCR landfill project, which would minimize the duration of active construction areas throughout the life of the project. Vegetation removal would also be phased so as not to remove vegetative cover and destabilize portions of the project area until work is ready to commence. Site preparation activities would occur within the identified limits of disturbance and include limited vegetation removal for construction of the sediment pond, filling the primary intermittent stream through the new CCR landfill area by installing a grout mat channel, and installation of all required compliance structures. Following site preparation activities, the first Phase of the landfill would be prepared for liner installation and CCR placement. Each subsequent construction Phase of the landfill would be roughly 10 – 15 acres in size and include the clearing of all vegetation, preparation of the subgrade, and installation of the liner system prior to receiving any CCR materials. It is anticipated there would be 5 – 7 construction Phases required to complete the Peg’s Hill landfill project and the final design of each Phase would ultimately be determined based on actual field conditions encountered and capacity needs for the disposal of CCR produced at Spurlock Station and the CCR surface impoundment closure. In general, a new construction Phase of the landfill would be initiated every 2 – 3 years, each likely resulting in impacts to ephemeral streams.

#### **2.4 Project Schedule**

The start of construction for the proposed project depends on the time required to obtain multiple permits and approvals for the various project components. As previously discussed, EKPC anticipates that the capacity of the current disposal area (Landfill Area C) will be exhausted as early as 2023. Construction activities within the proposed Peg’s Hill landfill area would begin with installation of environmental compliance structures, including the landfill sediment pond. These activities are expected to take a full construction season to complete, which typically lasts from April through November. Following installation of the appropriate environmental controls, Phase I of the landfill would be constructed, which is also anticipated to take a full construction season to complete. While each of these construction activities is expected to be completed within a single construction season, this timeframe would ultimately be dictated by weather conditions that could produce project delays. EKPC landfill management planning also requires that appropriate buffers be built into the project schedule to account for such unforeseen circumstances (i.e. permitting issues, weather conditions, increased CCR production, actual subsurface conditions, etc.). Therefore, EKPC anticipates

that the latest time to commence construction of the Peg's Hill landfill project to allow for the continued, uninterrupted long-term operation of Spurlock Station would be early 2019.

## **2.5 Construction and Maintenance Procedures**

The landfill will be designed and constructed in accordance with federal and state requirements for new CCR landfills. Based upon the construction activities anticipated for the proposed landfill project, up to approximately 591 acres within the identified project footprint would be impacted. These impacts would include soil excavation, grading, and filling, as well as the clearing of trees. EKPC has determined that approximately 97.13 acres of forested habitat may be cleared over the life of the project within the proposed limits of disturbance, borrow areas, and stream mitigation area.

### *2.5.1 Geotechnical Investigation*

Stantec performed a field exploration in April of 2011 which included twenty-eight (28) soil borings (B-1 through B-28) and thirty (30) hand probe holes (HP-1 through HP-30) generally located within the limits of the proposed landfill project area. The soil borings were drilled using a truck mounted drill rig equipped with 3.25-inch hollow-stem augers. Disturbed and/or undisturbed soil sampling was performed in all but two of the soil borings (refusal was encountered at one foot in each of the two) and included standard penetration testing and Shelby tube sampling, respectively. In addition, bag samples representing the predominant soil types were collected from auger cuttings for laboratory testing and analysis. Upon completion of drilling, the borings were checked for the presence of subsurface water and then backfilled with auger cuttings with selected borings receiving temporary observation wells. A geotechnical engineer and/or geologist was present during the drilling operations to locate the borings, direct the drill crew and log the subsurface conditions encountered. During logging, particular attention was given to the soil's color, texture, consistency and moisture content. The results of this analysis were used during the design of the proposed Peg's Hill landfill project.

### *2.5.2 Site Preparation*

Site preparation would begin with the removal of top soil and/or vegetative cover from the ground surface prior to construction and excavation. Vegetation removal would be phased so as not to remove vegetative cover from portions of the project area until work is ready to commence. Initial vegetative clearing would occur within the landfill limits of disturbance and borrow areas, as necessary. Trees and other woody stemmed vegetation would be cut using chainsaws, bulldozers, and/or excavators. Merchantable saw-timber trees and fence post trees may be cut into commercial lengths and sold by EKPC. Equipment such as a high line cable truck or a skidder may be used to move the cut trees to loading sites. Any remaining waste logs, brush, limbs, and slash would be disposed of through burning or removed from the project area and likely sold as pulpwood.

### *2.5.3 Construction Quality Control Plan*

The Construction Quality Control (CQC) Plan is a site and project specific document that addresses construction of the bottom liner system, final cap system, and sediment ponds for all landfill development. The purpose of this CQC Plan is to ensure that elements of the landfill are constructed in a manner that meets or exceeds all applicable location, design criteria, technical specifications, and operating requirements of federal and state regulations governing

new CCR landfill construction. Adherence to this plan would assure that a stable base for the construction of the geomembrane layer is provided. The CQC Plan provides that all geosynthetic materials include a manufacturer's statement identifying the materials used to manufacture the product(s) and describing how the manufacturer tested and evaluated the product(s). These statements and reports would be provided before the installation of any geosynthetic materials at the landfill site.

The landfill would operate under a Kentucky Division of Waste Management (KDWM) Registered Permit-By-Rule and the federal CCR Rule, which would require documentation of design and engineering certifications during and/or after construction to verify conformance with the applicable state and federal regulations. All construction would be certified by the licensed professional engineer in accordance with the CQC Plan and provided to the KDWM before waste placement begins. The minimum significant phases of construction would be: subgrade completion and proof roll, liner installation, geocomposite installation, protective cover, and final inspection at the end of construction activities.

#### *2.5.4 Construction Activities*

Construction activities would include construction of the liner, final cap, and pond liner systems. Liner system construction includes excavation and fill (placement of soil or rock) where needed to achieve required subgrade elevations. Once subgrade preparation is completed, liner and pond liner construction activities would be completed using one of two liner system options, which would include one or more of the following: placement of a soil liner compacted to 92% standard Proctor, geosynthetic clay liner (GCL), flexible membrane liner, drainage layer, and piping associated with a leachate collection system. Construction of the final cap system includes grading of existing waste and/or cover material, placement of additional soil material as needed, placement of a flexible membrane liner, installing a drainage layer as needed, and placement of vegetative cover.

##### 2.5.4.1 Subgrade

The bottom liner system would be constructed over a stable subgrade that meets the requirements of the CQC Plan. Subgrade construction for the liner system would approximately follow the grades and limits shown on the construction plan drawings. The subgrade would be the uppermost in-situ rock layer, in-situ soil layer or engineered select fill that would be graded and prepared for bottom liner system construction. Spoil, top soil, and other uncontrolled fill would be removed as directed by the Certifying Engineer and replaced with select fill, as needed, until the subgrade elevations are reached. The materials, construction, and certification requirements for the subgrade would comply with the CQC Plan.

Top soil and/or vegetative cover shall be removed from the ground surface prior to construction and excavation. All areas to receive soil fill placement shall be proof rolled. Areas that exhibit excessive deflection or pumping, or areas that are obviously wet or soft shall be undercut and backfilled with suitable material. The Quality Assurance/Quality Control (QA/QC) Engineer or their representative would inspect the exposed surface to evaluate suitability of the subgrade and ensure the surface is properly compacted, smooth, and uniform. The subgrade would be inspected for seeps prior to placement of the soil liner. In the event that a significant seep is encountered, as determined by the QA/QC

Engineer, an interceptor pipe and French drain would be installed as shown in the engineering plans. Sufficient cross sections would be taken to show the finished elevations of the subgrade and would be used as a reference for the various layers of the liner.

#### 2.5.4.2 Bottom Liner System

The proposed bottom liner system would consist of overlapping layers and constructed using one of the following liner system options:

- **Option 1** consists of a six (6) inch compacted soil layer (compacted to 92% standard proctor), GCL, geomembrane liner, and leachate drainage layer.
- **Option 2** consists of a twenty-four (24) inch low permeable compacted soil layer, geomembrane liner, and leachate drainage layer.

The first three layers (from the bottom up) in Option 1 and the first two layers in Option 2 would act as barrier layers designed to keep leachate and waste within the landfill. The leachate drainage layer would be constructed of permeable materials and would act as a drainage/collection layer designed to collect and convey leachate to storage areas. From the storage area, the leachate would be integrated with the underdrain and stormwater runoff and be monitored through a proposed Kentucky Pollutant Discharge Elimination System (KPDES) discharge point. The proposed bottom liner systems would provide effective waste and leachate containment and comply with the Environmental Performance Standards listed in 401 KAR 30:031. The bottom liner system designs would also comply with applicable state and federal requirements for new CCR landfills. See *Liner Details* drawing located in Exhibit A – Design Drawings, Pg. 94.

#### *2.5.5 Transportation of CCR to Spurlock Station Landfill*

The CCR from the Spurlock Station generating facility and from the closure of the CCR surface impoundment would be loaded onto trucks and transported to the new CCR landfill for disposal. The existing private haul road is approximately 2.5-miles in length, includes a bridge across KY 8, and is located entirely within property owned by EKPC. Waste hauling operations would comply with applicable Federal, State, and Local requirements.

#### *2.5.6 New Fill Operations*

Prior to the placement of waste material, all compliance structures required for the safe environmental operation of the landfill would be constructed in accordance with state and federal requirements. These structures include groundwater monitoring points, sediment control structures, diversion ditches (both run-on and run-off), roadways, leachate containment structures, and containment liners. In accordance with the plans and specifications, EKPC would construct the required compliance structures following a phased construction schedule. Special care would be taken to avoid the placement of waste material in areas where compliance structures have not been constructed and to prevent any releases from the landfill facility.

Waste material would be collected and transported by truck from the Spurlock Station generation facility and from the closure of the CCR surface impoundment, via private haul

road, to the landfill working face. The CCR would be spread over the working face and compacted once per day (at a minimum) depending upon the amount received. The CCR would be spread in two (2) foot (maximum) loose lifts and compacted to 85 percent of its maximum dry density. The final out slopes of each phase would be graded as shown on the engineering drawings to meet permitted top of waste grades. Completed out slopes would receive a six (6) inch layer of temporary cover material. The cover material would be seeded to establish vegetation until the final cap system is constructed. This process would be continued until the landfill has reached the approved dimensions contained in the certified design package.

The landfill operator would visually inspect all initial waste stockpiles after dumping and periodically during spreading and placement to determine that no unacceptable waste materials are contained in the CCR material. Should unacceptable waste materials be observed, these waste materials would be removed from the CCR and disposed of in a manner consistent with state and federal regulations.

Equipment used for daily operations of the proposed facility would consist of:

- 40 Ton End Dump Trucks
- Rubber-Tired Articulated Dozer
- Dozer (CAT 06 Equivalent)
- Smooth Drum Compactor
- Water Truck
- Excavator or Rubber Tired Backhoe

The amount and type of equipment may be changed throughout the life of the facility in order to operate and maintain the landfill in compliance with applicable state and federal regulations. Equipment would be provided to place and compact CCR on a daily basis as well as maintain haul roads and surface water controls. Any additional equipment would be contracted on an as needed basis.

#### *2.5.7 Soil Borrow Operations*

The borrow areas were identified based on the Stantec geotechnical investigation, which found the most appropriate soils for landfill cover material on the ridges rather than the side slopes. Available material quantities outside the proposed waste boundary in permitted borrow areas were estimated using information contained within the soil borrow studies prepared by Kenvirons, Inc. on May 20, 2013. A total of 27 test pits, designated as TP-01 through TP-27, were excavated within specified sections of the proposed borrow areas to identify the native on-site soil materials observed within designated borrow areas and to assess their suitability for use in future landfill construction applications. The encountered subsurface materials were logged by Kenvirons (project engineering firm) personnel. Particular attention was given to the physical characteristics, color, texture, moisture content, and clay content of the soils since these qualities are relevant to the intended use of these materials.

Based on these studies, the anticipated average soil yield per acre was used to calculate the available soil from proposed borrow areas. The volume of soil required for the Soil Liner refers to structural fill required to bring the liner up to grade. The final cover volume has been shown as Vegetative Cover and Operational Cover. Some of this cover material would first be used



to construct temporary berms to redirect the drainage on partially completed CCR fill areas. The material used to construct these temporary berms would be salvaged and reused in the final cap construction. These areas would provide adequate soil material for temporary and final cover.

Soil requirements are as follows:

Embankment	856,302 cubic yards
Soil Liner (24" deep)	488,540 cubic yards
Soil Liner (Relocate Pond)	1,614 cubic yards
Operational Waste Cover	159,680 cubic yards
Vegetative Cover	767,911 cubic yards
<b>Total Volume Required</b>	<b>2,274,047 cubic yards</b>

Available soils are as follows:

Topsoil	259,997 cubic yards
Clay	2,443,320 cubic yards
Rock	468,406 cubic yards
<b>Total Volume Available</b>	<b>3,171,723 cubic yards</b>

To minimize disturbances, soil borrow areas would only be utilized as material is needed for construction (i.e. landfill liner and cap) and borrow activities would be staggered throughout the life of the project. It is not anticipated that all identified borrow areas would require utilization, and the total area to be affected would be dependent upon the actual soil volumes encountered. Site preparation would begin with the removal of top soil and/or vegetative cover from the ground surface prior to excavation. The top soil would be stockpiled for future use as cover to reestablish vegetation after the usable soil material has been removed. Soil removed from the borrow areas would be amended as necessary to promote vegetative growth. Soil amendments would be selected based on soil testing. All disturbed areas would be graded to achieve positive drainage and seeded as discussed below in Section 2.5.10 Closure Cap Specifications.

### *2.5.8 Erosion Prevention and Sediment Control Plan*

Erosion prevention and sediment control has been developed to control surface water and sediment within the landfill project area. The surface water control system consisting of ditches, culverts, berms, downdrains, and ponds would be used to manage surface water around the proposed waste disposal area. Surface water run-on would be diverted away from the waste disposal area. Surface water run-off would be collected and directed to on-site sediment control ponds.

#### 2.5.8.1 Site Drainage

For all earthwork operations, positive surface drainage is prudent to keep water from ponding on the surface and to assist in maintaining surface stability. During the life of the project, the subgrade and other site features would be sloped so that surface water flows away from the landfill area and into the drainage basins of existing and proposed sediment ponds. Diversion ditches would be used at the toe of all slopes to keep surface water from accumulating at or near site structures.

Any springs uncovered during site excavations would be drained during site clearing and grubbing. Most free water from the subsurface conditions could likely be removed via sump pumps at or near the source of seepage. If pumping is not effective, ditches would be cut to promote drainage or underdrains constructed wherever evidence of spring activity is encountered. Underdrains would be constructed in a manner to collect and convey the water from locations of spring activity to tie into ditching or the storm water system to be constructed at the site.

#### 2.5.8.2 Best Management Practices

Resource management activities that may affect soil and/or water quality must follow applicable Kentucky Rules and Regulations for Water Quality Control and Kentucky's Best Management Practices (BMPs) at a minimum to achieve soil and water quality objectives. Appropriate erosion prevention and sedimentation control structures (e.g. berms, diversion ditches, silt traps, and silt fences) would be deployed as needed in disturbed areas during construction activities to reduce sediment loading of stormwater run-off. Temporary sediment control structures would be maintained during construction activities and not be removed until vegetation is established on the disturbed area. Required land clearing activities would not be initiated until absolutely necessary and all disturbed areas would be stabilized and revegetated, as soon as practicable, once construction is complete to reduce the amount of time bare soils are exposed to wind and water erosion. Revegetation of disturbed areas, other than the landfill working face, would be accomplished by the seeding of a quick germinating grass such as annual ryegrass or other quick cover vegetation. Gravel or crushed stone would be applied to road surfaces, as needed, to prevent rutting. Additional erosion control devices consistent with Kentucky BMP's may include the application of mulch, geotextiles, mats, wood fiber, or wood chips, which would be applied as needed based on site-specific geomorphology, drainage patterns, and weather conditions.

#### 2.5.8.3 Run-on and Run-off Controls

Design of the run-on and run-off controls was completed based on the anticipated peak run-off volumes calculated from a discharge analysis of the 25 year – 24-hour storm event. The surface water control system would consist of ditches, culverts, diversion berms, downdrains, and ponds used to manage surface water around the proposed waste disposal area. Surface water run-on would be *diverted* away from the waste disposal area. Surface water run-off would be collected and directed to on-site sediment control ponds. The surface water control system location and configuration is shown on the *General Final Grading Plan* drawings located in Exhibit A – Design Drawings, Pg. 94.

#### 2.5.8.4 Sediment Control Pond

A new sediment control pond would be constructed at the proposed facility. During initial site development Sediment Pond 2A would be constructed in the easternmost portion of the limits of disturbance. This new pond would be lined as shown on the engineering drawings and replace Sediment Pond 2. Sediment Pond 2A would be monitored at its point of discharge and serve as leachate collection and sediment control. Sampling would be conducted in accordance with a KPDES permit.

### *2.5.9 Monitoring Activities*

Per state and federal requirements, EKPC would maintain records of all monitoring activities and report in the landfill operating record, submit state notifications, and/or post to a publicly available website. The items to be reported per the federal CCR Rule (40 CFR § 257.50 *et seq.*) include: compliance with technical criteria (i.e. location restrictions, design criteria); fugitive dust control; run-on and run-off control; inspections; groundwater monitoring; and closure/post-closure care. All environmental monitoring parameters required by the state and federal CCR landfill regulation would be reported in a timely manner.

Additionally, EKPC would meet the requirements under 40 CFR Part 255.90 thru 257.98 as it pertains to groundwater monitoring and corrective action. EKPC would certify a groundwater monitoring network to monitor the background groundwater quality in the area of the proposed landfill and then monitor semi-annually, but not less than annually the groundwater quality and provide an annual report to meet the requirements under 40 CR Part 257.90 (e). This report would comply with the record keeping requirements under that section.

### *2.5.10 Closure Cap Specifications*

Capping of the landfill would be conducted in phases and commence upon waste material reaching final grade. The final cap design would have a 40 mil flexible membrane liner, synthetic drainage layer, and twenty-four (24) inches of vegetative soil. The synthetic drainage layer would only be installed along the perimeter of the waste area and may extend fifty (50) to one hundred (100) feet up the waste slope. CCR would be compatible with the final cap materials and form a suitable subgrade for geosynthetic installation. The flexible membrane liner would prevent precipitation from reaching and infiltrating the waste, thereby preventing leachate production and possible waste migration. This would prevent possible releases to Waters of the Commonwealth through surface or subsurface flow routes. Surface water that infiltrates and percolates through the vegetative soil layer would be directed to drainage ditches by the synthetic drainage layer. The vegetative soil layer would protect the geosynthetics from ultraviolet (UV) radiation and high winds. The final cap would be constructed in accordance with federal and state closure requirements and the CQC Plan. The final cap design also meets the Environmental Performance Standards listed in 401 KAR 30:031.

Vegetation would be established on the landfill vegetative soil layer and exhausted borrow areas to prevent erosion. Material for the vegetative layer shall be natural, unprocessed material with horticultural value found on the site. The final cover would be fertilized as determined by testing of the soil and seeded with a mixture of grasses and legumes as suggested by the KDWM. After seeding, the area would be mulched by spreading hay or straw to promote seed growth and to prevent erosion. Success of permanent grasses would be evaluated by actual field inspections, where quantity and quality of stands can be judged. Erosion control devices shall be installed and maintained until vegetation achieves 90 percent coverage. Following the establishment of vegetative cover, periodic mowing of the surface would inhibit the growth of shrubs and trees that could damage the geomembrane of the closure cap system.

EKPC shall implement the approved closure plan upon cessation of CCR disposal activities. EKPC may implement the closure plan on portions of the permitted waste area as they reach



final grades. The closure plan would be maintained until closure of the entire facility has been certified and financial assurance requirements released. Upon completion of the implementation of the approved closure plan, the CCR landfill would be maintained under the post closure plan for a period of thirty (30) years to meet the post closure standards in 40 CFR Part 257.104.

### 3.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

#### 3.1 Agency Purpose and Need

RUS is authorized to make loans and loan guarantees to finance the construction of electric distribution, transmission, and generation facilities, including system improvements and replacements required to furnish and improve electric service to rural areas, as well as demand side management, energy conservation programs, and on-grid and off-grid renewable energy systems. RUS does not regulate the siting of transmission and generation infrastructure. RUS' proposed federal action is to decide whether to provide financing assistance for the proposed project. Completing the NEPA process is one requirement, along with other technical and financial considerations, in processing a financial assistance application.

The Rural Electrification Act of 1936, as amended (7 USC §901 et seq.), generally authorizes the Secretary of Agriculture to make rural electrification and telecommunication loans, including specifying eligible borrowers, references, purposes, terms and conditions, and security requirements. RUS' agency reviews include the following:

- Provide engineering reviews of the purpose and need, engineering feasibility, and cost of the proposed project;
- Ensure that the proposed project meets the borrower's requirements and prudent utility practices;
- Evaluate the financial ability of the borrower to repay its potential financial obligations to RUS;
- Review and study the alternatives to mitigate and improve electric reliability issues;
- Ensure that adequate transmission service and capacity are available to meet the proposed project's needs; and
- Ensure that NEPA and other environmental requirements and RUS environmental policies and procedures are satisfied prior to making a financing decision.

#### 3.2 Applicant Purpose and Need

EKPC's purpose for the project is to provide an economically feasible and environmentally sound disposal site for CCR generated as a result of the long-term operation of Spurlock Station, including the CCR stored in the Spurlock Station CCR surface impoundment, which must be closed to comply with the federal CCR Rule. At the current rate of production, the CCR disposal capacity at the existing Spurlock Station landfill will be exhausted as early as 2023, when it reaches its full capacity. As Spurlock Station is expected to continue in operation for the foreseeable future, EKPC must identify feasible disposal options for CCR generated beyond the 2023 timeframe at Spurlock Station. Prudent planning indicates that the life expectancy of a waste disposal area must be sufficient to allow for reasonable return on the capital investment of engineering design, permit acquisition, and infrastructure development and should be of sufficient length to provide long-term disposal capacity at Spurlock Station. Furthermore, additional soil borrow areas would be necessary for future cover and liner requirements associated with CCR disposal. Lack of a long-term disposal facility to receive CCR from Spurlock Station or insufficient cover materials would interfere with EKPC's ability to meet its

statutory obligation to provide cost-effective, reliable electric power to its Owner-Member Distribution Cooperatives and their residential and commercial customers.

To calculate the number of years that CCR disposal would be provided by the proposed Peg's Hill CCR landfill, EKPC conducted an analysis of the anticipated waste production at Spurlock Station and the existing conditions within the proposed landfill waste limits. This analysis was based upon maximizing the available space while taking into consideration engineering design constraints such as topography (utilizing current slopes and potential airspace), characteristics of the waste (e.g. particle size), water management on the site, and impacts to jurisdictional waters, etc. The landfill design is based on an estimated annual volume of CCR generated at Spurlock Station of roughly 1,800,000 cubic yards, which is expected to be relatively uniform from year-to-year. The site life is estimated from the total design capacity of the proposed landfill divided by the yearly estimated volume of disposal, and taking into account the disposal needs for the CCR from the surface impoundment. The design capacity of the landfill is just over 25,300,000 cubic yards, which equates to a site life of approximately 14 years. The existing Spurlock Station landfill is projected to be at its operational capacity as early as 2023 and the Peg's Hill CCR landfill would extend the operational capacity of the landfill until approximately 2037. EKPC has determined that this design life would provide a facility that justifies the capital investment and allows for long-term facility planning.

## 4.0 ALTERNATIVES

An alternatives analysis has been conducted to address avoidance and minimization of adverse effects as a result of the proposed project. The purpose of this analysis is to identify practicable alternatives for the disposal of CCR produced by the Spurlock Station electric power generating facility. An evaluation of on-site and off-site alternatives, as well as an analysis of alternative landfill configurations at the preferred site (Spurlock Station), is presented below.

As presented in Section 3.0, Spurlock Station is expected to be in continued use for the foreseeable future; therefore, the identified disposal location must be of sufficient capacity to support long-term use of the facility and cover the necessary capital investment. To avoid and minimize impacts, the disposal site must be located in one contiguous area to maximize storage efficiency, decrease the extent of water quality control structures, limit the need for additional infrastructure, and decrease the amount of soil cover required. Furthermore, Kentucky regulations (401 KAR 48:130) state that special wastes shall not be placed: 1) within 250 feet of an intermittent or perennial stream (unless a Water Quality Certification is issued); 2) within the zone of collapse of a working deep mine; 3) within 250 feet of a karst feature; 4) within 100 feet of the property line; or 5) within the 100-year floodplain.

Compliance with the U.S. Environmental Protection Agency's (EPA) *Final Rule: Disposal of Coal Combustion Residuals from Electric Utilities (April 2015)* (CCR Rule) was also taken into consideration. This regulation establishes a comprehensive set of requirements for the disposal of CCRs in landfills and surface impoundments, including groundwater monitoring and corrective action, location restrictions, liner design and operating criteria, record keeping, notification, and internet posting for both existing and new CCR landfills and surface impoundments, including expansions. The CCR Rule has excluded many sites (i.e. quarries, surface pits, mines, etc.) previously permitted to receive CCR because of the new liner requirements, groundwater monitoring, and further refined beneficial use definition.

The proposed Alternative X location (Peg's Hill) was identified as the least environmentally damaging practicable alternative through an analysis of multiple long-term disposal alternatives. Several existing municipal solid waste landfill disposal scenarios were evaluated; however, it was determined that each of these alternatives would include prohibitive hauling costs and disposal fees. Development of a new EKPC operated off-site CCR landfill was also considered; however, this alternative would incur significantly higher costs and likely result in greater environmental impacts compared to those expected from the proposed landfill project. Thus, utilizing an existing municipal solid waste landfill or constructing a new off-site landfill were not considered practicable. Based on the needed disposal capacity, three on-site alternatives were evaluated, including a new landfill in the adjacent Beasley Creek drainage and two landfill designs that would be constructed adjacent to the existing landfill (see *On-Site Alternative Location Map* in Exhibit B-4 – Project Maps, Pg. 99). The on-site landfill alternatives were analyzed for potential impacts to Waters of the U.S., cultural resources, wooded habitats, and access to infrastructure. Design alternatives for the location of the soil borrow areas were evaluated to identify the least environmentally damaging configuration. Through this process, the proposed borrow areas were designed to avoid impacts to jurisdictional waters and cultural resources, and limit impacts to wooded habitats while

maintaining a close proximity to existing infrastructure and providing the needed soils for cover.

An evaluation of the alternatives considered is presented below.

#### **4.1 Initial Screening of Alternatives**

Spurlock Station generates approximately 1,800,000 cubic yards of CCR annually (one cubic yard equals approximately one ton), and EKPC's landfill management planning requires that the disposal location must be of sufficient capacity to support long-term use of the facility and justify the required financial investment. A review of potential alternatives for the disposal of CCR from Spurlock Station was performed using an iterative approach. EKPC performed an initial review to identify a variety of alternatives that would meet the disposal needs for CCR generated as a result of the long-term operation of Spurlock Station, as well as the disposal of CCR from the closure of the CCR surface impoundment. The alternatives were chosen to represent a range of disposal sites located at varying distances from Spurlock Station, including a new landfill constructed adjacent to the existing landfill, as well as alternatives where the CCR would be transported to an off-site/new disposal location.

The alternatives considered in this analysis include:

- Alternative 1: Truck, rail, or barge CCR from Spurlock Station to an existing permitted municipal solid waste landfill
- Alternative 2: Construct a new EKPC off-site CCR landfill in close proximity to Spurlock Station (within ten-mile truck haul) in Mason County, Kentucky
- Alternative 3: Construct a new EKPC on-site CCR landfill at Spurlock Station in Mason County, Kentucky

Following this initial review, a detailed analysis of each identified alternative was conducted, including an evaluation of potential environmental impacts, costs associated with the transport and disposal of the CCR, anticipated operational benefits, access to existing infrastructure, and property area available for the disposal of CCR produced at Spurlock Station.

#### **4.2 Off-Site Alternatives**

In the absence of an on-site disposal alternative, CCR would have to be hauled to an off-site disposal location. Off-site disposal could be accommodated through CCR disposal at an approved solid waste landfill. Several existing municipal solid waste landfill sites, with transportation via truck, rail, or barge, were evaluated in this alternatives analysis. To facilitate a comparison, costs associated with the various Alternative 1 scenarios were developed based on a landfill design that would provide for approximately 14 years of operational capacity at Spurlock Station.

Table 2 below compares the costs associated with disposal (Tipping & State/Local Fees) of the CCR at an approved existing off-site municipal solid waste landfill with potential costs associated with an on-site disposal area. This comparison is based on current on-site EKPC

disposal costs (\$3.05/cubic yard) and the best Tipping & State/Local Fees quote (\$19.59/cubic yard) that EKPC received in 2014 from Rumpke Waste and Recycling Services. In comparison, the Maysville – Mason County Landfill advertises on their website a \$23.75/cubic yard Tipping & State/Local Fee for disposals. The difference in these costs is largely driven by the permitted disposal capacity currently available at each particular landfill.

**Table 2. Alternatives Cost Comparison for CCR Disposal**

Factor	Disposal Costs / cubic yard		Projected Annual Costs	
	On-site	Off-site	On-site	Off-site
Design, Permit, Construct	\$1.66	N/A	\$2,988,000	-0-
Operations Contract Costs	\$1.39	N/A	\$2,502,000	-0-
Tipping & State/Local Fees	N/A	\$19.59	-0-	\$35,262,000
<b>Total</b>	<b>\$3.05</b>	<b>\$19.59</b>	<b>\$5,490,000</b>	<b>\$35,262,000</b>

As presented in Table 2 above, disposal at an off-site facility would result in an additional annual expense of \$29,772,000 compared to an on-site disposal area. Throughout the approximately 14-year design life of the proposed project, off-site disposal at a municipal solid waste landfill facility would cost an additional \$416,808,000 in Tipping & State/Local Fees alone.

In addition to these Tipping Fees, all off-site alternatives would incur substantial costs associated with the loading and transportation of CCR from Spurlock Station for disposal at an existing permitted landfill. Transportation costs via truck hauling have been calculated based on the RSMMeans cost data of \$0.25/ton/mile for this type of work. While it is noted that actual haul rates may vary considerably based on haul distances, competitive bidding, personnel/equipment availability, etc., the \$0.25/ton/mile haul rate is being used in this analysis to facilitate a comparison of the truck hauling alternatives evaluated. Therefore, it is assumed that the \$0.25/ton/mile haul rate would be applicable to each alternative. Haul distances included in Table 3 below are representative of the range of alternatives considered and include roundtrip routes to the existing Spurlock Station landfill (2.5-miles), a new landfill within 10 miles of Spurlock Station, and the Rumpke Municipal Solid Waste Landfill located 24.2 miles north in Georgetown, Ohio. For coal deliveries to Spurlock Station, EKPC is currently paying an average of approximately \$0.02/ton/mile for barge transportation on the Ohio River and EKPC believes similar costs would be incurred to transport CCR from Spurlock Station via barge. Likewise, analysis of recent quotes to deliver coal to Spurlock Station by train resulted in an average of approximately \$0.05/ton/mile, which was also considered representative of the cost to transport CCR from Spurlock Station via rail. Distances for rail and barge hauling of 50 and 100 miles were chosen for this analysis to be representative of transportation to the greater Northern Kentucky – Cincinnati, Ohio area located roughly 50 river/rail miles to the northwest and the Ashland, Kentucky – Huntington, West Virginia area located approximately 100 river/rail miles to the east. There are several municipal solid waste landfills located within relatively close proximity to the Ohio River at each of these larger metropolitan areas. As described below, in addition to these barge or rail transportation costs there would also be significant additional capital improvements (loading and unloading facilities) necessary at the Spurlock site before these alternatives would be possible.

Railing and barging CCR to an off-site disposal location were considered in this analysis, although there are significant feasibility, financial, environmental, and regulatory concerns associated with each alternative that would likely preclude each based on a practicability analysis. For example, while the Ohio River and an active rail line are located adjacent to Spurlock Station, there are no CCR loading facilities present. Likewise, there are no known barge or rail CCR unloading facilities located in close proximity to any existing solid waste landfills that could receive CCR from Spurlock Station. Therefore, CCR would require transportation (conveyor or truck) to a newly constructed barge or rail loading facility at Spurlock Station. The CCR would then have to be loaded and transported via barge or rail to a newly constructed unloading facility, at which point the CCR would be unloaded and transported via conveyor or truck to the final disposal facility. In 2015, with regard to a similar project and at the request of the U.S. EPA, Louisville Gas and Electric/Kentucky Utilities (LG&E/KU) conducted an *Evaluation of Trimble County Coal Combustion Residual Storage Options*. This evaluation included a consultant’s cost estimation to load CCR from a processing point along the Ohio River, transport, and unload to an off-site landfill area elsewhere along the river. This analysis concluded that the facilities required would cost more than \$35,000,000. Although likely not as cost prohibitive, the rail alternative would include CCR transport via conveyor or truck to a newly constructed rail loading facility, railing to a newly constructed unloading facility, and transport via conveyor or truck to the final disposal site. A cost analysis was developed, which includes only the anticipated transportation costs to barge and rail the CCR for the above-mentioned distances of 50 and 100 miles. The results are included in Table 3 below.

**Table 3. Alternatives Cost Comparison for CCR Transportation**

Roundtrip Transportation Costs	Cost / Ton*		Projected Annual Costs	
	On-site	Off-site	On-site	Off-site
On-site trucking (5 miles)	\$1.25	N/A	\$2,250,000	-0-
Off-site trucking to new landfill (~20 miles)	N/A	\$5.00	-0-	\$9,000,000
Off-site trucking to Rumpke landfill (48.4 miles)	N/A	\$12.00	-0-	\$21,600,000
Barging on the Ohio River (50 miles)	N/A	\$1.00	-0-	\$1,800,000
Barging on the Ohio River (100 miles)	N/A	\$2.00	-0-	\$3,600,000
Rail transportation (50 miles)	N/A	\$2.50	-0-	\$4,500,000
Rail transportation (100 miles)	N/A	\$5.00	-0-	\$9,000,000

Note: \*Costs rounded to the nearest \$0.25

Table 4 below provides a cost comparison of the anticipated transportation and disposal fees associated with the various alternatives considered for the disposal of CCR generated as a result of the long-term operation of Spurlock Station.



**Table 4. Alternatives Cost Comparison for Long-Term Transportation and Disposal of CCR**

Alternative	Disposal Costs (annual)	Disposal Costs (project life)	Transportation Costs (annual)	Transportation Costs (project life)	Total Disposal and Transportation Costs (project life)
Alt. 1a – Truck CCR to existing permitted landfill	\$35,262,000	\$493,668,000	\$21,600,000	\$302,400,000	\$796,068,000
Alt. 1b – Barge CCR to existing permitted landfill (50 mi)	\$35,262,000	\$493,668,000	\$1,800,000	\$25,200,000	\$518,868,000*
Alt. 1c – Barge CCR to existing permitted landfill (100 mi)	\$35,262,000	\$493,668,000	\$3,600,000	\$50,400,000	\$544,068,000*
Alt. 1d – Rail CCR to existing permitted landfill (50 mi)	\$35,262,000	\$493,668,000	\$4,500,000	\$63,000,000	\$556,668,000*
Alt. 1e – Rail CCR to existing permitted landfill (100 mi)	\$35,262,000	\$493,668,000	\$9,000,000	\$126,000,000	\$619,668,000*
Alt. 2 – Truck CCR to new EKPC off-site landfill	\$5,490,000	\$76,860,000	\$9,000,000	\$126,000,000	\$202,860,000
Alt. 3 – Truck CCR to new EKPC on-site landfill	\$5,490,000	\$76,860,000	\$2,250,000	\$31,500,000	\$108,360,000

Note: \*Based on LG&E/KU study an additional \$35,000,000 capital investment would be required

**Alternative 1:** Through this analysis, the expected cost of transportation and disposal of the projected volume of material at an existing municipal solid waste landfill became increasingly prohibitive. Based on the significant cost difference primarily associated with disposal fees compared to Alternatives 2 and 3, no Alternative 1 scenarios are considered practicable alternatives (Table 4 above). These alternatives would result in roughly five to eight times higher project costs (or \$410 million to \$687 million) compared to Alternative 3, and these costs do not include the necessary loading/unloading facility capital improvements or the potential risks associated with the feasibility, environmental, and regulatory concerns. These increased costs are considered excessive, in light of EKPC’s statutory obligation to provide cost-effective electric power to its Owner-Member Distribution Cooperatives and their residential and commercial customers, which includes the cost of the disposal of CCR generated by its electric generating facilities. Due to the excessive transportation and disposal costs, no Alternative 1 scenarios were considered practicable alternatives for the disposal of CCR from Spurlock Station, and they were not analyzed further. Additionally, there are not any existing municipal solid waste landfills known with permitted capacity capable of receiving the entire volume of CCR anticipated from Spurlock Station over the next 14 years. Therefore, only a portion of the CCR from Spurlock Station could be disposed of at an existing municipal solid waste landfill before the receiving facility would be required to expand their operational footprint, which would likely result in impacts to aquatic resources. There would also be the possibility that the landfill would choose not to expand or could not get the expansion permitted, at which point EKPC could be without a disposal option.



**Alternative 2:** Following elimination of all off-site Alternative 1 scenarios as impracticable based on excessive disposal costs, EKPC then evaluated the practicability of Alternative 2 in detail. While disposal at an off-site EKPC-developed CCR landfill would not include the prohibitive disposal fees, it is anticipated that this alternative could cost an additional \$94.5 million to haul CCR up to ten miles from Spurlock Station compared to Alternative 3. While this represents a very substantial cost increase compared to Alternative 3, it was not considered as prohibitive as Alternative 1, and a more detailed evaluation of this alternative is provided below to further assess its practicability and potential environmental effects compared to the on-site Alternative 3.

One of the more significant difficulties regarding the practicability of developing a new landfill project is the extreme public opposition often encountered from the community. Based on a recent, separate project, EKPC believes it is likely there would be significant resistance to a new off-site facility in the vicinity of Spurlock Station. As previously discussed, EKPC anticipates that the latest time to commence construction of the Peg's Hill landfill project to allow for the continued, uninterrupted operation of Spurlock Station would be early 2019 as the current disposal area (Landfill Area C) will be exhausted as early as 2023. Thus, under this alternative, EKPC would need to identify and purchase a suitable property within two years in order to begin construction of a new CCR landfill facility within the identified timeframe. In addition, the property acquisition would likely require approval by the Kentucky or Ohio Public Service Commission, which could add additional time to site acquisition process. It is anticipated, the length of time needed to find a willing seller and go through the appropriate permitting processes would put the close schedule at risk. However, for the following analysis, it is assumed that an appropriately sized property could be acquired and the acquisition approved within the required timeframe.

A site located near Spurlock Station (within ten miles) was considered for landfill development by EKPC. The area surrounding Spurlock Station is located in the Outer Bluegrass Physiographic region, and in close proximity to the Hills of the Bluegrass portion of the Interior Plateau Ecoregion. The highly dissected topography of the Outer Bluegrass results in a high density of streams. This is especially true in the vicinity of Spurlock Station, and this region also contains the greatest local reliefs because of its proximity to the Ohio River. This steeper topography is ideal for landfill development as it allows for maximizing disposal volumes within a smaller footprint by overlaying CCR onto existing topographic features (hillsides) rather than excavation. However, because these areas of steeper elevation in the region are predominantly limited to areas adjacent to the river, the number of potentially suitable sites that could be developed is limited. Additionally, the project's proximity to the city of Maysville further reduces the availability of potential properties to the east. Taking into account these limitations, EKPC and its consultant conducted a search for a suitable landfill site for the long-term disposal of CCR within ten miles of Spurlock Station.

The goal of this investigation was to locate a suitable off-site location with optimal characteristics (e.g. previously disturbed valley, mined out area, surface pit, or beneficial reuse opportunity) where environmental impacts could be minimized. This search involved interviewing EKPC personnel that have lived and worked in the area for many years, conducting a desktop review of topographic maps and 2016 aerial photographs, and a

windshield survey of the area. However, there were no optimal sites identified during this review within ten miles of Spurlock Station. In the absence of an optimal site, an online search of available real estate in the area surrounding Spurlock Station was conducted to determine if a suitable parcel would be available for purchase. The only property identified that was large enough to even be considered for landfill development was a 356-acre tract located in Ripley, Ohio. However, the property was listed for \$1,250,000 and described as a ‘ridgetop farm overlooking Ripley & Ohio River’. A review of a topographic map provided in the online listing indicated that this property was not conducive to landfill development, as landfill facilities are typically located in valleys or topographic depressions to maximize disposal capacity within a minimal disturbance limit and this farm is predominantly ridgetop. Another 211-acre property, also in Ripley was reviewed, which was listed for \$1,000,000 but this farm also contained approximately 161-acres of relatively flat cropland not suitable for landfill development. All remaining properties identified were less than 200-acres in size and no adjacent multi-property options were identified that could be combined into a suitably sized site. While there were no properties identified that are currently available for purchase, it is noted that properties suitable for landfill development could potentially be acquired for a premium price. There is also the potential that this approach could lead to a situation of significant community opposition, as described above.

No optimal off-site locations or suitable available properties were identified; however, an analysis was nevertheless conducted to consider the probable environmental effects of a new off-site landfill compared to the proposed new landfill project. It is expected that any viable off-site alternative where environmental impacts could be minimized would need to be located in steeper topography along the Ohio River. Based on the detailed design conducted for the new on-site landfill in the Beasley Creek drainage (see Section 2.4 below) it is anticipated that any new landfill construction at a suitable site within close proximity to Spurlock Station would have similar, if not considerably greater, environmental impact than the proposed Peg’s Hill landfill project. This is due to the engineering efficiencies gained through utilizing airspace by overlaying CCR into the slope of the existing permitted landfill, which ultimately allows for a significantly smaller footprint for the same capacity. Additional impacts at an off-site location would likely result from construction of access roads and other infrastructure necessary for operation (much of which already exists at Spurlock Station).

Compared to Alternative 3 (landfill construction at Spurlock Station), Alternative 2 is projected to cost an additional \$100 million, largely resulting from transportation costs, but also including property acquisition, new infrastructure, design, and annual State KDWM permitting fees, and these additional costs were considered prohibitive. The environmental impacts associated with any suitable off-site alternative within ten miles of Spurlock are expected to be similar, if not considerably greater than the proposed on-site alternative. Therefore, Alternative 2 was not considered a practicable alternative for the long-term disposal of CCR from Spurlock Station, and was not analyzed further.

EKPC considered the use of off-site borrow areas to fulfill the soil needs of the project. The most appropriate soils for landfill construction and operations are expected to occur on the ridges in the off-site areas in the vicinity of the existing CCR landfill site (as they do on-site). In order to provide ample material from offsite areas, EKPC would have to purchase additional

properties containing soil for borrow, creating additional costs for the project. EKPC estimates land costs for similar nearby properties to be approximately \$4,000 per acre based upon recent sales in the area. Assuming property could be purchased with similar soil types and soil quantities, EKPC could expect to incur an additional \$1,560,000 in land costs to replace the 390 acres of identified on-site borrow areas. Borrowing soil materials off-site would also significantly increase hauling distances and material costs as well as impact additional neighboring landowners. Additional permitting requirements could also be necessary depending upon specific site conditions. Based on the consistent topography and stream density throughout the area, siting off-site soil borrow areas could result in impacts to streams. Additional cultural resource investigations would need to take place to evaluate specific impacts, which EKPC can currently avoid. Therefore, borrowing off-site would ultimately be costlier and result in environmental impacts similar to or greater than those expected from the proposed landfill project.

Based upon this analysis, off-site alternatives were determined not to be reasonable and were not carried forward for detailed analysis.

### **4.3 On-Site Alternatives**

Alternative 3, On-Site Spurlock Station Landfill, would be located on EKPC property approximately one-mile south-southwest of Spurlock Station (see *On-Site Alternative Location Map* in Exhibit B-4 – Project Maps, Pg. 99). This portion of the property currently contains a permitted CCR landfill with ongoing operations occurring in Landfill Area C. The site was purchased and developed with the intent of providing long-term landfill capacity; therefore, to accommodate delivery of CCR, existing infrastructure includes a private 2.5-mile haul road and bridge across KY 8 (Mary Ingles Highway) from Spurlock Station to the existing CCR landfill.

Costs to develop a landfill at Spurlock Station are less than the cost estimate for Alternative 2, and unlike that alternative, Spurlock Station (Alternative 3) is available and owned by EKPC, provides sufficient area for the necessary CCR landfill and borrow areas, and would allow for the minimization of impacts to the aquatic environment and to other environmental resources. The large size of the Spurlock Station property (approximately 2,800 acres) would allow for construction of a CCR landfill of sufficient size to provide for the required disposal of CCR generated at Spurlock Station, along with associated infrastructure and necessary buffers. This large size would also allow for siting of the landfill with a significant surrounding buffer to screen the area from adjoining property owners. The size of the site also provides multiple upland soil borrow areas, which would allow for the avoidance of impacts to the aquatic environment associated with soil borrow activities. In addition, a number of on-site streams are considered poor quality. Siting the landfill in the vicinity of these lower quality streams would allow EKPC to ensure that any unavoidable impacts to jurisdictional waters would only affect these lower quality streams, thereby avoiding impacts to higher quality aquatic features elsewhere.

Based on the foregoing, EKPC has determined that Alternative 3 (on-site disposal) is the preferred alternative for the construction of a CCR landfill for the long-term disposal of CCR generated at Spurlock Station. This is based on projected project costs; the availability of sufficient land area for the proposed landfill and associated infrastructure; the ability to provide

significant buffers to adjacent properties; the minimization of impacts to high quality aquatic resources; and the minimization of other environmental impacts.

#### 4.4 Preferred Site Alternatives Analysis

The analysis presented above identified Alternative 3, an on-site disposal area on the Spurlock Station property, as the preferred site alternative. Based on this determination, EKPC assessed alternative locations on the Spurlock Station property to further avoid, minimize, and mitigate impacts to jurisdictional waters and other environmental resources, while also taking into consideration operational benefits of various on-site alternatives. To evaluate proposed locations for a CCR landfill at Spurlock Station, EKPC utilized previous investigations conducted on the property to identify potentially suitable CCR disposal sites. EKPC also reviewed various landfill permitting and design requirements, as well as the topography of the Spurlock Station property, to evaluate potential locations for a CCR landfill. For example, siting of a landfill entirely in upland areas and along ridgetops in order to avoid jurisdictional waters is not considered practicable in light of the topography of the site, which would require the construction of multiple small landfills, pose significant engineering challenges, and increase the need for infrastructure (such as roads and drainage features), thereby increasing environmental effects. Construction of a landfill in floodplain areas is also not practicable in light of landfill permitting requirements. Due to the high density of jurisdictional streams on the Spurlock Station property and the need to construct a landfill of sufficient disposal capacity that maximizes potential disposal airspace, centralizes impacts, creates stability, and minimizes potential containment issues, it is not practicable to entirely avoid impacts to jurisdictional waters. Additionally, due to the amount of CCR generated annually at the facility and the corresponding haul trips, ease of access was a major consideration.

The size of the Spurlock Station property provides three suitable areas in which to site a landfill. Due to its location in the Outer Bluegrass Physiographic Region and its adjacency to the Ohio River, the entire property is characterized by highly dissected topography with numerous streams. Based on the consistent topography and stream density throughout the property, siting a landfill of similar capacity and, thus, similar footprint anywhere on the property would result in similar impacts to jurisdictional waters.

EKPC analyzed potential on-site CCR disposal areas based on information gathered from previous investigations at Spurlock Station to identify the least environmentally damaging on-site location for the new landfill. Potential sites were analyzed based on the following factors:

- **Jurisdictional Waters:** Impacts to jurisdictional waters using data from investigations of Spurlock Station conducted by Redwing in 2011, 2013, 2014, and 2015.
- **Forested Habitat:** The amount of mature forested habitat that would be impacted by the new landfill, defined as containing trees  $\geq 5$ -inch diameter at breast height.
- **Capacity:** All sites investigated provided sufficient capacity for the long-term disposal of CCR from Spurlock Station. Therefore, the sites were examined to determine which could provide the needed capacity within the most compact footprint to minimize potential impacts.

- **Infrastructure:** The presence of existing infrastructure required for the landfill (i.e. haul roads, surface water drainage features, and water quality controls) was examined for each site. Availability of existing infrastructure would allow for minimization of impacts associated with infrastructure development.

After examining the Spurlock Station property based on these factors, three suitable sites were identified for the new landfill (see *On-Site Alternative Location Map* in Exhibit B-4 – Project Maps, Pg. 99). These sites, referred to as Spurlock Station Alternative X (Peg’s Hill), Alternative Y, and Alternative Z, are described below. The following Table 5 summarizes the analysis of the Spurlock Station alternatives.

**Table 5. Spurlock Station On-Site Alternatives**

Alternative	Area (ac)	Jurisdictional Impacts		Flow Regime	Stream Quality	Mature Forest (ac)	Infrastructure
Alternative X (Peg’s Hill)	181	Stream (ft.)	12,615	Intermittent, Ephemeral	Poor Average	76	Existing Haul Road
		Wetland (ac)	0.048				
		Pond (ac)	0				
Alternative Y	210	Stream (ft.)	26,320	Intermittent, Ephemeral, Perennial	Poor Average Excellent	158	Require New Haul Road
		Wetland (ac)	0				
		Pond (ac)	0				
Alternative Z	110	Stream (ft.)	10,770	Intermittent, Ephemeral, Perennial	Poor Average Excellent	60	Require New Haul Road
		Wetland (ac)	0				
		Pond (ac)	0				

*4.4.1 Alternative X (Peg’s Hill)*

Spurlock Alternative X (Peg’s Hill) is located in the central portion of the property, approximately one mile from Spurlock Station. The site consists of one valley formed by unnamed tributaries of Lawrence Creek, which contain approximately 12,615 linear feet of jurisdictional stream that would be impacted by the new landfill. One jurisdictional wetland is located at the site totaling 0.048 acre. Approximately 42% of the site is forested, with the exceptions being the ridgetops to the south and west and the recently logged area to the southeast. This forested habitat primarily consists of mature trees, but has been partially impacted by recent logging activities.

The site would provide the capacity needed to accommodate the new landfill, but existing compliance structures are limited. The existing haul road provides access to the entire northern portion of the site. The existing ditch located along the haul road would be modified to control run-on water, but no other existing surface water drainage features or water quality controls are located at the site. Development of a landfill at this site would require the construction of a new sediment control pond, pipes, and groundwater monitoring network.

*4.4.2 Alternative Y*

Spurlock Alternative Y is located in the Beasley Creek Drainage west of South Ripley Road. This site consists of one valley, containing Beasley Creek and several smaller unnamed



tributaries, and drains directly to the Ohio River. Jurisdictional waters on the site include 26,320 linear feet of stream. Approximately 71% of the site is currently forested.

The valleys and drainages at the site would provide the capacity needed for the new landfill, but much of the landfill would be located in previously undisturbed areas. The existing haul road could be utilized to bring CCR to the site, but the road would have to be extended to the landfill footprint, which would require a crossing of South Ripley Road. No other infrastructure is in place for this alternative. Development of a landfill at this site would require the construction of a new sediment control pond, pipes, and groundwater monitoring network. As discussed in Section 6.6.2.5, two areas of running buffalo clover were identified within this landfill boundary and would be impacted by this alternative. Additionally, there is a cemetery and archaeological avoidance area located in the eastern portion of this area.

#### *4.4.3 Alternative Z*

Alternative Z is located south of the existing Landfill Area C, and primarily along the Perennial Stream 2 drainage. The site consists of one valley and several smaller drainages that are tributaries to Lawrence Creek. Jurisdictional waters on the site include 10,770 linear feet of stream. Approximately 55% of the site is forested.

The valleys and drainages would provide the capacity needed for the new landfill, but much of the landfill would be located in undisturbed areas along an excellent quality perennial stream. Only a portion of the existing haul road could be used and an approximately 1.0-mile new haul road would have to be constructed and a portion would be located in the 100-year floodplain. No other infrastructure is in place for this alternative. Development of a landfill at this site would require the construction of a new sediment control pond, pipes, and groundwater monitoring network.

#### *4.4.4 Preferred Spurlock Alternative*

Based on the jurisdictional waters investigation data for Spurlock Station, Alternative X will impact 1,845 more linear feet of jurisdictional stream than Alternative Z. However, the delineation data show that the streams within Alternative Z are higher in quality than the streams at Alternative X. The delineation identified one excellent quality perennial stream within the valley associated with Alternative Z. The intermittent streams associated with Alternative X are considered poor to average quality. Based on the verified delineation, the streams at Alternative Z provide more aquatic functions and have a higher ecological value than the streams at Alternative X; therefore, loss of the streams within Alternative Z would result in greater overall impacts on the aquatic environment.

The presence of higher quality streams within Alternative Z is reflected in the mitigation calculation, which requires an elevated compensatory mitigation ratio for higher quality streams compared to poor quality. The U.S. Army Corps of Engineers (USACE) utilizes multipliers to adjust mitigation requirements for streams of different quality in order to account for the loss of greater functions and values associated with higher quality streams. Application of the appropriate mitigation multiplier demonstrates that slightly less mitigation would be required for impacts to the streams within Alternative X. The following Table F summarizes the mitigation requirements for the stream impacts within each site alternative.

Alternative X would impact 12,615 linear feet of stream resulting in required compensation of 12,556.25 Adjusted Mitigation Units (AMU) and 0.048 acre of wetland resulting in required compensation of 0.096 AMU. In comparison, Spurlock Alternative Z would impact 10,770 linear feet of stream, requiring 12,928.75 AMUs. Table 6 presented below, summarizes the impacts to jurisdictional waters associated with each on-site alternative.

**Table 6. Mitigation Costs Summary for Spurlock Alternatives**

<b>Alternative</b>	<b>Jurisdictional Feature</b>	<b>Impact Length (ft.)/ Area (ac)</b>	<b>AMU</b>
<b>Alternative X (Peg’s Hill)</b>	Stream	12,615	12,556.25
	Wetland	0.048	0.096
	Pond	0	0
<b>Alternative Y</b>	Stream	26,320	31,556.25
	Wetland	0	0
	Pond	0	0
<b>Alternative Z</b>	Stream	10,770	12,928.75
	Wetland	0	0
	Pond	0	0

Based on the significant operational benefits associated with the presence of the existing haul road, and the environmental benefits of a shorter haul route, no impact to excellent quality perennial streams (less AMU requirement), and impacts to lower quality recently logged forested habitat compared to Alternative Z, Alternative X was chosen as the least environmentally damaging practicable alternative.

#### **4.5 Alternatives Summary**

EKPC evaluated multiple alternatives that involved hauling CCR from Spurlock Station to either a new or existing landfill. Transport of CCR to an existing municipal solid waste or off-site EKPC landfill via truck, barge, or rail (Alternative 1 and 2) was considered impracticable due to excessive costs, the lack of long-term disposal capacity, and the potential risks associated with the feasibility, environmental, and regulatory concerns. After considering all alternatives, EKPC is proposing to construct a new landfill at Spurlock Station (Alternative 3) as the most practicable alternative due to the large size of the property, opportunities to minimize impacts to on-site natural features, and the potential to buffer adjoining property owners.

EKPC analyzed several locations for the new CCR landfill at Spurlock Station and identified three on-site alternatives. Spurlock Alternative X was selected as the least environmentally damaging practicable alternative due to significant operational and environmental benefits associated with the presence of existing infrastructure, shorter haul route, opportunity to provide the necessary long-term disposal capacity, no impact to excellent quality perennial streams, and impacts to lower quality forested habitat.

#### **4.6 Alternatives to be Evaluated in EA**

Throughout the remainder of this document, the two alternatives analyzed in detail will be referred to as the No Action Alternative and the Proposed Action Alternative.

#### *4.6.1 No Action Alternative*

The No Action Alternative would result in RUS not providing financing assistance for the proposed project, and the USACE not issuing the Section 404 Individual Permit. Consequently, EKPC would not construct the Spurlock Station Peg's Hill Landfill project and would not be able to provide an economically feasible and environmentally sound CCR disposal area for the disposal of CCR from the closure of the CCR surface impoundment and CCR generated as a result of the future long-term operation of the Spurlock Station facility (See Section 3.0 *Purpose and Need for the Proposed Action*).

#### *4.6.2 Proposed Action Alternative – Spurlock Station Peg's Hill Landfill Project*

The Proposed Action Alternative would result in RUS considering to provide financial assistance to EKPC for construction of the Spurlock Station Peg's Hill Landfill project, and the USACE issuing an Individual Permit under Section 404 of the CWA for unavoidable water/wetland impacts resulting from the construction of the new CCR landfill as described in Section 2.0 *Project Description*.



## 5.0 GENERAL ENVIRONMENTAL SETTING

Spurlock Station occupies just over 2,800 acres within the Outer Bluegrass Physiographic region, on the Maysville West U.S.G.S. 7.5 Minute Topographic Quadrangle Map. This region of the state is generally characterized by gently rolling to hilly terrain with more deeply dissected valleys occurring in the vicinity of major waterways such as the Ohio River. Areas near Spurlock Station contain some of the greatest local reliefs occurring in the Outer Bluegrass region with the difference in elevation between ridgetops and the valley bottoms being more than 400 feet (McGrain and Currens, 1978). The site is located in the Ohio River Basin and is drained by first, second, and third order streams, including Lawrence Creek, Beasley Creek, and several unnamed tributaries. Nearly all of the uplands in this portion of Mason County have been cleared and are used for agricultural purposes, such as crop/hay production and livestock grazing. The wooded areas that are present are generally limited to valleys and drainages where agricultural practices are not practical. Within the Spurlock Station property boundary, there are two relatively large tracts of forested habitat in the Lawrence Creek and Beasley Creek drainages.

The Outer Bluegrass region is associated with the Oak-Hickory forest region, which covers the western and central portions of Kentucky (Jones, 2005). This forest type is characterized by a mixture of tree species, including oaks (*Quercus sp.*), hickories (*Carya sp.*), American elm (*Ulmus americana*), American basswood (*Tilia americana*), black cherry (*Prunus serotina*), black walnut (*Juglans nigra*), and white ash (*Fraxinus americana*). Many of the tree species in this forest type are limestone-associated species, all of which have been documented within the Spurlock Station property boundary. The soil borrow areas identified for the proposed project are located along ridgetops predominantly utilized for agricultural purposes. The portion of the project area within drainage features is dominated by wooded habitat. Common species observed in the wooded areas include hackberry (*Celtis occidentalis*), honey locust (*Gleditsia triacanthos*), shagbark hickory (*Carya ovata*), white ash (*Fraxinus americana*), American elm (*Ulmus americana*), buckeye (*Aesculus glabra*), pawpaw (*Asimina triloba*), boxelder (*Acer negundo*), white snakeroot (*Ageratina altissima*), Japanese honeysuckle (*Lonicera japonica*), poison ivy (*Toxicodendron radicans*), field garlic (*Allium vineale*), Virginia wildrye (*Elymus virginicus*), multiflora rose (*Rosa multiflora*), Indian strawberry (*Potentilla indica*), chickweed (*Stellaria media*), bush honeysuckle (*Lonicera maackii*), Canada wildrye (*E. canadensis*), and avens (*Geum sp.*).

The geology of Spurlock Station and the surrounding areas contain features typical of the Outer Bluegrass physiographic region. The area is underlain by geologic formations from the Ordovician and Quaternary Periods. The geologic formations consist of interbedded limestone, shale, and siltstone of the Preachersville Member of Drakes Formation and the Bull Fork, Grant Lake, Fairview, Kope, and Clays Ferry Formations. The parent material of Cynthiana soils is derived mostly from rock of the Bull Fork Formation, and the parent material of Lowell soils is derived mostly from the rock of the Grant Lake Formation. Eden soils formed mostly from the interbedded shale, limestone, and siltstone materials of the Kope and Clays Ferry Formations, which are the lower part of the Ordovician System (Forsythe and Jacobs, 1986). Long, wide terraces that break into short side slopes and narrow floodplains typically characterize the landscape.

The vegetation at Spurlock Station varies greatly due to the physiographic location of the facility, the proximity to the Ohio River, and previous on-site activities. Wooded areas are dispersed throughout the site and are typically confined to hillsides within the larger stream drainages and steeper topography unsuitable for agriculture. These wooded areas consist of mixed deciduous forests with mesic subunits along steeper ravines, and xeric subunits along the more exposed slopes and drier areas. Conversely, most flat areas and ridgetops are in pasture/hayfields, with portions of these fields slowly converting to old-field habitat in the absence of hay production and/or grazing. In addition, a few small riparian forests can be found along Beasley and Lawrence Creeks, and the Ohio River. Previously impacted areas within the property boundary consist of gravel/fill areas with little to no vegetation or as fescue-dominated pasture fields.

As a result of the previous projects at Spurlock Station, existing infrastructure associated with coal-fired electric generation facilities is present throughout the site. This infrastructure includes the primary Spurlock Station generating facility and associated buildings, cooling towers, water treatment facilities, substations, overhead electric transmission lines, water lines, gas lines, rail lines, Spurlock Station landfill and paved/unpaved roads. In order to construct these facilities, it is estimated that 950 acres of the 2,803-acre site have been previously disturbed by grading, borrow, or fill activities.

### **5.1 Project Footprint**

The project footprint is considered the immediate area involved in the proposed action where disturbances associated with the construction, operation, and maintenance of the proposed landfill would be most likely to occur. The project footprint for the proposed landfill activities would encompass approximately 1,476-acres, located in the west-central portion of the Spurlock Station property. Project activities may affect up to 591 acres of land within this footprint, including approximately 181 acres within the limits of disturbance associated with construction of the new CCR landfill, up to 390 acres within the soil borrow areas, and approximately 20 acres for the required stream mitigation activities (See *Project Components Maps [Topography and Aerial]* included in Exhibit B-2 and B-3 – Project Maps, Pg. 99). Also located within the project footprint is the approximately 250-acre existing CCR landfill and roughly 635-acres of forested and open lands, which would not be disturbed as a result of the proposed project. This acreage that would not be impacted is primarily located to the north and east of the proposed landfill and borrow areas and within the stream mitigation area, and would serve as a buffer between the proposed landfill activities and adjacent properties.

### **5.2 Area of Influence**

The proposed project's area of influence includes all areas that may be affected directly or indirectly by the proposed action, not merely the immediate area involved in the project footprint. The area of influence for the proposed Spurlock Station landfill project is specific to each resource and was delineated based on potential environmental impacts resulting from the proposal. For the purposes of this EA, the analysis focused on the most far reaching direct and indirect effects anticipated from the proposal for each resource considered. Limits of the area of influence may be natural features (e.g. Ohio River), political boundaries (e.g. Mason County), or commonly accepted norms for the resource.

### 5.3 Other Actions

The Council on Environmental Quality (CEQ) defines cumulative impact as *the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time* (40 CFR Part 1508.7).

Within the region of northern Kentucky where the proposed project would be located, actions typically relevant in evaluating cumulative effects are those relating to residential /commercial/light industrial development, mineral extraction, transportation, agriculture, and logging. EKPC has attempted to identify such activities that have occurred, are occurring, or are reasonably foreseeable within the proposed project area that would be relevant in the analysis of cumulative effects for the proposed action.

An analysis of the residential development within the area of influence identified no concentrated residential development. Only scattered rural residences exist within the vicinity of the project area, mostly along KY 8 (Mary Ingles Highway) & KY 576 (Tuckahoe Road), and the local roads. Building permits are often not obtained for new home construction in rural Mason County; thus, specific geographic information is not publicly available within the county. However, based upon field investigations, no significant new home construction has recently taken place, or is currently ongoing within the area of influence. As a result, only limited, if any, residential housing units would be expected to be constructed in the area of influence within the foreseeable future. Typically, residential development could have temporary effects on air quality as a result of the operation of construction equipment and on water quality through the erosion of soils in water run-off. Impacts to vegetation and wildlife could also take place through the removal of plant material and habitat loss on the site of the development activity.

Commercial/light industrial development within the proposed project's area of influence would be limited to EKPC expansion projects at Spurlock Station. Significant construction activities are anticipated within the next several years to comply with the U.S. Environmental Protection Agencies' Effluent Limitation Guidelines (ELG) and Coal Combustion Residuals (CCR) rules. The modifications and upgrades necessary to achieve CCR & ELG compliance are currently being evaluated. However, major components of the CCR compliance scope currently include a wet to dry conversion of the bottom ash and economizer ash from Units No. 1 and No. 2, replacement of the Ash Transfer Building, construction of an additional ash silo, and clean closure of the existing CCR surface impoundment. Major components of the ELG scope currently include a clarifier, evaporator, storage tanks, auxiliary boiler, associated chemical feed equipment, and enclosures/buildings for the waste water treatment equipment. Just to the east of Spurlock Station is the International Paper Company, which is an industrial facility that manufactures paper products. In addition, Ozark Motor Lines and Frontier Transport Corp. are professional truck driving companies that each have small divisional offices located 0.8-mile to the east on KY 8, which support the International Paper facility. However, all identified developments have been established for many years and have been operating in their current

state for an extended period. Typical impacts associated with any commercial/light industrial development include temporary effects on air quality caused by the construction activity, and on water quality through the erosion of soils in water run-off. Impacts to vegetation and wildlife could also take place through the removal of plant material and habitat at the development site.

Bevins Sand and Gravel, Inc. is a small scale family-operated limestone mining and quarrying operation located approximately 1.75-miles to the southeast of the proposed project area in Moranburg, Kentucky. According to information on the Kentucky Mine Mapping Information System website, <http://minemaps.ky.gov/>, the nearest coal mining activities are located approximately 40 miles to the east-southeast of the project area in Carter County. There currently are no other known active, pending, or proposed mineral extraction activities taking place or planned within the proposed project's area of influence. Because the closest mining activity to the project area is a small scale limestone mine and there are no significant mining operations with 40 miles of the project area, there would be no significant cumulative impacts anticipated as a result of mining activities.

The Kentucky Transportation Cabinet's (KYTC) *6-year Highway Plan Fiscal Year 2016 – 2022* lists three ongoing and/or proposed construction projects within the northwest portion of Mason County. The KYTC plans to repair the U.S. 68 bridge over Lawrence creek, which is located approximately 2.3-miles to the southeast of the landfill project area. The KYTC is also planning to replace the KY 3056 bridge over South Fork Lawrence Creek, located roughly 1.75-miles southeast of the Spurlock landfill in Moranburg, Kentucky. Lastly, widening of KY 9 (AA Highway) to four lanes is occurring just over four miles to the southwest of the project area, between KY 435 (Mason County) to KY 2370 in (Bracken County). There are no other major road or highway projects outlined for the area in the KYTC *6-year Highway Plan*. Typical impacts caused by road construction would include temporary effects on air quality caused by the operation of construction equipment and on water quality through the erosion of soils in water run-off, as well as the possible loss of small portions of streams or wetlands along the roadway alignment. Impacts to vegetation and wildlife could also take place through the removal of plant material and habitat loss within the road right-of-way (ROW).

Land use within the region of north-central Kentucky where the proposed landfill would be located is predominantly agricultural, with the majority of the forested areas limited to the valleys and steeper hills that are unsuitable for agriculture. Due to the prevalence of agriculture and only scattered forested areas within the projects area of influence, logging activities are extremely limited in the region. EKPC analyzed aerial photography from 2006 and 2016 within a five-mile radius of Spurlock Station to estimate the extent of logging that has recently occurred. This analysis failed to identify any large scale logging operations in the area that have occurred since 2006. However, it is assumed that small-scale private logging has, and will continue to occur in the project's area of influence. Typical impacts caused by small private logging practices would include temporary effects on air quality caused by the logging activity (dust and exhaust from vehicles, chainsaws, etc.) and on water quality through the erosion of soils in water run-off. Impacts to vegetation and wildlife could also take place through the removal of plant material and habitat loss from the removal or alteration of forested areas.

Agricultural activities are the dominant land use throughout the project area. Typical agricultural activities in this region of Kentucky include row crops and open land, which is used for grazing and hay production. Other small-scale agricultural uses such as gardening, raising chickens, rearing livestock, etc., are common throughout the project area. A fishing pay-lake is located approximately 0.5 miles north of the landfill and adjacent to a proposed borrow area. Typical impacts associated with agricultural practices include temporary effects on air quality caused by farm machinery, and on water quality through the erosion of soils in water run-off. Impacts to vegetation and wildlife could also take place through the removal of plant material and habitat, primarily associated with row cropping.

EKPC is currently unaware of any other activities that are reasonably foreseeable within the proposed project area that may be relevant in the assessment of cumulative effects.



## 6.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Potential project impacts were evaluated through an assessment of the extent and quality of on-site resources and the potential environmental consequences that could occur to these resources as a result of the proposed Spurlock Station Peg's Hill Landfill project. The evaluation includes environmental issues identified under NEPA and those environmental factors singled out for special attention under other applicable Federal laws, statutes, and E.O.s. Each resource is discussed further in the sections below.

### 6.1 Land Use & Recreation

This section describes the affected environment and environmental consequences as they apply to land use and recreation.

#### 6.1.1 Area of Influence

The area of influence for land use and recreation was considered to be within a three-mile radius of the landfill project area. Three miles was considered a reasonable area that would encompass all identified land uses and public lands in the vicinity. However, no impacts to land use and recreation are anticipated beyond the project footprint of the proposed action.

#### 6.1.2 Affected Environment

All land to be impacted by the proposed landfill project is located within EKPC's Spurlock Station property boundary. EKPC owns and operates Spurlock Station as an electrical generation station, and there are no other commercial activities occurring onsite. Approximately 350 acres within the project footprint located along South Ripley Road and KY 576 are leased for a minimal charge by local/adjacent farmers for livestock grazing, row cropping, and hay production. The predominant land uses within three miles of Spurlock Station are agriculture, forest, and shrub/brush rangeland, although the outskirts of the cities of Maysville, Kentucky and Ripley, Ohio are located along the periphery of the project's area of influence. Spurlock Station is in a rural setting and includes a wide buffer between proposed activities and the surrounding community; however, a few rural residences are located within one mile of the proposed landfill project along South Ripley Road, KY 8, and KY 576. One of the residences contains an approximately 1.5-acre pond with a sign on the property that says Poorman's Paylake Live Bait and Tackle; however, there are no records of this business in Mason County or with the Commonwealth of Kentucky. There are no major public highways in the immediate vicinity of the landfill project area, but South Ripley Road is a public county road located just to the west of the project area.

The only public land and/or recreational opportunities identified within three miles of the Peg's Hill landfill project area are the Ohio River and the Cummins Nature Preserve. The Ohio River borders Spurlock Station to the north and is used for recreational boating and fishing. The nearest public boat ramp providing access to the river is the Eagle Creek Boat Ramp located in Brown County, Ohio, on the east side of Ripley, which is located roughly two miles downstream from Spurlock Station. The Cummins Nature Preserve is an approximately 150-acre property maintained by the City of Maysville that offers hiking trails and other outdoor recreational opportunities. This nature preserve is located between U.S. 68 and KY 1597 (Charleston Bottom Road), roughly 1.5 miles to the southeast of the proposed project area.

### *6.1.3 Environmental Consequences*

The direct and indirect effects of the proposed action on land use and recreation would be anticipated to be within the identified project footprint.

#### *No Action Alternative*

The No Action Alternative would not have any direct or indirect effect on the existing land use located in the project area or recreational activities occurring within the area because the proposed landfill project would not be constructed as a result of choosing this alternative.

#### *Proposed Action Alternative*

The proposed landfill would be sited in a relatively remote area that has been the site of ongoing activities related to the disposal of CCR generated at Spurlock Station for the past 35 years. As a “captive” facility, the potential for public access to the Spurlock Station facility and/or the landfill project area is minimized. The only vehicular access to the power generating facility and landfill area is via a locked gate on South Ripley Road and the Spurlock Station haul road. In addition to the locked gate on South Ripley Road, a guarded gate and fence barriers are currently in place and will be maintained at the main Spurlock Station road access point to the power generation facility. Only authorized personnel will be allowed access to the site, and these gates will remain locked or guarded during all non-operational hours. While the current land use would be permanently altered by construction of the proposed landfill, because no public access is allowed to the property, no significant direct impacts to recreational activities would occur within the identified project footprint. Additionally, all proposed project components are located within this project footprint; therefore, no direct land use or recreational impacts would occur outside of Spurlock Station.

EKPC owns and operates Spurlock Station as an electrical generation station, and there are no existing farming practices occurring onsite, except for the current lease agreements with adjacent/local farms. Currently, some of the areas proposed for borrow are grazed. Once the borrow activities have occurred, these areas would be reclaimed, revegetated, and grazing can resume. The proposed borrow areas currently planted in row crops would likely not be suitable for crops following reclamation; however, these acres would be available for grazing. No other farmland at Spurlock Station, prime or otherwise, is in production, and the economic impacts of the unavoidable loss of farmland would be minimal. Since EKPC also owns all the impacted property, no farms or farm owners would be impacted. There are no other commercial or community facilities onsite.

Spurlock Station has been planned for industrial power generation use since EKPC acquired it in the late 1970s. The area around Spurlock Station lies within the jurisdiction of the Mason County Planning Commission, which provides uniform direction through their Comprehensive Plan and Zoning Ordinance. This area is planned to remain rural and is zoned “agricultural.” Spurlock Station lies within the unincorporated portion of Mason County. Spurlock Station itself is exempt from zoning requirements. The Mason County, Kentucky Judge Executive's office has determined that the proposed facility is in compliance with local planning and zoning rules. A notarized letter from the Judge Executive's office has been included in Exhibit C –

Agency Correspondence, Pg. 116. Because the proposed project is consistent with county land use plans and the purpose of Spurlock Station, no effects to local zoning are anticipated.

While some actions can lead to additional development in the surrounding area, landfill facilities typically do not stimulate indirect growth and development. The proposed landfill project lacks features that tend to attract development (e.g., improved access, educational opportunities, recreational opportunities, consumer products). Likewise, construction of the new landfill is not anticipated to make adjacent land less desirable, or change land use or values in a negative manner due to the large size of Spurlock Station that would provide a buffer between the landfill and the property boundary. Thus, based on the nature of the facility and the history of similar facilities, development and other land use changes in the surrounding community are not expected as a result of the proposal; therefore, indirect impacts to land use outside Spurlock Station are not expected.

The only public land and/or recreational opportunities identified within three miles of the Spurlock Station landfill project area are the Ohio River and the Cummins Nature Preserve. Though not located within the area to be directly impacted by the proposed project, RUS evaluated whether these resources could be adversely impacted indirectly by the proposed project. However, because the proposed project would not significantly impact traffic, noise, visual resources, or air quality, as discussed in the respective sections below, there are no significant indirect effects anticipated to public lands as a result of the proposal.

#### *6.1.4 Cumulative Effects*

##### *No Action Alternative*

The No Action Alternative would not result in cumulative effects on existing land use and recreation within the area of influence because the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### *Proposed Action Alternative*

The effects of the proposal as outlined in the Proposed Action Alternative when considered with the effects of the other past, present, and reasonably foreseeable future actions identified in Section 5.0 *General Environmental Setting* above would result in minimal or no cumulative effects to existing land use and recreation. It is believed that recreational opportunities (i.e. hiking, hunting, fishing, boating, etc.) within the three-mile radius area of influence have been minimally impacted by the other projects identified (bridge repairs, limestone quarry, logging, etc.). The area still provides for these opportunities to the public on public lands, and the private landowners can continue to participate in these activities on their property as well. Land use in the project area appears consistent with that seen in the region, as outlined above. The proposed action is completely contained within property already owned by EKPC and not currently subject to recreational use, and would have negligible impacts to the existing land use and recreational activities that may occur in the area of influence. Therefore, it is unlikely that any minimal, localized incremental effects of the proposed action on land use would interact with the effects of other actions in the area to produce cumulatively significant effects on land use and recreational opportunities.



## 6.2 Geology and Soils

This section describes the affected environment and environmental consequences as they apply to geological and soil resources.

### 6.2.1 Area of Influence

The area of influence for geology and soils was considered the 1,476-acre Spurlock Station Peg's Hill Landfill project footprint. Any potential impacts associated with geology and soils are anticipated to be localized within the area where ground disturbing activities would occur.

### 6.2.2 Affected Environment

Two separate field explorations have been performed at the site. The first exploration was a hydrogeologic exploration performed by Stantec in April of 2011, which included twenty-eight (28) soil borings (B-1 through B-28) and thirty (30) hand probe holes (HP-1 through HP-30) generally located within the limits of the proposed landfill boundary. The soil borings were drilled using a truck mounted drill rig equipped with 3.25-inch hollow-stem augers. Disturbed and/or undisturbed soil sampling was performed in all but two of the soil borings (refusal was encountered at one foot in each of the two) and included standard penetration testing and Shelby tube sampling, respectively. In addition, bag samples representing the predominant soil types were collected from auger cuttings for laboratory testing and analysis. Upon completion of drilling, the borings were checked for the presence of subsurface water and then backfilled with auger cuttings with selected borings receiving temporary observation wells. A geotechnical engineer and/or geologist was present during the drilling operations to locate the borings, direct the drill crew and log the subsurface conditions encountered. During logging, particular attention was given to the soil's color, texture, consistency and moisture content. The results of this analysis were used during the design of the proposed Peg's Hill landfill project.

The Stantec investigation was used to identify the potential soil borrow areas, which found the most appropriate soils for landfill cover material on the ridges rather than the side slopes. Available material quantities outside the proposed waste boundary in permitted borrow areas were estimated using information contained within the soil borrow geotechnical studies prepared by Kenvirons, Inc. on May 20, 2013. A total of 27 test pits, designated as TP-01 through TP-27, were excavated within specified sections of the proposed borrow areas to identify the native on-site soil materials observed within designated borrow areas and to assess their suitability for use in future landfill construction applications. The encountered subsurface materials were logged by Kenvirons (project engineering firm) personnel. Particular attention was given to the physical characteristics, color, texture, moisture content, and clay content of the soils since these qualities are relevant to the intended use of these materials.

#### 6.2.2.1 Geology

Mason County is underlain mostly by the Ordovician Geologic Systems. The Ordovician System consists of interbedded limestone, shale, and siltstone of the Preachersville Member of Drakes Formation and the Bull Fork, Grant Lake, Fairview, Kope, and Clays Ferry Formations. The parent material of Cynthiana soils is derived mostly from rock of the Bull Fork Formation, and the parent material of Lowell soils is derived mostly from the rock of the Grant Lake Formation. Eden soils formed mostly from the interbedded

shale, limestone, and siltstone materials of the Kope and Clays Ferry Formations, which are the lower part of the Ordovician System (Forsythe and Jacobs, 1986)

#### 6.2.2.2 Hydrogeology

To provide information and data necessary to obtain permits required for the proposed landfill, Stantec performed a hydrogeologic investigation of the site. The investigation consisted of: (1) reviewing available published geologic and hydrogeologic information; (2) drilling rock core borings and performing hydraulic pressure testing; and (3) installing investigatory wells. Based on the results of this investigation, the uppermost aquifer at the site has been identified and characterized.

The hydrogeologic exploration concluded that groundwater in sufficient quantities for monitoring purposes is only present within the weathered/fractured bedrock zone along natural drainage courses (valley bottoms) which are underlain by shale bedrock strata. The groundwater flow direction is closely related to topography, and flows along the natural drainage course in the hollow of the site in an easterly direction toward Lawrence Creek.

According to published information for the project area, most of the drilled wells in the region of the site will not produce enough water for a dependable domestic supply. Successful domestic wells in the region are generally located in the valley bottoms of the larger streams. Drilled wells in these areas can produce 100 to 500 gallons per day (GPD). However, wells drilled on hillsides and ridge tops typically yield no water. Small amounts of water are sometimes encountered at the base of the limestone rocks (Fairview Formation), where these rocks cap the ridges between valleys cut into shale of the Kope Formation. In the area of Spurlock Landfill, most drilled wells will not produce enough water for dependable domestic supply (100 GPD). Some water may be encountered along drainage lines, but is typically absent during periods of dry weather.

A site reconnaissance was performed by Stantec for the purpose of locating seeps and springs, bedrock outcrops, and other geologically significant features. Observations were made by Stantec personnel during field reconnaissance and drilling operations conducted in April 2011. One ephemeral seep was noted during the field reconnaissance within a branch of the main hollow along a natural drainage course near elevation 764 feet. Two bedrock outcrops were noted within a branch of the site's main hollow. No surface depressions were noted during the field services.

#### 6.2.2.3 Karst

The term “karst” refers to a landscape characterized by the presence of caves, springs, sinkholes, and losing streams, created as groundwater dissolves soluble rock such as limestone or dolomite. These areas are of special interest in evaluation of potential for geologic impacts because the underground features can easily be impacted by surface disturbance. The rock core samples conducted by Stantec did not indicate the presence of faults or karst features. Based on the rock core samples, there are no substantial carbonate units with fracturing or matrix permeability for a karst system to develop.

#### 6.2.2.4 Soils

The Federal Farmland Protection Policy Act (FPPA), enacted by Congress in 1984, established criteria for identifying and considering the effects of federal actions on the conversion of farmland to nonagricultural uses. The purpose of the FPPA is to minimize the extent of farmland conversion and impacts and to “assure that federal programs are administered in a manner that, to the extent practicable, would be compatible with state, unit of local government, and private programs and policies to protect farmland.” The Natural Resource Conservation Service (NRCS) administers the FPPA program and has developed the online Web Soil Survey (WSS), which is used to assess impacts when farmland is converted to other uses. Additionally, because Spurlock Station is exempt from zoning requirements, FPPA does not necessarily apply

EKPC contacted the NRCS – Area 3 Resource Soil Scientist to acquire a list of the soil types within proposed landfill limits of disturbance and proposed new soil borrow areas. The predominant soil series identified are the Eden (EeE2), Fairmont (FrF), Lowell (uLf), and Nicholson (NcB). The custom soils reports provided by the NRCS soil scientist on the soils within the identified project footprint are located in Exhibit C – Agency Correspondence, Pg. 116.

Prime farmland, farmland of statewide importance, and hydric soil ratings for each soil type identified were also provided by the NRCS. There was a combination of 33.6 acres of prime farmland and farmland of statewide importance soils identified within the proposed limits of disturbance; however, the majority of these soils have been previously disturbed. There was a combination of 194.7 acres of prime farmland and farmland of statewide importance soils identified within the proposed new borrow areas. There are approximately 34,000 acres of prime farmland soils in Mason County (Forsythe and Jacobs, 1986). There were no soils types identified within the limits of disturbance or borrow areas classified as hydric soils.

Composite samples of selected soils collected by Stantec during the 2011 exploration within the landfill limits of disturbance displayed engineering characteristics indicative of material suitable for landfill construction. The Kenvirons investigation revealed that the clayey soils encountered in the borrow areas ranged from 0.5 to 10 feet in depth. Based on the results of the engineering classification tests, four predominant clay soil groups were identified within the proposed borrow areas that are capable of achieving a permeability of  $1 \times 10^{-7}$  centimeters per second which is needed to meet the liner design requirements. Based on observations during test pit excavations, screening to remove oversized particles may not be required for soils excavated from the upper half of the borrow limits. Only those areas where cobble and boulder size stones were identified may require screening for low permeable clay construction. Materials would be evaluated for screening prior to removal for construction.

#### *6.2.3 Environmental Consequences*

The direct and indirect effects of the proposed action on geology and soils are anticipated to be restricted to the identified project footprint.

### No Action Alternative

The proposed landfill project would not be constructed as a result of choosing this alternative and; therefore, the No Action Alternative would not have any direct or indirect effects on the geology or soils in the project area.

### Proposed Action Alternative

All project activities would occur within the identified project footprint. Minor localized impacts to soils are anticipated to occur near the surface within the proposed waste limits and borrow areas. There are no mining or hydraulic fracturing activities proposed as part of the landfill project that would impact deeply buried subsurface features.

#### 6.2.3.1 Geology

Whether preserved or not, areas with unique geologic features are considered areas of geologic importance. Though some rock excavation may be required for the landfill construction, there are no areas of geological importance within the proposal's area of influence. Therefore, no areas of geological importance would be impacted by the proposed project.

#### 6.2.3.2 Hydrogeology

The facility would not use or intentionally discharge substances into groundwater resources during construction and/or operation. In addition, the proposed landfill has been designed to implement a protective bottom liner system that would act as a barrier layer and contain any potential contaminants within the landfill. However, there would be potential groundwater contaminant sources present at the facility during both construction and operation. Groundwater could potentially be impacted by leaching of metals from the CCR. EKPC has conducted laboratory leachate tests on samples of CCR to be disposed of in the fill. The results of these tests suggest low potential for leaching of metals from the CCR, provided that placement, grading and maintenance is performed in accordance with sound engineering practice and erosion control and that sedimentation measures are implemented as required by Kentucky and Federal regulations.

As previously stated, EKPC would also meet the requirements under 40 CFR Part 255.90 thru 257.98 as it pertains to groundwater monitoring and corrective action. EKPC would certify a groundwater monitoring network to monitor the background groundwater quality in the area of the proposed landfill and then monitor semi-annually, but not less than annually the groundwater quality and provide an annual report to meet the requirements under 40 CR Part 257.90 (e). Oil and diesel fuel would be stored in clearly marked tanks onsite. The tanks would have secondary containment structures. Construction equipment would be maintained regularly, and the source of leaks would be identified and repaired. Any soil contaminated by fuel or oil spills would be removed and disposed of at a licensed treatment and/or disposal facility in accordance with local or state regulations and in accordance with the manufacturer's recommendations.

Spurlock Station is underlain by the Ordovician Geologic Systems, which consists of interbedded limestone, shale, and siltstone. Based on the findings of the hydrogeologic

investigation, it is concluded that groundwater that the groundwater flow direction is closely related to topography, and flows along the natural drainage courses. Recharge to the weathered/fractured bedrock zone aquifer in the valley bottoms is through precipitation events infiltrating the soil overburden and unsaturated fracture zone in the upland areas. This indicates that any potential contaminants that could adversely impact groundwater, assuming they are treated in accordance with applicable regulations, would not be expected to migrate to the regional groundwater table.

To further protect groundwater, EKPC would be required to prepare and implement a groundwater protection plan in compliance with Kentucky regulations. In this plan, EKPC would identify technological means for protection of groundwater, taking into account the nature of the potential pollutants and the hydrogeologic characteristics of the area. These could include, but are not limited to, operational procedures, personnel training, spill response capabilities, best management practices, runoff or infiltration control systems, and siting considerations. The plan would include identification of all activities covered (based on the regulatory requirements), all practices for groundwater protection, an implementation schedule for employee training, an inspection schedule, certification by the responsible person, and identification of specific practices for groundwater protection.

Due to the results of the hydrologic investigation that indicate the project area has low permeability rates and in conjunction with the protective measures outlined above, the proposed landfill project is not expected to have any adverse effects on the hydrology of the area.

#### 6.2.3.3 Karst

Given that Spurlock Station is located primarily within interbedded limestone, shale, and siltstone and that none of the other geologic formations found beneath Spurlock Station are described as having karst features such as sinkholes, the Spurlock Station site is not considered karst prone. In addition, significant karst features have not been observed within the project footprint. Therefore, impacts to karst features are not anticipated from the proposed project.

#### 6.2.3.4 Soils

The NRCS Area 3 Soil Resource Scientist was contacted to acquire a list of the soil types located within the proposed Peg's Hill landfill project footprint. The identified 33.6-acres of farmland soils located within the landfill limits of disturbance have been previously impacted by landfill and borrow activities. There was a combination of 194.7 acres of prime farmland and farmland of statewide importance soils identified within the proposed new borrow areas. Depending on the extent that these borrow areas require utilization, EKPC estimates impacts associated with soil borrow for the project may affect up to 194.7-acres; however, this impact cannot be avoided. This equates to roughly 0.6% of the farmland soils in Mason County, and does not represent a significant loss. No hydric soils were identified within the project footprint; thus, no impacts to hydric soils would occur.



Currently, some of the areas proposed for borrow are leased by local farmers for agricultural uses. Once the borrow activities have occurred, these areas would be reclaimed, revegetated, and grazing could resume. The proposed borrow areas currently planted in row crops would likely not be suitable for crops following reclamation; however, these acres would be available for grazing. No other farmland at Spurlock Station, prime or otherwise, is in production, and the economic impacts of the unavoidable loss of farmland would be minimal. Since EKPC also owns all the impacted property, no farms or farm owners would be impacted.

As outlined in Section 2.5.8 *Erosion Prevention and Sediment Control Plan*, EKPC would be implementing a plan to guard against soils leaving the construction site, and disturbed areas would be stabilized and revegetated, as soon as practicable, once construction activities are completed. Because of these practices, no significant direct or indirect effects would be anticipated from the construction of the proposed project.

#### 6.2.4 Cumulative Effects

##### No Action Alternative

The No Action Alternative would not result in cumulative effects on the geology or soils within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### Proposed Action Alternative

The effects of the construction and operation of the proposed landfill as outlined in the Proposed Action Alternative when considered with the effects of the other past, present, and future actions identified in Section 5.0 *General Environmental Setting* above would result in minimal cumulative effects on geology and soils. EKPC does not anticipate significant direct or indirect effects to geologic or hydrogeologic resources within the identified project footprint; therefore, there would be no cumulative effects expected. Due to the nature of the proposed project, effects to soils are expected to be extremely localized and restricted to the surface or just below the surface, with no impacts to deeply buried subsurface features. The only areas that would be affected are located within the project footprint, and cumulative effects on soils are not expected because other activities in the area, including development, transportation, and agriculture, would not affect the soils within the Spurlock Station property generally or project footprint specifically. Furthermore, as outlined above, no major erosion problems would be anticipated from the construction of the proposed project; therefore, it is unlikely that the incremental effects of the proposed action would interact with the effects of other actions in the area to produce cumulatively significant effects on soils. Additionally, there would be no significant impacts to farmland soils by the proposal, and thus there would be no cumulative effects to these soils.

### 6.3 Floodplains

The Federal Emergency Management Agency (FEMA), through the National Flood Insurance Program (NFIP), has primary responsibility for developing and implementing regulations and procedures to control development in areas subject to flooding. The U.S. Congress established the NFIP with the passage of the National Flood Insurance Act of 1968. The Kentucky Division

of Water (KDOW) is the state's coordinating agency for the NFIP. To implement the NFIP, FEMA prepares Flood Insurance Rate Maps (FIRMs) that show special flood hazard areas where flood insurance is mandatory. The 100-year flood, or base flood, is the flood having a one percent chance of being equaled or exceeded in any given year. The base flood is the national standard used by the NFIP and all federal agencies for the purposes of requiring the purchase of flood insurance and regulating new development.

### *6.3.1 Area of Influence*

The area of influence for floodplains was considered the 1,476-acre Spurlock Station Peg's Hill Landfill project footprint. Any potential impacts associated with floodplains are anticipated to be localized within the identified project footprint.

### *6.3.2 Affected Environment*

The digital FIRM data for Mason County was acquired from the FEMA Map Service Center. This data was used to generate the *Floodplain Map* that is included in Exhibit B-5 – Project Maps, Pg. 99. The map depicts an area of 100-year floodplain associated with Lawrence Creek located within the easternmost portions of the project footprint. However, the limits of the floodplain within this footprint are located outside of the areas to be impacted by the proposed landfill project. In addition, there is an area of floodplain within the Beasley Creek watershed located to the west; however, this designated floodplain is not located within the project footprint and would not be impacted.

### *6.3.3 Environmental Consequences*

The direct and indirect effects of the proposed action on floodplains would be anticipated to be within the identified project footprint.

### *No Action Alternative*

The No Action Alternative would not have any effect on floodplains located in the project area because the proposed landfill project would not be constructed as a result of choosing this alternative.

### *Proposed Action Alternative*

A review of the map generated using the Mason County digital FIRM data for the project area showed one area adjacent to Lawrence Creek designated as 100-year floodplain within the proposed Spurlock Station Peg's Hill Landfill project footprint. However, this area of floodplain is located within portions of the project footprint where no construction activities associated with the proposed project are anticipated. Disturbances associated with construction of the landfill and use of the borrow areas would not occur within the designated floodplain. In addition, the KDOW Floodplain Management Section reviewed the project, and in a letter dated January 9, 2017 confirmed that project activities would occur in a watershed less than one square mile, and as such, the project meets exemption criteria and a stream construction permit would not be required. Because project impacts would occur within a watershed less than one acre and not within the FIRM designated floodplain, there would be no direct or indirect effects associated with the implementation of the Proposed Action Alternative.

#### 6.3.4 Cumulative Effects

##### No Action Alternative

The No Action Alternative would not result in cumulative effects on floodplains within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### Proposed Action Alternative

A review of the map generated using the Mason County digital FIRM data for the project area showed one area designated as 100-year floodplain within the identified project footprint for the project. However, impacts associated with construction of the landfill would not occur within the designated floodplain. Because the proposed action impacts would not occur within the designated floodplain, there would be no potential for cumulative effects associated with other activities impacting floodplains in the area.

#### **6.4 Jurisdictional Waters of the U.S.**

The jurisdictional authority for protection of waters of the U.S. is derived from several sources, including the Clean Water Act of 1972 (CWA). Section 404 of the CWA authorizes the USACE to issue permits for discharges of dredged or fill material into waters of the U.S., and it gives the USACE enforcement authority against violations. Section 10 of the Rivers and Harbors Act regulates activities affecting navigation that occur below the Ordinary High Water Mark (OHWM) elevation of navigable waters of the U.S. The determination of jurisdiction applies over the entire surface of a waterbody to the OHWM. E.O. 11990 directs federal agencies to take action to minimize the destruction, loss, or degradation to both non-jurisdictional and jurisdictional wetlands.

##### *6.4.1 Area of Influence*

The area of influence for jurisdictional waters of the U.S. and non-jurisdictional waters/wetlands was considered the 1,476-acre Spurlock Station Peg's Hill Landfill project footprint. Any potential impacts associated with waters/wetlands are anticipated to be localized within this footprint.

##### *6.4.2 Affected Environment*

Waters of the U.S., including wetlands, were delineated within the Study Area developed by EKPC in the early planning stages of the proposed project. The Study Area was developed to include all areas that would potentially be impacted by project related activities. Through an analysis of project impact avoidance and minimization measures, the project footprint was developed within the Study Area. The delineation of waters of the U.S. within the Study Area was conducted by Redwing Ecological Services, Inc. (Redwing) on December 16-20, 2013, January 8-9, 2014, December 11, 2014, February 12, 2015, and on-site meetings with the U.S. Army Corps of Engineers (USACE) and Kentucky Division of Water (KDOW) on June 2-3, 2015 and March 14, 2017. A portion of the study area was previously delineated by Redwing in March 2011 and was reviewed during the December 2013 field visit.

Based on the field delineation and site visits, stream features within the Study Area include: three perennial streams totaling 9,860 linear feet (3.742 acres), 28 intermittent streams totaling



43,535 linear feet (9.633 acres), and 230 ephemeral streams totaling 82,910 linear feet (5.290 acres), which consists of 228 jurisdictional ephemeral streams totaling 82,610 linear feet (5.284 acres) and two non-jurisdictional ephemeral streams totaling 300 linear feet (0.0064 acre). Five jurisdictional wetlands (1.921 acres) and four non-jurisdictional wetlands (0.189 acre) were verified along with one jurisdictional open water pond (0.018 acre) and 12 isolated non-jurisdictional open water ponds (2.068 acres). Preliminary and Approved Jurisdictional Determination (JD) forms describing the jurisdictional waters and wetlands in the Spurlock Station Peg's Hill Landfill project area were reviewed and approved by the USACE.

#### 6.4.2.1 Streams

Jurisdictional waters/wetlands identified within the project footprint include perennial, intermittent, and ephemeral streams. A perennial stream is defined as a stream or river that has continuous flow in parts, or all, of its streambed all year round during years of normal rainfall. An intermittent stream is defined as a stream which carries water a considerable portion of the time, but which ceases to flow occasionally or seasonally because bed seepage and evapotranspiration exceed the available water supply. An ephemeral stream is defined by flow that occurs only in response to precipitation or snowmelt and ceases within a 48-hour period following the contributing event. Small isolated open water ponds were also identified within the project footprint.

Non-jurisdictional waters present within the survey area are isolated streams and ponds and those collection ditches and sediment basins constructed for the purpose of stormwater management at the existing Spurlock Station landfill facility. Collection ditches and ponded areas associated with water quality basins within the approved permit boundary for the existing CCR landfill were not considered jurisdictional as they were constructed, and are currently used, as treatment systems to meet water quality standards under the CWA.

#### 6.4.2.2 Wetlands

“Wetlands” refers to areas which meet the criteria for the definition of a wetland, as adopted by the U.S. Environmental Protection Agency (EPA) and the USACE for administering Section 404 of the CWA. According to this definition, wetlands are:

*“Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”*

The wetland delineation of the site was conducted by Redwing through documentation of the presence/absence of hydric soils, wetland hydrology, and hydrophytic vegetation per the Routine On-Site Determination Method as defined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0, April 2012). According to this Manual, all three parameters must be met in order for an area to be considered a wetland. Exceptions to these criteria may be allowed in disturbed conditions.

### 6.4.3 Environmental Consequences

The direct and indirect effects of the proposed action on waters of the U.S. would be anticipated to be within the vicinity of the identified project footprint.

#### No Action Alternative

The No Action Alternative would not have any effect on waters of the U.S. located in the project area because the proposed landfill project would not be constructed as a result of choosing this alternative.

#### Proposed Action Alternative

Through avoidance and minimization, EKPC reduced the permanent direct impacts to jurisdictional waters of the U.S. located within the project footprint. However, due to the high density of jurisdictional streams on the Spurlock Station property and the need to construct a landfill of sufficient disposal capacity that maximizes potential disposal airspace, centralizes impacts, creates stability, and minimizes potential containment issues, it is not practicable to entirely avoid impacts to jurisdictional waters. The proposed landfill design was identified due to the engineering efficiencies gained through utilizing existing topography and airspace by overlaying CCR into the slope of the existing permitted landfill, which ultimately allows for a significantly smaller footprint for the same capacity.

As required by E.O. 11990, the proposed landfill project has been designed to minimize the destruction, loss, or degradation to both non-jurisdictional and jurisdictional wetlands. However, for the reasons listed above wetland impacts could not be entirely avoided, although the selected project alternative does minimize wetland impacts to the maximum extent practicable while still meeting the basic project purpose and need. The 0.048-acre jurisdictional wetland that would be impacted within the identified landfill limits of disturbance is a very small, low quality feature that has developed within a drainage ditch along the existing haul road, due to a poorly draining culvert. Through the alternatives analysis, EKPC determined that the proposed alternative was preferable, largely due to fewer impacts to higher quality waters of the U.S. compared to poor quality. The proposed landfill alternative was identified as the least environmentally damaging practicable alternative through an analysis of multiple long-term disposal alternatives. To offset the unavoidable impacts to waters of the U.S, EKPC has prepared a comprehensive mitigation plan to mitigate these impacts.

Construction of the new Peg's Hill CCR landfill would result in unavoidable permanent impacts to approximately 5,755 linear feet (1.872 acre) of jurisdictional intermittent stream, 6,860 linear feet (0.482 acre) of jurisdictional ephemeral stream, and 0.048-acre of jurisdictional wetland within the identified landfill limits of disturbance through placement of the landfill material (See *Alternative X [Peg's Hill]* impacts map included in Exhibit B-6 – Project Maps, Pg. 99). The revised existing and proposed borrow areas have been designed to avoid all direct impacts to jurisdictional waters and wetlands by placing a 50-foot buffer around these features where no project disturbances would occur, although there would be some non-jurisdictional waters impacted as described above. (See *Project Components Maps (Topography and Aerial)* included in Exhibit B-2 and B-3 – Project Maps, Pg. 99). Of the four verified non-jurisdictional wetlands, one (Wetland 6 – 0.062-acre) may be impacted within the northwesternmost revised existing borrow area. The Redwing investigation also resulted in the identification of one

jurisdictional open water pond (0.018 acre) and 12 isolated open water ponds (2.068 acres). The jurisdictional open water pond would not be impacted, but 11 of the isolated ponds may be impacted by landfill and/or borrow activities. These ponds are predominantly located on ridgetops and were constructed for agricultural purposes – livestock watering.

Waters/wetlands were delineated and included in a Preliminary JD that was submitted to the USACE on July 1, 2015 as part of the permitting process for the Section 404 Clean Water Act regulatory approval of the Spurlock Station Peg’s Hill Landfill project. In December 2016, Redwing submitted a joint application for a USACE Individual Permit and KDOW Individual Water Quality Certification under Sections 404 and 401 of the Clean Water Act, respectively, for the water/wetland impacts resulting from the proposed project. A detailed description of the delineated waters/wetlands, including photographs and data sheets, is included in the Joint Section 404/401 Permit Application prepared by Redwing. The permit application is incorporated into this document by reference, *Application for Section 404 Individual Permit, Section 401 Water Quality Certification, and Floodplain Construction Permit – Spurlock Power Station Landfill Area D Expansion Project – Mason County, Kentucky*, Redwing, December 16, 2016.

Compensatory mitigation would be required through the USACE and KDOW permitting processes to offset the unavoidable impacts to waters of the U.S. EKPC has prepared a comprehensive mitigation plan for USACE and KDOW review, the details of which are included in Section 7.0 *Mitigation Plan*. In summary, to mitigate impacts to waters of the U.S., EKPC is proposing to conduct stream restoration activities within the Beasley Creek drainage (see *Proposed Mitigation Activities Map* in Exhibit B-11 – Project Maps, Pg. 99) and the purchase of wetland credits from the Northern Kentucky Mitigation Bank. The proposed compensatory mitigation would achieve the 12,556.25 adjusted mitigation units (AMUs) required to off-set the project impacts. The mitigation plan would be implemented after USACE permit issuance and concurrently with project construction.

Indirect effects such as sedimentation and potential contaminant leaching into these waters would be minimized due to the measures outlined in Section 2.5.8 *Erosion Prevention and Sediment Control Plan* and the proposed landfill bottom liner system as discussed in Section 2.5.4 *Construction Activities*. Resource management activities that may affect water quality must follow applicable Kentucky Rules and Regulations for Water Quality Control and Kentucky’s Best Management Practices (BMPs) at a minimum to achieve water quality objectives. Appropriate erosion prevention and sedimentation control structures (e.g. berms, diversion ditches, silt traps, and silt fences) would be deployed as needed in disturbed areas during construction activities to reduce sediment loading of stormwater run-off. Temporary sediment control structures would be maintained during construction activities and not be removed until vegetation is established on the disturbed area. Required land clearing activities would not be initiated until absolutely necessary and all disturbed areas would be stabilized and revegetated, as soon as practicable, once construction is complete to reduce the amount of time bare soils are exposed to wind and water erosion. Revegetation of disturbed areas, other than the landfill working face, would be accomplished by the seeding of a quick germinating grass such as annual ryegrass or other quick cover vegetation. Gravel or crushed stone would be applied to road surfaces, as needed, to prevent rutting. Additional erosion control devices

consistent with Kentucky BMP's may include the application of mulch, geotextiles, mats, wood fiber, or wood chips, which would be applied as needed based on site-specific geomorphology, drainage patterns, and weather conditions. The landfill would also be constructed with a liner system and leachate collection system designed to prevent contaminants from leaching into the groundwater. For these reasons, no significant indirect effects to waters of the U.S. are anticipated.

#### *6.4.4 Cumulative Effects*

##### No Action Alternative

The No Action Alternative would not result in cumulative effects on waters of the U.S. within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### Proposed Action Alternative

The effects of the proposal as outlined in the Proposed Action Alternative when considered with the effects of the other past, present, and reasonably foreseeable future actions identified in Section 5.0 *General Environmental Setting* would result in minimal cumulative effects on waters of the U.S. It is anticipated that any effects to jurisdictional waters of the U.S. by other projects in the identified area of influence have been or would be permitted and adequately mitigated as required under the CWA. The mitigation of impacts would result in only minor impacts to water resources from the other activities identified. As outlined above, the unavoidable permanent direct impacts to approximately 12,615 linear feet (9.3%) of the jurisdictional streams and 0.048-acre (2.5%) of the jurisdictional wetlands identified within the Spurlock Station – Waters Study Area, would be mitigated through compensatory mitigation. Indirect effects such as sediment loading, potential contaminant leaching, etc., would be negligible given EKPC's implementation of the preventative measures described in Sections 2.5.8 *Erosion Prevention and Sediment Control Plan* and 2.5.4 *Construction Activities*. Therefore, because the direct effects would be mitigated and there would be little or no indirect impacts on waters of the U.S. within the project footprint, it is unlikely those effects would interact with, or contribute to, the effects of other actions in the area to produce cumulatively significant effects on waters of the U.S.

## **6.5 Cultural Resources and Historic Properties**

Sections 106 and 110 of the National Historic Preservation Act (NHPA) provide the framework for federal review and protection of historic properties, ensuring that they are considered during federal project planning and execution. The implementing regulations for the Section 106 process have been developed by the Advisory Council on Historic Preservation. The Secretary of the Interior maintains the National Register of Historic Places (NRHP) and sets forth significance criteria for inclusion in the register. Cultural resources may be considered "historic properties" for the purpose of consideration by a federal undertaking if they meet NRHP inclusion criteria. Historic properties may be those that are formally placed in the NRHP by the Secretary of the Interior or those identified that meet the criteria and are determined eligible for inclusion.

### 6.5.1 Area of Influence

EKPC coordinated with the Kentucky State Historic Preservation Office (SHPO) to establish the area of influence/area of potential effect (APE) for the project. Due to the nature of the project, the APE for aboveground historic properties includes the existing permit boundary and a 500-foot buffer around this area. The APE for archaeological resources was considered the Spurlock Station landfill project footprint, as any potential impacts associated with archaeological resources are anticipated to be localized within this area. In addition, APEs were coordinated with the SHPO regarding the proposed Beasley Creek Stream Mitigation area. The APEs for archaeology and cultural historic resources were established to include the entire EKPC property within the Beasley Creek watershed, see *Cultural Resource Surveys Map* located in Exhibit B-7 – Project Maps, Pg. 99, which identifies the areas that have been surveyed for cultural resources.

### 6.5.2 Affected Environment

This section summarizes the cultural resources at Spurlock Station, which are defined as sites, features, structures, or objects that may have significant archaeological or historic value. Additionally, they can be properties that play a significant, traditional role in a community's historically based beliefs, customs, and/or practices. Cultural resources can encompass a wide range of settings, from prehistoric campsites to farmsteads constructed in the recent past.

The first investigations for the area surrounding the landfill at Spurlock Power Station were done in 1978. In 1989, it appears the Kentucky Transportation Cabinet conducted a survey in the vicinity of the project when evaluating locations for the Maysville-AA Bridge. Additional investigations were conducted between 2001 and 2011 in the vicinity of the project area for previous landfill projects, a transmission line project, a microwave tower, and a proposed limestone mine. The reports are entitled:

*An Archaeological Reconnaissance of Beasley Creek Hollow, Mason County, Kentucky.* 1978. Prepared by Kenneth C. Carstens and Kandis K. Jennings.

*An Archaeological Survey of a Proposed Sludge Disposal Site in Mason County, Kentucky.* 1978. Prepared by Roger C. Allen and John T. Griffith.

*Archaeological Reconnaissance for the Maysville-AA Bridge.* 1989. Prepared by Bennet, R. Hawkins, and Jack K. Blosser.

*A Phase I Archaeological Survey of the Spurlock Landfill Extension, Mason Co., Kentucky.* 2001. Prepared by Richard Stallings and Nancy Ross-Stallings.

*A Phase I Archaeological Survey of a Proposed Microwave Tower Site Near Lawrence Creek Church, Mason County, Kentucky.* 2001. Richard Stallings and Chris Elmore.

*A Cultural Resource Survey of the Proposed Expansion of the Spurlock Station Landfill Permit Area C in Mason County, Kentucky.* 2008. Prepared by Jason Anderson.

*A Cultural Resource Survey of the Proposed Hilltop Ingleside Limestone Mine Operation in Mason County, Kentucky (Permit Application Number 081-9402).* 2009. Prepared by Michael Curran and Jennifer Barber.



*Cultural Resource Survey of the Permitted Spurlock Station Landfill in Mason County, Kentucky.* 2009. Prepared by Jason Anderson.

*A Cultural Resource Survey of the Eastern Kentucky Power Cooperative Proposed Boone-Spurlock Transmission Line Relocation in Mason County, Kentucky.* 2011. Prepared by Lisa Kelley.

Phase I and II Archaeological Surveys have been conducted at Spurlock Station by Cultural Resource Analysts, Inc. (CRA). During 2011 through 2015, five (5) archaeological surveys and two (2) cultural historic surveys were conducted within the Spurlock Station Peg's Hill Landfill project area. The surveys were conducted within the proposed Limits of Disturbance, Borrow Areas, and Beasley Creek Stream Mitigation Area associated with the proposed Peg's Hill landfill development, see *Cultural Resource Surveys Map* in Exhibit B-7 – Project Maps, Pg. 99. For the current project, the following reports were developed and submitted to the SHPO for review:

*Cultural Historic Resource Survey for the proposed East Kentucky Power Cooperative Spurlock Landfill Expansion in Mason County, Kentucky.* 2013. Prepared by Kathy Martinolich and Sarah Reynolds.

*An Archaeological Survey of the Proposed East Kentucky Power Cooperative's Spurlock Landfill Expansion between Lawrence and Beasley Creeks in Mason County, Kentucky.* 2013. Prepared by Lisa Kelley.

*National Register Evaluation of Archaeological Sites 15MS155, 15MS156, 15MS157, 15MS159, 15MS161, 15MS163, 15MS165, 15MS166, 15MS173, 15MS175, AND 15MS176 for the Spurlock Landfill Expansion Project (Area D) in Mason County, Kentucky.* 2014. Prepared by Richard Herndon, Russell Quick, and Tanya Faberson.

*An Archaeological Survey for the Proposed Spurlock Station Landfill Area D Expansion Project in Mason County, Kentucky.* 2015. Prepared by Brian DeCastello.

*An Archaeological Survey of proposed additional soil borrow areas for the Spurlock Landfill Expansion for East Kentucky Power Cooperative in Mason County, Kentucky.* 2014. Prepared by James Heideman and Tanya Faberson.

*Cultural Historic Resource Survey for the Proposed Spurlock Station Beasley Creek Mitigation Site in Mason County, Kentucky.* 2015. Prepared by Elizabeth Heavrin.

*An Archaeological Survey of the Spurlock Station Beasley Creek Mitigation Project for East Kentucky Power Cooperative in Mason County, Kentucky.* 2015. Prepared by Thaddeus Bissett.

The previous reports in combination with the most recent investigations for the proposal provide a current, comprehensive analysis of the archaeological and aboveground historic properties within the APE of the project.

During the cultural resource surveys, the majority of the identified sites were determined to be not eligible for listing in the National Register of Historic Places (NRHP). However, eleven

(11) archaeology sites and a cemetery were considered potentially eligible and a Phase II Archaeological Investigation was conducted at these sites. The Phase II surveys resulted in CRA recommending that two sites (15Ms159 and 15Ms166) be considered eligible for listing in the NRHP and establishment of archaeological avoidance areas. There were no cultural historic resources recommended as eligible for listing on the NRHP.

Historic sites 15Ms159 and 15Ms166 contain intact historic features with the potential for numerous more features to be discovered. Given this research potential, along with their local and regional importance, it was recommended that portions of both sites be considered eligible for the NRHP and be avoided by the proposed project. The Driskell - Thomas Cemetery is associated with site 15Ms238 and located in close proximity to a proposed borrow area.

For Site 15Ms159, the area of avoidance has been established as the east side of the site and encompasses approximately 1.3 ha (3.2 acres) of the 2.5 ha (6.2 acres) site area. Within Site 15Ms166, which included 3.9 ha (9.7 acres) of site area, two areas are recommended for avoidance. The first is associated with a 30-m (100-ft) buffer around the Bacon cemetery. This area is located on the west side of the site and encompasses approximately 0.5 ha (1.3 acres). The second area of avoidance is on the north end and encompasses approximately 0.4 ha (1.0 acres) of the site. These areas had the densest concentration of features and architectural remains. Archival and artifact data point to the occupation of these sites starting in the mid-nineteenth century through the late twentieth century. The Driskell - Thomas Cemetery is associated with site 15Ms238 and located in close proximity to a proposed borrow area. The Driskell - Thomas Cemetery would also receive a 100-foot buffer

On January 6, 2017, RUS initiated coordination with federally recognized Indian tribes. The only response received to the correspondence was from Ms. Holly Austin, Tribal Historical Preservation Office, Eastern Band of Cherokee Indians, via letter dated January 20, 2017. Ms. Austin's correspondence stated that no cultural resources important to the Eastern Band of Cherokee Indians should be adversely impacted by this proposed federal undertaking and that the proposal may proceed as planned. Copies of the letters to tribes and response are included in Exhibit C – Agency Correspondence, Pg. 116. If the proposed project inadvertently uncovers an archaeological site or object(s) during construction, EKPC would cease construction activities in the vicinity of the findings immediately and contact RUS, the SHPO, tribes and appropriate federal and state authorities.

Public involvement was integrated into the project on April 12, 2017 through a notice placed in *The Ledger-Independent*, which is a five-day newspaper local to the project area. The notice included the location and a brief description of the project, as well as particulars regarding Section 106 of the NHPA, which requires consideration of effects on important historic properties listed or eligible for listing in the NRHP. The Notice provided information to those individuals or groups who have an interest in the historic built and/or archaeological environment in the project area and wish to become formally involved in the consultation process as a consulting party. To date, there have been no responses regarding historic properties received from this public notice. A copy of the Notice is included in Exhibit C – Agency Correspondence, Pg. 116.

### *6.5.3 Environmental Consequences*

The potential for direct and indirect effects of the proposed action on archaeological resources is anticipated to be limited to the ground disturbing activities within the project footprint. Potential effects to aboveground cultural historic resources are anticipated to occur within the project footprint, as well as an area within 500-feet of this identified area. This buffer encompasses all of the proposed project components.

#### *No Action Alternative*

The No Action Alternative would not have any impact on cultural resources because under this alternative the proposed action would not be approved and the proposed landfill project would not be constructed.

#### *Proposed Action Alternative*

The following summary describes the anticipated effects of the Proposed Action on resources eligible for or listed on the NRHP. The *Cultural Resource Surveys Map* located in Exhibit B-7 – Project Maps, Pg. 99 shows the location of the areas surveyed for archaeology and cultural historic resources.

*Aboveground cultural resources:* No eligible or listed aboveground historic properties are located within the APE. During the field survey conducted in 2013 as part of a recent landfill boundary expansion project, CRA personnel identified 16 cultural historic sites within the area of potential effect, 5 of which were previously surveyed by CRA in 2011. CRA recommended that Sites 1–16 are not eligible for listing in the NRHP under Criterion A, B, or C and recommended a finding of no effect for the proposed project. The KHC reviewed the report and agreed with the recommendations. For the Peg’s Hill landfill project, EKPC committed to reviewing the 2013 report and updating if any previously undocumented resources were identified within the APE. CRA reviewed the report along with the current conditions and concluded that the proposed landfill project would not have the potential to impact any of the previously identified resources.

*Archaeological resources:* Within close proximity to proposed soil borrow locations, there are two archaeological sites that are recommended eligible for listing in the NRHP and one additional recommended non-eligible cemetery that would be avoided. The two archaeological sites (15Ms159 and 15Ms166) and the Driskell - Thomas Cemetery associated with Site 15Ms238 would receive buffers not be impacted by the proposed landfill project or associated borrow activities. Therefore, the proposed Peg’s Hill landfill project would have no adverse effect on archaeological resources listed in or eligible for the NHRP.

The results of all archaeological and cultural historic surveys and recommended findings of effect for each survey conducted within the project's area of potential effect were submitted to the Kentucky SHPO for review. In their responses, SHPO has concurred with CRA’s recommended findings that the majority of the documented archaeological sites and all cultural historic sites were not eligible for listing in the NRHP. For the eligible archaeological sites, the SHPO has also concurred with the recommended finding of no adverse effect to cultural resources, provided EKPC adheres to the identified avoidance areas. Copies of the SHPO responses are included in Exhibit C – Agency Correspondence, Pg. 116.



#### 6.5.4 Cumulative Effects

##### No Action Alternative

The No Action Alternative would not result in cumulative effects on historic and archaeological resources within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### Proposed Action Alternative

According to the archaeological survey reports prepared for the multiple surveys conducted at Spurlock Station and the avoidance measures incorporated into the proposed project, there would be no effect to archaeological and/or cultural resources. None of the recommended eligible sites identified by the previous investigations occur within the proposed project footprint, and EKPC has committed to avoiding construction activities around Sites 15Ms159 and 15Ms166 to ensure their protection. As described above, no eligible historic or archaeological resources would be impacted by the proposed project. Therefore, the proposed action would not interact with the effects of the other actions to produce cumulative effects on cultural resources.

### **6.6 Threatened and Endangered Species**

In 1973, Congress passed the Endangered Species Act (ESA), recognizing that: (1) various species of fish, wildlife, and plants in the U.S. have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation, (2) other species of fish, wildlife, and plants have been so depleted in numbers that they are in danger of or threatened with extinction, and (3) these species of fish, wildlife, and plants are of esthetic, ecological, educational, historical, recreational, and scientific value to the U.S. and its people. The intended purpose of the ESA is to provide a means by which the ecosystems upon which endangered and threatened species depend may be conserved and to provide a program for their conservation.

#### *6.6.1 Area of Influence*

The area of influence for threatened and endangered species was considered the 1,476-acre Spurlock Station Peg's Hill Landfill project footprint. Any potential impacts associated with federally threatened and endangered species are anticipated to be localized within the area where project related disturbances would occur.

#### *6.6.2 Affected Environment*

Effects to federally listed threatened or endangered species and/or critical habitats that are known to occur or could potentially occur in Mason County were evaluated for the proposed project. The Kentucky State Nature Preserves Commission (KSNPC) was contacted to determine if any rare or federally threatened or endangered species are known in the vicinity of the project area. Kentucky does not have a state listing program; however, the KSNPC monitors endangered, threatened, and special concern plants and animals, and exemplary natural communities through its Natural Heritage Program Database. This database contains specific identification and location data for rare species and exemplary natural community occurrences in Kentucky.

The Kentucky Department of Fish and Wildlife Resources (KDFWR) was contacted on April 3, 2017 to determine if any federally threatened and endangered species or critical habitats are known to occur in the vicinity of the proposed project area. The KDFWR maintains the Kentucky Fish and Wildlife Information System, which is a database compiled of animal observations from professional biologists. The KDFWR recognizes that their database is not an absolute list of animals occurring in Kentucky or a specific area, and animals not listed as occurring in a county or quad may be absent from the lists only because it has not been reported from that area. To ensure compliance with the ESA, the KDFWR recommended EKPC contact the U.S. Fish and Wildlife Service, Kentucky Ecological Services Field Office (USFWS). USFWS project coordination is discussed below.

EKPC also conducted a review of the federally threatened species, federally endangered species, and critical habitats that are known to occur or could potentially occur within the vicinity of the proposed project on the USFWS Information for Planning and Conservation (IPaC) website (<https://ecos.fws.gov/ipac/>). The IPaC website contains a publicly available database of federally listed species and habitats known to occur or having the potential to occur in a given region.

Information contained within these resources identifies 10 federally-endangered species and one federally-threatened species known to occur or having the potential to occur in the vicinity or the project area. These species are the Indiana bat (*Myotis sodalis*), gray bat (*M. grisescens*), northern long-eared bat (*M. septentrionalis*), clubshell (*Pleurobema clava*), fanshell mussel (*Cyprogenia stegaria*), orangefoot pimpleback (*Plethobasus cooperianus*), pink mucket (*Lampsilis abrupta*), ring pink (*Obovaria retusa*), rough pigtoe (*Pleurobema plenum*), sheepnose mussel (*Plethobasus cyphus*), and running buffalo clover (*Trifolium stoloniferum*).

**Table 7. Federally-listed Species Identified in Vicinity of Proposed Landfill Project.**

Group	Species	Common name	Legal Status*	Occurrence**	Comments
Mammals	<i>Myotis sodalis</i>	Indiana bat	E	P	Potential to occur in project area
	<i>M. grisescens</i>	gray bat	E	P	Potential to occur in project area
	<i>M. septentrionalis</i>	northern long-eared bat	T	K	Known within 2 miles of project
Freshwater Mussels	<i>Pleurobema clava</i>	clubshell	E	K	Known from Ohio River Watershed
	<i>Cyprogenia stegaria</i>	fanshell	E	K	Known from Ohio River Watershed
	<i>Plethobasus cooperianus</i>	orangefoot pimpleback	E	K	Known from Ohio River Watershed
	<i>Lampsilis abrupta</i>	pink mucket	E	K	Known from Ohio River Watershed
	<i>Obovaria retusa</i>	ring pink	E	P	Potential in Ohio River Watershed
	<i>Pleurobema plenum</i>	rough pigtoe	E	P	Potential in Ohio River Watershed

Group	Species	Common name	Legal Status*	Occurrence**	Comments
	<i>Plethobasus cyphus</i>	sheepnose	E	K	Known from Ohio River Watershed
Plants	<i>Trifolium stoloniferum</i>	running buffalo clover	E	K	Known from within project area

**NOTES:**

\* Key to notations: E = Endangered, T = Threatened, CH = Critical Habitat

\*\*Key to notations: K = Known occurrence record within the vicinity, P = Potential for the species to occur in the project area based upon historic range, proximity to known occurrence records, biological, and physiographic characteristics.

To determine the likelihood of these species being impacted by the proposed project, EKPC biologists reviewed existing occurrence data, topographic maps, aerial photographs, and conducted field surveys to determine the presence or probable absence of these species in the proposed project area. The Maysville West, Kentucky USGS 7.5-minute topographic quadrangle map and aerial photographs taken in 2016 were reviewed and utilized to create the project mapping.

The property has been owned by EKPC for many years and numerous surveys have been conducted over this time. EKPC has conducted biological investigations and site visits for previous projects associated with the landfill on various occasions since 2008. The area in question has been surveyed during multiple site visits by EKPC biologists in May and June of 2014, as well as May, June, and October 2015. The latest field survey was conducted by permitted EKPC biologists Josh Young and Patrick Stein on April 6, 2016, which consisted of making visual observations of existing habitat and site-specific conditions while traversing the proposed project area. The field survey included visual observations of flora and fauna, and an assessment of habitat suitability for the identified federally protected species. Correspondence with the KSNPC, KDFWR, and USFWS is located in Exhibit C – Agency Correspondence, Pg. 116.

6.6.2.1 Indiana bat

A review of existing data provided by the USFWS revealed that there is no known Indiana bat summer habitat in Mason County. However, there are known occurrences for the Indiana bat approximately 16 miles to the west in Bracken County, Kentucky and Clermont County, Ohio. Based on the proximity to the known habitat, historic range, biological and physiographic characteristics, and potential acoustic identifications, the USFWS assumes this species has the potential to occur throughout this region of Kentucky. Therefore, any forested areas present in the project area may provide suitable summer roosting and/or foraging habitat for the Indiana bat. Additionally, any caves, rock shelters, or underground mines located in the proposed project area may provide potential Indiana bat winter hibernacula habitat. Any project-related impacts to this summer and/or winter habitat could adversely affect this species; therefore, EKPC survey efforts focused on the identification of suitable Indiana bat habitat.

Suitable summer roosting habitat for the Indiana bat has been defined by the USFWS as live and dead trees with a diameter at breast height (DBH) of five inches or greater that

exhibit exfoliating bark, crevices, and/or cracks where Indiana bats could potentially roost. During the field surveys within the project area, approximately 97.13-acres of forested areas containing live shaggy-barked trees and/or dead/damaged trees meeting the definition of suitable Indiana bat summer habitat that could potentially be cleared during landfill construction activities were identified. Of this acreage, 76.1-acres are located within the identified limits of disturbance, 16.03-acres within the forested edges surrounding the borrow areas, and up to 5-acres of impact are anticipated in association with the stream mitigation activities (See *Indiana Bat Habitat Maps* included in Exhibit B-9 – Project Maps, Pg. 99). There were several areas of early successional trees/recently logged areas present in the project area that were not considered to be characteristic of suitable Indiana bat summer roosting habitat because they were predominantly comprised of young live black locust trees that were not large enough and/or lacked typical bat roost sites. In addition, 10-acres of suitable Indiana bat habitat located within the current project boundary was previously mitigated through a CMOU dated March 12, 2013 for the Spurlock Landfill Boundary Expansion project (FWS 2013-B-0282), see bat habitat maps for locations.

#### 6.6.2.2 Northern long-eared bat

The northern long-eared bat (NLEB) has been documented by EKPC in close proximity to Spurlock Station during surveys conducted for previous transmission line projects. Therefore, on behalf of RUS, EKPC has completed the *Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form* as part of the USFWS streamlined consultation framework for the NLEB. Through this analysis EKPC determined that the proposed action is consistent with the NLEB final 4(d) rule and the USFWS's January 5, 2016, intra-Service Programmatic Biological Opinion (4[d] BO) on the final 4(d) rule for the NLEB. Per this framework, EKPC believes that the activity is excepted from the incidental take prohibitions in the Final Rule, because the project does not (1) propose impacts to any known NLEB hibernacula; (2) propose the removal of any trees within 0.25 miles of a known NLEB hibernacula; or, (3) propose the removal of any known NLEB occupied maternity roost trees, or any tree removal activities within 150 feet of a known occupied maternity roost tree from June 1 through July 31.

#### 6.6.2.3 Gray bat

According to the data sources reviewed by EKPC, gray bats have not been documented but have the potential to occur within the proposed project area. Gray bats roost, breed, rear young, and hibernate in caves, rock shelters, and underground mines year round. Therefore, any of these features that are located in the proposed project area could provide potential winter/summer roosting habitat for the gray bat and impacts to this habitat could adversely affect this species. There have been no potential gray bat roost sites identified during any of the previous field surveys at Spurlock Station.

Gray bats typically forage for flying aquatic and terrestrial insects over streams, rivers, and lakes. As a result, any of these water features that occur within and in the immediate vicinity of the proposed project area could provide potential gray bat foraging habitat. During the topographic map review and field survey, the proposed project area was examined for streams, rivers, or lakes that could provide potential gray bat foraging

habitat. Within the limits of disturbance there is an intermittent stream that would be impacted by the project; however, due to its small size, sporadic flow, and constricted corridor this stream is not considered to represent gray bat foraging habitat.

Although no significant direct effects to gray bat foraging habitat are anticipated from the proposed project, there is potential for indirect water quality impacts to occur downstream given the proximity of the project area to Lawrence and Beasley Creeks. These are larger perennial streams that likely offer adequate foraging habitat for gray bats.

#### 6.6.2.4 Freshwater Mussels

None of the seven federally-listed freshwater mussel species known or having the potential to occur in Mason County (refer to Table 7) have been recorded in the proposed project area. Occurrence data indicates two of these species – fanshell (*C. stegaria*) and sheepnose (*P. cyphus*) – are known to have occurred in the Ohio River just upstream from Spurlock Station. Although detailed location data was not available for the remaining five species of endangered mussels identified through the data review, the Ohio River has been shown to offer suitable mussel habitat, and it can therefore be assumed these species may also be present in the vicinity of the proposed project. Therefore, during the topographic map review and field survey, the proposed project area was examined for streams or rivers that could provide potentially suitable habitat for endangered mussel species. This examination revealed that all of the streams that may be directly impacted by the proposal are small- to medium-sized intermittent and ephemeral streams, which do not provide potential mussel habitat.

#### 6.6.2.5 Running Buffalo Clover

Existing occurrence data from the USFWS IPaC database indicates that running buffalo clover has the potential to occur in Mason County. Therefore, EKPC assumed there was potential for this plant species to be present if suitable habitat was identified in the project area. Multiple field investigation over several years were conducted during optimal search months in May and June of 2014, May and June 2015, and April 2016.

The surveys consisted of walking the project area and making visual observations within areas that typically provide suitable habitat for running buffalo clover (i.e., stream banks, bars and terraces, footpaths, dirt roads, and grazed bottomlands). Special attention was given to potential habitat within the identified limits of disturbance and borrow areas, and no plants of this species were found. Although soil and woodland types suitable for running buffalo clover do occur within these areas on toe slopes and lowland terraces, the appropriate disturbance regime is not well developed. There have been no cattle or other livestock on the majority of the site for at least 30 years, and the ground vegetation has become relatively thick within the successional woods and thickets. There is no regular system of dirt roads or trails through the woods, which could provide suitable habitat for the species. The deer population is relatively dense, and there are numerous small deer trails, but these are not generally concentrated enough to form much suitable habitat for running buffalo clover.



While no running buffalo clover was identified within the proposed landfill or borrow areas, two populations of this federally-endangered species containing a total of 154 rooted crowns (survey count on May 10, 2017) were identified within the proposed stream mitigation area on May 8, 2015. These newly identified populations are located in the uppermost portions of the Beasley Creek watershed, approximately 900 feet west of South Ripley Road and 1500 feet north of KY 576, see *Running Buffalo Clover Map* located in Exhibit B-10 – Project Maps, Pg. 99. There are two “patches” located approximately 50 feet apart on either side of the intermittent Beasley Creek stream channel at the junction of an unnamed, east flowing ephemeral stream. Within this portion of the proposed stream mitigation area, the adjacent property owner leases the property from EKPC for cattle grazing, which maintains the appropriate disturbance regime required by the species. Approximately 350 feet to the north (downstream) of the identified clover populations there is a fence that prevents the cattle from grazing within the remainder of the stream mitigation area. Without grazing in this area the vegetation has become overgrown and is largely dominated by invasive species (e.g. garlic mustard [*Alliaria petiolata*] and bush honeysuckle) that form a dense ground cover and eliminate the semi-open habitat required by running buffalo clover. Thorough surveys within this un-grazed portion of the stream mitigation area (north of the cattle fence) failed to identify any additional running buffalo clover populations.

#### *6.6.3 Environmental Consequences*

The direct and indirect effects of the proposed action on threatened and endangered species are anticipated to be limited to the confines of the identified project footprint.

##### *No Action Alternative*

The No Action Alternative would not have any effect on federally-listed endangered or threatened species in the project area since under this alternative the proposed landfill project would not be constructed.

##### *Proposed Action Alternative*

A Biological Assessment (BA) was completed to evaluate possible effects the construction of the proposed Spurlock Station Peg’s Hill Landfill project could have on threatened and endangered species. A copy of the BA is included in Exhibit C – Agency Correspondence, Pg. 116. Based on information obtained from the KSNPC, KDFWR, and USFWS, 11 federally-listed species are known to occur or have the potential to occur in this region of the state. An evaluation of each species resulted in the effects determinations included in the following sections. This information was also included in the BA submitted to the USFWS.

##### 6.6.3.1 Indiana bat

As a result of the project area containing tree species and individual trees that could provide suitable summer roosting habitat for the Indiana bat, EKPC has mitigated the removal of these trees by entering into a Conservation Memorandum of Understanding (CMOU) with the USFWS and made a contribution to the Imperiled Bat Conservation Fund (IBCF), following the USFWS 2016 Conservation Strategy for Forest-Dwelling Bats. The 97.13 acres of forested habitat identified as suitable roosting habitat that would potentially be impacted by the proposal are located within the proposed landfill limits of

disturbance and along the edges of the proposed borrow areas, as depicted on the enclosed *Indiana Bat Habitat Maps*. Due to flexibility in the project schedule, tree clearing activities will be limited to between October 15 and March 31 when the potential Indiana bat habitat would be considered unoccupied. Therefore, the compensatory mitigation was calculated to be \$162,692.75. As a result of 97.13 acres of lost suitable forest-dwelling bat habitat being mitigated through a contribution to the IBCF, the proposed landfill project is not likely to jeopardize the continued existence of the Indiana bat.

Additionally, during all previous activities on the property and the current field survey, no caves, rock shelters, or abandoned underground mines that could provide potential winter habitat for the Indiana bat were discovered within the project area. A review of the *USFWS Known Indiana Bat Habitat in Kentucky and within 20 Miles map* (June 2016) revealed the closest known Indiana bat hibernacula is located over 40 miles southeast of the proposed project area at its closest point. Therefore, no significant adverse effects to the Indiana bat with regards to winter habitat impacts are anticipated.

#### 6.6.3.2 Northern long-eared bat

EKPC's findings that the proposed action is consistent with the NLEB final 4(d) rule were based on a review of data obtained from the *USFWS Known northern long-eared bat habitat in Kentucky and within 20 Miles map* (January 2016), *USFWS Map of Quadrangles Containing Known Northern Long-eared Bat Hibernacula &/or Maternity Roost Trees* (November 2016), project area-specific Natural Heritage Program Database, Standard Occurrence Report (KSNPC, 2013), and the results of the previous and current field investigations of the project area, which all indicate there are no known NLEB hibernacula or maternity roost trees in the vicinity of the project area. As a result of these findings, the project may affect, but is not likely to adversely affect the NLEB. EKPC does not anticipate effects beyond those previously disclosed in the USFWS's 4(d) Biological Opinion. Any taking that may occur incidental to this project is not prohibited under the final 4(d) rule (50 CFR § 17.40[o]).

#### 6.6.3.3 Gray bat

No caves, rock shelters, or underground mines that could provide potential roosting and/or hibernating habitat for the gray bat were discovered in the project footprint. Additionally, no suitable foraging habitat for the gray bat was discovered within the project footprint; however, Lawrence and Beasley Creeks are larger, downstream perennial streams that likely offer adequate foraging habitat for gray bats. To avoid and minimize indirect effects associated with potential water quality degradation from the project, EKPC will comply with the facility KPDES permit and follow its Spurlock Station Best Management Practices (BMPs) Plan that outlines how and where BMPs would be used to prevent and/or minimize the discharge of pollutants into waters of the Commonwealth. The goal of this plan is to implement appropriate and adequate erosion prevention measures, sediment control measures, and other site management practices necessary to manage stormwater runoff during the construction period. These practices are aimed primarily at controlling erosion and sediment transport, but also include controls such as good housekeeping practices aimed at other pollutants such as construction chemicals and solid waste. The

plan describes the site management practices that would be utilized in order to effectively minimize such discharges for storm events up to and including a 2-year, 24-hour event.

EKPC is committed to protecting the water quality in the area of Spurlock Station, which helps ensure productivity of the food source (aquatic invertebrates) on which the gray bat relies. This would allow for continuous use of the habitat by gray bats during the construction and operation phases of the proposed project. Therefore, based on the survey results and implementation of the BMPs to protect water quality, no significant direct or indirect effects to the gray bat are anticipated, and the proposed project is not likely to adversely affect the species.

#### 6.6.3.4 Freshwater Mussels

Although no potential habitat is located within the project area and freshwater mussels would not be directly affected by the proposed project, suitable mussel habitat is ultimately located downstream of the project area in the Ohio River. As previously discussed, to avoid and minimize indirect effects associated with potential water quality degradation from the project, EKPC would implement BMPs per the facility KPDES permit to prevent or reduce the discharge of pollutants into waters of the Commonwealth during the construction period. Therefore, adverse impacts to water quality are not anticipated, and the proposed project is not likely to adversely affect the identified freshwater mussels.

#### 6.6.3.5 Running Buffalo Clover

After multiple efforts to explore the potential habitat for running buffalo clover within the identified limits of disturbance and borrow areas, none was found. Therefore, no adverse effects to running buffalo clover are anticipated from landfill development.

During construction activities associated with the proposed stream mitigation project within the Beasley Creek watershed, care would be taken to avoid any direct effects to the identified running buffalo clover populations. Prior to any work commencing, EKPC Biologists will delineate the boundaries of the current running buffalo clover populations and these areas clearly marked with orange construction type fencing to ensure no construction activities would occur within these areas. Because the populations would be clearly marked and avoided during construction no direct effects to the running buffalo clover populations are anticipated.

Precautions would also be taken to avoid any indirect effects to the identified running buffalo clover populations. Tree clearing would be minimized within the vicinity of the clover so as not to affect the filtered light conditions currently occurring at the site. Secondly, in order to stabilize the stream banks that have been heavily impacted by the presence of cattle throughout the southern portion of the mitigation area, the proposed mitigation plan would require removal of the cattle. However, the cattle grazing within this area is largely responsible for maintaining the appropriate disturbance regime required by the running buffalo clover, and there is potential that removal of the cattle would eventually affect the clover populations. Therefore, the final mitigation plan will include stream design and structures that would routinely create overbanking and scouring



of the running buffalo clover sites and provide the necessary disturbance required to maintain the species. The plans call for redirecting the Intermittent Stream 2 (Beasley Creek) and Ephemeral Stream 5 channels and the installation of structures within these streams that would create overbanking and scouring when the water level reaches  $\frac{3}{4}$  bankfull elevation. For these reasons, no significant indirect effects are anticipated to the known running buffalo clover sites, and there is the potential that the stream mitigation project as a whole may increase the amount of suitable habitat located downstream of the cattle fence by removing exotic vegetation and returning the stream flow to more natural conditions.

Based on the existing occurrence data, negative survey results, mitigation of adverse effects to Indiana bat summer habitat, compliance with the conservation measures in the Final 4(d) rule for the NLEB, and avoidance of potential mussel habitat, EKPC anticipates the proposed project is not likely to jeopardize/adversely affect the 11 federally listed species known to occur or having the potential to occur in the area. After reviewing the provided information, the USFWS concurred with EKPC's findings that the proposed project is not likely to jeopardize/adversely affect the evaluated species. In view of these findings, RUS has fulfilled the requirements of Section 7 of the Endangered Species Act for this project. A copy of all correspondence with the USFWS is included in Exhibit C – Agency Correspondence, Pg. 116.

#### *6.6.4 Cumulative Effects*

##### *No Action Alternative*

The No Action Alternative would not result in cumulative effects on threatened or endangered species within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### *Proposed Action Alternative*

The effects of the proposal as outlined in the Proposed Action Alternative when considered with the effects of the other past, present, and future actions identified in Section 5.0 *General Environmental Setting* above would result in minimal cumulative effects on threatened or endangered species. The only endangered species that has been documented at Spurlock Station is running buffalo clover. However, this occurrence is within the proposed Beasley Creek Mitigation area and the analysis conducted in the project BA concluded there would be no significant direct or indirect effects to this species as a result of the proposal. There is a negligible amount of development and/or agricultural activity in the area, and there would likely be little to no effect on the threatened and endangered species in the project area from these activities. Loss of potential bat habitat because of the proposed project would not cause a significant cumulative effect on threatened or endangered bat species because there would still be ample habitat available in the area, and in any event, these species likely do not occur within the project's area of influence. In addition, EKPC has mitigated the removal of potential Indiana bat habitat by entering into a CMOU with the USFWS and contributed to the IBCF, which ensures no significant cumulative effects for this species. Therefore, the incremental loss from the proposed action is not likely to cause any adverse synergistic or other cumulative effects on listed species.

## 6.7 Fish and Wildlife Resources

This section discusses fish and wildlife resources at Spurlock Station that are not federally listed as threatened or endangered.

### 6.7.1 Area of Influence

The area of influence for fish and wildlife resources was considered the 1,476-acre Spurlock Station Peg's Hill Landfill project footprint. This footprint was considered a reasonable area that would encompass all anticipated effects to fish and wildlife resources associated with the proposed landfill project. Potential impacts to fish and wildlife resources are anticipated to be localized within the area where project related disturbances occur.

### 6.7.2 Affected Environment

The project area provides habitat to a variety of mammal, bird, reptile, amphibian, and invertebrate species that are not listed as federally threatened or endangered species. No naturally occurring permanent water would be impacted within the project footprint that could provide habitat for fish species; however, numerous aquatic species inhabit the intermittent and ephemeral streams/ponds located in the project area. Additionally, the adjacent Ohio River, Lawrence Creek, and Beasley Creek provide habitat to many fish species and other aquatic organisms that require a permanent water source. Common terrestrial wildlife species in the project area include white-tailed deer, wild turkey, gray squirrel, northern cardinal, Carolina wren, American robin, eastern box turtle, black rat snake, eastern milk snake, American toad, and dusky salamander. These species, and others found at Spurlock Station, are considered common throughout the state and are not currently monitored by any state or federal agency. Different wildlife species require different habitats composed of unique arrangements of food, water, and cover to survive. As changes in habitats occur, the variety and abundance of wildlife species change, as well.

### 6.7.3 Environmental Consequences

The direct and indirect effects of the proposed action on wildlife would be anticipated to be limited to the confines of the identified project footprint.

#### No Action Alternative

The No Action Alternative would not have any effect on the fish and wildlife resources within the project area because the proposed landfill would not be constructed under this alternative, and no changes to available habitat would occur.

#### Proposed Action Alternative

Construction of the proposed landfill may impact approximately 591 acres, primarily for the landfill and borrow areas, including the removal of existing vegetation. All of the areas to be impacted, to some degree, provide wildlife habitat that would be disrupted by the proposal, at least temporarily.

Direct effects to wildlife resources would be expected during construction activities within the project footprint. The cutting blades of the mechanical equipment used to clear the proposed landfill area could injure or kill individual members of wildlife species caught by the equipment, such as small mammalian, amphibian, and reptile species, as well as nesting birds.

The Proposed Action Alternative has the potential to impact federally-protected bird species with respect to the *Migratory Bird Treaty Act* and the *Bald and Golden Eagle Protection Act*. However, birds are highly mobile and would take flight when disturbed; thus, direct effects from construction of the landfill are not anticipated. Additionally, the proposed landfill project would not present new barriers or hindrance to movement, but the project would have the potential to impact habitat utilized by federally-protected bird species. EKPC has committed to limit tree clearing to between October 15 and March 31 as part of the bat CMOU, which would also act as a conservation measure to minimize impacts to bird nests with eggs or juveniles, since nesting in central Kentucky is typically limited to the late spring and early summer months. Additionally, the proposed project area is not located within a major flyway or principal route for migratory birds, and no areas of significant concern were identified during the field survey. Likewise, based on information provided in the IPaC Report, there are no known eagle occurrences within the vicinity of the proposal, and there were no eagles or eagle nests observed within the project area during the field investigations.

The noise produced by the cutting machinery may have short-term impacts to wildlife species in and around the project area by forcing these species away from the immediate area. Many of the common wildlife species that may be impacted by the proposal are highly adaptive and would re-colonize disturbed sites; therefore, the negative impact to individuals may not be permanent.

Indirect effects to wildlife resources would be expected due to displacement of wildlife and habitat loss. The proposal would produce some permanent habitat alteration, but this is very small compared to the total forested land available. The proposal may temporarily change the movement of wildlife in wooded areas due to the cut vegetation; however, the majority of these species could move to the forested areas that would remain, adjacent to the proposed project area. The borrow areas would be completely revegetated, and impacts would only be temporary as grassland habitat would be reestablished following construction. These areas would gradually change through natural succession providing a variety of habitat to species over time. Following completion of the project, the CCR landfill area within the waste limits would be maintained in a grassland condition and provide minimal habitat.

The Proposed Action Alternative could indirectly affect aquatic species living downstream from the project area in the Ohio River, Lawrence Creek, and Beasley Creek, should a large amount of sediment be eroded from the construction site or contaminants be introduced to the surface water system as a result of the proposed action. However, as outlined in Section 2.5.8 *Erosion Prevention and Sediment Control Plan* the proposal is designed to prevent this from happening by reducing the potential of erosion and protecting the water resources in the project area from contamination.

For the reasons listed above, common fish and wildlife resources may be affected directly or indirectly by the proposed action. However, the potential impact to individuals is not likely to cause a trend toward federal listing or loss of viability.

#### 6.7.4 Cumulative Effects

##### No Action Alternative

The No Action Alternative would not result in cumulative effects on fish or wildlife located within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### Proposed Action Alternative

The effects of the proposal as outlined in the Proposed Action Alternative when considered with the effects of the other past, present, and reasonably foreseeable future actions identified in Section 5.0 *General Environmental Setting* above would result in minimal cumulative effects on fish and wildlife resources. Vegetation types provide the habitat that serves as the basis for the wildlife communities that occupy the area. As discussed in the following section, no significant direct or indirect impacts are anticipated for vegetation. The project area is located in a partially forested landscape and the incremental changes in the overall habitat of the area would benefit some species and not benefit others. As a result, it is unlikely the incremental effects of the proposed action would interact with the effects of other actions in the area to produce cumulatively significant effects on wildlife.

The impacts to fisheries are tied directly to impacts to water quality in the area. As described above, the proposed project is designed to prevent sedimentation of the surface water of the area. In addition, no projects are known that would impound or remove from impoundment a stream or drainage in the area that could result in a change in the composition of the fish community. Therefore, because the proposed action would have little or no effect on fisheries in the project area, and no other known actions have had significant effects on fisheries, it is unlikely those effects would contribute to cumulatively significant effects on fisheries.

## 6.8 Vegetation

This section discusses the vegetation at Spurlock Station that may be affected by the proposal.

### 6.8.1 Area of Influence

The area of influence for vegetation was considered the 1,476-acre Spurlock Station Peg's Hill Landfill project footprint. The vegetation within this footprint was considered representative of the region of north-central Kentucky, which is typified by agriculture, forest, and development. However, impacts to vegetation associated with the proposed project would be localized to the limits of disturbance and borrow areas.

### 6.8.2 Affected Environment

The vegetation of Spurlock Station and the surrounding areas is characteristic of the Outer Bluegrass physiographic region. According to Jones (2005), the proposed project area is associated with the Oak-Hickory forest region, which covers the western and central portions of Kentucky. This forest type is characterized by a mixture of tree species, including oaks (*Quercus* sp.), hickories (*Carya* sp.), American elm (*Ulmus americana*), American basswood (*Tilia americana*), black cherry (*Prunus serotina*), black walnut (*Juglans nigra*), and white ash (*Fraxinus americana*). Many of the tree species in this forest type are limestone-associated

species, all of which have been documented within the Spurlock Station property boundary. These forests once covered a large portion of Mason County, but anthropogenic activities such as logging, agriculture, and development have resulted in the clearing and alteration of much of the original forest. Evidence of this can be found throughout the county, where agricultural, residential, and commercial development limits the forests to steep drainages and hillsides that are unsuitable for these activities.

EKPC conducted a site-specific vegetative study of the 1,476-acre project footprint and based on this analysis the following vegetative description was developed. Vegetation types within the project footprint vary greatly due to the previous agricultural and construction activities. The majority of the oak-hickory forest has been previously cleared and replaced with open fields and early successional woodlands. Some of the forest was removed during development of the site as a CCR landfill and little to no vegetation occurs in the active landfill areas. Forested areas on the site are typically confined to hillsides and other areas unsuited for agriculture. Those areas suitable for agriculture along the ridgetops were historically used for agriculture and several areas are still actively leased for agricultural activities. However, other areas of the site that were cleared and used for agriculture prior to EKPC purchasing the property have been re-vegetating over the past 35 years and are in various stages of natural succession.

Currently, three major vegetation types have been characterized within the project footprint, including open areas, early successional forest, and mixed deciduous forest. The 1,476 acres within the identified project footprint are comprised of roughly 715 acres of open areas (CCR landfill [330 acres], mowed fields [360 acres], and right-of-way [25 acres]), 160 acres of early successional forest, and 495 acres of mixed deciduous forest. These vegetation types occur throughout the site and are described in further detail below (See *Vegetative Cover Map* included in Exhibit B-12 – Project Maps, Pg. 99). Based on the assessment of potential Indiana bat habitat within the project footprint, there are approximately 97.13 acres of mature woodlands that may be impacted over the life of the project. There were no areas of high quality native vegetation within the project footprint, although the federally-endangered running buffalo clover was identified in the Beasley Creek Stream Mitigation area, see Section 6.6 *Threatened and Endangered Species*.

#### 6.8.2.1 Open Areas

A large portion of the open areas within the area of influence are located within the 330-acre CCR landfill, which has been previously developed by infrastructure development, borrow, or fill activities associated with past construction, operation, and maintenance at the site. Currently these areas consist of either gravel/fill with little to no vegetation or fescue-dominated fields. There are also approximately 360-acres of open areas on site occurring along flat ridgetops that are managed for hay production or livestock grazing, creating a monotypic vegetation type. Some herbaceous plants are present along the field edges, but typically consist of exotic and weedy species. A few unmanaged open areas do exist around the site and contain species more typical of natural field communities in the region. Most of these areas exist in the rights-of-way of the many transmission lines on the site. The following species are common in these natural open areas and are also associated with some of the managed areas: red top (*Agrostis gigantea*), common



ragweed (*Ambrosia artemisiifolia*), broomsedge (*Andropogon virginicus*), milkweeds (*Asclepias* sp.), asters (*Aster* sp.), bull thistle (*Cirsium vulgare*), Queen Anne's lace (*Daucus carota*), teasel (*Dipsacus fullonum*), tall fescue (*Festuca arundinacea*), sunflowers (*Helianthus* sp.), eastern red cedar (*Juniperus virginiana*), lespedeza (*Lespedeza repens*), panic grass (*Panicum* sp.), smooth sumac (*Rhus glabra*), multiflora rose (*Rosa multiflora*), blackberries (*Rubus* sp.), foxtails (*Setaria* sp.), goldenrods (*Solidago* sp.), Indian grass (*Sorghastrum nutans*), Johnson grass (*Sorghum halepense*), yellow clover (*Trifolium campestre*), red clover (*Trifolium pretense*), ironweed (*Vernonia gigantea*), and common vetch (*Vicia sativa*).

#### 6.8.2.2 Early Successional Forest

This vegetation type occurs where natural succession is reclaiming open areas that are no longer maintained. These areas typically occur along the interface of woodlands and open areas, often as old fields transition into young forests. Additionally, these forests are scattered throughout the site in areas that were previously cleared for agriculture. The vegetation in these early successional areas is dominated by sapling species common to forested areas of the site and a mix of species common in open areas. Areas previously disturbed for construction activities, where succession is now occurring, are often dominated by exotic species such as lespedeza and common vetch, which have persisted since they were used for ground cover after construction. Other species associated with these early successional areas include boxelder (*Acer negundo*), tree-of-heaven (*Ailanthus altissima*), broomsedge, *Aster* sp., bull thistle, Queen Anne's lace, late thoroughwort (*Eupatorium serotinum*), tall fescue, white ash, honey locust (*Gleditsia triacanthos*), black walnut, eastern red cedar, Japanese honeysuckle (*Lonicera japonica*), bush honeysuckle (*Lonicera maackii*), osage orange (*Maclura pomifera*), cottonwood (*Populus deltoids*), black locust (*Robinia pseudoacacia*), black willow (*Salix nigra*), *Solidago* sp., Johnson grass, yellow wingstem (*Verbesina alternifolia*), and grape (*Vitis* sp.).

#### 6.8.2.3 Mixed Deciduous Forest

The mixed deciduous forest at Spurlock Station represents the remaining oak-hickory forest that once covered the area. Nearly all of the uplands in this portion of Mason County have been cleared and are used for agricultural purposes, such as crop or hay production and livestock grazing. The wooded areas that are present are generally limited to valleys and drainages where agricultural or other anthropogenic practices are not practical. This characterization of the area holds true for the Spurlock Station property where two relatively large tracts of forested habitat occur in the Lawrence Creek and Beasley Creek drainages, where at least portions of the forest have likely not been disturbed for several decades. The tree species found in these forests typically occur in associations based on local geography, hydrology, and other factors, with four basic forest associations found on the site.

**Riparian forest** – This forest association is found in bottomland areas along Lawrence Creek, Beasley Creek, and their larger tributaries, as well as along the Ohio River. Dominant species include boxelder, black maple (*Acer nigrum*), silver maple (*Acer saccharinum*), sugar maple (*Acer saccharum*), Ohio buckeye (*Aesculus glabra*), paw paw (*Asimina triloba*), hackberry (*Celtis occidentalis*), green ash (*Fraxinus pennsylvanica*),

honey locust, black walnut, bush honeysuckle, red mulberry (*Morus rubra*), sycamore (*Platanus occidentalis*), black cherry (*Prunus serotina*), and slippery elm (*Ulmus rubra*).

**Mesic forest** – Mesic forest exists on steeper slopes where little disturbance has occurred, especially near larger streams. This forest type is primarily comprised of sugar maple, Ohio buckeye, bitternut hickory (*Carya cordiformis*), shellbark hickory (*Carya laciniosa*), red bud (*Cercis canadensis*), white ash, blue ash (*Fraxinus quadrangulata*), eastern red cedar, spicebush (*Lindera benzoin*), chinquapin oak (*Quercus muehlenbergii*), northern red oak (*Quercus rubra*), American basswood (*Tilia americana*), and American elm. Oak and hickory species become more dominant within these forests as they transition to more subxeric conditions upslope. Some tree species were observed less frequently; however, they were documented at the site and are often common within the mesic forest association, including beech (*Fagus grandifolia*), tulip tree (*Liriodendron tulipifera*), and sourwood (*Oxydendrum arboreum*).

**Sub-mesic forest** – Typically found in partially disturbed or mid-successional settings, this forest type exhibits varying species composition based on age and location. Species usually included in this forest type are black walnut, hackberry, white ash, black cherry, eastern red cedar, and black locust.

**Sub-xeric forest** – Sub-xeric forest occurs on drier slopes and narrow ridges and typically transitions to mesic forest farther downslope. Though most of the ridges at Spurlock Station have been previously cleared, there are some areas where sub-xeric conditions occur, especially on south facing slopes. Oak species are dominant in this forest type and include chinquapin and northern red oaks. Other components of subxeric forest include bitternut hickory and white ash.

### 6.8.3 Environmental Consequences

The direct and indirect effects of the proposed action on vegetation would be anticipated to be within the limits of disturbance and borrow areas of the landfill project area.

#### No Action Alternative

The No Action Alternative would not result in any change to the vegetation of the proposed project area because the proposed landfill facilities would not be constructed under this alternative.

#### Proposed Action Alternative

The Proposed Action Alternative would involve construction of the landfill and maintaining it by mowing, which would result in the temporary removal of vegetation within the proposed waste limits. Mixed deciduous forests were avoided to the maximum extent practicable, in conjunction with other avoidance measures that were taken, particularly with regard to jurisdictional waters of the U.S. Based on the assessment of potential Indiana bat habitat within the project footprint, there are approximately 97.13 acres of mature woodlands that may require clearing over the life of the project. This would result in the removal of approximately 19.6% of the 495 forested acres that currently exist within the proposed project's area of influence for vegetation. The agricultural fields within the borrow areas may be temporarily impacted by

borrow activities; however, following soil removal the areas would be revegetated with very similar vegetative cover to that currently present. Some areas of early successional woodlands also would be cleared and ultimately returned to open areas, although these areas are typically located within recently disturbed portions of the site and have only recently converted from open areas.

The approximately 97.13 acres that would be cleared as a result of the proposed project would eventually be revegetated as described in Section 2.5.10 *Closure Cap Specifications*. Following CCR fill activities, soils would be spread over the completed landfill area to a depth of 24 inches and a relatively stable low growing herbaceous plant community would be established. If needed, vegetation around the completed facility would be maintained by mowing. In the EPA publication, *Revegetating Landfills and Waste Containment Areas Fact Sheet* ([http://www.epa.gov/tio/download/remed/revegetating\\_fact\\_sheet.pdf](http://www.epa.gov/tio/download/remed/revegetating_fact_sheet.pdf)) the optimum depth of soil cover over a landfill cap is eighteen (18) to twenty-four (24) inches. Therefore, the proposed vegetative layer is sufficient to provide the required vegetative growth and cover requirements.

Construction of the proposed project would result in direct and indirect effects to vegetation in the project footprint; however, these impacts cannot be avoided. The area surrounding the proposed project is a mixture of pasture, cropland, and woodlands and would remain so after construction of the project. Due to the minimal amount (19.6%) of clearing necessary for the proposed landfill within the area of influence, the vegetation composition would not be significantly altered. Additionally, open areas and early successional woodlands disturbed during construction activities would be revegetated upon completion of project activities; thus, there would be no net loss of vegetative cover, simply a conversion from one type to another. No areas of high quality native vegetation were identified within the project footprint, although the federally-endangered running buffalo clover was identified in the Beasley Creek Stream Mitigation area, see Section 6.6 *Threatened and Endangered Species*.

#### 6.8.4 Cumulative Effects

##### No Action Alternative

The No Action Alternative would not result in cumulative effects on vegetation within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### Proposed Action Alternative

The effects of the project as outlined in the Proposed Action Alternative when considered with other past, present, and reasonably foreseeable future actions identified in Section 5.0 *General Environmental Setting* above would result in negligible cumulative impacts on vegetation. Potential effects to vegetation within the area of influence were analyzed using the maximum amount of tree clearing (97.13 acres) anticipated over the life of the project. The ongoing KYTC bridge repairs and KY 9 widening projects have and will likely result in the removal of some vegetation, though an exact amount is unknown. Analysis of aerial photography from 2006 and 2016 failed to identify any large scale logging operations in the area that have occurred since 2006. However, it is assumed that small-scale private logging has, and will



continue to occur in the vicinity of the project area. Though difficult to quantify, it is also expected that clearing will take place in association with private development and agricultural activities.

EKPC estimates that there is potential for up to 150 acres of past, present, and reasonably foreseeable forest cover removal within three miles of the proposed project that would be relevant to this cumulative effects analysis. Based on an estimate of approximately 40% forest cover within the three-mile radius, these 150 acres would represent 2% of the existing woodlands. Therefore, it is unlikely that the removal of forest within the project footprint associated with the proposed action, about 97.13 acres, would interact with the effects of these other known actions in the area, estimated at 150 acres, to produce cumulatively significant effects on vegetation. The remaining vegetation is sufficient to maintain the ecological functions in the area. Additionally, the creation of the proposed landfill and maintaining it by mowing would produce a reduction of tall growing plant species, but an increase in herbaceous species.

## **6.9 Air Quality**

Pursuant to 401 KAR 63:010, fugitive dust emissions are subject to specific requirements. As discussed below, fugitive dust emissions from the proposed action would be temporary and be controlled such that there would be no increase in emissions. Mobile emission sources would range from passenger vehicles and trucks to large earth moving equipment. These vehicles would be subject to mobile source emission standards under the Clean Air Act which minimize emissions. The relatively small amount of traffic would not contribute appreciably to ambient air pollutant concentrations in the area. The proposed project would also require implementation of a fugitive dust plan pursuant to the federal EPA CCR rule and 401 KAR Chapter 46 state regulation under a licensed professional engineer.

### *6.9.1 Area of Influence*

The area of influence for air quality was considered the Spurlock Station property boundary. The station property boundary was identified based on the requirements of 401 KAR 63:010 Section 3(2) which state that “no person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate.” The property boundary was considered appropriate because all work associated with the proposal (i.e. CCR loading and unloading, landfill construction, borrow activities, hauling etc.) would occur within the Spurlock Station property boundary.

### *6.9.2 Affected Environment*

As explained below, fugitive dust emissions from the proposed action would be temporary and controlled such that fugitive dust would not leave the station boundaries. Mason County has not been identified as nonattainment for any existing ambient air quality standards. The nearest nonattainment area to the project’s area of influence is associated with the Cincinnati, Ohio metropolitan area, about 45 miles to the northwest.

### *6.9.3 Environmental Consequences*

The direct and indirect effects of the proposed action on air quality are anticipated to be restricted to the Spurlock Station property boundary.

### No Action Alternative

The No Action Alternative would have no change on the air quality of the project area since the proposed landfill project would not be constructed as a result of choosing this alternative.

### Proposed Action Alternative

Construction of the proposed landfill would have vehicle, equipment, and fugitive dust impacts similar to any construction project of comparable size. As part of the existing CCR landfill operations at the site, grading, roadway, utilities and surface water treatment facilities were constructed. These existing features would also be utilized for the proposed project, resulting in less earthmoving activities than would otherwise be required. Fugitive dust associated with construction, operations, and maintenance of the proposed landfill would be controlled following the Commonwealth of Kentucky's fugitive dust regulations.

Fugitive dust from construction-related traffic and construction equipment would be the primary emissions associated with the construction activity. The dust associated with the proposed construction activity could have a small potential for affecting the air quality of the immediate project impact area. Therefore, dust suppression (e.g., spraying with water) would be used to control fugitive dust emissions. Expansion of the landfill would not be anticipated to have any major effect on the area. Any dust associated with construction activities would be short-term, lasting only through the construction phase of the project, and due to project phasing the areas denuded of vegetation would be relatively small. Kentucky requirements prohibit the discharge of visible dust emissions beyond the property line from which the emissions originated and require covers on moving, open-bodied trucks carrying materials likely to become airborne. Additionally, the transportation of CCR to the Spurlock Station landfill would occur on the existing 2.5-mile haul road, located entirely within the property boundary, and the minimal haul distance would further reduce any potential impacts to air quality. As a result, impacts associated with fugitive dust during operations would be negligible and once the landfill has been closed there would be a return to pre-existing ambient air quality conditions. Therefore, EKPC does not anticipate significant direct or indirect effects associated with fugitive dust from the proposal.

Mobile emission sources that would be used to construct the landfill and move the CCR from the generation facility to the landfill site as outlined in the Proposed Action Alternative may increase emissions during construction and operations of the proposed. Vehicles, ranging from passenger vehicles to large earth moving equipment, would be present during operations on the site. As previously discussed, all CCR hauling operations would occur on the existing private haul road that is approximately 2.5-miles in length, and located entirely within property owned by EKPC. All equipment and vehicles used during operations would be subject to mobile source emission standards under the Clean Air Act that minimize emissions. It is doubtful that the exhaust from such machinery would contribute significantly to the overall concentration of ozone, nitrogen oxides, aldehydes, or other pollutants. Therefore, the exhaust from engines used to construct the landfill and transport the CCR would be expected to have a minor, temporary effect on the air quality of the project area with no significant direct or indirect effects anticipated.

The proposed facility would provide for permanent disposal of CCR materials that are not known to emit any explosive gases or to be associated with the generation of odors. The only emission typically associated with CCR is water vapor generated during initial hydration of the material. The heat producing reaction of the CCR with water added for dust suppression would typically generate these vapors. Based on laboratory studies, this particular CCR material has almost no heat of hydration, and therefore is expected to produce no water vapor during this reaction. The CCR would be transported to the disposal facility for placement by off road trucks. The hydration would be accomplished by applying water to the CCR with a water truck. The water would be added in a quantity to minimize dust from the CCR. Therefore, there would not be a potential for explosion of the water vapor due to containment. After placement, it is anticipated that the waste material would undergo a second reaction during precipitation events, a secondary hydration process. Again, laboratory analysis of this hydration process demonstrates that this reaction does not result in a significant increase in the heat of the material and therefore reduces the potential of the generation of water vapor. Based on the nature of the material, laboratory analysis of the hydration process, and the process of transportation and disposal, vapors or explosive gases are not anticipated to present a problem with this landfill; thus no direct or indirect effects to air quality are anticipated.

Additionally, CCR is not generally associated with the production of odors during the placement process or during exposure to the elements, not being associated with biological degradation of the material. Therefore, no odor control measures are proposed for this facility. However, should objectionable odors be detected from the material, a modification to the landfill operating procedures would be made to provide for control of these gases or odors. Because odors are not likely, no direct or indirect effects to air quality are anticipated.

#### *6.9.4 Cumulative Effects*

##### No Action Alternative

The No Action Alternative would not result in cumulative effects on air quality within the project area because under the No Action Alternative the proposal would not take place. Therefore, no cumulative effects could be realized.

##### Proposed Action Alternative

The effects of the project as outlined in the Proposed Action Alternative when considered with the effects of the other past, present, and reasonably foreseeable future actions identified above would result in minimal cumulative effects to air quality. As outlined above, construction of the proposed landfill would not increase fugitive emissions beyond the property boundary, and any effects from engine exhaust would be negligible to nonexistent. Fugitive dust associated with transportation of CCR to Spurlock Station during operations would be controlled following Kentucky requirements, and the haul trucks would be subject to mobile source emission standards under the Clean Air Act that minimize emissions. Thus, impacts associated with fugitive dust or emissions during operations also would be negligible.

The other activities identified above also have short-term impacts to air quality (dust and exhaust from vehicles, chainsaws, etc.). The greatest potential source of air quality degradation associated with other activities in the area would be the result of road construction

projects. There also could be effects on air quality caused by residential development, logging, and agriculture activities in the area; however, these effects would also be temporary in nature. Therefore, it is unlikely the short-term incremental air quality effects of the proposed action would interact with the minimal effects of these other past, present, and reasonably foreseeable future actions in the area to produce cumulatively significant effects on air quality. It is anticipated that air quality within the project area would return to pre-existing conditions once the landfill has been closed and the project is complete.

## 6.10 Water Quality

Spurlock Station is located within the Ohio River Basin, which flows through or borders six states: Kentucky, Ohio, Indiana, Illinois, Pennsylvania, and West Virginia. The Ohio River borders Spurlock Station to the north. The Ohio River and the perennial Beasley and Lawrence Creeks are shown on the *Project Area Map* and *Project Components Map – Topography*, which are included in Exhibit B-1 and B-2 – Project Maps, Pg. 99.

### 6.10.1 Area of Influence

The area of influence was defined using the USGS Hydrologic Unit system. The Hydrologic Unit system is a standardized watershed classification system developed by the USGS in the mid-1970s. The U.S. is divided and sub-divided into successively smaller hydrologic units, which are classified into levels. The hydrologic units are arranged within each other, from the largest geographic (regions), to the smallest units (subwatersheds). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) representing its level of classification in the hydrologic unit system.

The proposed Peg’s Hill landfill project is located within portions of four 14 digit HUCs:

- 05090201220020, Beasley Creek, - 1,800 acres
- 05090201220010, Ohio River - 386 acres
- 05090201190030, Lawrence Creek - 2,490 acres
- 05090201190020, South Fork of Lawrence Creek - 3,669 acres

Almost all of the physical disturbance associated with landfill and borrow activities would be located within the Beasley and Lawrence Creek HUCs, with minimal activities proposed in the Ohio River and South Fork of Lawrence Creek HUCs.

The project would have the potential to impact the water quality within the Beasley Creek, Ohio River, Lawrence Creek, and South Fork of Lawrence Creek watersheds that drain the project area. Using these four HUCs as a basing point, an approximately 8,345-acre area of influence (AOI) was identified where potential impacts to water quality would most likely be expected. The identified AOI includes all areas that could be affected directly or indirectly by the proposed action with respect to water quality (See *Water Quality AOI Map* located in Exhibit B-13 – Project Maps, Pg. 99).

### 6.10.2 Affected Environment

The topography of the area is hilly in nature with the proposed landfill being sited in a valley portion of the area. As such, water resources are concentrated in the valley bottoms, occurring

mainly in the alluvial zone bordering streams. Surface water is concentrated in perennial, ephemeral, and intermittent stream channels, many of which flow only during the wetter portions of the year.

#### 6.10.2.1 Surface Water

The Commonwealth of Kentucky Energy and Environment Cabinet designates surface waters as having one or more specific uses for which the water quality must be protected. The Ohio River in the vicinity of the proposal is classified as warm water aquatic habitat, primary contact recreation, secondary contact recreation, and domestic water supply. None of the waters identified in the project footprint are designated as being a special water resource (*exceptional water*), Outstanding Resource Waters, Cold Water Aquatic Habitats, or National, or Wild and Scenic Rivers.

At Spurlock Station, surface water monitoring is conducted in compliance with Kentucky Pollutant Discharge Elimination System (KPDES) Permit No. KY0022250, issued by the KDOW. The receiving water for the proposed landfill is an unnamed tributary to Lawrence Creek. Discharge to this receiving water would require the addition of a new outfall to the station's permit. All discharge water from the landfill would be collected in a series of surface drains at the facility and flow through a series of check dams and detention basins before discharging to Lawrence Creek on the east side of the limits of disturbance.

Discharges associated with borrow activities are covered under the BMP plan required under the KPDES permit. Surface water run-off and erosion of borrow materials or soil from construction and landfill operations are controlled by utilizing surface water run-on and run-off control structures (ditches, surface water diversion berms, etc.) along with silt fences, rock silt checks, revegetation (seed/mulch) and sediment control ponds. This combination of BMP structures has shown to be an effective method at similar facilities to reduce or eliminate sediment and other potential contaminants from reaching a receiving stream.

#### 6.10.2.2 Groundwater

Information presented in the Availability of Ground Water in Bracken, Harrison, Mason, Nicholas, and Robertson Counties, Kentucky (HA-16, USGS, 1960) report indicates that most of the drilled wells in the region of the site will not produce enough water for a dependable domestic supply. Successful domestic wells in the region are generally located in the valley bottoms of the larger streams. Drilled wells in these areas can produce 100 to 500 gallons per day (GPD). However, wells drilled on hillsides and ridge tops typically yield no water. Small amounts of water are sometimes encountered at the base of the limestone rocks (Fairview Formation), where these rocks cap the ridges between valleys cut into shale of the Kope Formation. In the area of Spurlock Landfill, most drilled wells will not produce enough water for dependable domestic supply (100 GPD). Some water may be encountered along drainage lines, but is typically absent during periods of dry weather.



Based on the above-published information, active ground water circulation in the area is through the stress relief fractures and partings, and migrates in a stair-step fashion to lower elevations. However, due to the steep slopes and low permeability of the residual soils in the area, recharge to the ground water regime is generally minimized and surface runoff is maximized on the ridge tops and ridge flanks. Water that does infiltrate through the soil moves within the stress relief fractures and/or along the bedrock's surface and generally mirrors the surface topography. In some instances, ground water within this zone is discharged by seeps or springs which generally occur along the axis or flanks of hollows. Due to minimal bedrock fracturing within the centers of the ridges, little if any flow is likely to occur between valleys. The inherent low permeability of the unfractured bedrock strata (shales and dolomites) inhibits horizontal groundwater movement. Therefore, each of the valleys contains a discrete ground water regime, with the recharge areas generally bounded by the top of the ridges that limit the watershed. Although the unfractured bedrock strata within the centers of the ridges may be saturated, water movement is through diffuse flow and is probably released only during extended dry periods.

A groundwater sampling and analysis plan is being developed to monitor the groundwater quality upgradient and downgradient of the proposed landfill. As required by the State KDWM regulations and Federal CCR Rule, the proposed groundwater monitoring system would consist of hydraulically upgradient reference well(s) isolated from potential waste impacts and hydraulically downgradient well(s) from the proposed waste area. The proposed groundwater monitoring system would be utilized to analyze groundwater quality. The plan includes analytical procedures and measures to ensure field and laboratory quality assurance and quality control. Additionally, the plan follows the protocols outlined in the KDWM RPBR and required by the CCR Rule for sampling groundwater for the facility. Therefore, EKPC believes its sampling methodology to be satisfactory.

### *6.10.3 Environmental Consequences*

The direct and indirect effects of the proposed action on water quality would be anticipated to be limited to the confines of the area of influence, which includes approximately 8,345-acres within portions of HUCs 05090201220020 (Beasley Creek), 05090201220010 (Ohio River), 05090201190030 (Lawrence Creek), and 05090201190020 (South Fork of Lawrence Creek).

#### *No Action Alternative*

The No Action Alternative would have no change on the water quality of the project area since the proposed landfill project would not be constructed as a result of this alternative.

#### *Proposed Action Alternative*

The proposed disturbances associated with the Proposed Action Alternative could potentially increase nutrients, storm flows, and sediment loading of streams and could impact groundwater within the project area. Generally, the amount of increase depends on the degree of disturbance, the topography of the area, type of soil involved, and measures implemented to limit discharges (i.e. BMPs, etc.).

The landfill would only accept CCR materials as permitted for disposal in the CCR landfill, and have numerous pollution prevention measures in place as required by local, state, and/or federal mandates. These would include, at a minimum, a KPDES permit, a BMP plan, groundwater monitoring plan, and leachate production and analysis monitoring. These are systems that would be established to ensure that the approved liner and water protection devices are working as designed to minimize pollutants that may enter receiving streams. In the event of a spill, leak, or other contaminating accident, there are management practices and devices in place to reduce or eliminate any polluting of the soil, air, or water in or around the landfill. BMPs would focus mainly on preventing erosion and sediment migration from the proposed landfill. Surface water run-off and erosion of CCR materials or soil from construction and landfill operations would be controlled by utilizing surface water control structures (ditches, surface water diversion berms, etc.) along with silt fences, rock check dams, revegetation (seed/mulch) and sediment control ponds. This combination of BMP structures has shown to be an effective method at similar facilities to reduce or eliminate sediment and other potential contaminants from reaching the receiving stream.

#### 6.10.3.1 Surface Water

Soil loss from erosion and the resulting sedimentation is an on-going process in any environment and is increased when vegetation is removed, as during construction, even when control measures are fully in place. The large areas of disturbed soil that would be exposed during construction of the landfill indicate the potential for surface water impacts. Measures incorporated into the proposal would minimize these impacts (See Section 2.5.8 *Erosion Prevention and Sediment Control Plan*). While construction impacts can be minimized, they cannot be avoided completely. Incorporation of Kentucky BMPs, as well as other erosion control techniques, to aid in preventing non-point source pollution, and control stormwater run-off, would prevent significant sediment damage to water quality. Therefore, due to the sediment reduction procedures no significant adverse direct or indirect effects are anticipated from sedimentation.

Impacts to surface water from fuels and chemicals are expected to be negligible with implementation of measures incorporated into the proposal. Oil and diesel fuel would be stored in clearly marked tanks onsite, which would be provided with secondary containment structures. Construction equipment would be maintained regularly, and the source of any leaks identified and repaired. Any soil contaminated by fuel or oil spills would be removed and disposed at an approved disposal site. Lubricating oils, acids for equipment cleaning, and concrete curing compounds are potentially hazardous wastes that may be associated with construction activities. These would be placed in containers within secondary containment structures onsite and disposed of at a licensed treatment and/or disposal facility in accordance with local or state regulations and in compliance with the manufacturer's recommendations. Due to the containment measures that would be implemented, there are no significant direct or indirect effects anticipated to surface water from fuels or chemicals used at the site.

Monitoring point outfalls from the sediment ponds would be modified and sampled in accordance with the facility KPDES Permit (KY0022250) issued by the KDOW.

Monitoring of the outfalls would further reduce the potential for significant direct or indirect effects to water quality as a result of the proposal.

#### 6.10.3.2 Groundwater

The Industrial Waste Management Evaluation Model (IWEM) developed by the EPA was used to help determine the most appropriate liner system design to minimize or avoid adverse ground water impacts. For a landfill, IWEM evaluates three types of liner systems: 1) No Liner, 2) Single Liner (compacted soil liner) and 3) Composite Liner (compacted soil and geomembrane) and determines which type of liner system is protective for each leachate constituent. The results of this study concluded that a composite liner system should be constructed to provide protection against possible adverse ground water impacts.

EKPC's landfill would utilize a composite liner to protect the uppermost aquifer from contamination and to contain any leachate produced by the landfill. It has been determined that the liner and subgrade proposed in this application would contain the leachate generated by the landfill. The design specifics of the liner are included in Section 2.5.4 *Construction Activities* of this document. A groundwater monitoring plan is being developed for the landfill and would be used to ensure that the facility is not impacting the groundwater beneath the site. The construction of this landfill would not significantly impact the groundwater of the area, as the chemical constituents of the waste material would not degrade the quality of groundwater. Due to the proposed liner and active monitoring that would identify any potential issues, no significant direct effects to groundwater are anticipated as a result of the proposal.

EKPC has conducted laboratory leachate tests on samples of CCR currently being disposed of in the existing landfill facility. The test used is an acid-based test generally used for determining the hazardous characteristics of materials and can be used as a conservative indicator of the leaching potential of the CCR. The test results suggest low potential for leaching of metals from the CCR, provided placement, grading, and maintenance is performed in accordance with sound engineering practice and erosion control and sedimentation measures are implemented as required by State and Federal regulations. For the reasons discussed, there would be no substantial indirect effects to groundwater from leachate as a result of the proposed project.

The facility would not use or intentionally discharge fuels or chemicals into groundwater resources during construction and operation. However, these potential groundwater contaminant sources would be present at the facility during both construction and operation. As discussed in the surface water section, secondary containment structures, regular maintenance of construction equipment, and removal of any contaminated soil or potentially hazardous wastes would also prevent significant indirect effects to groundwater from the use of fuels or chemicals at the site.

To further protect groundwater, EKPC has a groundwater protection plan in compliance with State and Federal regulations. In this plan, EKPC identified technological means for protection of groundwater, taking into account the nature of the potential pollutants and the hydrogeologic characteristics of the area. These include, but are not limited to,



operational procedures, personnel training, spill response capabilities, best management practices, runoff or infiltration control systems, and siting considerations. The plan includes identification of activities covered (based on the regulatory requirements), practices for groundwater protection, an implementation schedule for employee training, an inspection schedule, certification by the responsible person, and identification of specific practices for groundwater protection. Additionally, Spurlock Station has a Spill Prevention, Control, and Countermeasure (SPCC) Plan pursuant to federal regulations. The SPCC Plan is a part of the overall groundwater protection plan and requires construction measures (i.e. dikes or berms around certain storage tanks), inspections, and personnel training to prevent the occurrence of spills which could impact soils and groundwater. Implementation of the groundwater monitoring plan further reduces the potential for adverse effects to water quality.

#### *6.10.4 Cumulative Effects*

##### No Action Alternative

The No Action Alternative would not result in cumulative effects on water quality within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### Proposed Action Alternative

The effects of the action as outlined in the Proposed Action Alternative when considered with the effects of the other past, present, and reasonably foreseeable future actions identified above would result in minimal cumulative effects to water quality. There is negligible residential, commercial, or industrial activity in the identified water quality area of influence. Areas disturbed by road construction, have been or will be restored and mitigated pursuant to federal and state laws and regulations. These mitigation efforts are designed to minimize impacts to water quality. The potential small-scale logging activities identified also fall under relevant state and federal laws (*Kentucky Forest Conservation Act*, etc.) that require implementation of BMP's to minimize the impact to water quality.

As outlined above, the sediment load of the surface water caused by the proposed action would be negligible. Given the control measures that would be implemented, contaminants would not leach into the groundwater or run off into streams in sufficient amounts that would affect stream organisms or users of water downstream. The water quality effects of the proposed action would also be relatively localized, which would minimize their potential to interact with the water quality effects of other actions in the area, as described above. Therefore, it is unlikely that the negligible incremental effects of the proposed action on water quality would interact with the water quality effects of other actions in the area to produce cumulatively significant effects on water quality.

#### **6.11 Visual Resources**

This section describes the affected environment and environmental consequences as they apply to visual resources.

### *6.11.1 Area of Influence*

The area of influence for visual resources was considered an area within a 0.5-mile radius of the proposed waste limits boundary. The rationale behind this area of influence is rooted in the guidelines established by the Federal Communications Commission (FCC) for evaluating visual effects for towers. Their agreement with the Advisory Council on Historic Preservation (ACHP) indicates a 0.5-mile area of potential effect for structures under 200 feet in height adequately captures the potential effects of those projects. The highest point of the proposed landfill would be less than 200 feet from the existing landfill elevation. Although the proposed project does not require FCC approval, it is believed a 0.5-mile radius is sufficient to encompass potential project impacts since the visual effects from the highest point of the fill would be considered to have the furthest reaching effects possible from the proposal.

### *6.11.2 Affected Environment*

There are 29 designated scenic byways and highways located throughout the Commonwealth of Kentucky. The closest scenic highway is called US 68 Segment 3 from the Licking River Bridge at Nicholas County line via Mays Lick and Washington to the state line near Maysville, and it is approximately 3.5 miles from the proposed landfill project area, outside of the area of influence. There are nine sections of river designated as Kentucky Wild Rivers, which cover approximately 114 miles. These rivers are characterized by undisturbed shorelines and vistas. The nearest Kentucky Wild River is a portion of the Red River located in Wolfe and Menifee Counties, approximately 60 miles to the south of the project area.

The only public lands or recreational facilities in the immediate vicinity of the proposal are the Ohio River and Claude Cummins Nature Preserve, both of which are outside the area of influence. However, public lands, recreational facilities, and visual resources within the area of influence can still be adversely impacted by traffic, noise, visual intrusions, and changes in air quality. Public lands and recreational facilities identified in this EA are discussed in Section 6.1.2 *Land Use & Recreation*.

### *6.11.3 Environmental Consequences*

The direct and indirect effects of the proposed action on visual resources would be anticipated to be confined to within a 0.5-mile radius of the proposed waste limits boundary.

#### *No Action Alternative*

The No Action Alternative would have no change on the aesthetics of the project area because no construction or vegetation clearing activities would take place as a result of choosing this alternative.

#### *Proposed Action Alternative*

The direct and indirect effects of the proposed action on visual resources would be anticipated to be limited to the area within 0.5-mile of the proposed waste limits boundary. All features of the proposed project are located on EKPC's 2,803-acre Spurlock Station property. Spurlock Station is located in a rural setting and includes a wide buffer between the proposal's activities and the surrounding community. Wooded hills largely shield the proposed landfill area from view to the north, east, and south. Because the proposed landfill is in a valley, little if any of the development would be visible from existing dwellings or roads, except KY 576 and South

Ripley Road that are located adjacent, to the west. However, the proposed project would be located adjacent to the existing Spurlock Station facility and related infrastructure, which are also visible from these roadways. Because the proposal includes the construction of a landfill adjacent to the existing facility, any additional visual impacts created by the Peg's Hill project would be minimal. The project footprint also would not be visible to anyone boating, fishing, or swimming on the Ohio River due to the steep topography associated with the river valley. As a result, the proposed landfill project would not be expected to have any significant direct or indirect visual effects within the 0.5-mile radius area of influence identified for the proposal.

#### *6.11.4 Cumulative Effects*

##### No Action Alternative

The No Action Alternative would not result in cumulative effects on visual resources within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### Proposed Action Alternative

As outlined above, the proposed landfill would have minimal effects on the aesthetics of the project area. There would not be any cumulative effects anticipated with relation to visual resources in the project area due to the temporary effects and rural nature of the area. There is a minimal to negligible amount of transportation, development, logging, and/or agricultural activity in the area of influence, and there would likely be little to no effect on the visual resources in the project area from these activities. Thus, it is unlikely that the incremental visual effects of the proposed action would interact with the effects of other actions in the area to produce cumulatively significant effects on visual resources.

## **6.12 Transportation**

This section describes the affected environment and environmental consequences as they apply to transportation.

### *6.12.1 Area of Influence*

The area of influence for transportation would primarily be limited to the Spurlock Station property boundary. The work associated with the proposal (i.e. CCR loading and unloading, landfill construction, borrow activities, etc.) would predominantly occur within the Spurlock Station property, and the transportation of the CCR to the landfill site would occur via the existing 2.5-mile private haul road, located entirely on the Spurlock Station property. Any required crossings of South Ripley Road associated with the proposed soil borrow activities would be temporary, coordinated with county transportation officials, and comply with road requirements.

### *6.12.2 Affected Environment*

Waste hauling operations along the existing haul road are anticipated to occur on a daily basis within the Spurlock Station property boundary. Waste hauling operations would comply with applicable Federal, State, and Local requirements. Additional equipment may also be required at the facility and would be brought to the site on an "as needed" basis.

Hauling of the borrow material is anticipated to occur during drier weather from March to November, and may require crossings of South Ripley Road. Hauling operations would comply with applicable Federal, State, and Local requirements for this County road. During normal operations, the estimated maximum amount of material to be hauled in a day would be 2,500 cubic yards. The average truck would hold approximately 20 yards/truck meaning the maximum number of truck hauls from the borrow areas to the fill would be 125 per day.

As a “captive” facility, the potential for public access to the Spurlock Station facility and/or the landfill project area is reduced. The only vehicular access to the power generating facility and landfill area is via the Spurlock Station main gates from KY 8. The guarded gates at these access points to the Spurlock Station facility, and fencing, lockable gates, and natural barriers would be used to prevent uncontrolled public access and unauthorized vehicular traffic to the proposed landfill project area. Only authorized personnel would be allowed access to the site, and this access would remain locked or guarded during all non-operational hours.

#### *6.12.3 Environmental Consequences*

The direct and indirect effects of the proposed action on transportation would primarily be limited to the Spurlock Station property boundary within the project footprint.

##### No Action Alternative

The No Action Alternative would not have any effect on transportation within the proposed project area because the proposed landfill project would not be constructed as part of this alternative and CCR would not be transported.

##### Proposed Action Alternative

Waste hauling operation along the existing 2.5-mile private haul road, located entirely on the Spurlock Station property, would have no impact on transportation. Borrow of soil material could result in some limited crossings of South Ripley Road to transport material to the landfill. Otherwise, borrow would be transported across EKPC property and would have no effect on transportation. EKPC also anticipates the potential need for additional equipment in the excavation and hauling of soil materials and general site grading and maintenance. Earth moving equipment may be brought to the site on an “as needed” basis, or may be controlled by contractor arrangements. However, this increase in traffic would be temporary and would return to normal upon completion of construction activities. Once transported to the site, all construction-related and soil hauling vehicles would only be operated within the Spurlock Station property boundary or limited use of South Ripley Road. Therefore, due to the minimal and temporary nature of any potential impacts, there would be no significant direct or indirect effects on transportation within the area of influence as a result of the proposal.

#### *6.12.4 Cumulative Effects*

##### No Action Alternative

The No Action Alternative would not result in cumulative effects on transportation within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

### Proposed Action Alternative

As outlined above, only minimal effects on transportation during the transportation of borrow materials and delivery of construction equipment are anticipated and once completed, the effect on transportation would essentially be non-existent. The actions identified do not appear to result in large increases or disuse of transportation facilities. Because the proposed action would have little or no effect on transportation and because those effects are unlikely to interact significantly with the effects of the other actions identified, it is unlikely that the proposed action would have cumulatively significant effects on transportation.

## **6.13 Noise**

Noise-sensitive receptors are those that may be subject to stress or significant interference from noise. They often include residential dwellings, hotels, motels, hospitals, nursing homes, educational facilities, and libraries. Industrial, commercial, agricultural, and undeveloped land uses generally are not considered sensitive to ambient noise. Noise is often considered unwanted sound; however, response to noise is highly individualized and is influenced by both acoustic and non-acoustic factors. Acoustic factors include the sound's amplitude, duration, frequency content, and fluctuations. Non-acoustic factors include the listener's ability to become accustomed to the sound, the listener's attitude towards the noise and the noise source, the listener's view of the necessity of the noise, and the predictability of the noise. No state or county noise regulations have been identified that would be applicable to the proposed Spurlock Station Peg's Hill Landfill project. Thus, the proposed project would conform to the requirements of the U.S. Department of Housing and Urban Development (HUD) as noted in this section.

### *6.13.1 Area of Influence*

The area of influence for noise was considered the area around the existing Spurlock Station property boundary where ongoing activities associated with electric generation, construction, landfill, and other typical operational activities at Spurlock Station can be heard. EKPC identified this area of influence because noise levels associated with the proposed landfill project are anticipated to be the same as those currently produced by current operations at Spurlock Station.

### *6.13.2 Affected Environment*

HUD has adopted environmental noise standards, criteria, and guidelines for determining acceptability of federally assisted projects and proposed mitigation measures that achieve the goal of a suitable living environment. Spurlock Station is in a relatively quiet rural area and is the site of ongoing landfill operations, electric generation, construction projects, and other typical operational activities. There are several rural residences located along KY 576 and South Ripley Road located within 500-feet of the identified project footprint where project related activities would occur.

### *6.13.3 Environmental Consequences*

The direct and indirect effects of the proposed action on noise would be anticipated to be limited to the area around the existing Spurlock Station property boundary where ongoing activities at Spurlock Station can be heard.

#### No Action Alternative

The No Action Alternative would not have any effect on noise levels within the proposed project area because the proposed landfill project would not be constructed as part of the alternative.

#### Proposed Action Alternative

The construction activity associated with the Proposed Action Alternative may initially have a minor impact on noise levels in the immediate project impact area. Noise not typically produced at Spurlock Station would emanate from chainsaws and machinery used during initial vegetative clearing activities. This increase in noise levels would be short-term, and there would be an immediate return to preconstruction ambient noise levels upon completion of clearing activities. Noise would also be created by vehicles, machinery, and equipment used during the physical construction of the proposed project and transportation of the CCR and borrow materials to the landfill. The noisiest pieces of construction equipment are likely to be graders, compactors, concrete trucks, loaders, and dump trucks. However, similar equipment is currently active on a daily basis at the Spurlock Station landfill, and implementation of the proposed project would create no significant change in the noise produced at Spurlock Station. The borrow activities from each borrow area would be temporary, and once removal of the materials is complete, the noise in that area would return to pre-borrow levels. Additionally, all operational equipment would be specified and designed so as not to exceed the noise limits as required by HUD for off-site receptors. Therefore, the proposed landfill should not produce any significant direct or indirect effects on the noise levels within the project area.

#### 6.13.4 Cumulative Effects

##### No Action Alternative

The No Action Alternative would not result in cumulative effects on noise within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### Proposed Action Alternative

As outlined above, only minimal, temporary, and localized effects on noise levels would be expected during construction of the proposed landfill project, and once completed, any such effects on noise levels would end. There could also be effects on noise caused by residential development, logging, and agriculture activities in the area; however, these effects would also be temporary in nature. Due to the temporary, localized nature of the production of noise from the various projects, including the proposed action, and the return to ambient conditions upon completion of projects, it is highly unlikely that the noise effects of the proposed action or any other action in the project would interact to produce cumulatively significant effects on noise.

#### **6.14 Radio, Television & Cellular Phone Interference**

There are no expected impacts to radio, television, or cellular phone reception as a result of the proposed landfill project. No electrical equipment that could impact reception (e.g. transmission lines or substations) is required for the proposed Peg's Hill landfill and none of the expected development activities would have any direct, indirect, or cumulative effects on communications in the area.



## **6.15 Human Health & Safety**

There is a commitment to safety by management of EKPC, and safe job performance is a Cooperative expectation for all employees and contractors.

### *6.15.1 Area of Influence*

The area of influence for human health and safety was considered the proposed 1,476-acre Spurlock Station Peg's Hill Landfill project footprint. Any potential impacts associated with human health and safety are anticipated to be localized within this footprint.

### *6.15.2 Affected Environment*

Spurlock Station has physical security measures in place at this time. These include gates manned by professional, trained, security personnel on a 24/7 basis, perimeter fencing, natural barriers, closed-circuit TV security cameras and limited access electronic security systems. Only authorized personnel would be allowed access to the site, and this access would remain locked or guarded during all non-operational hours. EKPC has established relationships with the local law enforcement agencies, the FBI, the Kentucky Office of Homeland Security, and State Police to ensure timely response to security events. The Mason County, Kentucky Fire Department has agreed to provide assistance by means of manpower and equipment in the event a fire or explosion occurs at Spurlock Station.

EKPC provides the approved Personal Protection Equipment (PPE) for the protection of all employees. It is the employee's responsibility to use this equipment and the supervisor's responsibility to see that this equipment is used in accordance with the manufacturer's recommendations and all Occupational Safety and Health Administration (OSHA) Regulations. Training guidelines set forth by EKPC are applicable to all EKPC employees and are intended to emphasize that all employees would be trained in safety-related work practices, safe procedures, and other safety requirements, including those mandated by federal or state laws and by EKPC. Training is designed to provide information, to ensure understanding, and to apply/practice what is understood so that employees will be motivated to follow principles that protect their safety and health.

### *6.15.3 Environmental Consequences*

The direct and indirect effects of the proposed action on health and safety would be anticipated to be within the vicinity of the project footprint.

#### No Action Alternative

The No Action Alternative would not have any effect on human health and safety within the proposed project area because the proposed landfill project would not be constructed as part of the alternative.

#### Proposed Action Alternative

The clearing of vegetation associated with the proposed landfill as described in the Proposed Action Alternative could have an effect on human health and safety. One common tool used for manually cutting and clearing vegetation in the electric utility industry is the chainsaw. The chainsaw can be one of the most dangerous hand cutting tools used and cuts caused by these

tools can be encountered by crewmembers. Other hazards associated with chainsaw use include flying wood chips, sawdust and bar oil causing eye problems for workers. Another hazard associated with chainsaw use could be hearing loss if proper ear protection is not used. However, if the chainsaws are operated in a safe manner adhering to all state, local, and federal PPE safety rules (i.e. protective clothing, eyewear, and ear protection), injuries from chainsaws should not present a problem and no direct or indirect effects are anticipated.

Mechanical types of equipment used during construction activities and CCR transportation, such as dump trucks, bulldozers and off road vehicles, could also pose a hazard to construction workers. This type of equipment could roll over when operated improperly on steep grades injuring the operator and any nearby crewmembers who happen to be in the way. Fire can also potentially be a hazard to operators attempting to refuel hot engines or when leaked oil or flammable debris is exposed to hot engines. However, operators would be trained in the safe operation of this kind of equipment. Hazards from the operation of such equipment should not pose a problem, and no direct or indirect effects are anticipated.

EKPC would properly operate and maintain facilities and systems of treatment and control that are installed or used by the facility to achieve compliance with the conditions of the state and federal regulations. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and process controls including appropriate quality assurance procedures to meet the state and federal requirements. EKPC will take all reasonable steps to minimize releases to the environment and would carry out such measures as are reasonable to prevent significant adverse impacts on human health and the environment. In order to comply with the operating conditions of the state and federal regulations, EKPC would employ a certified landfill operator. The landfill operator would observe the activities at and surrounding the working face. All hazards to the health or safety of the employees would be removed, if feasible, or brought to the attention of the employees if not. All construction and CCR transportation equipment would be outfitted and maintained with the required safety equipment. Therefore, EKPC does not anticipate any significant direct or indirect effects to human health and safety as a result of the proposed project.

#### *6.15.4 Cumulative Effects*

##### *No Action Alternative*

The No Action Alternative would not result in cumulative effects on the health and safety of workers or the general public within the project area because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### *Proposed Action Alternative*

The effects of the action as outlined in the Proposed Action Alternative when considered with the effects of the other past, present, and reasonably foreseeable future actions identified in Section 5.0 *General Environmental Setting* above would result in minimal cumulative effects in relation to the health and safety of workers or the general public resulting from equipment used to cut vegetation from the project impact area. In the forested portions of the project area, the clearing of at least some vegetation would likely be required for the construction of the proposed project and all of the other activities identified. For all activities, vegetation clearing



would be short-term, lasting only through the construction phase of the project, and vegetation cutting for the maintenance of the projects would not be broadly practiced; therefore, it is unlikely that the incremental effects of the proposed action would interact with the effects of other past, present, and reasonably foreseeable future actions in the area to produce cumulatively significant effects on the health and safety of workers or the general public. Additionally, presuming equipment is operated in a safe manner adhering to PPE safety rules (i.e. protective clothing, eyewear, and ear protection) injuries to workers should not occur.

## **6.16 Socioeconomics & Environmental Justice**

Any sudden influx of capital or employment to a region, such as a large construction project, will impact the existing socioeconomic environment to some degree. Socioeconomic factors, such as employment, income, population, housing, and community services, are interrelated in their response to the implementation of an action. This section describes the potential effects of the proposed action on the existing socioeconomic environment of the project area.

### *6.16.1 Area of Influence*

The area of influence for socioeconomic and environmental justice was considered Mason County, Kentucky. All major aspects of the socioeconomic environment in the vicinity of the proposed project area are located within the county.

### *6.16.2 Affected Environment*

The county seat of Mason County is Maysville. It is the largest city located in the county and is approximately five miles to the southeast of the proposed project area. According to the U.S. Census Bureau, Mason County had a population of 17,190 in 2016. Over the last six years, the population has decreased by 1.7%, which is significantly lower than the growth rate experienced across the Commonwealth of Kentucky (7.4%). The population in Mason County is predominantly white at 90.7%, with the small minority population composed of African American, Native American, Asian, and Hispanic. Minorities comprise a very small percentage of the population in the identified area of influence, much smaller than the statewide minority population of 12.2%. The unemployment rate in Mason County in March 2017 was 6.8%. This was higher than the state and national unemployment rates for the same time period, which were 5.4% and 4.5% respectively. The percentage of persons living below the poverty line in Mason County in 2015 was 19.5%, which was higher than the United States average of 13.5%.

### *6.16.3 Environmental Consequences*

The direct and indirect effects of the proposed action on socioeconomics and environmental justice would be anticipated to be within Mason County, Kentucky.

#### No Action Alternative

The No Action Alternative would not have any effect on the socioeconomics or result in a disproportionate effect to low income or minority populations because the proposed landfill project would not be constructed as a result of choosing this alternative.

#### Proposed Action Alternative

The proposed project should not have any significant change on the population or economy of the area while allowing Spurlock Station to continue to operate in a reliable and financially

responsible manner. The project would occur at an existing EKPC generation facility with existing infrastructure and in an area that has been significantly impacted by previous construction projects. At Spurlock Station, the proposed Peg's Hill landfill site is isolated from any private residence within the immediate vicinity. Additionally, the proposed project would not be located in any high-density residential areas or minority or low-income areas. As a result, the proposed project would not have any disproportionate effects on residents located in the area. It is anticipated that the project investigated would not have any impact on, or be influenced by, the civil rights, ethnic origin, sex, or social status of the people located near the project area. Therefore, the proposed project should not have any significant direct or indirect effects on socioeconomics or result in a disproportionate effect to low income or minority populations in the area of influence.

#### *6.16.4 Cumulative Effects*

##### No Action Alternative

The No Action Alternative would not result in cumulative socioeconomic or disproportionate effects to low income or minority populations because under the No Action Alternative the proposed action would not take place. Therefore, no cumulative effects could be realized.

##### Proposed Action Alternative

The proposed project is needed to continue the operation of the Spurlock Station electrical generating facility. The project was not designed to stimulate growth or create industry. The project supports the existing needs of the communities involved. Thus, this alternative would not have any negative effects on the population or the economy of the area. The other actions identified do not appear to result in disproportionate effects to a race, group of national origin, or income class. Therefore, the proposed action would not interact with the effects of other actions in the area to produce cumulative socioeconomic or disproportionate environmental justice effects to low income or minority populations.

## 7.0 MITIGATION PLAN

The following section discusses mitigation measures and monitoring commitments, which would be implemented to avoid or minimize the impacts of the proposed project or which are required pursuant to Federal, State, or local permits or approvals.

### 7.1 Jurisdictional Waters of the U.S.

A mitigation plan has been prepared to provide compensation for unavoidable impacts to approximately 5,755 linear feet (1.872 acre) of jurisdictional intermittent stream, 6,860 linear feet (0.482 acre) of jurisdictional ephemeral stream, and 0.048 acre of jurisdictional wetland associated with the Peg's Hill landfill project. Construction of the Peg's Hill landfill project would occur over numerous years through a phased construction approach. The proposed stream adjusted mitigation units (AMUs) required to mitigate project impacts are calculated to be 12,556.25 AMUs. Mitigation for the stream impacts is proposed through stream restoration activities within the Beasley Creek drainage, see *Proposed Mitigation Activities Map* located in Exhibit B-11 – Project Maps, Pg. 99. A stream mitigation plan has been submitted to the USFWS and KDOW for their review. Wetland mitigation would be provided through purchase of wetland credits from the Northern Kentucky Mitigation Bank.

The 2008 Mitigation Rule establishes a hierarchy for considering the options for compensatory mitigation. A discussion of each compensatory mitigation option is presented below in relation to meeting the compensatory mitigation needs of the proposed project.

**Mitigation Banks:** There is currently only one approved mitigation bank, the Northern Kentucky Wetland Mitigation Bank (NKMB), with a service area encompassing Spurlock Station. The NKMB is located in Campbell County, Kentucky and provides primarily wetland mitigation credits, and the RIBITS website states that only 0.2 stream AMUs are currently available. While the NKMB may provide an adequate option for wetland impacts associated with the proposed project, the amount of stream credits is vastly insufficient to meet the stream mitigation needs. Therefore, the use of an approved mitigation bank is not a viable option for stream impacts associated with the Spurlock Station Peg's Hill Landfill project.

**Northern Kentucky Stream Restoration Program (NKSRRP):** The Northern Kentucky Stream Restoration Program (NKSRRP) is the sponsor for the "Fee In-Lieu Of" (FILO) program in this area. Stream impacts associated with the development of the new CCR landfill are anticipated to require approximately 12,556.25 AMUs. The cost per AMU for the FILO program is established by the NKSRRP to address the full cost of establishing mitigation credits, including land acquisition, planning, design, construction, planting, monitoring, adaptive management, long-term management, and administrative costs. Currently, the cost per AMU within the NKSRRP service area is \$470. Through the permitting process, the USACE requires an additional 20% credit purchase to address temporal losses associated with postponed development of mitigation credits. The FILO cost required for the proposed project would be \$7,081,725 and EKPC anticipates the permittee responsible mitigation would be significantly less. Based on initial estimates, savings would be just under \$4,000,000. Thus, substantial cost savings would be achieved through completion of a permittee-responsible mitigation project.

**Permittee-Responsible Mitigation:** The 2008 Mitigation Rule allows for the opportunity to develop permittee-responsible mitigation sites where an approved mitigation bank is not present or the in-lieu fee program does not have the appropriate number of credits available. A watershed approach to mitigation of the proposed impacts should give consideration to functions at or near the proposed impact site in order to maintain and improve the quality and quantity of aquatic resources. In order to replace the loss of functions and values associated with unavoidable impacts, site selection of permittee-responsible mitigation sites is important and is typically performed using a watershed approach that reviews: 1) hydrologic, soil, geologic, and other physical and chemical characteristics; 2) watershed-scale aquatic habitat diversity, habitat connectivity, and other functions; 3) the size and location of potential mitigation sites in relation to hydrologic sources and other ecological features; 4) compatibility with adjacent land use; and 5) foreseeable effects to ecologically important aquatic and terrestrial resources, cultural sites, and habitat for state or federally-listed species.

The proposed mitigation site is located immediately adjacent to the impact site; therefore, the mitigation site is located within the same physiographic setting and would provide similar functions to those being impacted. The proposed mitigation area encompasses approximately 87.4-acres with 18,922 feet of stream, which would be used to mitigate for the impacts to 12,615 feet of stream. Furthermore, the federally endangered running buffalo clover is known to occur within the mitigation area, see *Running Buffalo Clover Map* in Exhibit B-10 – Project Maps, Pg. 99, and the mitigation area is located within potential summer habitat for the federally-listed Indiana bat and northern long-eared bats. Additionally, the proposed permittee responsible mitigation would involve the restoration and/or enhancement of the on-site ecosystem with a high likelihood of success as opposed to the often problematic wetland/stream creation. Thus, the mitigation area is of sufficient size and appropriately located to provide watershed-scale ecological benefits including beneficial effects to federally-listed species.

## 7.2 Indiana Bat

As a result of the proposed project area containing tree species and individual trees that could provide suitable roosting habitat for forest-dwelling bat species, EKPC has mitigated the removal of these trees by entering into a Conservation Memorandum of Understanding (CMOU) with the USFWS and made a contribution to the Imperiled Bat Conservation Fund (IBCF), following the USFWS 2016 Conservation Strategy for Forest-Dwelling Bats. The 97.13 acres of forested habitat identified as suitable roosting habitat that would potentially be impacted by the proposal are located within the project footprint, along the edges of the proposed borrow areas, and within the stream mitigation area, as depicted on the *Indiana Bat Habitat Maps* included in Exhibit B-9 – Project Maps, Pg. 99. Due to flexibility in the project schedule, tree clearing activities will be limited to between October 15 and March 31 when the potential Indiana bat habitat would be considered unoccupied. Therefore, the compensatory mitigation was calculated to be \$162,692.75. As a result of 97.13 acres of lost suitable forest-dwelling bat habitat being mitigated through a contribution to the IBCF, the proposed landfill project is not likely to jeopardize the continued existence of the Indiana bat.

## 8.0 CONCLUSION

The purpose of the project is to provide an economically feasible and environmentally sound disposal site for CCR generated as a result of the long-term operation of Spurlock Station, including CCR stored in the Spurlock Station CCR surface impoundment, which must be closed to comply with the federal CCR Rule. As Spurlock Station is expected to continue in operation for the foreseeable future, EKPC must identify feasible disposal options for CCR generated beyond the 2023 timeframe at Spurlock Station. Lack of a long-term disposal facility to receive CCR from Spurlock Station or insufficient cover materials would interfere with EKPC's ability to meet its statutory obligation to provide cost-effective, reliable electric power to its Owner-Member Distribution Cooperatives and their residential and commercial customers. Landfill Area C is projected to be at its operational capacity as early as 2023, and the Peg's Hill landfill would extend the operational capacity of the Spurlock Station Landfill until approximately 2037. EKPC has determined that this design life will provide a facility that justifies the capital investment and allows for long-term facility planning.

EKPC identified proposed Alternative X location (Peg's Hill) as the least environmentally damaging practicable alternative through an analysis of multiple long-term disposal alternatives. Several existing municipal solid waste landfill disposal scenarios were evaluated; however, it was determined that each of these alternatives would include prohibitive hauling costs and disposal fees. Development of a new EKPC operated off-site CCR landfill was also considered; however, this alternative would incur significantly higher costs and likely result in greater environmental impacts compared to those expected from the proposed landfill project. Thus, utilizing an existing municipal solid waste landfill or constructing a new landfill was not considered practicable. Three on-site alternatives were evaluated, including a new landfill in the adjacent Beasley Creek drainage and two adjacent landfill construction designs, based on the needed disposal capacity, see *On-Site Alternative Location Map* in Exhibit B-4 – Project Maps, Pg. 99. The on-site landfill alternatives were analyzed for potential impacts to Waters of the U.S., cultural resources, wooded habitats, and access to infrastructure. Design alternatives for the location of the soil borrow areas were evaluated to identify the least environmentally damaging configuration. Through this process, the proposed borrow areas were designed to avoid impacts to jurisdictional waters and cultural resources and limit impacts to wooded habitats while maintaining a close proximity to existing infrastructure and providing the needed soils for cover.

Based upon this analysis of project alternatives, EKPC has identified development of the Spurlock Station Peg's Hill CCR landfill (Alternative X – Peg's Hill) as the least environmentally damaging practicable alternative. The proposed landfill would have a project footprint of approximately 1,476 acres and be located in the west-central portion of the Spurlock Station property. Project activities may affect up to 591 acres of land within the identified project footprint, including approximately 181 acres within the limits of disturbance associated with construction of the CCR landfill and approximately 390 acres of soil borrow areas.

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## **AGENCIES CONSULTED**

Kentucky Department of Fish and Wildlife Resources, Frankfort, Kentucky

Kentucky Division of Waste Management, Frankfort, Kentucky

Kentucky Division of Water, Frankfort, Kentucky

Kentucky Heritage Council, State Historic Preservation Office, Frankfort, Kentucky

Kentucky State Nature Preserves Commission, Frankfort, Kentucky

Natural Resources Conservation Service, Maysville, Kentucky

U.S. Army Corps of Engineers, Louisville, Kentucky

U.S. Fish and Wildlife Service, Kentucky Ecological Services Field Office, Frankfort,  
Kentucky



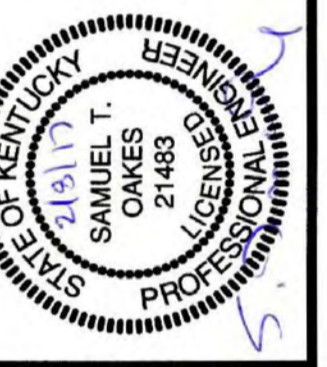
## **EXHIBIT A. DESIGN DRAWINGS**

1. General Site Plan
2. General Subgrade Plan
3. General Final Grading Plan
4. Liner Details





**SPURLOCK STATION LANDFILL**  
**MASON COUNTY, KENTUCKY**  
 PERMIT NO. 081-00005  
**HORIZONTAL EXPANSION APPLICATION**  
**DESIGN PLANS**



**KENVIRONS, INC.**  
**FRANKFORT, KENTUCKY**



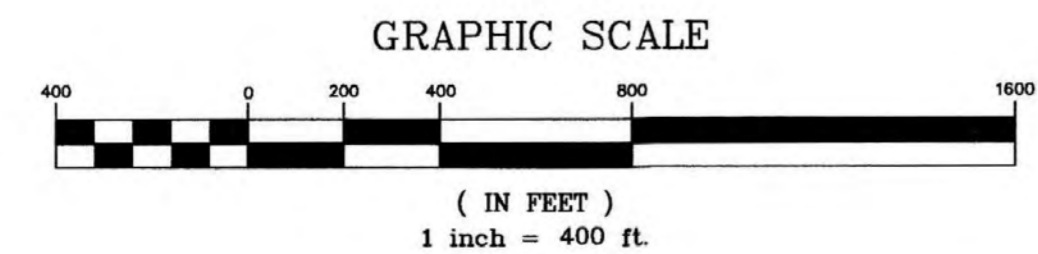
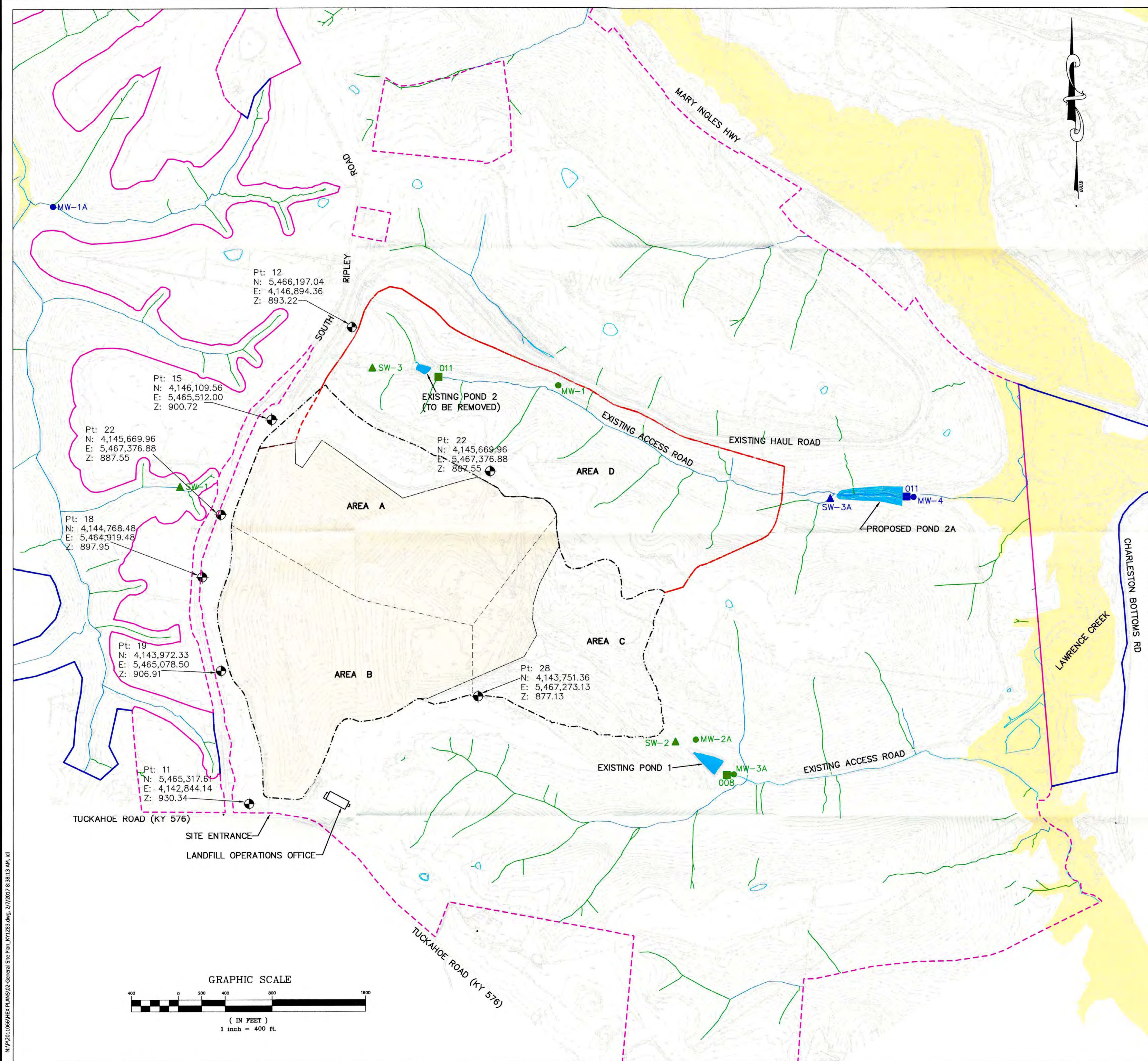
PROJECT NO.  
2011066  
 SHEET NO.  
2 of 35

**LEGEND**

- EXISTING GROUND CONTOURS
- TREE LINE
- TREE
- UTILITY POLE
- ☉ DRAIN
- FENCE
- SPOT ELEVATION
- AERIAL SURVEY CONTROL POINT
- PERMANENT SURVEY MARKER
- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE PROPERTY / PERMIT BOUNDARY
- PERMIT BOUNDARY
- PERMITTED WASTE LIMITS (176.67 Acres)
- PROPOSED WASTE LIMIT (101.00 Acres)
- REVISED AREA A WASTE LIMIT (REDUCES PERMITTED WASTE AREA TO 175.07 ACRES)
- PHASE LIMITS
- PREVIOUSLY CONSTRUCTED LINER AREA
- EPHEMERAL STREAM
- INTERMITTENT STREAM
- PERENNIAL STREAM
- ISOLATED WATERS
- EXISTING GROUNDWATER MONITORING WELL
- PROPOSED GROUNDWATER MONITORING WELL
- EXISTING SURFACE WATER MONITORING POINT
- PROPOSED SURFACE WATER MONITORING POINT
- EXISTING KPDES DISCHARGE POINT
- PROPOSED KPDES DISCHARGE POINT
- APPROXIMATE LIMITS OF 100 YEAR FLOOD PER APRIL 16, 2013 FEMA DFIRM FLOODPLAIN MAPPING

**NOTES**

1. TOTAL FACILITY PERMIT BOUNDARY IS APPROXIMATELY 1613.18 ACRES.
2. DISTURBANCE TO JURISDICTIONAL WETLANDS, PONDS OR STREAMS TO BE MITIGATED IN ACCORDANCE WITH THE ARMY CORPS OF ENGINEERS AND THE KENTUCKY DIVISION OF WATER. SEE ATTACHMENTS 18 AND 21.
3. PROPOSED WASTE LIMITS ARE GREATER THAN 100 FEET FROM THE FACILITY PROPERTY BOUNDARY.
4. KPDES OUTFALL 011 SHALL BE RELOCATED TO THE DISCHARGE POINT OF SEDIMENT POND 2A DURING LANDFILL DEVELOPMENT.
5. BORROW AREAS SHALL BE ANY AREAS WITHIN THE PERMIT BOUNDARY EXCEPT THOSE AREAS IN THE 100 YEAR FLOODPLAIN OR WATERS OF THE COMMONWEALTH NOT PERMITTED FOR DISTURBANCE
6. SEE ATTACHMENT 4 FOR PROPERTY BOUNDARY INFORMATION.



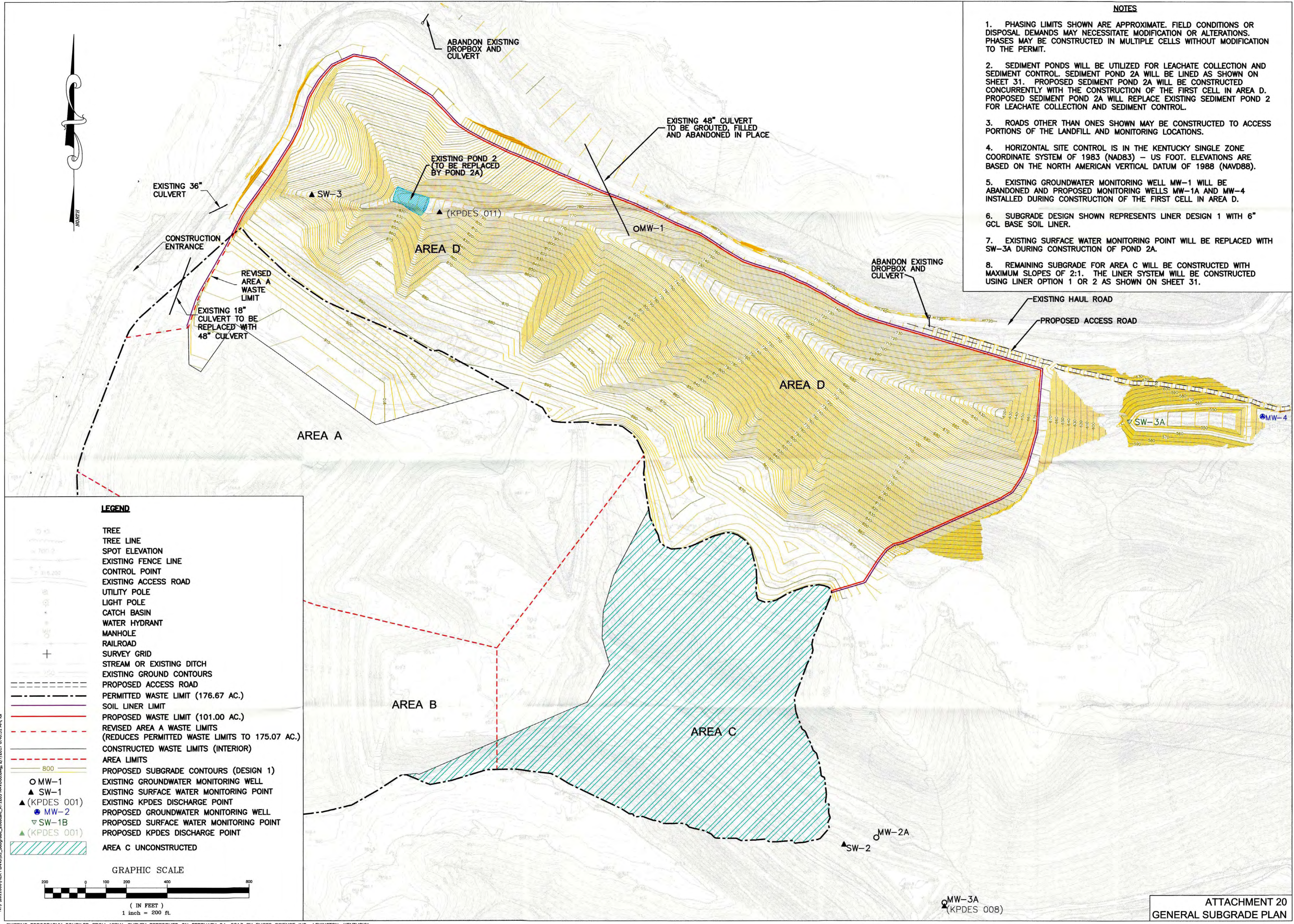
EXISTING TOPOGRAPHY COMPILED FROM AERIAL SURVEY PERFORMED ON FEBRUARY 24, 2013 BY PHOTO SCIENCE INC., LEXINGTON, KENTUCKY





**NOTES**

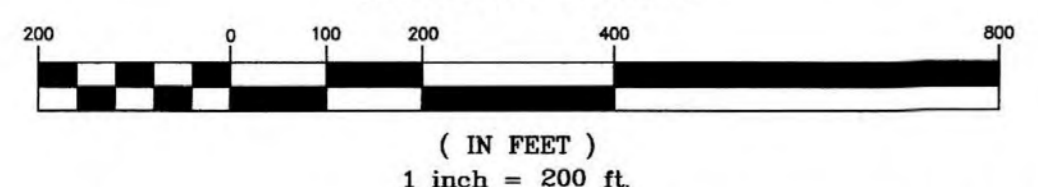
1. PHASING LIMITS SHOWN ARE APPROXIMATE. FIELD CONDITIONS OR DISPOSAL DEMANDS MAY NECESSITATE MODIFICATION OR ALTERATIONS. PHASES MAY BE CONSTRUCTED IN MULTIPLE CELLS WITHOUT MODIFICATION TO THE PERMIT.
2. SEDIMENT PONDS WILL BE UTILIZED FOR LEACHATE COLLECTION AND SEDIMENT CONTROL. SEDIMENT POND 2A WILL BE LINED AS SHOWN ON SHEET 31. PROPOSED SEDIMENT POND 2A WILL BE CONSTRUCTED CONCURRENTLY WITH THE CONSTRUCTION OF THE FIRST CELL IN AREA D. PROPOSED SEDIMENT POND 2A WILL REPLACE EXISTING SEDIMENT POND 2 FOR LEACHATE COLLECTION AND SEDIMENT CONTROL.
3. ROADS OTHER THAN ONES SHOWN MAY BE CONSTRUCTED TO ACCESS PORTIONS OF THE LANDFILL AND MONITORING LOCATIONS.
4. HORIZONTAL SITE CONTROL IS IN THE KENTUCKY SINGLE ZONE COORDINATE SYSTEM OF 1983 (NAD83) - US FOOT. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
5. EXISTING GROUNDWATER MONITORING WELL MW-1 WILL BE ABANDONED AND PROPOSED MONITORING WELLS MW-1A AND MW-4 INSTALLED DURING CONSTRUCTION OF THE FIRST CELL IN AREA D.
6. SUBGRADE DESIGN SHOWN REPRESENTS LINER DESIGN 1 WITH 6" GCL BASE SOIL LINER.
7. EXISTING SURFACE WATER MONITORING POINT WILL BE REPLACED WITH SW-3A DURING CONSTRUCTION OF POND 2A.
8. REMAINING SUBGRADE FOR AREA C WILL BE CONSTRUCTED WITH MAXIMUM SLOPES OF 2:1. THE LINER SYSTEM WILL BE CONSTRUCTED USING LINER OPTION 1 OR 2 AS SHOWN ON SHEET 31.



**LEGEND**

- TREE
- TREE LINE
- SPOT ELEVATION
- EXISTING FENCE LINE
- CONTROL POINT
- EXISTING ACCESS ROAD
- UTILITY POLE
- LIGHT POLE
- CATCH BASIN
- WATER HYDRANT
- MANHOLE
- RAILROAD
- SURVEY GRID
- STREAM OR EXISTING DITCH
- EXISTING GROUND CONTOURS
- PROPOSED ACCESS ROAD
- PERMITTED WASTE LIMIT (176.67 AC.)
- SOIL LINER LIMIT
- PROPOSED WASTE LIMIT (101.00 AC.)
- REVISED AREA A WASTE LIMITS (REDUCES PERMITTED WASTE LIMITS TO 175.07 AC.)
- CONSTRUCTED WASTE LIMITS (INTERIOR)
- AREA LIMITS
- PROPOSED SUBGRADE CONTOURS (DESIGN 1)
- EXISTING GROUNDWATER MONITORING WELL
- EXISTING SURFACE WATER MONITORING POINT
- EXISTING KPDES DISCHARGE POINT
- PROPOSED GROUNDWATER MONITORING WELL
- PROPOSED SURFACE WATER MONITORING POINT
- PROPOSED KPDES DISCHARGE POINT
- AREA C UNCONSTRUCTED

**GRAPHIC SCALE**



N:\P\2011066\EXHIBIT PLANS\03\_Subgrade\_2008.dwg, 2/7/2017 8:40:31 AM, id



**SPURLOCK STATION LANDFILL**  
 MASON COUNTY, KENTUCKY  
 PERMIT NO. 081-00005  
**HORIZONTAL EXPANSION APPLICATION**  
**DESIGN PLANS**



DRAWN BY: SMR	DATE: OCTOBER 2015
CHECKED BY: STO	SCALE: AS SHOWN
REVISIONS	

**KENVIRONS, INC.**  
**FRANKFORT, KENTUCKY**



PROJECT NO.  
2011066  
 SHEET NO.  
3 of 35

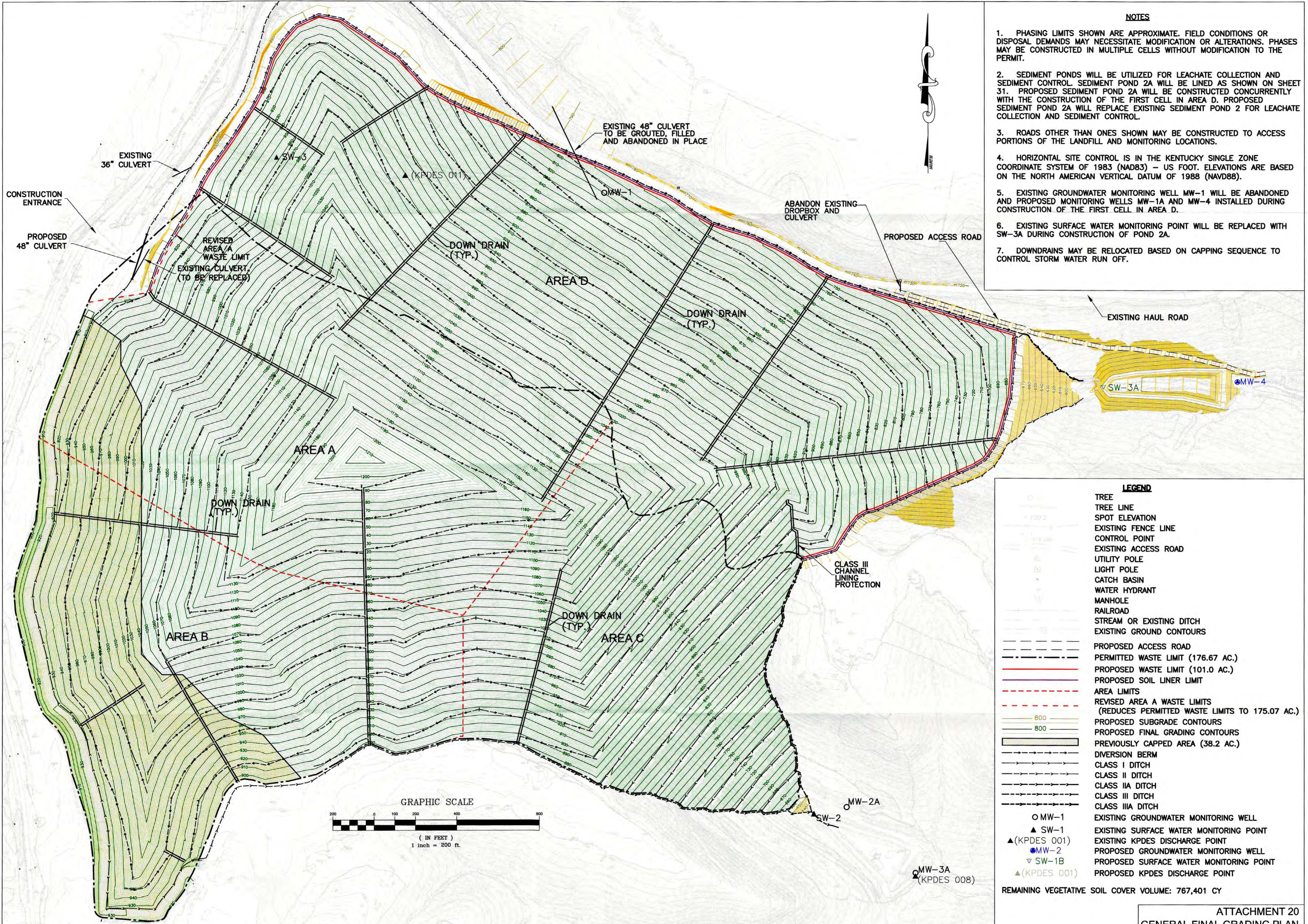
ATTACHMENT 20  
 GENERAL SUBGRADE PLAN

EXISTING TOPOGRAPHY COMPILED FROM AERIAL SURVEY PERFORMED ON FEBRUARY 24, 2013 BY PHOTO SCIENCE INC., LEXINGTON, KENTUCKY



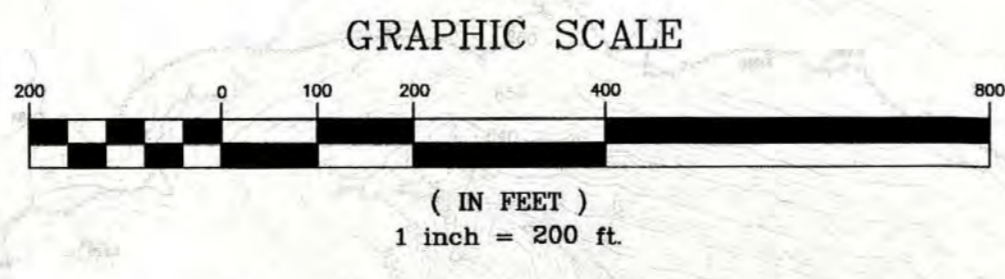
**NOTES**

1. PHASING LIMITS SHOWN ARE APPROXIMATE. FIELD CONDITIONS OR DISPOSAL DEMANDS MAY NECESSITATE MODIFICATION OR ALTERATIONS. PHASES MAY BE CONSTRUCTED IN MULTIPLE CELLS WITHOUT MODIFICATION TO THE PERMIT.
2. SEDIMENT PONDS WILL BE UTILIZED FOR LEACHATE COLLECTION AND SEDIMENT CONTROL. SEDIMENT POND 2A WILL BE LINED AS SHOWN ON SHEET 31. PROPOSED SEDIMENT POND 2A WILL BE CONSTRUCTED CONCURRENTLY WITH THE CONSTRUCTION OF THE FIRST CELL IN AREA D. PROPOSED SEDIMENT POND 2A WILL REPLACE EXISTING SEDIMENT POND 2 FOR LEACHATE COLLECTION AND SEDIMENT CONTROL.
3. ROADS OTHER THAN ONES SHOWN MAY BE CONSTRUCTED TO ACCESS PORTIONS OF THE LANDFILL AND MONITORING LOCATIONS.
4. HORIZONTAL SITE CONTROL IS IN THE KENTUCKY SINGLE ZONE COORDINATE SYSTEM OF 1983 (NAD83) - US FOOT. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
5. EXISTING GROUNDWATER MONITORING WELL MW-1 WILL BE ABANDONED AND PROPOSED MONITORING WELLS MW-1A AND MW-4 INSTALLED DURING CONSTRUCTION OF THE FIRST CELL IN AREA D.
6. EXISTING SURFACE WATER MONITORING POINT WILL BE REPLACED WITH SW-3A DURING CONSTRUCTION OF POND 2A.
7. DOWNDRAINS MAY BE RELOCATED BASED ON CAPPING SEQUENCE TO CONTROL STORM WATER RUN OFF.



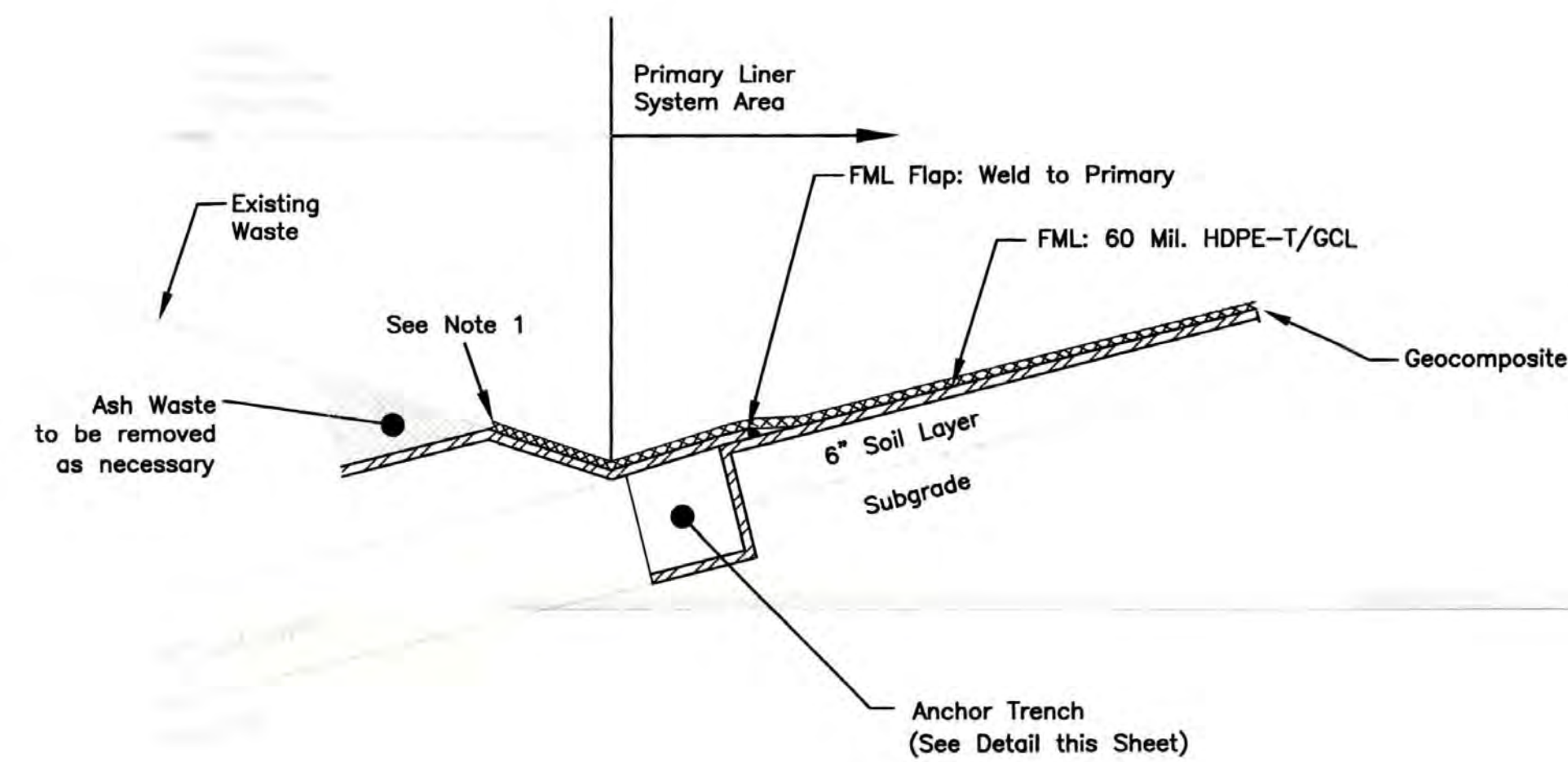
**LEGEND**

- TREE
- TREE LINE
- SPOT ELEVATION
- EXISTING FENCE LINE
- CONTROL POINT
- EXISTING ACCESS ROAD
- UTILITY POLE
- LIGHT POLE
- CATCH BASIN
- WATER HYDRANT
- MANHOLE
- RAILROAD
- STREAM OR EXISTING DITCH
- EXISTING GROUND CONTOURS
- PROPOSED ACCESS ROAD
- PERMITTED WASTE LIMIT (176.67 AC.)
- PROPOSED WASTE LIMIT (101.0 AC.)
- PROPOSED SOIL LINER LIMIT
- AREA LIMITS
- REVISED AREA A WASTE LIMITS (REDUCES PERMITTED WASTE LIMITS TO 175.07 AC.)
- PROPOSED SUBGRADE CONTOURS
- PROPOSED FINAL GRADING CONTOURS
- PREVIOUSLY CAPPED AREA (38.2 AC.)
- DIVERSION BERM
- CLASS I DITCH
- CLASS II DITCH
- CLASS IIA DITCH
- CLASS III DITCH
- CLASS IIIA DITCH
- OMW-1
- ▲ (KPDES 001)
- MW-2
- ▽ SW-1B
- ▲ (KPDES 001)
- EXISTING GROUNDWATER MONITORING WELL
- EXISTING SURFACE WATER MONITORING POINT
- EXISTING KPDES DISCHARGE POINT
- PROPOSED GROUNDWATER MONITORING WELL
- PROPOSED SURFACE WATER MONITORING POINT
- PROPOSED KPDES DISCHARGE POINT



EXISTING TOPOGRAPHY COMPILED FROM AERIAL SURVEY PERFORMED ON FEBRUARY 24, 2013 BY PHOTO SCIENCE INC., LEXINGTON, KENTUCKY

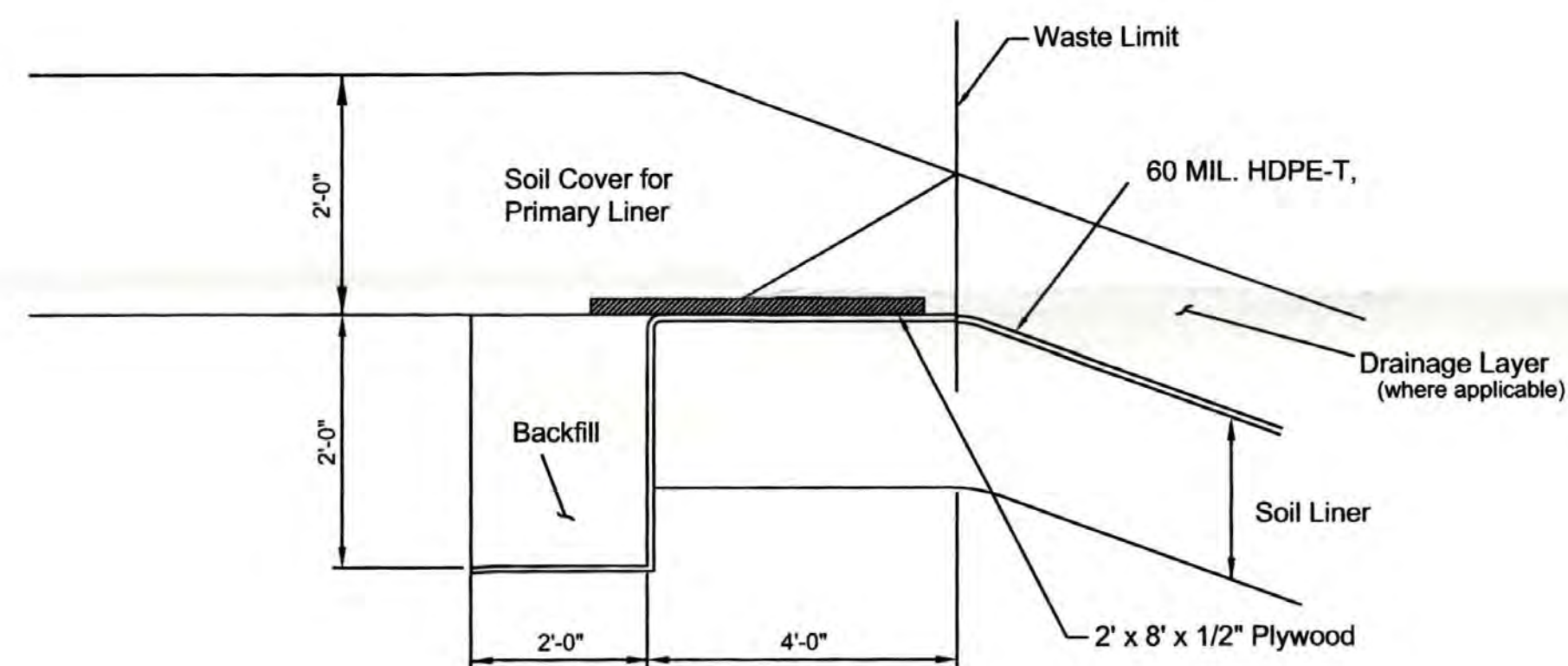




Note 1: install geotextile cap strip over exposed geocomposite netting.

GEOSYNTHETIC TIE-IN TO EXISTING SOIL LINER DETAIL

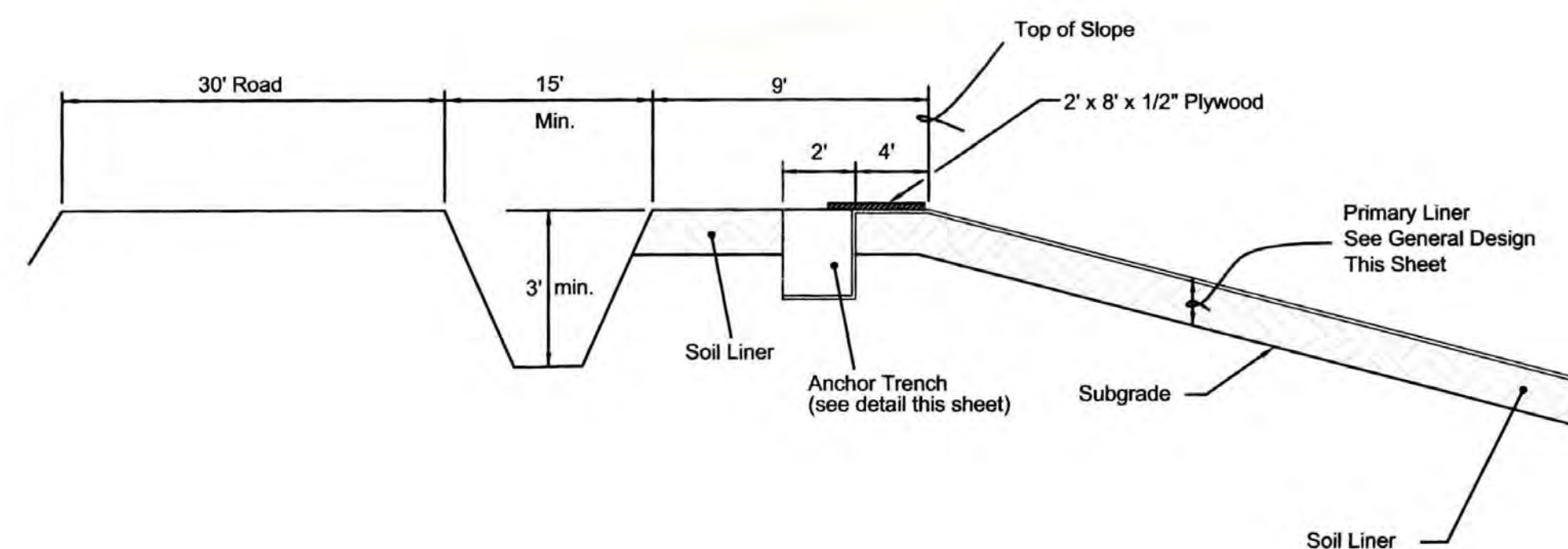
NTS



ANCHOR TRENCH DETAIL

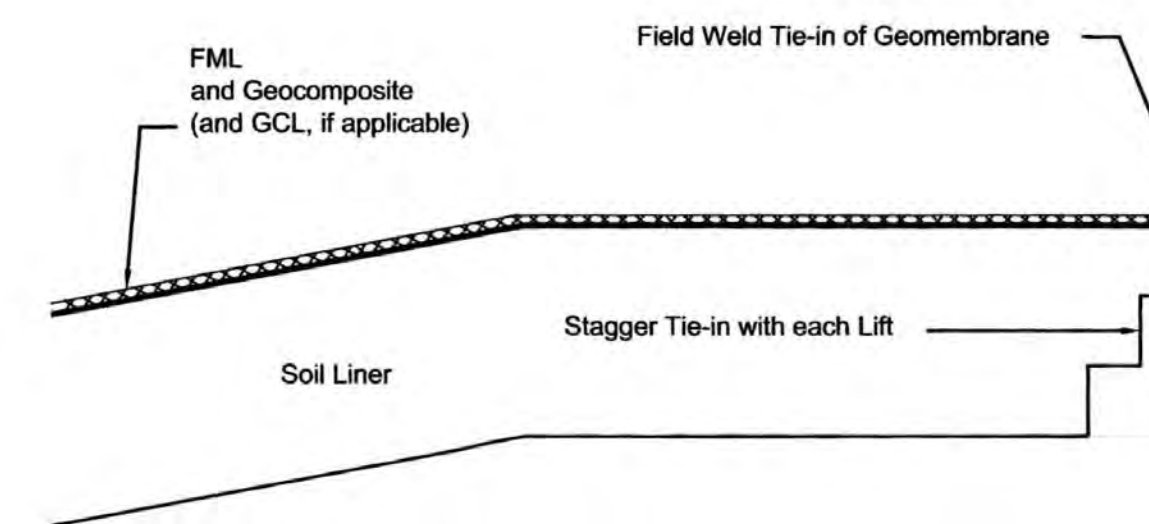
NTS

NOTE: The 4' run out from top of slope to anchor trench shall be sloped toward inside of cell.



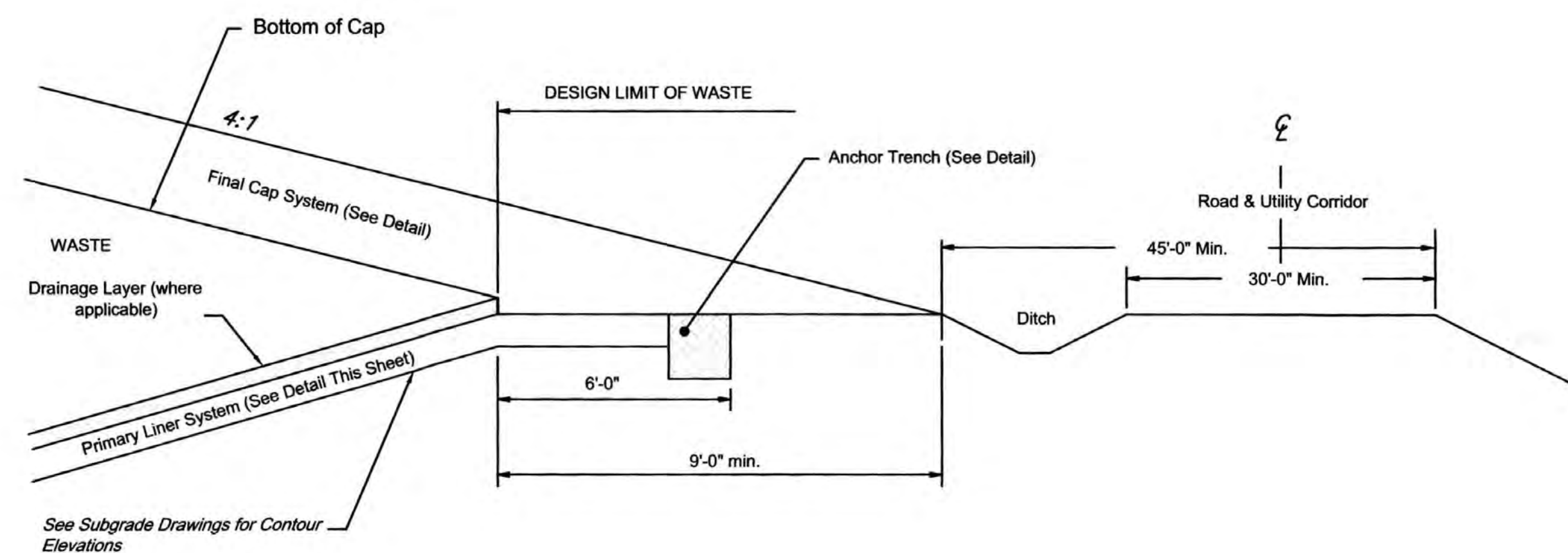
PRIMARY LINER END TREATMENT

NTS



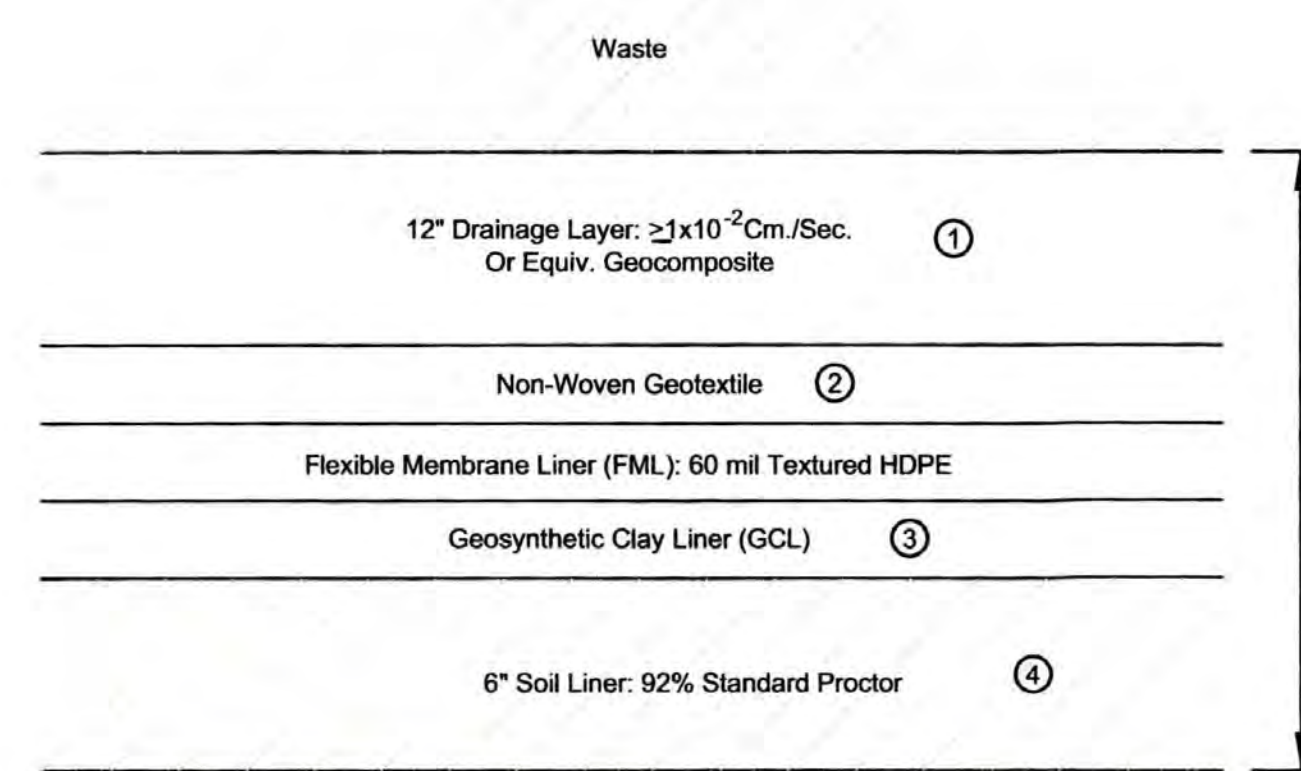
GEOSYNTHETIC LINER TIE-IN DETAIL

NTS



END TREATMENT DETAIL

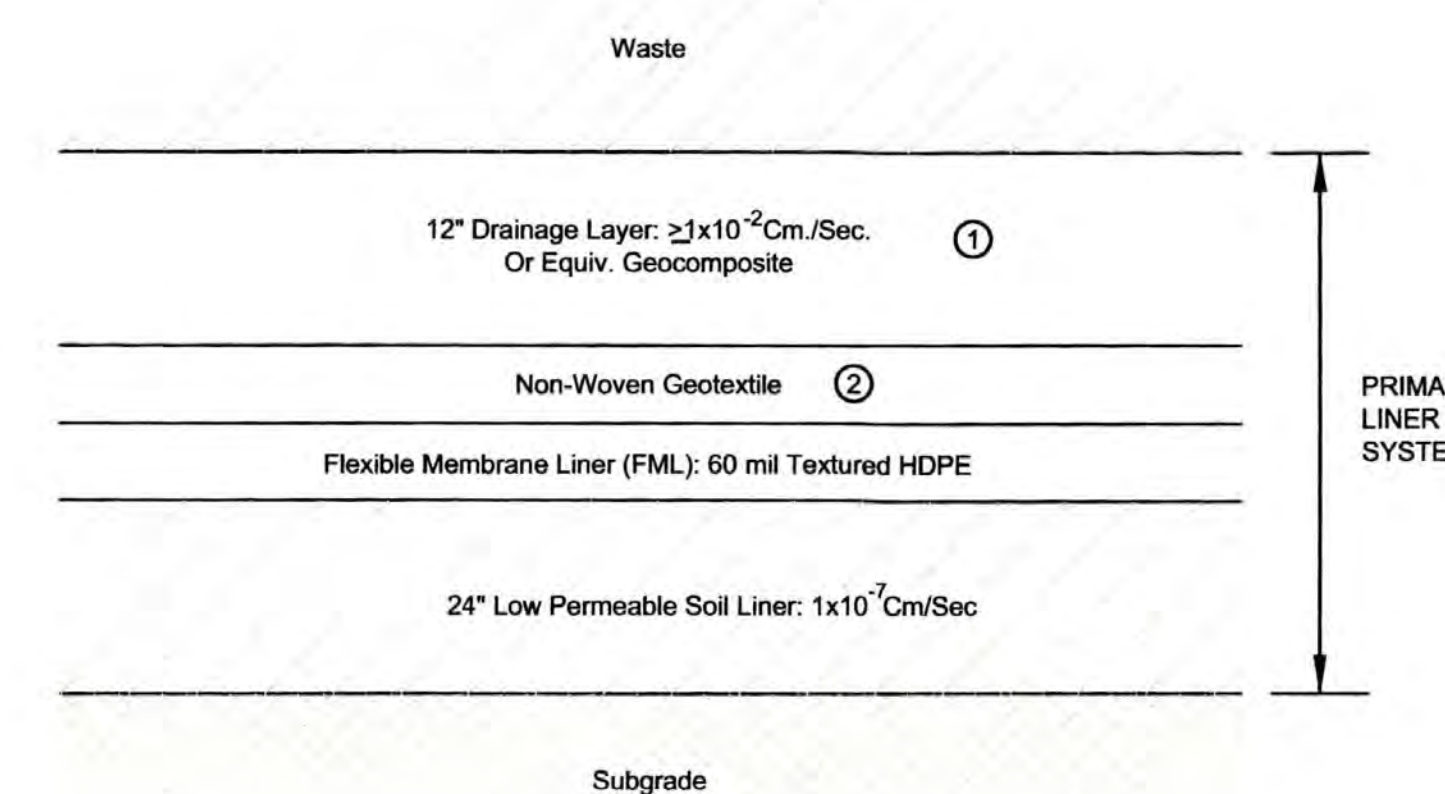
NTS



NOTES

1. A Granular or Synthetic Drainage Layer will be placed above the FML. Granular Drainage Media shall be Peagravel or other Material Approved by the Certifying Engineer prior to Construction Activities. Non-Woven Geotextile will only be used with a Granular Drainage Layer to Provide FML Protection. Geotextiles will be compatible with Coal Combustion Residuals.
2. A 10 oz/sy Non-Woven Geotextile will be utilized with Rounded/Smooth Granular Drainage Material (e.g. Peagravel), while a 24 oz/sy Non-Woven Geotextile will be used with an Angular Granular Drainage Material (e.g. Crushed Limestone).
3. Geosynthetic Clay Liner shall be compatible with Coal Combustion Residuals.
4. 6" Soil Liner will consist of Soils compacted to 92% Standard Proctor.

OPTION 1



NOTES

1. A Granular or Synthetic Drainage Layer will be placed above the FML. Granular Drainage Media shall be Peagravel or other Material Approved by the Certifying Engineer prior to Construction Activities. Non-Woven Geotextile will only be used with a Granular Drainage Layer to Provide FML Protection. Geotextiles will be compatible with Coal Combustion Residuals.
2. A 10 oz/sy Non-Woven Geotextile will be utilized with Rounded/Smooth Granular Drainage Material (e.g. Peagravel), while a 24 oz/sy Non-Woven Geotextile will be used with an Angular Granular Drainage Material (e.g. Crushed Limestone).

OPTION 2

GENERAL LINER DESIGN

NTS

ATTACHMENT 20  
LINER DETAILS



**SPURLOCK STATION LANDFILL**  
MASON COUNTY, KENTUCKY  
PERMIT NO. 081-00005  
HORIZONTAL EXPANSION APPLICATION  
DESIGN PLANS



DRAWN BY: SMR	REVISIONS
CHECKED BY: STG	
DATE: OCT 2015	
SCALE: AS NOTED	

**KENVIRONS, INC.**  
FRANKFORT, KENTUCKY



PROJECT NO.  
2011066  
SHEET NO.  
31 of 35

K:\P\2011066\B\2011066-04\NS1-15 Construction Detail Sheets.dwg, 3/7/2015 3:26:41 PM, dl

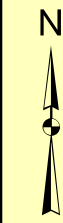


## **EXHIBIT B. PROJECT MAPS**

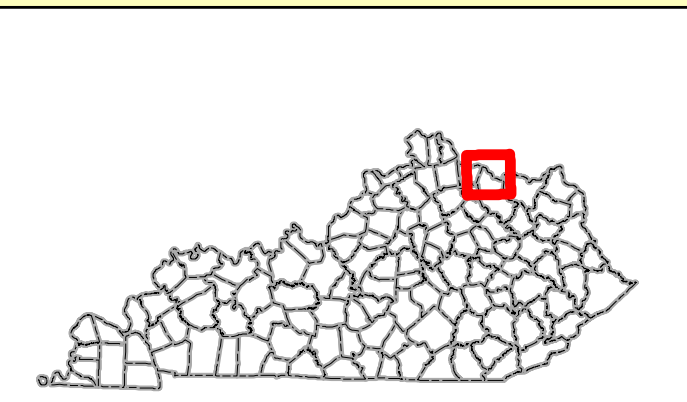
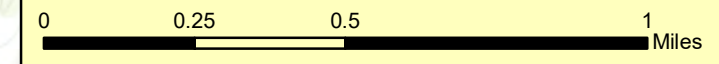
1. Project Area Map
2. Project Components Map – Topography
3. Project Components Map – Aerial
4. On-Site Alternative Location Map
5. Floodplain Map
6. Alternative X (Peg’s Hill) Impacts Map
7. Cultural Resource Surveys Map
8. Mason County 2016 Highway Plans Map
9. Indiana Bat Habitat Maps (maps 9a – 9d)
10. Running Buffalo Clover Map
11. Proposed Mitigation Activities Map
12. Vegetative Cover Map
13. Water Quality AOI Map



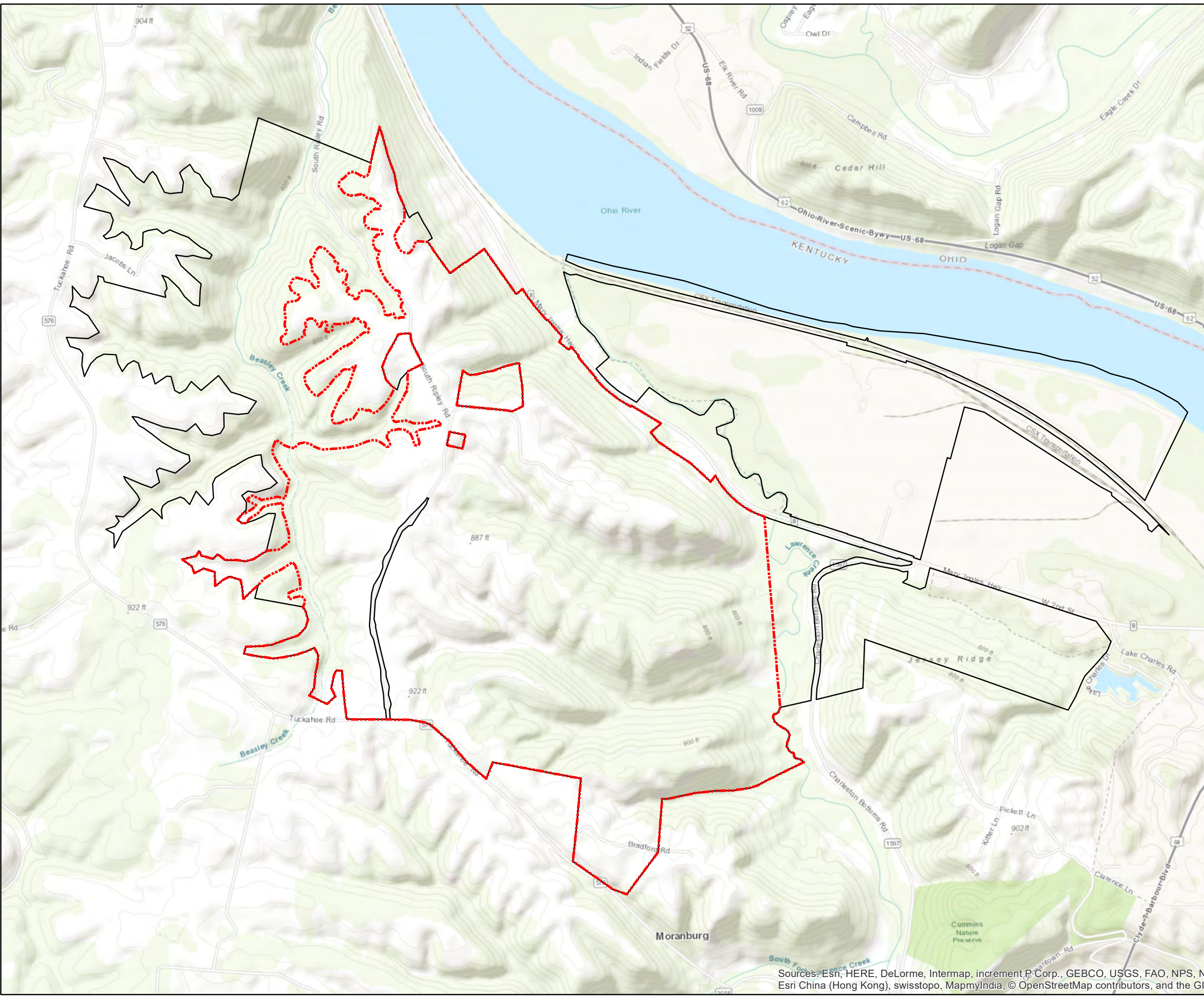
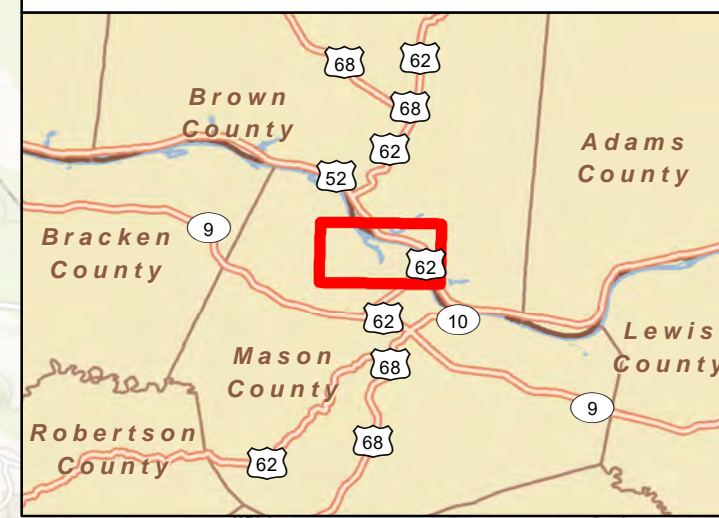
# Spurlock Power Station Peg's Hill Landfill Project Project Area Map



- Project Footprint
- Spurlock Property Boundary









## Exhibit B - 1

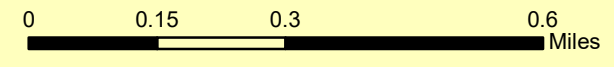


Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

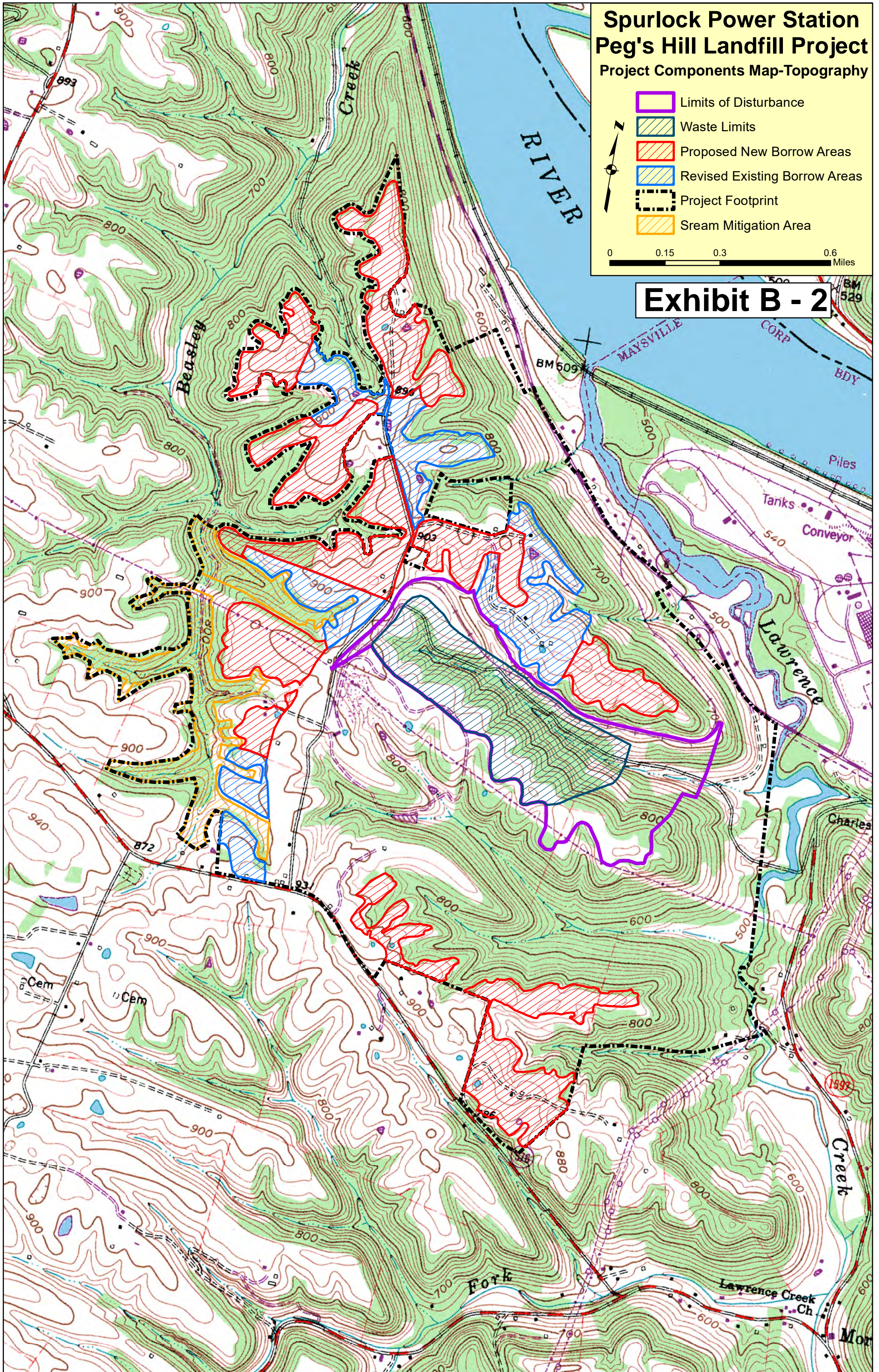


# Spurlock Power Station Peg's Hill Landfill Project Project Components Map-Topography

-  Limits of Disturbance
-  Waste Limits
-  Proposed New Borrow Areas
-  Revised Existing Borrow Areas
-  Project Footprint
-  Stream Mitigation Area



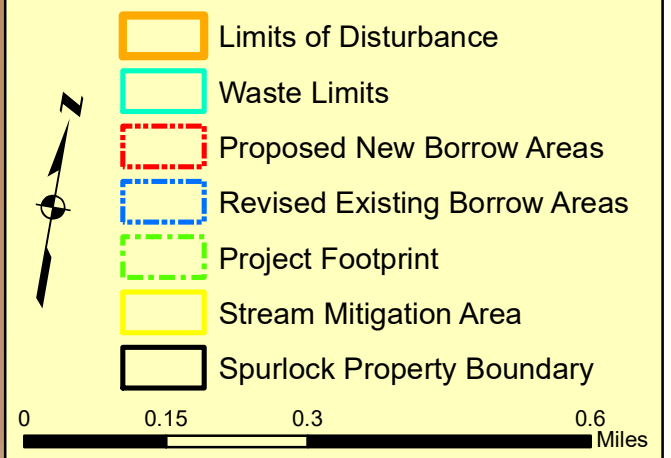
## Exhibit B - 2



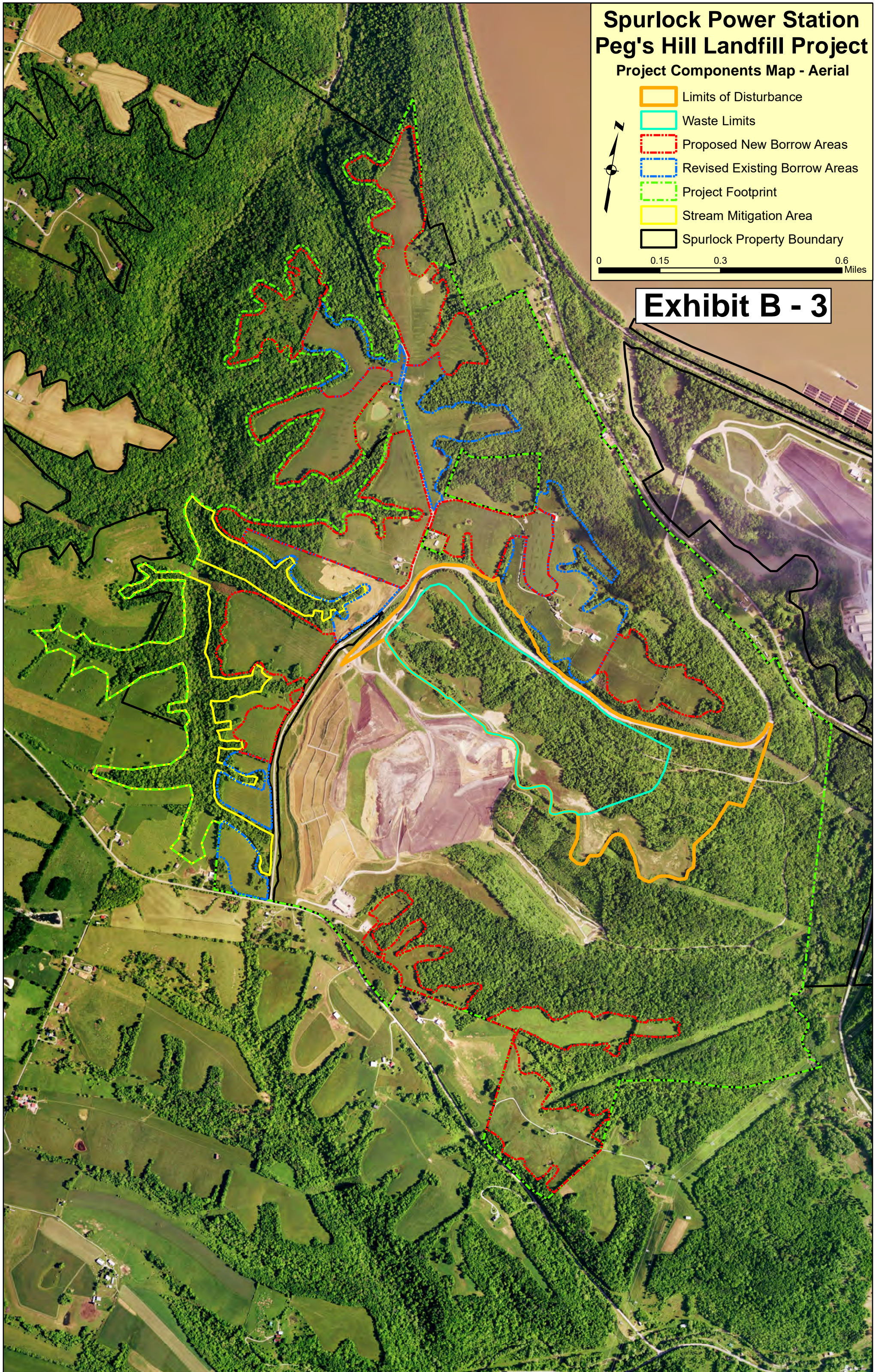


# Spurlock Power Station Peg's Hill Landfill Project

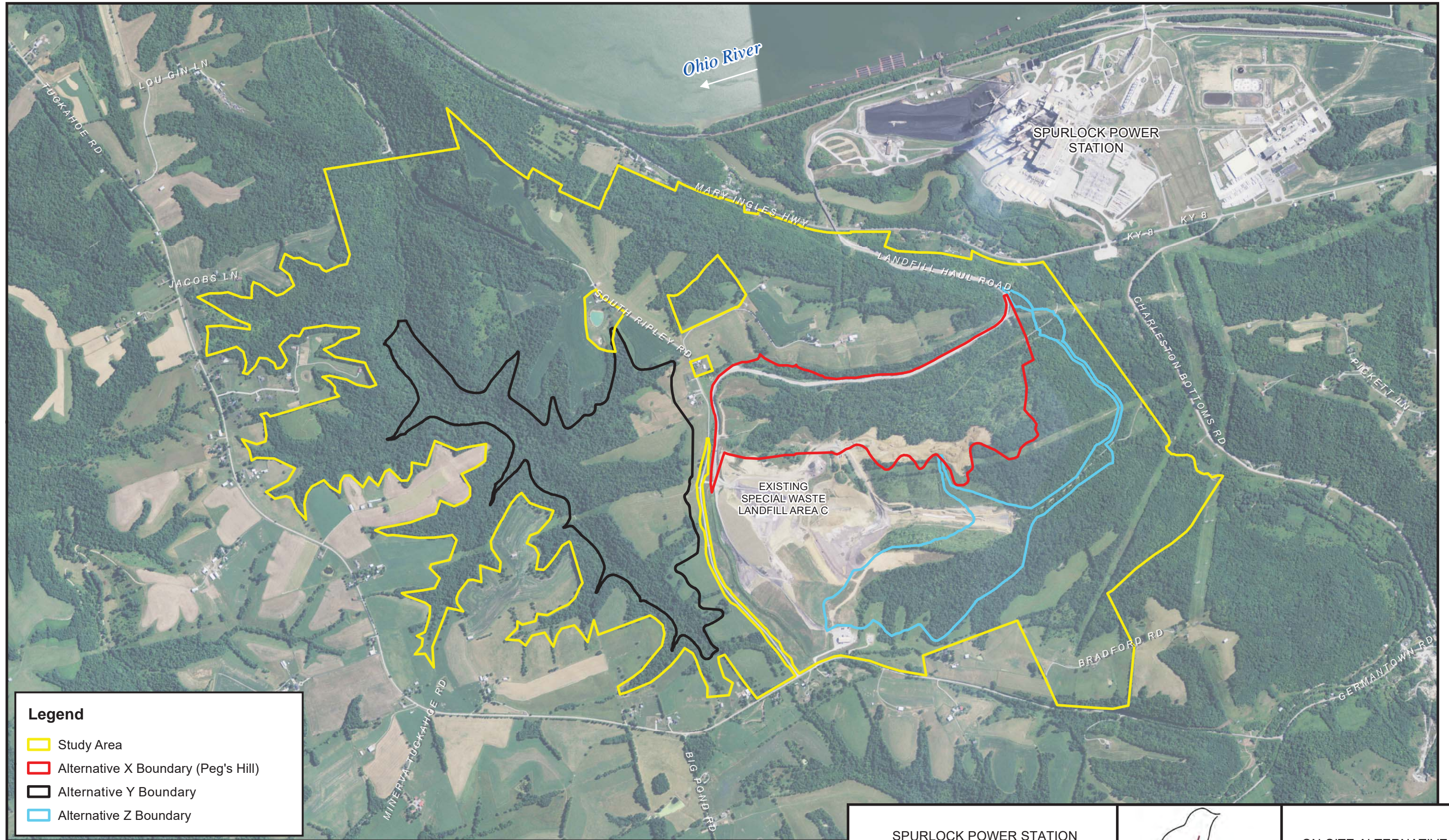
Project Components Map - Aerial



**Exhibit B - 3**







**Legend**

- Study Area
- Alternative X Boundary (Peg's Hill)
- Alternative Y Boundary
- Alternative Z Boundary



# Exhibit B - 4



SPURLOCK POWER STATION  
PEG'S HILL LANDFILL PROJECT  
MASON COUNTY, KENTUCKY

REVISED DATE: 12-15-16      DRAWN BY: EDB




ON-SITE ALTERNATIVE  
LOCATION MAP

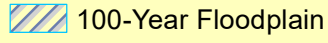
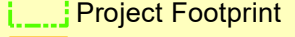
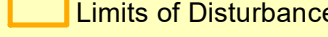
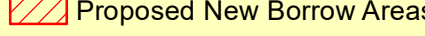
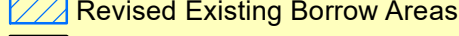
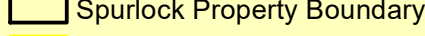
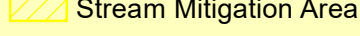
P:\2011 Projects\11-017-Spurlock Power Station Landfill Expansion\2015-IP\Figures\IP-On-Site Alternatives Map.mxd, 12-15-2016, eboman



# Exhibit B - 5

**Floodplain Map**   
**Spurlock Station Peg's Hill Landfill**

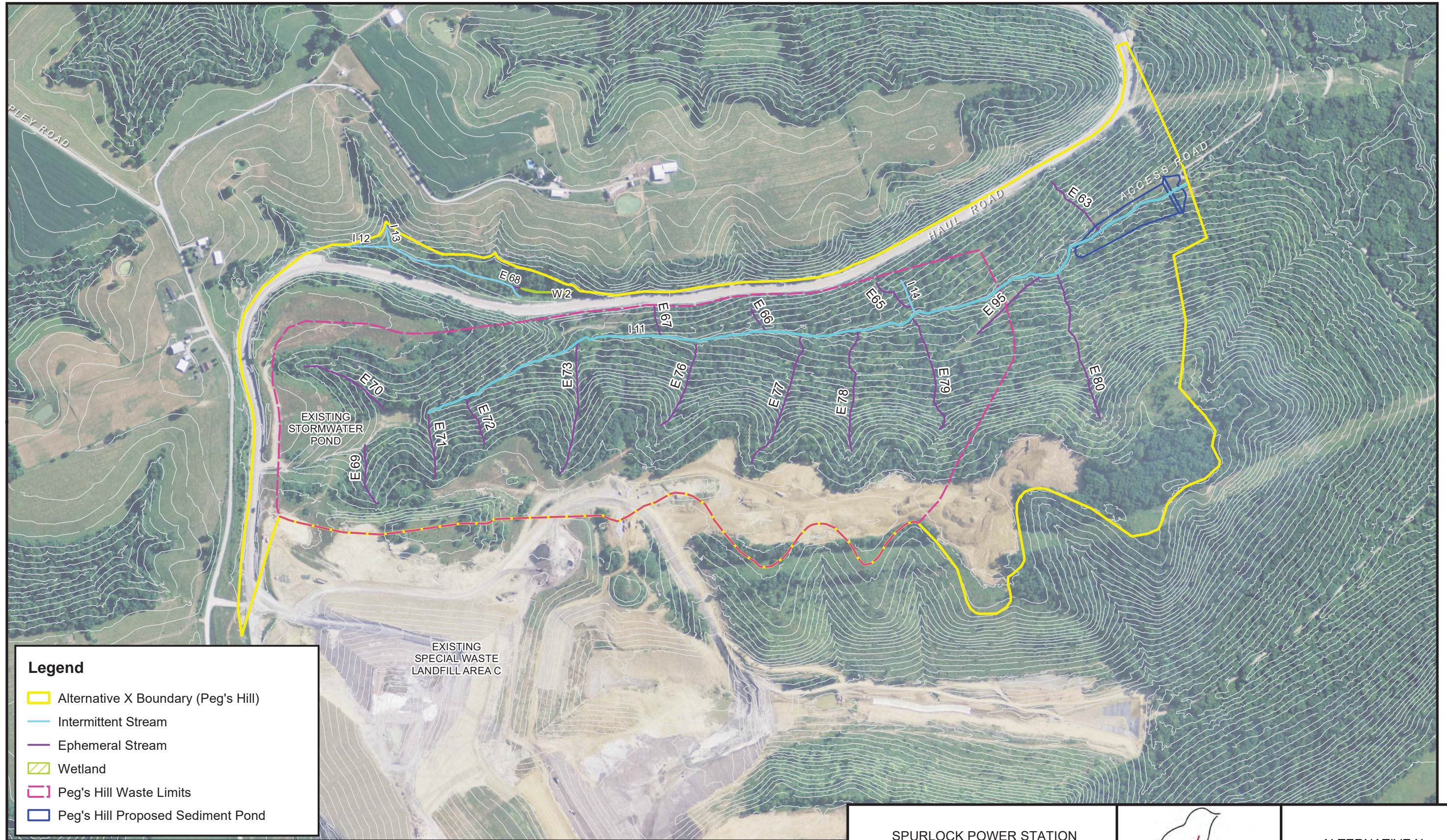
N

-  100-Year Floodplain
-  Project Footprint
-  Limits of Disturbance
-  Proposed New Borrow Areas
-  Revised Existing Borrow Areas
-  Spurlock Property Boundary
-  Stream Mitigation Area







0 0.2 0.4 0.8 Miles







**Legend**

-  Alternative X Boundary (Peg's Hill)
-  Intermittent Stream
-  Ephemeral Stream
-  Wetland
-  Peg's Hill Waste Limits
-  Peg's Hill Proposed Sediment Pond



# Exhibit B - 6



SPURLOCK POWER STATION  
 PEG'S HILL LANDFILL PROJECT  
 MASON COUNTY, KENTUCKY

REVISED DATE: 12-15-16      DRAWN BY: EDB








ALTERNATIVE X  
 (PEG'S HILL LANDFILL)

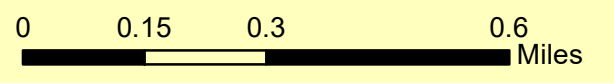
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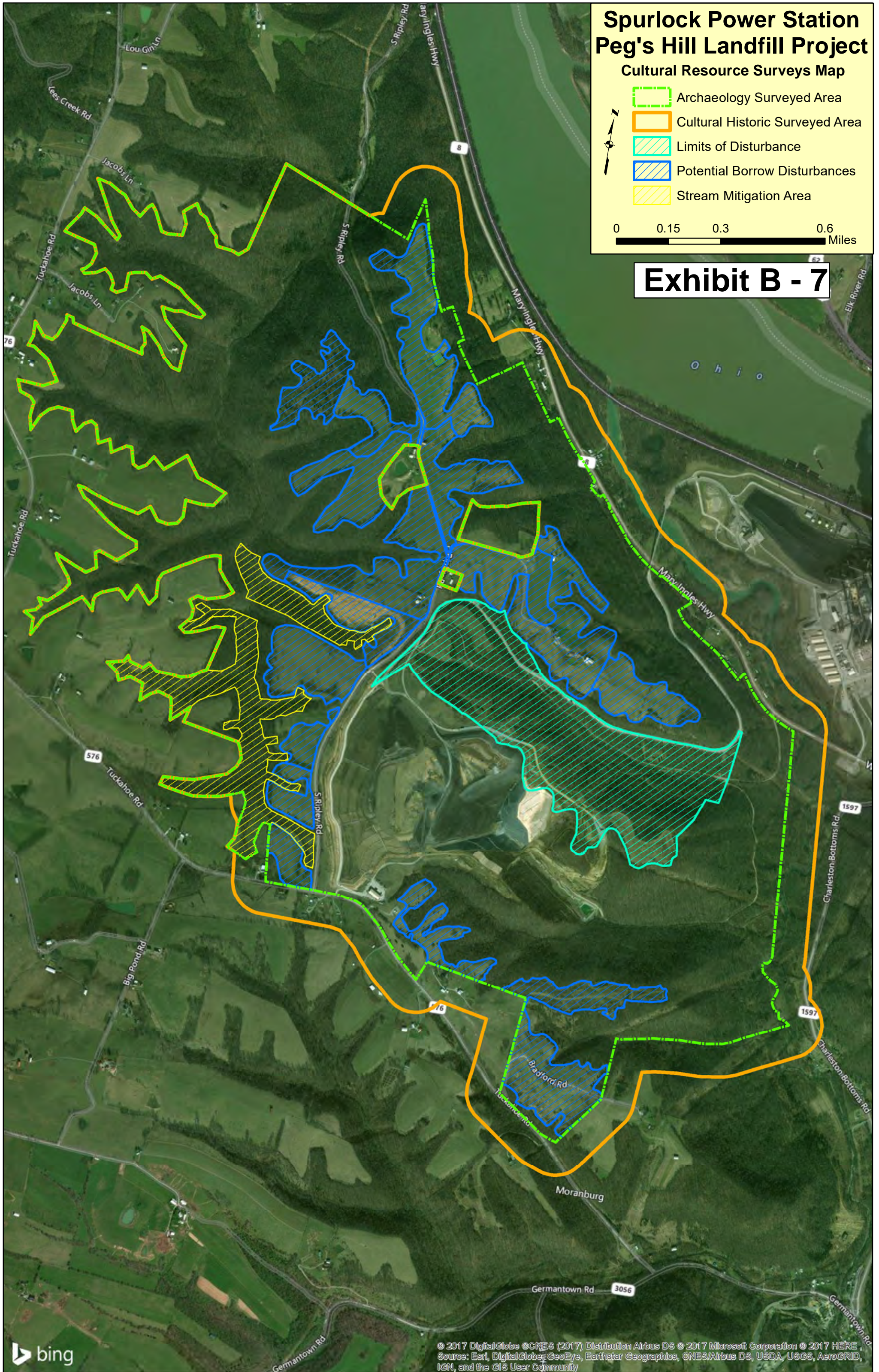
# Spurlock Power Station Peg's Hill Landfill Project

## Cultural Resource Surveys Map

-  Archaeology Surveyed Area
-  Cultural Historic Surveyed Area
-  Limits of Disturbance
-  Potential Borrow Disturbances
-  Stream Mitigation Area

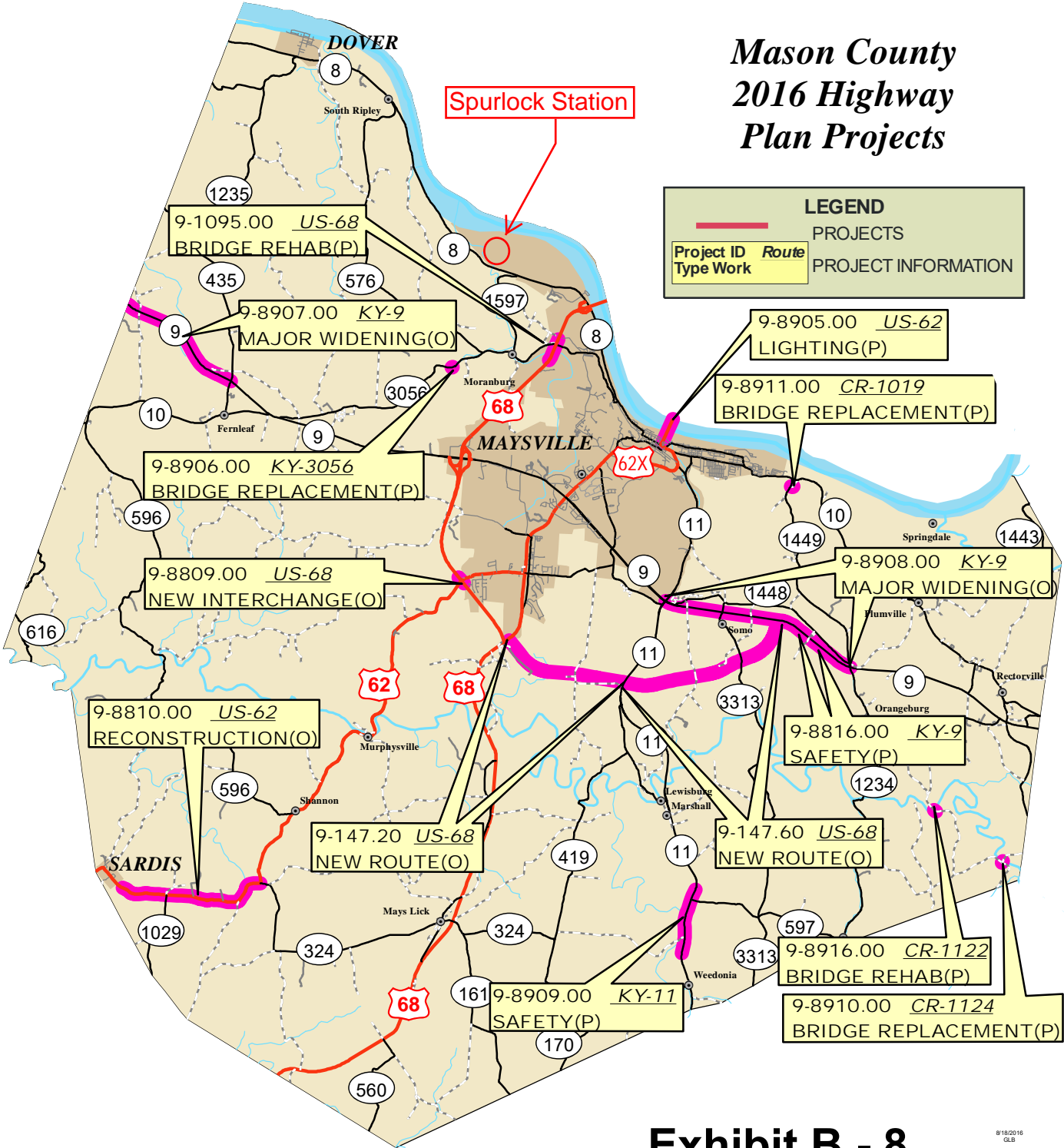


### Exhibit B - 7





# Mason County 2016 Highway Plan Projects










**Exhibit B - 8**



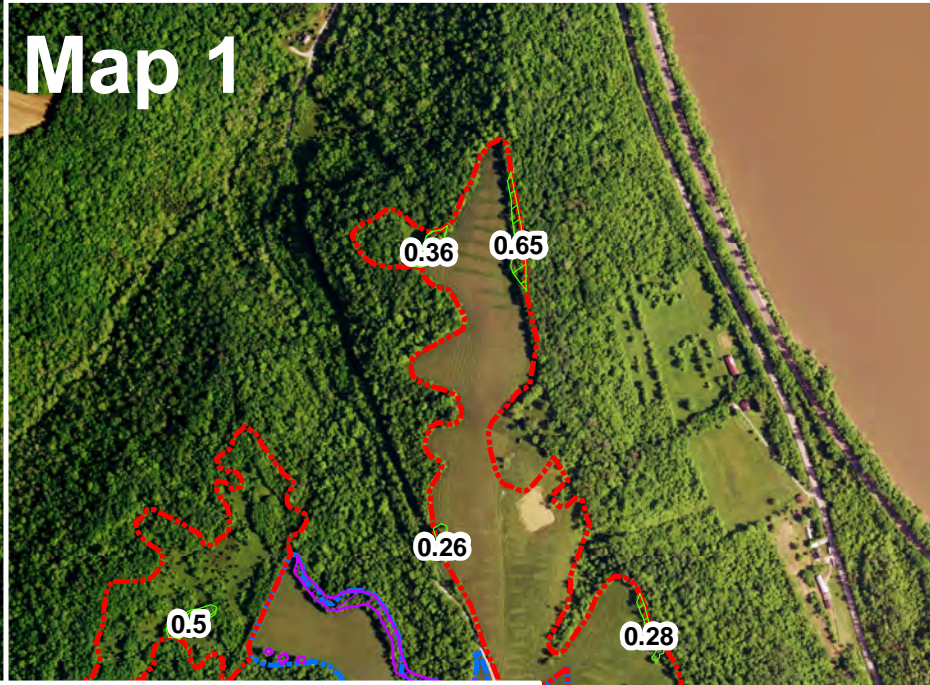
# Spurlock Power Station Peg's Hill Landfill Project

## Indiana Bat Habitat Maps Index

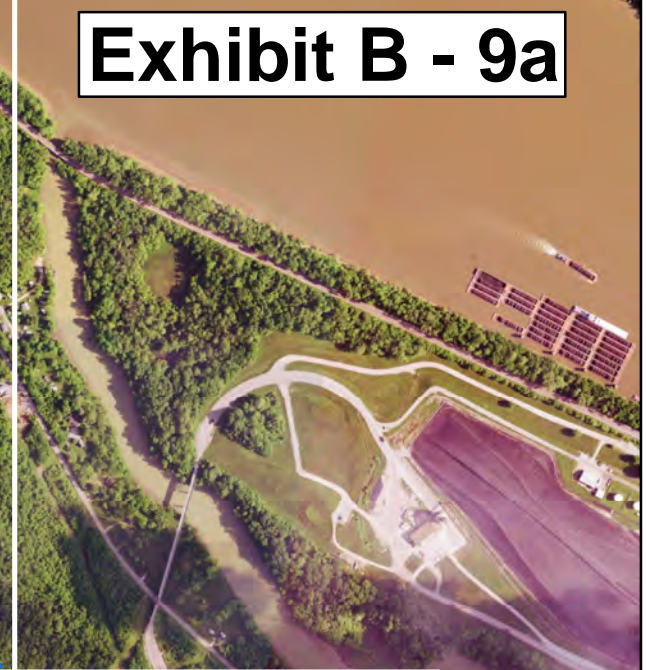
-  Suitable Bat Habitat
-  Previously Mitigated Habitat
-  Running Buffalo Clover Site
-  Limits of Disturbance
-  Proposed New Borrow Areas
-  Revised Existing Borrow Areas
-  Stream Mitigation Area

0 800 1,600 3,200 Feet

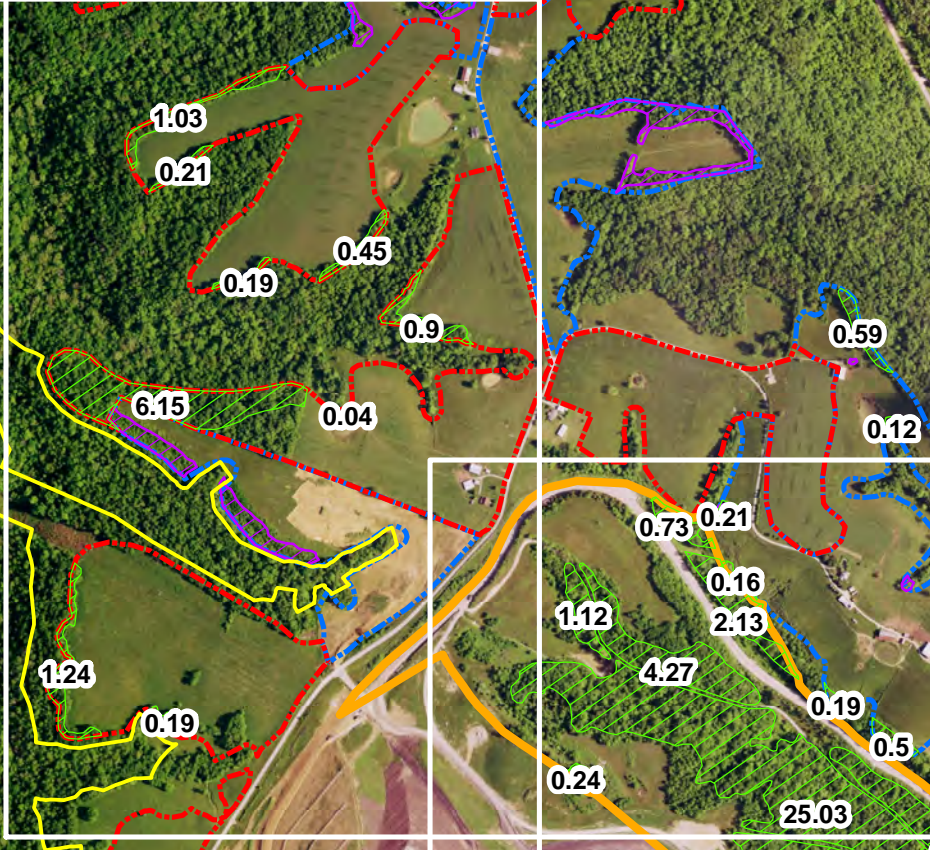
### Map 1



### Exhibit B - 9a



### Map 2










### Map 3





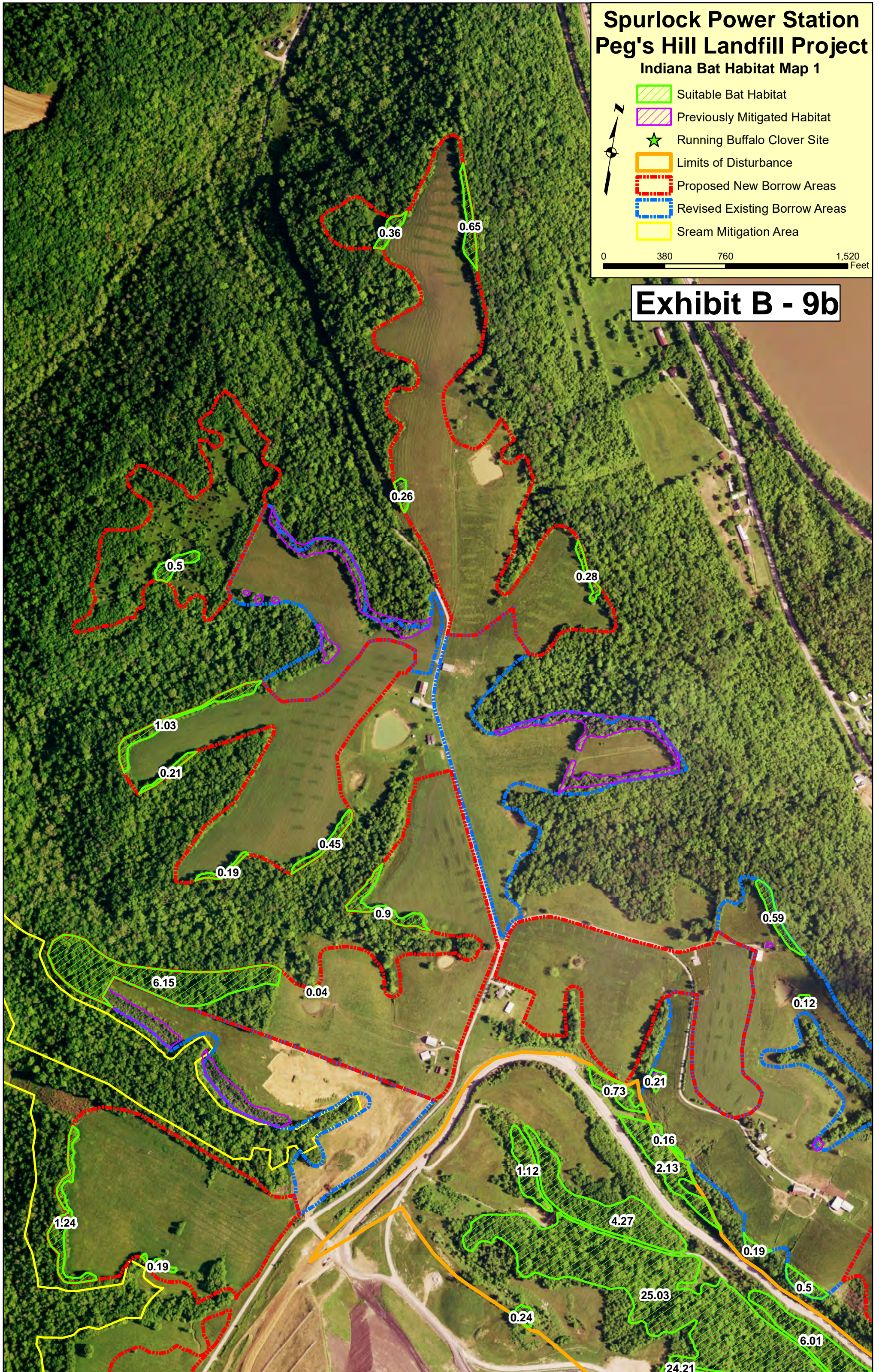
# Spurlock Power Station Peg's Hill Landfill Project

## Indiana Bat Habitat Map 1

-  Suitable Bat Habitat
-  Previously Mitigated Habitat
-  Running Buffalo Clover Site
-  Limits of Disturbance
-  Proposed New Borrow Areas
-  Revised Existing Borrow Areas
-  Stream Mitigation Area

0 380 760 1,520 Feet

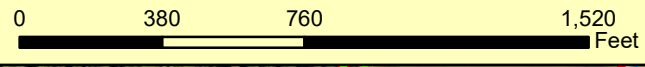
**Exhibit B - 9b**



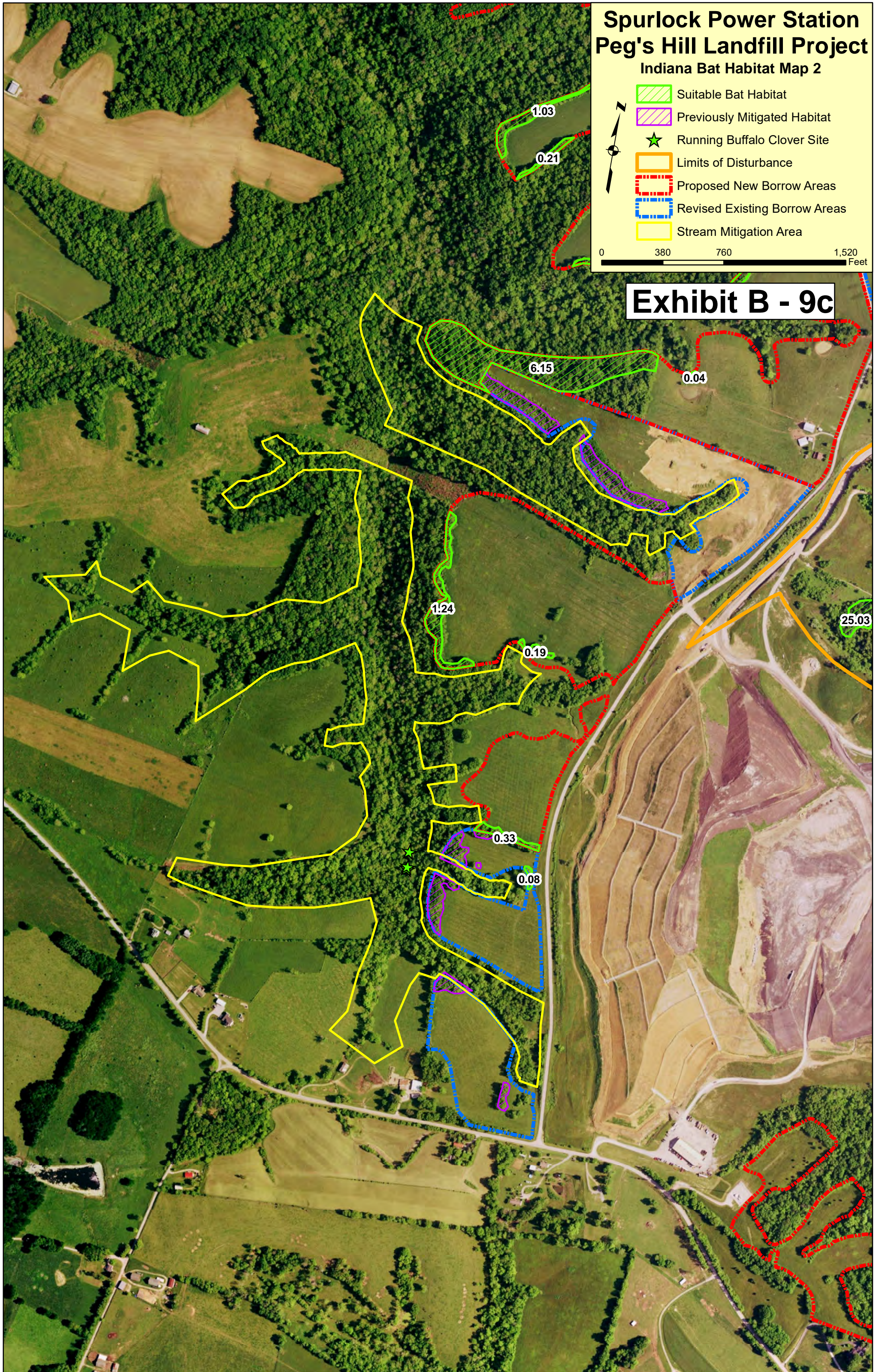


# Spurlock Power Station Peg's Hill Landfill Project Indiana Bat Habitat Map 2

-  Suitable Bat Habitat
-  Previously Mitigated Habitat
-  Running Buffalo Clover Site
-  Limits of Disturbance
-  Proposed New Borrow Areas
-  Revised Existing Borrow Areas
-  Stream Mitigation Area




**Exhibit B - 9c**

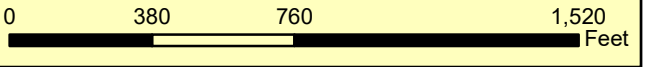




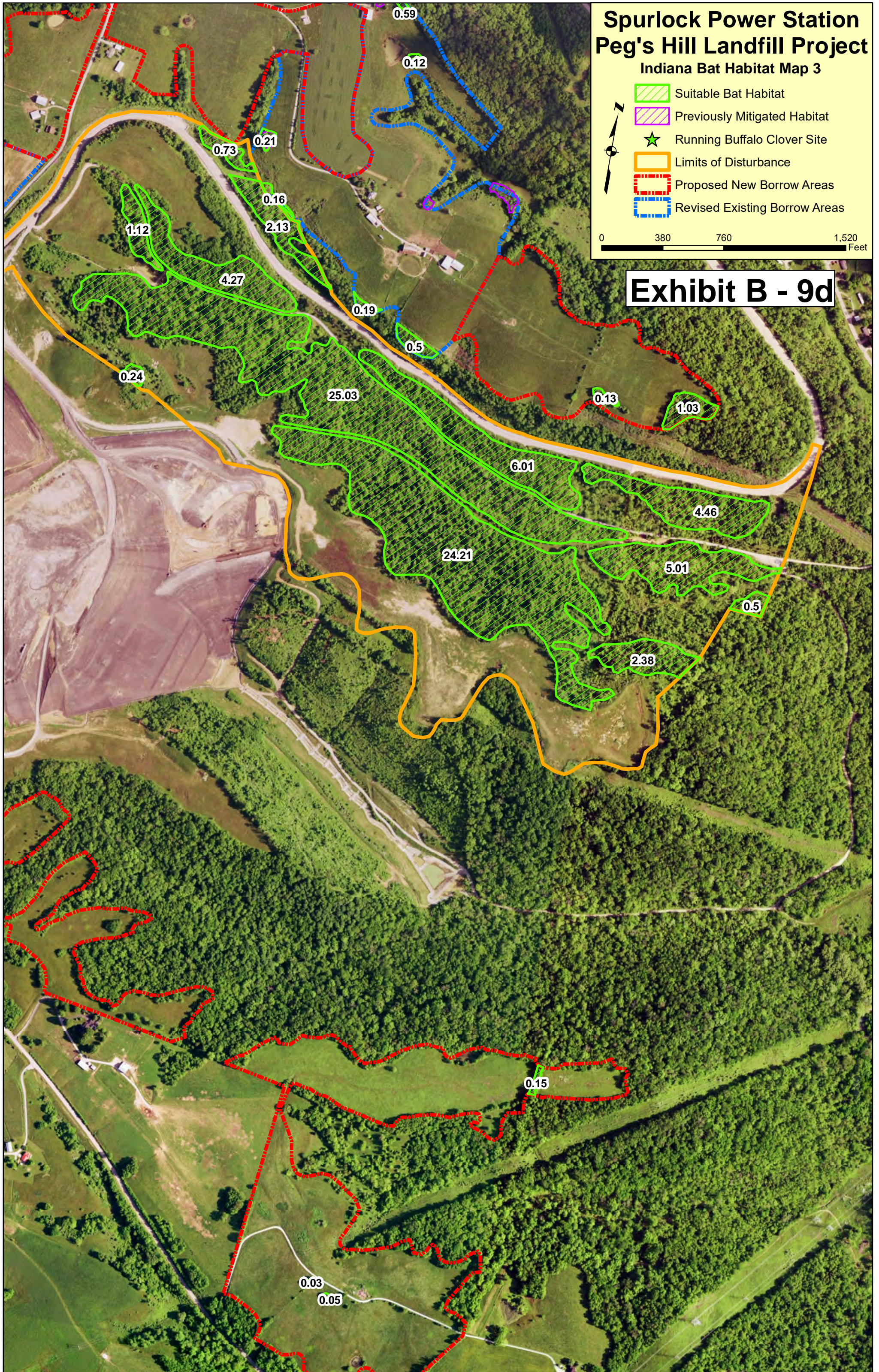
# Spurlock Power Station Peg's Hill Landfill Project

## Indiana Bat Habitat Map 3

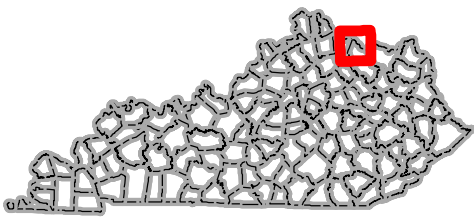
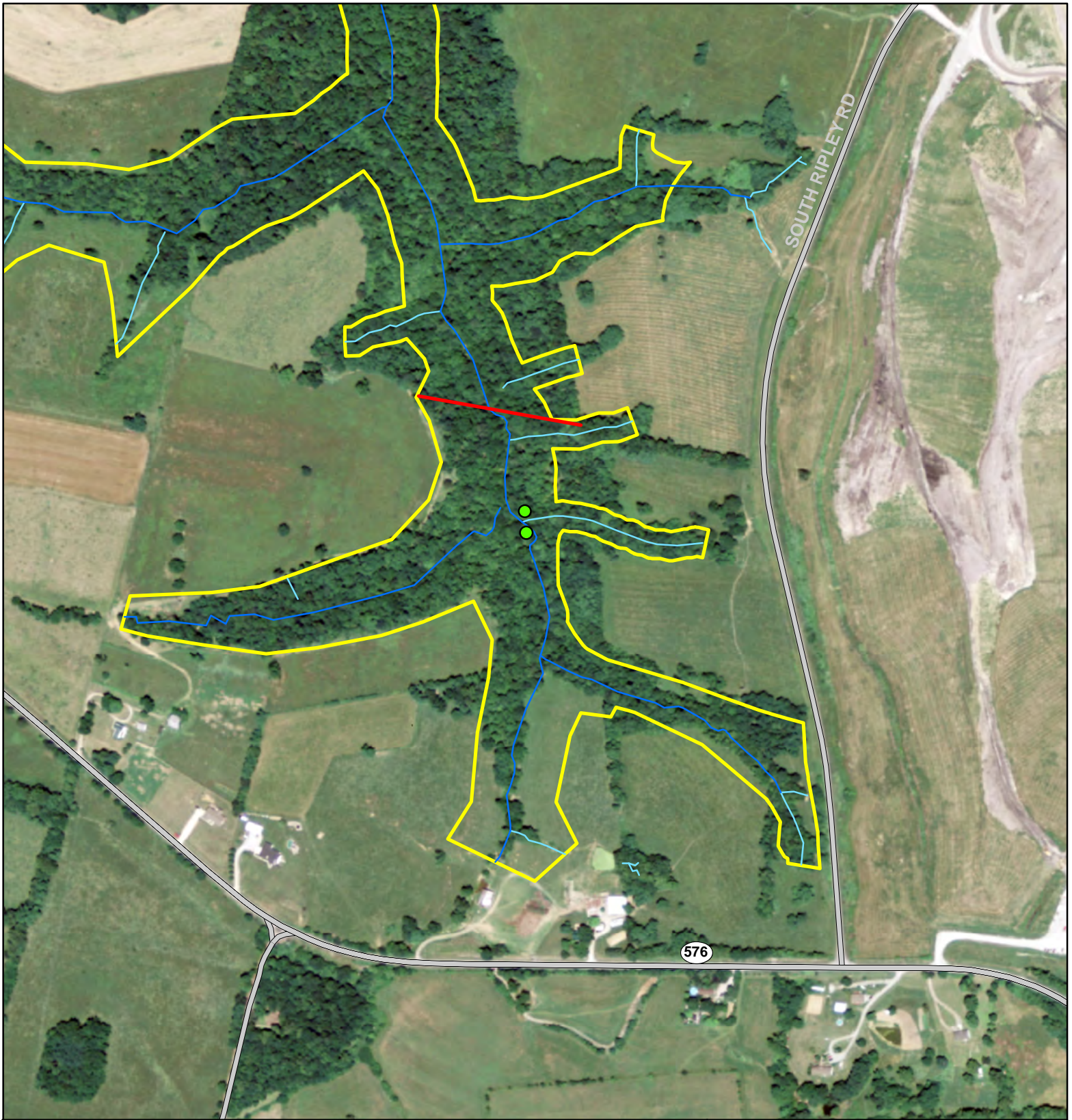
-  Suitable Bat Habitat
-  Previously Mitigated Habitat
-  Running Buffalo Clover Site
-  Limits of Disturbance
-  Proposed New Borrow Areas
-  Revised Existing Borrow Areas



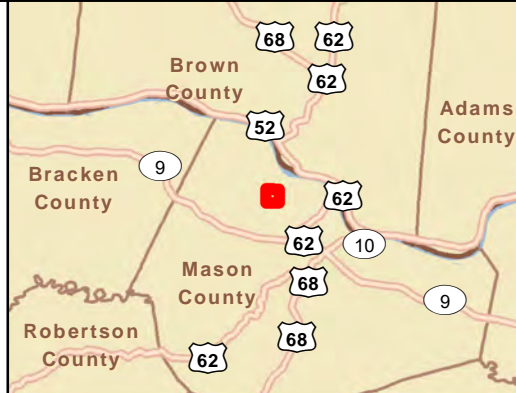
**Exhibit B - 9d**







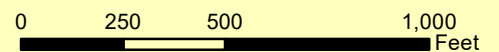
**Exhibit B - 10**



**Running Buffalo Clover Map  
Beasley Creek, Mason Co, KY**



- RBC Locations
- Cattle Fence Location
- Stream Mitigation Area
















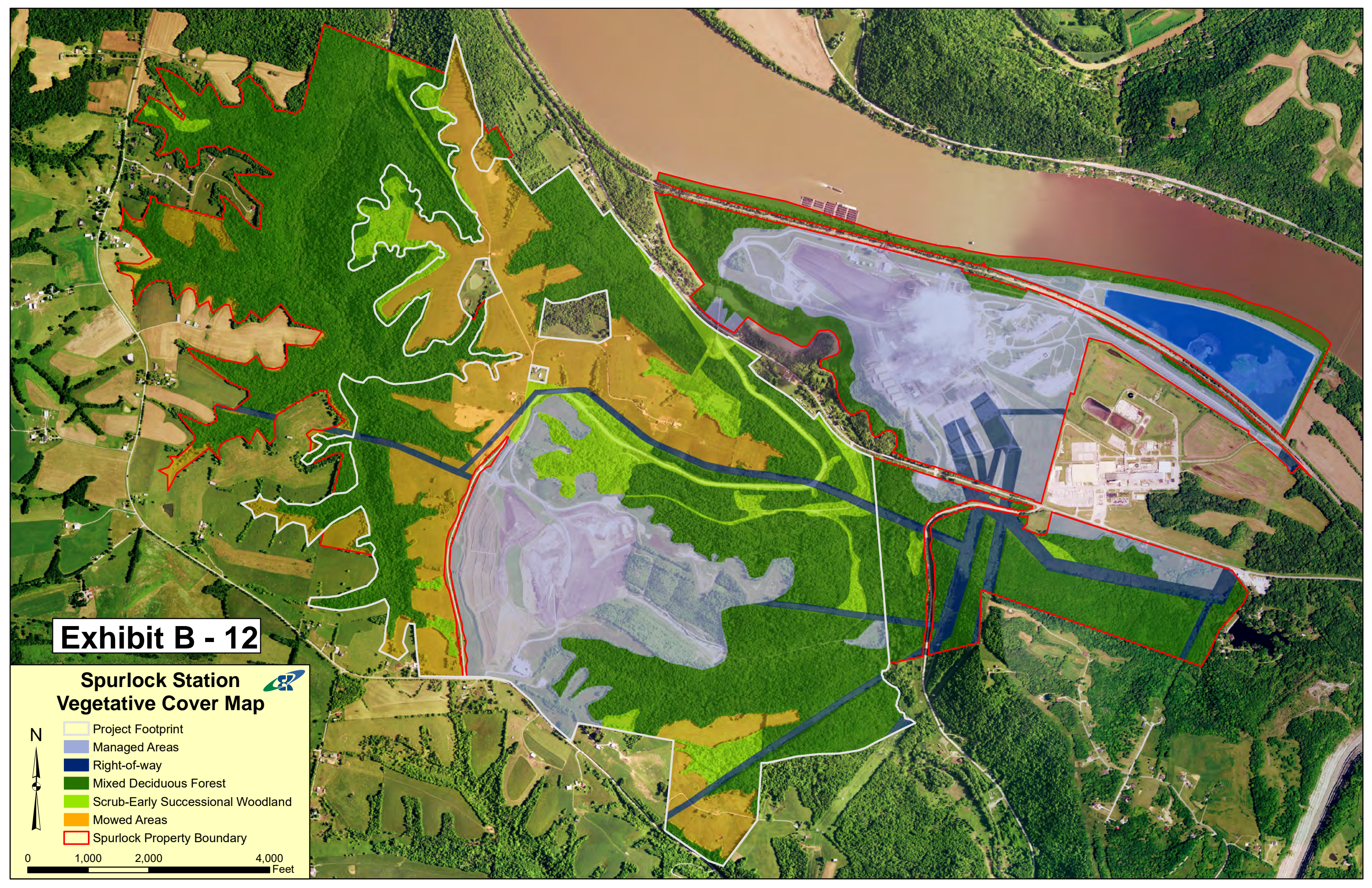
# Exhibit B - 12

## Spurlock Station Vegetative Cover Map

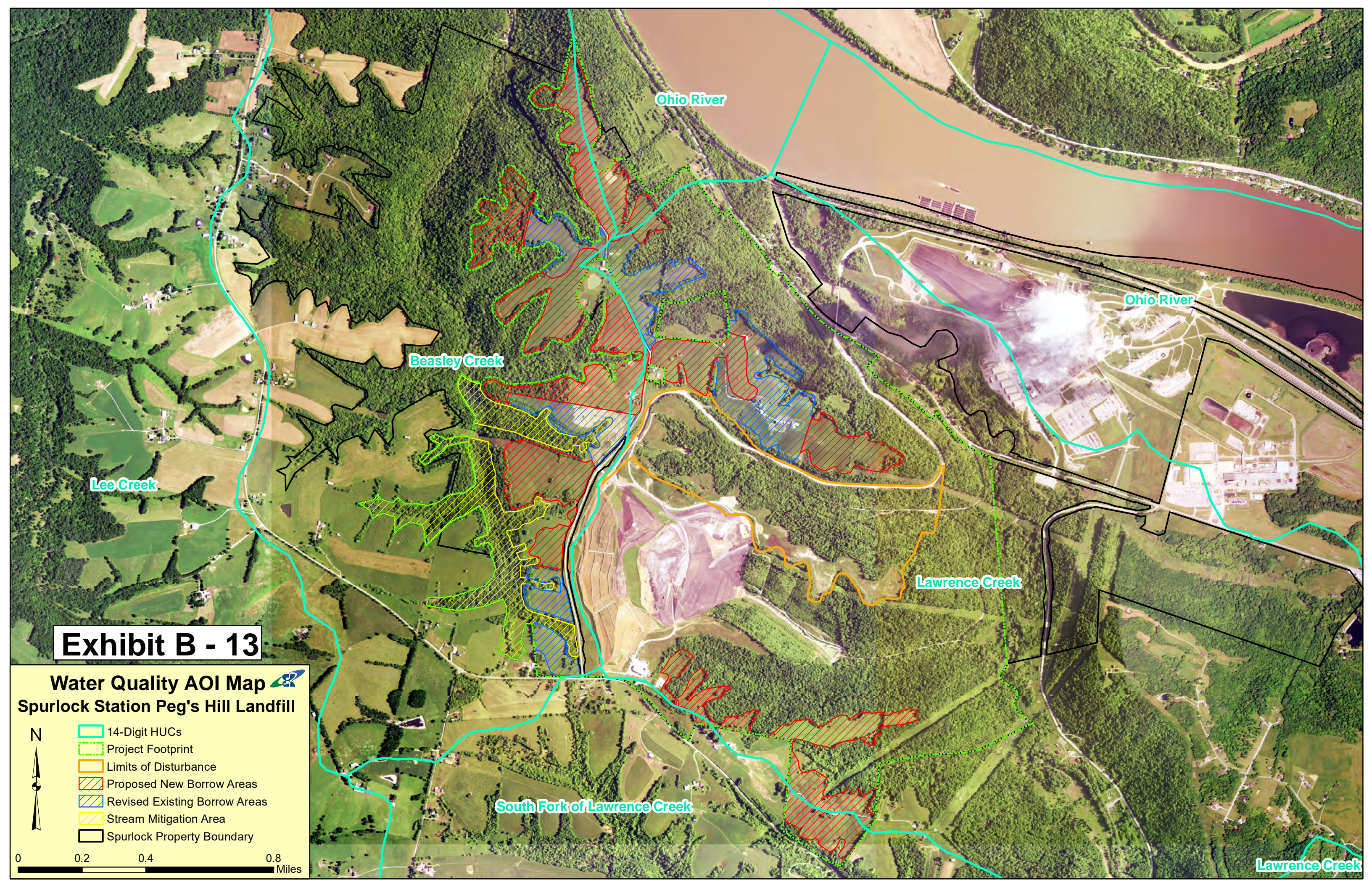


-  Project Footprint
-  Managed Areas
-  Right-of-way
-  Mixed Deciduous Forest
-  Scrub-Early Successional Woodland
-  Mowed Areas
-  Spurlock Property Boundary

0 1,000 2,000 4,000 Feet







Ohio River

Ohio River

Beasley Creek

Lawrence Creek








Lee Creek

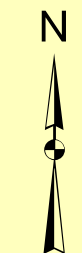
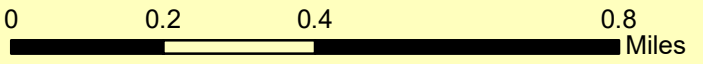
South Fork of Lawrence Creek

Lawrence Creek

# Exhibit B - 13

## Water Quality AOI Map Spurlock Station Peg's Hill Landfill

-  14-Digit HUCs
-  Project Footprint
-  Limits of Disturbance
-  Proposed New Borrow Areas
-  Revised Existing Borrow Areas
-  Stream Mitigation Area
-  Spurlock Property Boundary





## **EXHIBIT C. AGENCY CORRESPONDENCE**

1. Mason County Judge/Executive Correspondence
2. NRCS Web Soil Survey Data
48. Kentucky SHPO Correspondence
59. Kentucky SHPO Concurrence
69. Section 106 Public Notice
77. Tribal Correspondence
87. Eastern Band of Cherokee Indians Response
88. KSNPC Data Request
91. KDFWR Correspondence
92. KDFWR Response
95. USFWS Correspondence
147. USFWS Concurrence



# Mason County Fiscal Court

**JOSPEH P. PFEFFER**  
JUDGE EXECUTIVE

JOHN F. ESTILL  
COUNTY ATTORNEY

RICHARD NEWBERRY  
DEPUTY JUDGE EXECUTIVE

JUDITH A. BIRT  
ADMINISTRATIVE ASSISTANT



May 23, 2016

Jerry Purvis  
Director of Environmental Affairs  
East Kentucky Power Cooperative  
P O Box 707  
Winchester, KY 40392-0707

RE: Horizontal Expansion for a Special Waste Landfill - Permit Modification  
Spurlock Station Landfill, Mason County, Kentucky

Dear Mr. Purvis:

Please be advised that there are no current planning and zoning regulations in Mason County prohibiting East Kentucky Power's Horizontal Expansion for a Special Waste Landfill. Further, Mason County Fiscal Court supports East Kentucky Power Cooperative's Spurlock Station landfill.

Sincerely,

A handwritten signature in blue ink that reads "Joseph P. Pfeffer". The signature is fluid and cursive.

Joseph P. Pfeffer  
Mason County Judge/Executive

JPP:jab

Subscribed and sworn to before me by Joseph P. Pfeffer this 23<sup>rd</sup> day of May, 2016.

Notary Public, Kentucky State-at-Large

A handwritten signature in black ink that reads "Judith A. Birt". The signature is cursive and written over a horizontal line.

My Commission Expires: 09-21-2019

COMMISSIONERS: ANNETTE WALTERS PHIL DAY JOSEPH MCKAY

221 STANLEY REED COURT STREET MAYSVILLE, KENTUCKY 41056  
PHONE: 606-564-6706 FAX: 606-564-7315

**Josh Young**

---

**From:** Patrick Stein  
**Sent:** Friday, October 21, 2016 11:26 AM  
**To:** Jacobs, Steve - NRCS, Maysville, KY  
**Cc:** Josh Young  
**Subject:** Data request - EKPC Spurlock Station Area D Landfill Expansion Project, Mason County, KY  
**Attachments:** Area D Limits of Disturbance.zip; Proposed New Borrow Areas.zip; Proposed Permit Boundary.zip; Spurlock Station Property Boundary.zip; Spurlock Boundary Expansion - NRCS 2-20-13 (r).pdf; Spurlock Landfill Project Map\_NRCS (r).pdf

Dear Mr. Jacobs,

EKPC is in the process of submitting applications and preparing an environmental report for the various federal and state permits and/or approvals that may be required for our proposed Spurlock Station Area D Landfill Expansion Project in Mason County, Kentucky. Spurlock Station is located approximately six miles northwest of the City of Maysville, with the proposed landfill expansion project located in an area generally bounded by KY Hwy 576 (Tuckahoe Road) to the south and west, Mary Ingles Highway to the north, and KY Hwy 1597 (Charleston Bottoms Road) to the east. Attached for your reference please find an aerial overview map and associated shapefiles of the project area.

The proposed Spurlock Station Area D Landfill Expansion Project has been proposed to address operational capacity needs associated with its existing, permitted special waste landfill (Landfill Area C), which is expected to reach capacity as early as 2020. When complete, Landfill Area D will extend the operational storage capacity of Spurlock Station until approximately 2035. The necessary soil borrow areas identified as part of the expansion project will provide the liner and cover requirements for the new landfill facility. The limits of disturbance for Landfill Area D is expected to encompass approximately 181 acres, with proposed new borrow areas encompassing approximately 273 acres.

We are kindly requesting to know the acreage amount of prime farmland that may be impacted as a result of the proposed expansion project is those shapefiles identified as "Area D Limits of Disturbance" and "Proposed New Borrow Areas" (the remaining two shapefiles have been included simply for spatial reference). Additionally, we would appreciate knowing if any hydric soils or areas designated as floodplains would be impacted in these areas as a result of the project.

It should be noted that you previously consulted for a landfill boundary expansion project associated with Area C in 2013. The soil borrow areas for that project were located within the project boundary for this current project, although in different locations. I have attached your correspondence regarding Area C for reference.

Please let me know if you have any questions or need additional information. We greatly appreciate the work you put in for us.

Have a good day,

Patrick

Patrick Stein  
East Kentucky Power Cooperative, Inc.  
Natural Resources and Environmental Communications  
4775 Lexington Road  
Winchester, KY 40391

**Josh Young**

---

**From:** Jacobs, Steve - NRCS, Maysville, KY <steve.jacobs@ky.usda.gov>  
**Sent:** Monday, October 24, 2016 8:54 AM  
**To:** Patrick Stein  
**Cc:** Burnett, Tony - NRCS, Flemingsburg, KY  
**Subject:** EKPC Spurlock Expansion Request  
**Attachments:** Mason\_Co\_Spurlock\_Area\_D\_Limits\_Soils\_Report-10-24-2016.pdf;  
Mason\_Co\_Spurlock\_Borrow\_Area\_\_Soil\_Report-10-24-2016.pdf

Mr. Stein,

Attached are two separate soils reports on the Spurlock expansion project as requested. Thanks for including the shapefiles, makes this process much easier and faster.

One covers the Borrow Areas and the other the Area D. Each gives the soil mapping units involved, their farmland classification and acreage, and the hydric soil rating assigned to each. There are no flood plains involved in either area. If more information is needed, please ask of go on-line to USDA's Web Soil Survey for Mason County, KY. <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

*Steve E Jacobs*

Area 3 Resource Soil Scientist  
Maysville, KY 41056  
Phone : 606-759-5570, ext 201  
e-mail: steve.jacobs@ky.usda.gov

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A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Mason County, Kentucky

## Spurlock Landfill Expansion Project - Area D



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# Contents

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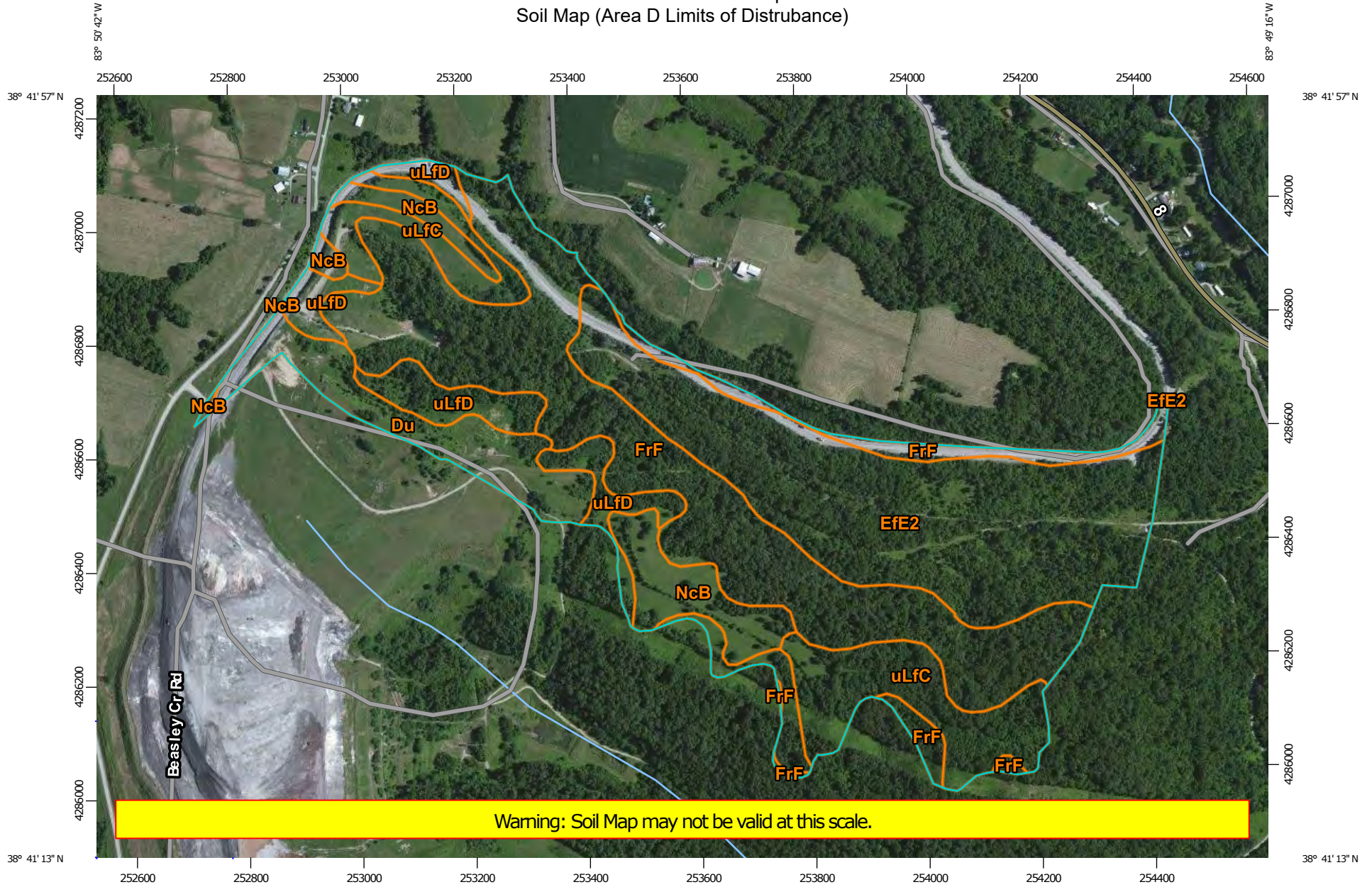
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# Soil Map

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report  
Soil Map (Area D Limits of Disturbance)



Map Scale: 1:9,460 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 17N WGS84







### MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)




















**Soils**







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

**Special Point Features**






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


**Water Features**

 Streams and Canals

**Transportation**

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

**Background**

 Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mason County, Kentucky  
 Survey Area Data: Version 11, Sep 15, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 30, 2010—Oct 15, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend (Area D Limits of Disturbance)

Mason County, Kentucky (KY161)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Du	Dumps	13.4	7.4%
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	53.9	29.8%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	63.5	35.2%
NcB	Nicholson silt loam, 2 to 6 percent slopes	11.6	6.4%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	22.0	12.2%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	16.2	9.0%
<b>Totals for Area of Interest</b>		<b>180.6</b>	<b>100.0%</b>

## Map Unit Descriptions (Area D Limits of Disturbance)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified

## Custom Soil Resource Report

by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.



# **Soil Information for All Uses**

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## **Suitabilities and Limitations for Use**

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

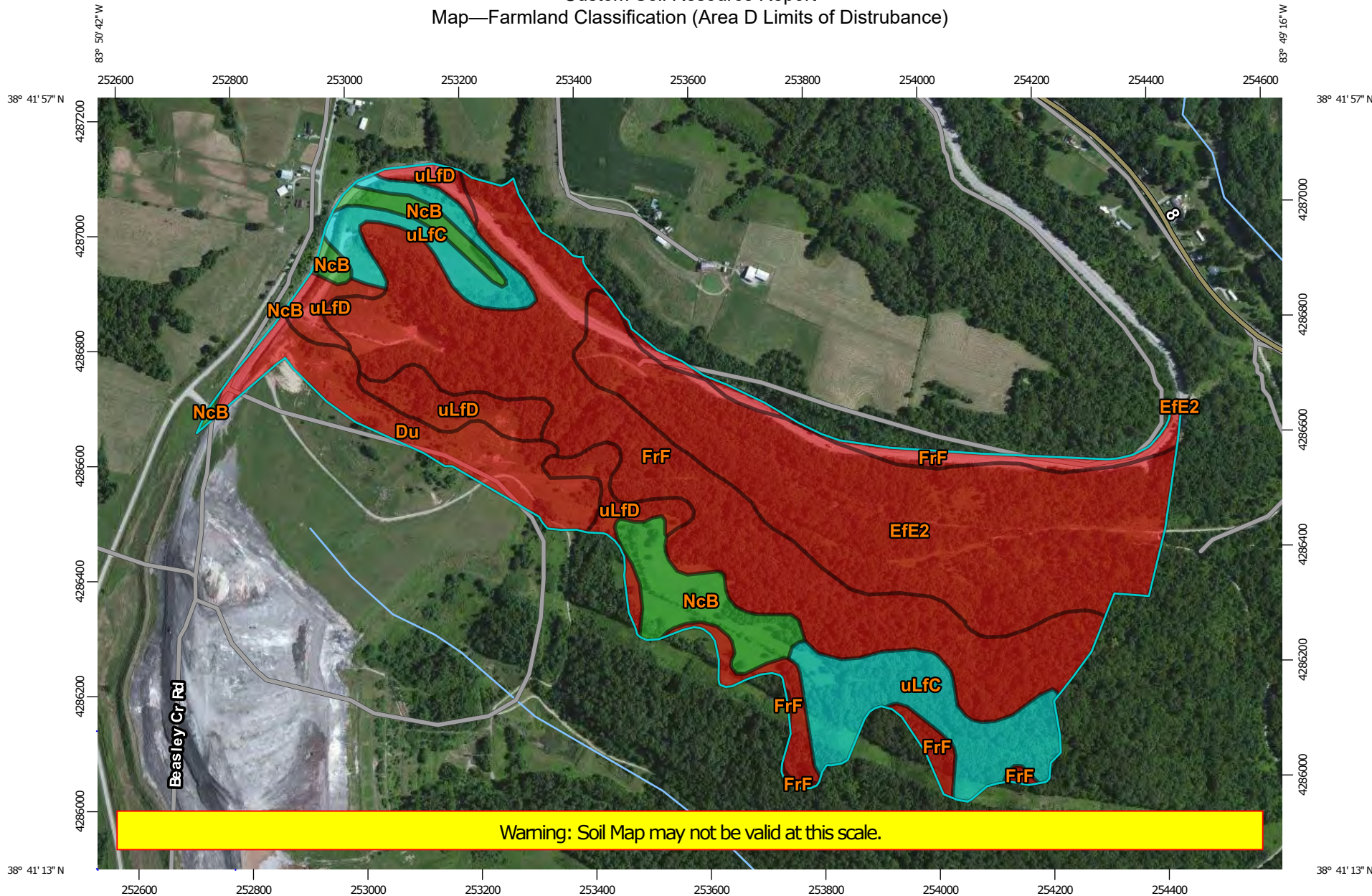
## **Land Classifications**

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

## **Farmland Classification (Area D Limits of Disturbance)**

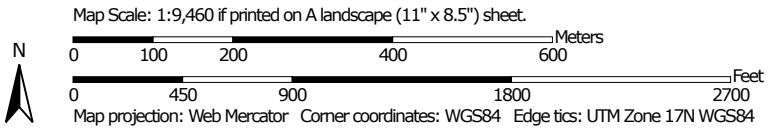
Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Custom Soil Resource Report  
 Map—Farmland Classification (Area D Limits of Disturbance)



83° 50' 42" W  
 252600 252800 253000 253200 253400 253600 253800 254000 254200 254400 254600  
 38° 41' 57" N  
 4287200  
 4287000  
 4286800  
 4286600  
 4286400  
 4286200  
 4286000  
 38° 41' 13" N  
 83° 50' 42" W


83° 49' 16" W  
 4287000  
 4286800  
 4286600  
 4286400  
 4286200  
 4286000  
 38° 41' 13" N  
 83° 49' 16" W



### Custom Soil Resource Report









## MAP LEGEND








#### Area of Interest (AOI)

 Area of Interest (AOI)




#### Soils








##### Soil Rating Polygons






-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available







##### Soil Rating Lines










-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained

-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available

##### Soil Rating Points








-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available

#### Water Features



## MAP INFORMATION

-  Streams and Canals
- Transportation**
-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mason County, Kentucky  
 Survey Area Data: Version 11, Sep 15, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 30, 2010—Oct 15, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**Table—Farmland Classification (Area D Limits of Disturbance)**

Farmland Classification— Summary by Map Unit — Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Du	Dumps	Not prime farmland	13.4	7.4%
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	Not prime farmland	53.9	29.8%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	Not prime farmland	63.5	35.2%
NcB	Nicholson silt loam, 2 to 6 percent slopes	All areas are prime farmland	11.6	6.4%
uLFC	Lowell-Faywood silt loams, 6 to 12 percent slopes	Farmland of statewide importance	22.0	12.2%
uLFD	Lowell-Faywood silt loams, 12 to 20 percent slopes	Not prime farmland	16.2	9.0%
<b>Totals for Area of Interest</b>			<b>180.6</b>	<b>100.0%</b>

**Rating Options—Farmland Classification (Area D Limits of Disturbance)**

*Aggregation Method:* No Aggregation Necessary

*Tie-break Rule:* Lower

**Hydric Rating by Map Unit (Area D Limits of Disturbance)**

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

## Custom Soil Resource Report

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

#### References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

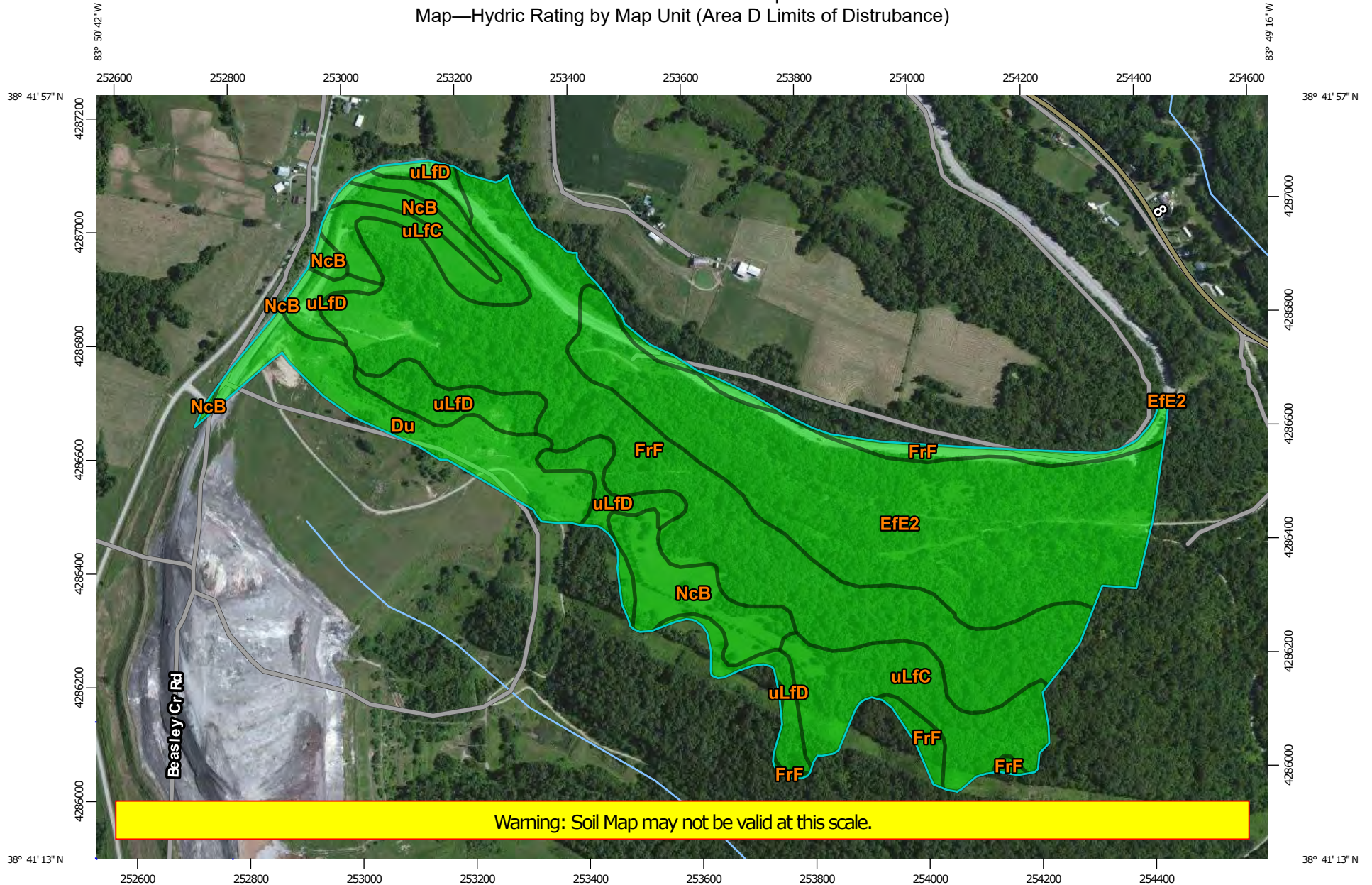
Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

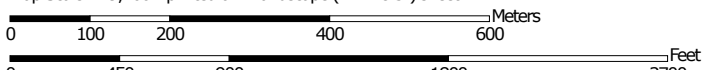


Custom Soil Resource Report  
 Map—Hydric Rating by Map Unit (Area D Limits of Disturbance)



Warning: Soil Map may not be valid at this scale.



























Map Scale: 1:9,460 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Custom Soil Resource Report

**MAP LEGEND**

- Area of Interest (AOI)**
  -  Area of Interest (AOI)
- Soils**
  - Soil Rating Polygons**
    -  Hydric (100%)
    -  Hydric (66 to 99%)
    -  Hydric (33 to 65%)
    -  Hydric (1 to 32%)
    -  Not Hydric (0%)
    -  Not rated or not available
  - Soil Rating Lines**
    -  Hydric (100%)
    -  Hydric (66 to 99%)
    -  Hydric (33 to 65%)
    -  Hydric (1 to 32%)
    -  Not Hydric (0%)
    -  Not rated or not available
  - Soil Rating Points**
    -  Hydric (100%)
    -  Hydric (66 to 99%)
    -  Hydric (33 to 65%)
    -  Hydric (1 to 32%)
    -  Not Hydric (0%)
    -  Not rated or not available
- Water Features**
  -  Streams and Canals
- Transportation**
  -  Rails
  -  Interstate Highways
  -  US Routes
  -  Major Roads
  -  Local Roads
- Background**
  -  Aerial Photography

**MAP INFORMATION**

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mason County, Kentucky  
 Survey Area Data: Version 11, Sep 15, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 30, 2010—Oct 15, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**Table—Hydric Rating by Map Unit (Area D Limits of Disturbance)**

<b>Hydric Rating by Map Unit— Summary by Map Unit — Mason County, Kentucky (KY161)</b>				
<b>Map unit symbol</b>	<b>Map unit name</b>	<b>Rating</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
Du	Dumps	0	13.4	7.4%
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	0	53.9	29.8%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	0	63.5	35.2%
NcB	Nicholson silt loam, 2 to 6 percent slopes	0	11.6	6.4%
uLFC	Lowell-Faywood silt loams, 6 to 12 percent slopes	0	22.0	12.2%
uLFD	Lowell-Faywood silt loams, 12 to 20 percent slopes	0	16.2	9.0%
<b>Totals for Area of Interest</b>			<b>180.6</b>	<b>100.0%</b>

**Rating Options—Hydric Rating by Map Unit (Area D Limits of Disturbance)**

*Aggregation Method:* Percent Present

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Lower

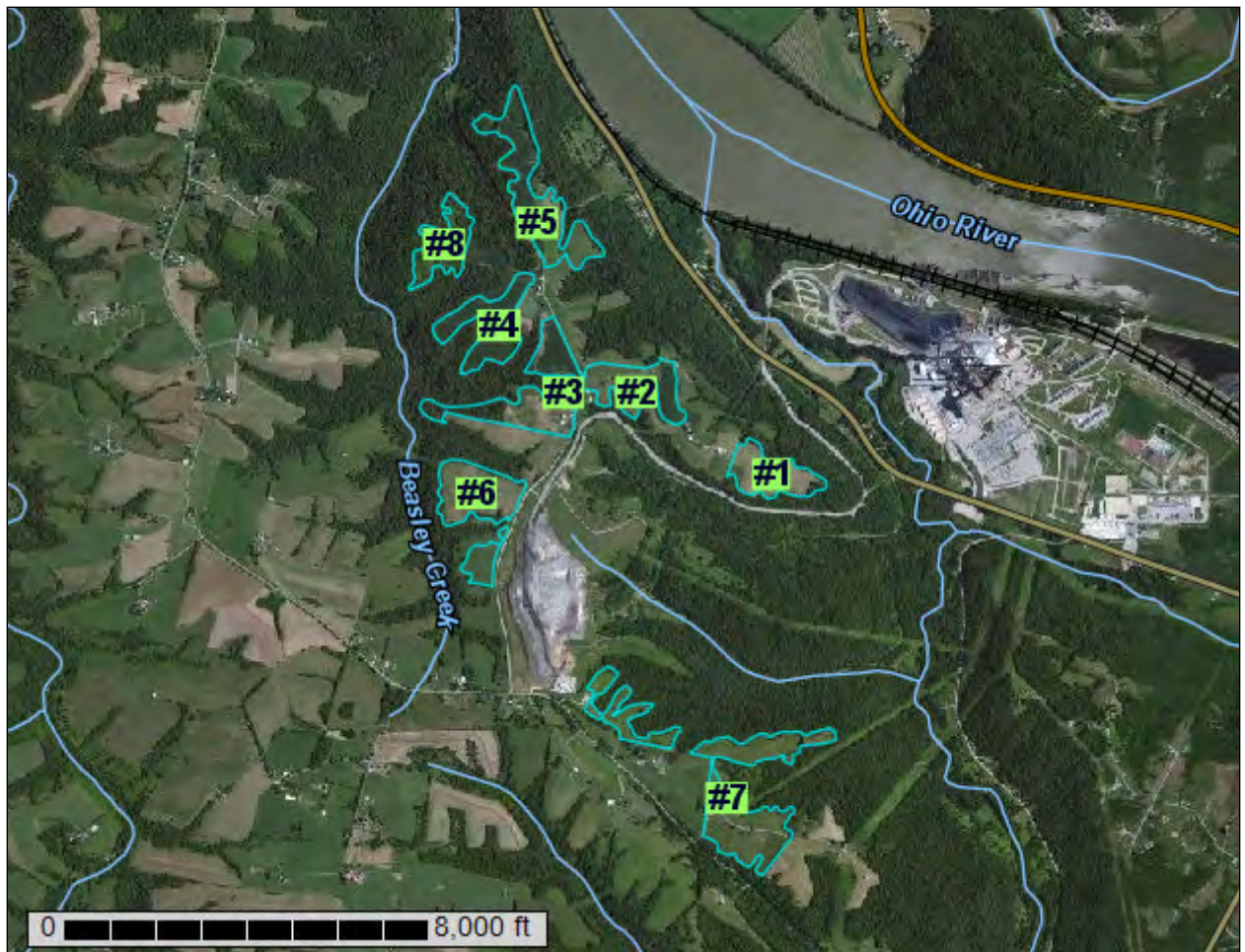




A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Mason County, Kentucky

## Landfill Borrow Areas



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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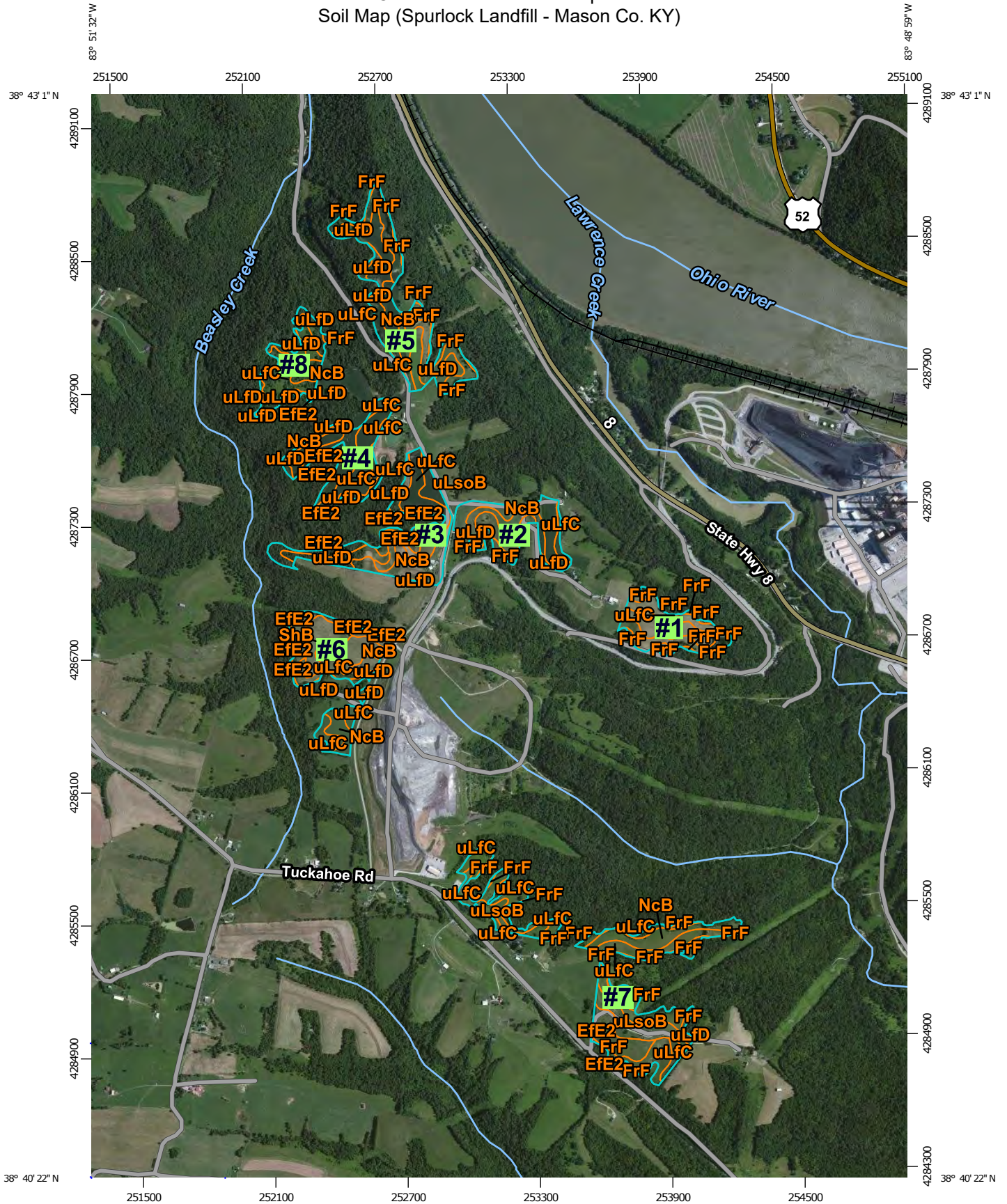
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## Soil Map

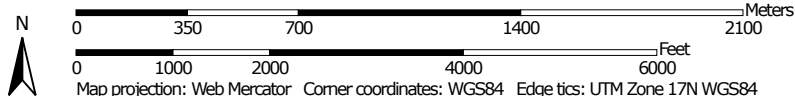
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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report  
Soil Map (Spurlock Landfill - Mason Co. KY)



Map Scale: 1:23,800 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84





### MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)




















**Soils**







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

**Special Point Features**






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


**Water Features**

 Streams and Canals

**Transportation**

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

**Background**

 Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
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Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 30, 2010—Oct 15, 2011

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## Map Unit Legend (Spurlock Landfill - Mason Co. KY)

<b>#1, Mason County, Kentucky (KY161)</b>			
<b>Map Unit Symbol</b>	<b>Map Unit Name</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	2.9	1.1%
NcB	Nicholson silt loam, 2 to 6 percent slopes	7.0	2.6%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	4.9	1.8%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	6.3	2.3%
<b>Subtotals for #1</b>		<b>21.1</b>	<b>7.7%</b>
<b>Totals for Area of Interest</b>		<b>272.8</b>	<b>100.0%</b>

<b>#2, Mason County, Kentucky (KY161)</b>			
<b>Map Unit Symbol</b>	<b>Map Unit Name</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	1.5	0.6%
NcB	Nicholson silt loam, 2 to 6 percent slopes	9.8	3.6%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	7.2	2.6%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	5.6	2.1%
<b>Subtotals for #2</b>		<b>24.2</b>	<b>8.9%</b>
<b>Totals for Area of Interest</b>		<b>272.8</b>	<b>100.0%</b>

<b>#3, Mason County, Kentucky (KY161)</b>			
<b>Map Unit Symbol</b>	<b>Map Unit Name</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	7.6	2.8%
NcB	Nicholson silt loam, 2 to 6 percent slopes	9.3	3.4%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	12.7	4.7%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	6.9	2.5%
uLsoB	Lowell-Sandview silt loams, 2 to 6 percent slopes	2.9	1.1%
<b>Subtotals for #3</b>		<b>39.5</b>	<b>14.5%</b>
<b>Totals for Area of Interest</b>		<b>272.8</b>	<b>100.0%</b>

<b>#4, Mason County, Kentucky (KY161)</b>			
<b>Map Unit Symbol</b>	<b>Map Unit Name</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	0.0	0.0%
NcB	Nicholson silt loam, 2 to 6 percent slopes	14.0	5.1%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	9.7	3.6%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	2.3	0.8%
<b>Subtotals for #4</b>		<b>26.0</b>	<b>9.5%</b>
<b>Totals for Area of Interest</b>		<b>272.8</b>	<b>100.0%</b>

<b>#5, Mason County, Kentucky (KY161)</b>			
<b>Map Unit Symbol</b>	<b>Map Unit Name</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	0.1	0.0%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	3.5	1.3%
NcB	Nicholson silt loam, 2 to 6 percent slopes	6.1	2.2%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	16.8	6.2%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	16.5	6.1%
<b>Subtotals for #5</b>		<b>43.1</b>	<b>15.8%</b>
<b>Totals for Area of Interest</b>		<b>272.8</b>	<b>100.0%</b>

<b>#6, Mason County, Kentucky (KY161)</b>			
<b>Map Unit Symbol</b>	<b>Map Unit Name</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	1.1	0.4%
NcB	Nicholson silt loam, 2 to 6 percent slopes	8.3	3.1%
ShB	Shelbyville silt loam, 2 to 6 percent slopes	6.9	2.5%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	11.8	4.3%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	7.1	2.6%
<b>Subtotals for #6</b>		<b>35.2</b>	<b>12.9%</b>
<b>Totals for Area of Interest</b>		<b>272.8</b>	<b>100.0%</b>

<b>#7, Mason County, Kentucky (KY161)</b>			
<b>Map Unit Symbol</b>	<b>Map Unit Name</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	0.2	0.1%



<b>#7, Mason County, Kentucky (KY161)</b>			
<b>Map Unit Symbol</b>	<b>Map Unit Name</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	5.3	1.9%
NcB	Nicholson silt loam, 2 to 6 percent slopes	8.2	3.0%
uLFC	Lowell-Faywood silt loams, 6 to 12 percent slopes	32.9	12.1%
uLFD	Lowell-Faywood silt loams, 12 to 20 percent slopes	5.0	1.8%
uLsoB	Lowell-Sandview silt loams, 2 to 6 percent slopes	13.4	4.9%
W	Water	0.1	0.0%
<b>Subtotals for #7</b>		<b>64.9</b>	<b>23.8%</b>
<b>Totals for Area of Interest</b>		<b>272.8</b>	<b>100.0%</b>

<b>#8, Mason County, Kentucky (KY161)</b>			
<b>Map Unit Symbol</b>	<b>Map Unit Name</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	0.1	0.0%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	0.2	0.1%
NcB	Nicholson silt loam, 2 to 6 percent slopes	2.3	0.8%
uLFC	Lowell-Faywood silt loams, 6 to 12 percent slopes	10.5	3.9%
uLFD	Lowell-Faywood silt loams, 12 to 20 percent slopes	5.8	2.1%
<b>Subtotals for #8</b>		<b>18.9</b>	<b>6.9%</b>
<b>Totals for Area of Interest</b>		<b>272.8</b>	<b>100.0%</b>

## Map Unit Descriptions (Spurlock Landfill - Mason Co. KY)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic

## Custom Soil Resource Report

classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

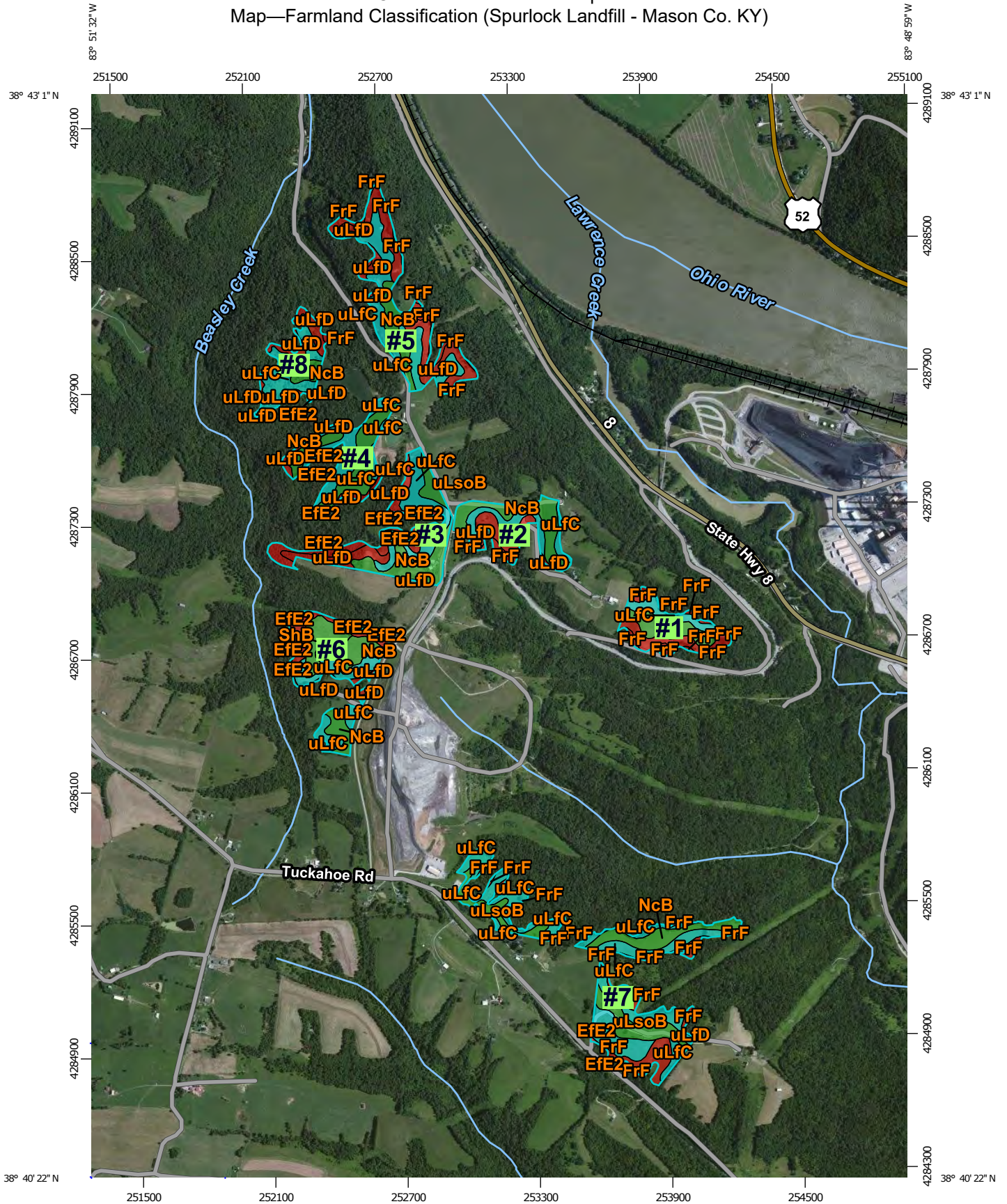
An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar

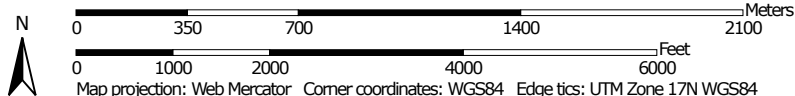
interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.





Map Scale: 1:23,800 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

### Custom Soil Resource Report









## MAP LEGEND








#### Area of Interest (AOI)

 Area of Interest (AOI)




#### Soils








##### Soil Rating Polygons






-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available







##### Soil Rating Lines










-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained

-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available








##### Soil Rating Points

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available

##### Water Features

### MAP INFORMATION

-  Streams and Canals
- Transportation**
-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mason County, Kentucky  
 Survey Area Data: Version 11, Sep 15, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 30, 2010—Oct 15, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



**Table—Farmland Classification (Spurlock Landfill - Mason Co. KY)**

Farmland Classification— Summary by Map Unit — #1, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	Not prime farmland	2.9	1.1%
NcB	Nicholson silt loam, 2 to 6 percent slopes	All areas are prime farmland	7.0	2.6%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	Farmland of statewide importance	4.9	1.8%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	Not prime farmland	6.3	2.3%
<b>Subtotals for #1</b>			<b>21.1</b>	<b>7.7%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Farmland Classification— Summary by Map Unit — #2, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	Not prime farmland	1.5	0.6%
NcB	Nicholson silt loam, 2 to 6 percent slopes	All areas are prime farmland	9.8	3.6%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	Farmland of statewide importance	7.2	2.6%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	Not prime farmland	5.6	2.1%
<b>Subtotals for #2</b>			<b>24.2</b>	<b>8.9%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Farmland Classification— Summary by Map Unit — #3, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	Not prime farmland	7.6	2.8%
NcB	Nicholson silt loam, 2 to 6 percent slopes	All areas are prime farmland	9.3	3.4%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	Farmland of statewide importance	12.7	4.7%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	Not prime farmland	6.9	2.5%
uLsoB	Lowell-Sandview silt loams, 2 to 6 percent slopes	All areas are prime farmland	2.9	1.1%

## Custom Soil Resource Report

Farmland Classification— Summary by Map Unit — #3, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
<b>Subtotals for #3</b>			<b>39.5</b>	<b>14.5%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Farmland Classification— Summary by Map Unit — #4, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	Not prime farmland	0.0	0.0%
NcB	Nicholson silt loam, 2 to 6 percent slopes	All areas are prime farmland	14.0	5.1%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	Farmland of statewide importance	9.7	3.6%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	Not prime farmland	2.3	0.8%
<b>Subtotals for #4</b>			<b>26.0</b>	<b>9.5%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Farmland Classification— Summary by Map Unit — #5, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	Not prime farmland	0.1	0.0%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	Not prime farmland	3.5	1.3%
NcB	Nicholson silt loam, 2 to 6 percent slopes	All areas are prime farmland	6.1	2.2%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	Farmland of statewide importance	16.8	6.2%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	Not prime farmland	16.5	6.1%
<b>Subtotals for #5</b>			<b>43.1</b>	<b>15.8%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Farmland Classification— Summary by Map Unit — #6, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	Not prime farmland	1.1	0.4%
NcB	Nicholson silt loam, 2 to 6 percent slopes	All areas are prime farmland	8.3	3.1%
ShB	Shelbyville silt loam, 2 to 6 percent slopes	All areas are prime farmland	6.9	2.5%

## Custom Soil Resource Report

Farmland Classification— Summary by Map Unit — #6, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
uLFC	Lowell-Faywood silt loams, 6 to 12 percent slopes	Farmland of statewide importance	11.8	4.3%
uLFD	Lowell-Faywood silt loams, 12 to 20 percent slopes	Not prime farmland	7.1	2.6%
<b>Subtotals for #6</b>			<b>35.2</b>	<b>12.9%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Farmland Classification— Summary by Map Unit — #7, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	Not prime farmland	0.2	0.1%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	Not prime farmland	5.3	1.9%
NcB	Nicholson silt loam, 2 to 6 percent slopes	All areas are prime farmland	8.2	3.0%
uLFC	Lowell-Faywood silt loams, 6 to 12 percent slopes	Farmland of statewide importance	32.9	12.1%
uLFD	Lowell-Faywood silt loams, 12 to 20 percent slopes	Not prime farmland	5.0	1.8%
uLsoB	Lowell-Sandview silt loams, 2 to 6 percent slopes	All areas are prime farmland	13.4	4.9%
W	Water	Not prime farmland	0.1	0.0%
<b>Subtotals for #7</b>			<b>64.9</b>	<b>23.8%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Farmland Classification— Summary by Map Unit — #8, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	Not prime farmland	0.1	0.0%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	Not prime farmland	0.2	0.1%
NcB	Nicholson silt loam, 2 to 6 percent slopes	All areas are prime farmland	2.3	0.8%
uLFC	Lowell-Faywood silt loams, 6 to 12 percent slopes	Farmland of statewide importance	10.5	3.9%
uLFD	Lowell-Faywood silt loams, 12 to 20 percent slopes	Not prime farmland	5.8	2.1%



Farmland Classification— Summary by Map Unit — #8, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Subtotals for #8			18.9	6.9%
Totals for Area of Interest			272.8	100.0%

**Rating Options—Farmland Classification (Spurlock Landfill - Mason Co. KY)**

*Aggregation Method:* No Aggregation Necessary

*Tie-break Rule:* Lower

**Hydric Rating by Map Unit (Spurlock Landfill - Mason Co. KY)**

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil

Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

#### References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

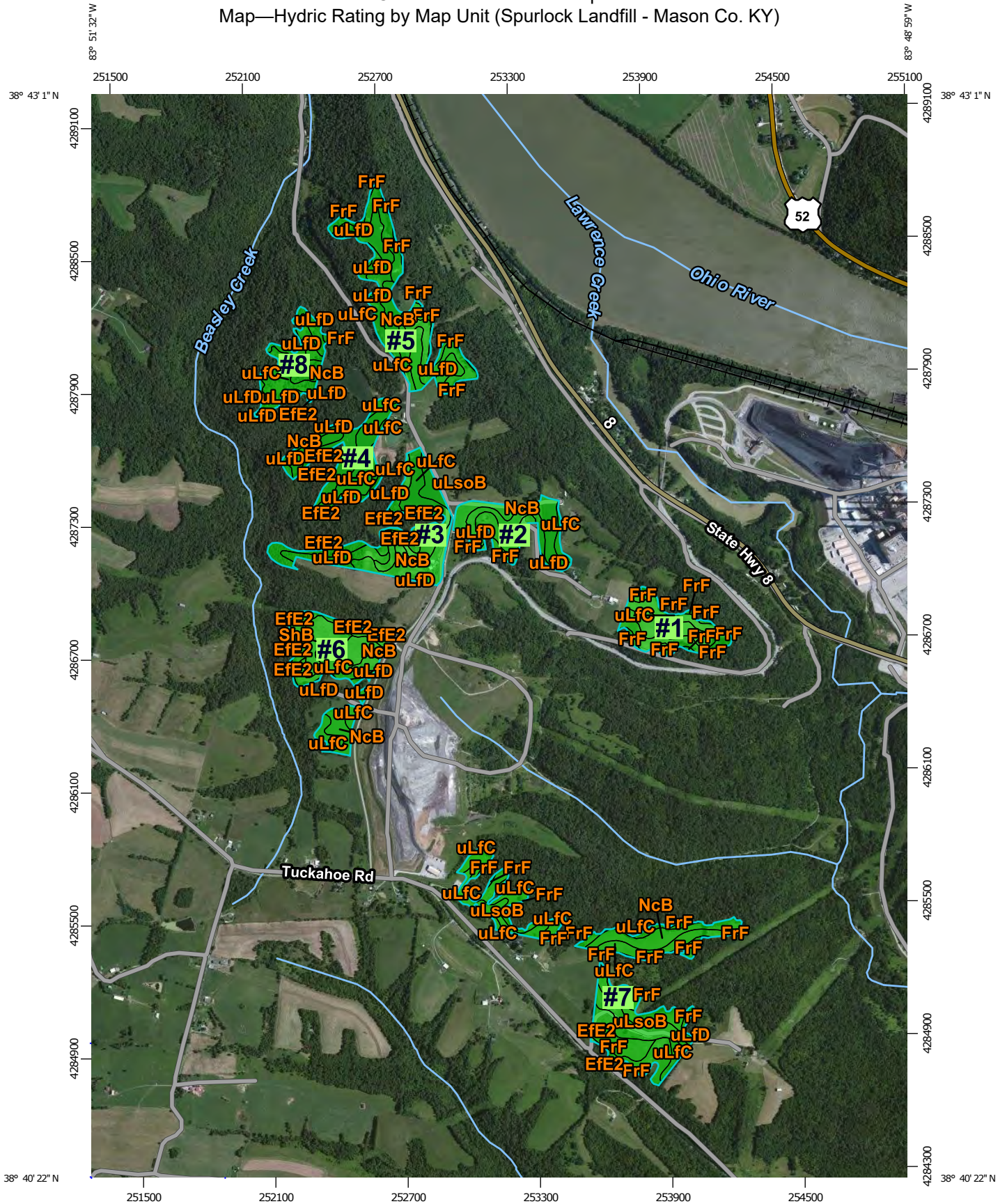
Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

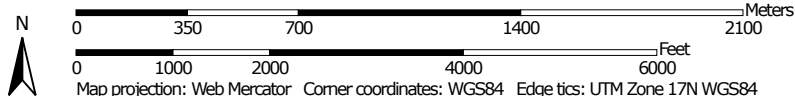
Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.



Map Scale: 1:23,800 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84



Custom Soil Resource Report







**MAP LEGEND**

**Area of Interest (AOI)**







 Area of Interest (AOI)

**Soils**







**Soil Rating Polygons**

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

**Soil Rating Lines**

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available






**Soil Rating Points**

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

**Water Features**

 Streams and Canals

**Transportation**

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

**Background**

 Aerial Photography

**MAP INFORMATION**

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mason County, Kentucky  
 Survey Area Data: Version 11, Sep 15, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 30, 2010—Oct 15, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**Table—Hydric Rating by Map Unit (Spurlock Landfill - Mason Co. KY)**

Hydric Rating by Map Unit— Summary by Map Unit — #1, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	0	2.9	1.1%
NcB	Nicholson silt loam, 2 to 6 percent slopes	0	7.0	2.6%
uLFC	Lowell-Faywood silt loams, 6 to 12 percent slopes	0	4.9	1.8%
uLFD	Lowell-Faywood silt loams, 12 to 20 percent slopes	0	6.3	2.3%
<b>Subtotals for #1</b>			<b>21.1</b>	<b>7.7%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Hydric Rating by Map Unit— Summary by Map Unit — #2, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	0	1.5	0.6%
NcB	Nicholson silt loam, 2 to 6 percent slopes	0	9.8	3.6%
uLFC	Lowell-Faywood silt loams, 6 to 12 percent slopes	0	7.2	2.6%
uLFD	Lowell-Faywood silt loams, 12 to 20 percent slopes	0	5.6	2.1%
<b>Subtotals for #2</b>			<b>24.2</b>	<b>8.9%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Hydric Rating by Map Unit— Summary by Map Unit — #3, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	0	7.6	2.8%
NcB	Nicholson silt loam, 2 to 6 percent slopes	0	9.3	3.4%
uLFC	Lowell-Faywood silt loams, 6 to 12 percent slopes	0	12.7	4.7%
uLFD	Lowell-Faywood silt loams, 12 to 20 percent slopes	0	6.9	2.5%

Hydric Rating by Map Unit— Summary by Map Unit — #3, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
uLsoB	Lowell-Sandview silt loams, 2 to 6 percent slopes	0	2.9	1.1%
<b>Subtotals for #3</b>			<b>39.5</b>	<b>14.5%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Hydric Rating by Map Unit— Summary by Map Unit — #4, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	0	0.0	0.0%
NcB	Nicholson silt loam, 2 to 6 percent slopes	0	14.0	5.1%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	0	9.7	3.6%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	0	2.3	0.8%
<b>Subtotals for #4</b>			<b>26.0</b>	<b>9.5%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Hydric Rating by Map Unit— Summary by Map Unit — #5, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	0	0.1	0.0%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	0	3.5	1.3%
NcB	Nicholson silt loam, 2 to 6 percent slopes	0	6.1	2.2%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	0	16.8	6.2%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	0	16.5	6.1%
<b>Subtotals for #5</b>			<b>43.1</b>	<b>15.8%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Hydric Rating by Map Unit— Summary by Map Unit — #6, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	0	1.1	0.4%
NcB	Nicholson silt loam, 2 to 6 percent slopes	0	8.3	3.1%



Hydric Rating by Map Unit— Summary by Map Unit — #6, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ShB	Shelbyville silt loam, 2 to 6 percent slopes	0	6.9	2.5%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	0	11.8	4.3%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	0	7.1	2.6%
<b>Subtotals for #6</b>			<b>35.2</b>	<b>12.9%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Hydric Rating by Map Unit— Summary by Map Unit — #7, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	0	0.2	0.1%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	0	5.3	1.9%
NcB	Nicholson silt loam, 2 to 6 percent slopes	0	8.2	3.0%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	0	32.9	12.1%
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	0	5.0	1.8%
uLsoB	Lowell-Sandview silt loams, 2 to 6 percent slopes	0	13.4	4.9%
W	Water	0	0.1	0.0%
<b>Subtotals for #7</b>			<b>64.9</b>	<b>23.8%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

Hydric Rating by Map Unit— Summary by Map Unit — #8, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EfE2	Eden flaggy silty clay loam, 20 to 40 percent slopes, eroded	0	0.1	0.0%
FrF	Fairmount-Rock outcrop complex, 30 to 60 percent slopes	0	0.2	0.1%
NcB	Nicholson silt loam, 2 to 6 percent slopes	0	2.3	0.8%
uLfC	Lowell-Faywood silt loams, 6 to 12 percent slopes	0	10.5	3.9%

Hydric Rating by Map Unit— Summary by Map Unit — #8, Mason County, Kentucky (KY161)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
uLfD	Lowell-Faywood silt loams, 12 to 20 percent slopes	0	5.8	2.1%
<b>Subtotals for #8</b>			<b>18.9</b>	<b>6.9%</b>
<b>Totals for Area of Interest</b>			<b>272.8</b>	<b>100.0%</b>

**Rating Options—Hydric Rating by Map Unit (Spurlock Landfill - Mason Co. KY)**

*Aggregation Method:* Percent Present

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Lower

**Josh Young**

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**From:** Joe Settles  
**Sent:** Thursday, August 7, 2014 10:04 AM  
**To:** Stackelbeck, Kary (Heritage Council); Howe, Jill (Heritage Council) (Jill.Howe@ky.gov)  
**Cc:** Craig Potts (craig.potts@ky.gov); Josh Young; Lauren Rayburn (lauren.mcgee@wdc.usda.gov)  
**Subject:** Area of Potential Effect (APE) Recommendations - Spurlock Landfill Project - Area D, Mason County, KY  
**Attachments:** Section 106 APE map topo.pdf

Kary and Jill,

As discussed, we are moving forward with the investigations for East Kentucky Power Cooperative's (EKPC) proposed Spurlock Landfill Expansion Area D Project located in northern Mason County, Kentucky. This is the project that Kary and EKPC discussed at your office, June 19<sup>th</sup>, and Jill and I discussed by phone in early July. See the attached map for the proposed project location and APE depictions. EKPC would like your feedback on these APE recommendations.

The Spurlock Station Landfill is located approximately six miles northwest of the city of Maysville along South Ripley Road, approximately 0.5 mile south of KY Highway 8 and 0.5 mile west of KY Highway 1597. The purpose of the project is to provide additional long-term capacity for disposal of coal combustion by-products (CCB) produced at Spurlock Station..

#### Cultural Historic APE

Based upon our phone discussion, EKPC is proposing that the cultural historic area of potential effect (APE) include the landfill permit boundary and a 500-foot buffer around this area. EKPC conducted a cultural historic resource survey within this APE when the landfill boundary was expanded in 2013. EKPC believes this APE is appropriate to evaluate the potential indirect effects on cultural historic resources from the proposed project as it was for the previous project. The APE is very conservative since it encompasses the entire landfill boundary and a buffer, even though the proposed project involves expansion of an existing facility and will only occur within a portion of this area. EKPC will work with Cultural Resource Analysts, Inc. (CRAI) to review the existing report and update if previously undocumented resources are located within the APE.

#### Archaeological APE

For archaeological resources, EKPC proposes the APE be established as the areas where direct effects from the project would be anticipated, such as proposed borrow areas, landfill area, any access points, etc. As you know, EKPC contracted CRAI to conduct the Phase I and II archaeological investigations in these areas during the summer of 2014. EKPC anticipates the results of this work will be submitted to your office for review in early 2015.

We appreciate all of your efforts on our project. Please let me know if you have any questions regarding the work underway or ahead of us, and we look forward to hearing from you.

Sincerely,  
Joe



## Josh Young

---

**From:** Joe Settles  
**Sent:** Thursday, August 21, 2014 2:07 PM  
**To:** Elizabeth G. Heavrin (egheavrin@crai-ky.com)  
**Cc:** jpkerr@crai-ky.com; Josh Young; Tanya Faberson (tafaberson@crai-ky.com)  
**Subject:** FW: Area of Potential Effect (APE) Recommendations - Spurlock Landfill Project - Area D, Mason County, KY

Liz,

Here is the APE coordination and response from Jill. We committed to reviewing and updating the existing report if previously undocumented resources are located within the APE. I just want to make sure we fulfill that commitment.

Thanks,  
Joe

Joe Settles  
 Supervisor, Natural Resources  
 And Environmental Communications  
 East KY Power Cooperative  
 4775 Lexington Road  
 Winchester, KY 40391  
 Office: 859-745-9256  
 Fax: 859-744-6008  
 Cell: 859-771-3303  
 Email: [joe.settles@ekpc.coop](mailto:joe.settles@ekpc.coop)

“Safety is our top priority”

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---

**From:** Howe, Jill (Heritage Council) [mailto:Jill.Howe@ky.gov]  
**Sent:** Thursday, August 14, 2014 1:31 PM  
**To:** Joe Settles  
**Cc:** Stackelbeck, Kary (Heritage Council)  
**Subject:** RE: Area of Potential Effect (APE) Recommendations - Spurlock Landfill Project - Area D, Mason County, KY

Hi, Joe-

Thanks for checking in on this. I'm fine with the recommendation for the cultural historic APE.

**Jill A. Howe**  
 Kentucky Heritage Council/State Historic Preservation Office  
 P (502) 564-7005, ext. 121

F (502) 564-5820

**IMPORTANT NOTICE:** As of July 8, 2013, the Kentucky Heritage Council/State Historic Preservation Office implemented a new Section 106 submission process, including a new cover sheet and new procedures to assist applicants in the identification of known historic resources. Information is available on our website at <http://heritage.ky.gov/siteprotect/>.

---

**From:** Joe Settles [<mailto:joe.settles@ekpc.coop>]

**Sent:** Thursday, August 07, 2014 10:04 AM

**To:** Stackelbeck, Kary (Heritage Council); Howe, Jill (Heritage Council)

**Cc:** Potts, Craig A. (Heritage Council); Josh Young; Lauren Rayburn ([lauren.mcgee@wdc.usda.gov](mailto:lauren.mcgee@wdc.usda.gov))

**Subject:** Area of Potential Effect (APE) Recommendations - Spurlock Landfill Project - Area D, Mason County, KY

Kary and Jill,

As discussed, we are moving forward with the investigations for East Kentucky Power Cooperative's (EKPC) proposed Spurlock Landfill Expansion Area D Project located in northern Mason County, Kentucky. This is the project that Kary and EKPC discussed at your office, June 19<sup>th</sup>, and Jill and I discussed by phone in early July. See the attached map for the proposed project location and APE depictions. EKPC would like your feedback on these APE recommendations.

The Spurlock Station Landfill is located approximately six miles northwest of the city of Maysville along South Ripley Road, approximately 0.5 mile south of KY Highway 8 and 0.5 mile west of KY Highway 1597. The purpose of the project is to provide additional long-term capacity for disposal of coal combustion by-products (CCB) produced at Spurlock Station..

#### Cultural Historic APE

Based upon our phone discussion, EKPC is proposing that the cultural historic area of potential effect (APE) include the landfill permit boundary and a 500-foot buffer around this area. EKPC conducted a cultural historic resource survey within this APE when the landfill boundary was expanded in 2013. EKPC believes this APE is appropriate to evaluate the potential indirect effects on cultural historic resources from the proposed project as it was for the previous project. The APE is very conservative since it encompasses the entire landfill boundary and a buffer, even though the proposed project involves expansion of an existing facility and will only occur within a portion of this area. EKPC will work with Cultural Resource Analysts, Inc. (CRAI) to review the existing report and update if previously undocumented resources are located within the APE.

#### Archaeological APE

For archaeological resources, EKPC proposes the APE be established as the areas where direct effects from the project would be anticipated, such as proposed borrow areas, landfill area, any access points, etc. As you know, EKPC contracted CRAI to conduct the Phase I and II archaeological investigations in these areas during the summer of 2014. EKPC anticipates the results of this work will be submitted to your office for review in early 2015.

We appreciate all of your efforts on our project. Please let me know if you have any questions regarding the work underway or ahead of us, and we look forward to hearing from you.

Sincerely,  
Joe

## Josh Young

---

**From:** Elizabeth G. Heavrin <egheavrin@crai-ky.com>  
**Sent:** Thursday, August 21, 2014 3:25 PM  
**To:** Joe Settles  
**Cc:** jpkerr@crai-ky.com; Josh Young; 'Tanya Faberson'  
**Subject:** RE: Area of Potential Effect (APE) Recommendations - Spurlock Landfill Project - Area D, Mason County, KY

Hi Joe,

Looking at our maps and available aeriels, it appears that we covered everything shown on the 1961 topo map that is still extant. The next topo is from 1993—most of the new buildings shown on this map seem to be 1980s/90s mobile homes. I'm not seeing anything else that would date to 1961-1964.

The two sites that Jill raised questions about in her review letter for the previous cultural historic report are Site 4 (MS 359) and Site 16 (MS 355). They are nowhere near the project area depicted in the current archaeological report, so I don't see potential for the current project to affect them in any way. No additional work should be needed for them.

The barn that was documented in the recent archaeological report with 15Ms237 was documented with Site 11 (MS 684) in the original cultural historic report. We recommended the site ineligible and KHC concurred, so there are no issues there.

The cemetery documented in the current archaeological report as 15Ms238 has not been documented as a cultural historic site. KHC generally likes for cemeteries to receive cultural historic survey numbers as well as archaeological survey numbers so that they can be assessed for their design merits as aboveground sites. However, given the condition of this cemetery, there really isn't much of anything for us to assess. I really don't think that it is necessary for us to do anything more with the cemetery, especially if you are avoiding it, but you could double check with Jill about that if you want to be sure.

Otherwise, based on my desktop review, I think you are covered. Please let me know if you have any questions or need anything else.

Liz

**Elizabeth G. Heavrin, MHP**  
Architectural Historian  
[egheavrin@crai-ky.com](mailto:egheavrin@crai-ky.com)







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859.254.3747 fax  
859.421.8492 cell  
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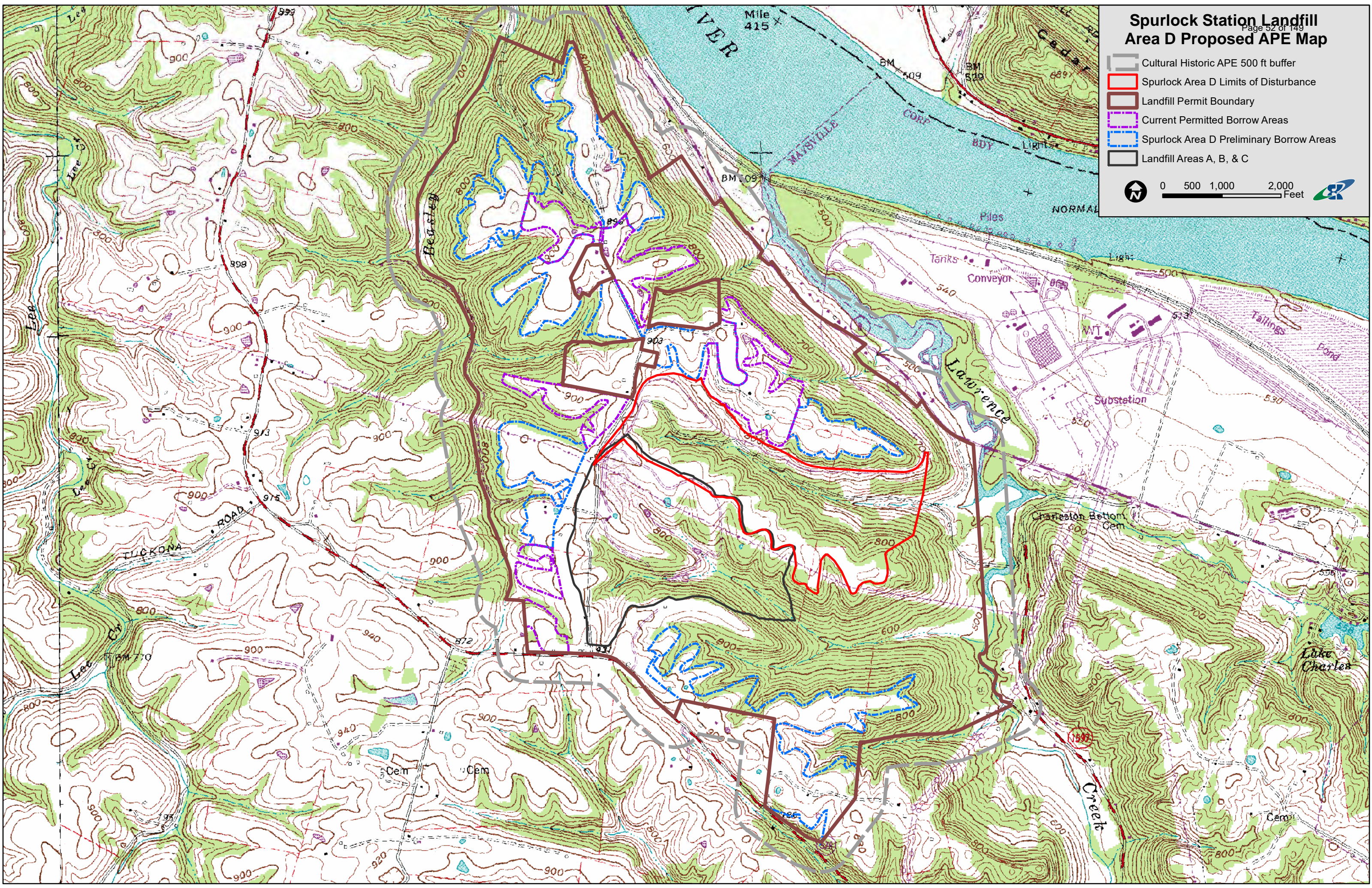
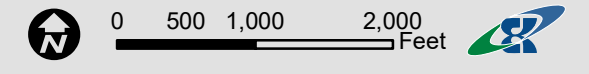




# Spurlock Station Landfill Area D Proposed APE Map

Page 52 of 149

-  Cultural Historic APE 500 ft buffer
-  Spurlock Area D Limits of Disturbance
-  Landfill Permit Boundary
-  Current Permitted Borrow Areas
-  Spurlock Area D Preliminary Borrow Areas
-  Landfill Areas A, B, & C





## Josh Young

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**From:** Josh Young  
**Sent:** Wednesday, September 9, 2015 1:33 PM  
**To:** Ryall, Jennifer (Heritage Council); Laracuent, Nicolas (Heritage Council)  
**Cc:** Larin Roberson; Patrick Stein  
**Subject:** Spurlock Station Beasley Creek USACE Stream Mitigation Site - Mason County, KY  
**Attachments:** Spurlock Landfill Beasley Creek Mitigation Cultural Resource APE Maps.pdf  
  
**Importance:** High

Nick and Jenn

EKPC is proposing to conduct stream mitigation activities on-site at Spurlock Station within the Beasley Creek watershed in association with the U.S. Army Corps of Engineers permitting for the proposed Spurlock Station Landfill Area D Expansion Project. The proposed project would involve enhancement, restoration, and preservation of Beasley Creek and several Unnamed Tributaries within the upper reaches of the watershed. As a part of that process, we would like to coordinate development of cultural historic and archaeological areas of potential effect (APEs) and survey report requirements. Attached are a topographic map and aerial photograph depicting the location of the proposed project.

A large part of the Beasley Creek drainage was covered by the report entitled *An Archaeological Reconnaissance of Beasley Creek Hollow, Mason County, Kentucky*, May 8, 1978 by Kenneth C. Carstens and Kandis K. Jenings. EKPC is proposing the current survey work to update the previous survey using current fieldwork methodologies and reporting specifications as well as conduct an assessment of any cultural historic resources. The proposed Beasley Creek Survey Area APE was established based on the Spurlock Station property boundary to the west/north and previous Phase I and II archaeological investigation boundaries to the east. Please note that the vast majority of the 493-acre survey area depicted on the attached maps will remain undisturbed with the only anticipated disturbances occurring within the stream channels and associated with accessing the project area.

EKPC makes the following recommendations regarding cultural resource APEs for the project:

### Archaeological APE

For archaeological resources, EKPC is proposing to investigate the entire 493-acre Beasley Creek Survey Area APE where disturbances associated with the stream mitigation activities could occur.

### Cultural Historic APE

Approximately half of the proposed mitigation area was included in the APE for the *Cultural Historic Survey for the Proposed East Kentucky Power Cooperative Spurlock Landfill Expansion in Mason County, Kentucky*, completed by Cultural Resource Analysts, Inc. (CRA), in 2013, see previous survey area on attached maps. There were no cultural historic sites identified within the current APE. Furthermore, a review of current topographic maps and aerial photographs indicate that there are no extant standing structures within the current APE. However, given both the historic character and densely wooded nature of the area, it is possible that rock walls, cemeteries, or other unmapped standing structures are present.

The majority of the proposed mitigation activities will occur within a wooded environment. Given the nature of the proposed work, it has little potential to visually or otherwise impact any possible cultural historic sites

located outside of the proposed Beasley Creek survey area. As such, it is recommended that the cultural historic APE also be the Beasley Creek Survey Area APE for this project.

#### Survey Report Recommendations

If any potentially significant sites are identified within the APE, EKPC is committed to avoiding any impacts to them. Given this, it is recommended that a full cultural historic survey report is not necessary. Rather, the archaeological field survey will document any structures within the APE for inclusion in a combined cultural resources report or a separate cultural historic letter report, depending on the results. Per previous guidance provided by the Kentucky Heritage Council (KHC), if four or fewer cultural historic sites are identified and the project will not result in an adverse effect to historic properties, the results of the cultural historic investigations will be documented along with the results of the archaeological investigations in a combined cultural resources report. If more than four cultural historic sites are identified, a separate letter report would be prepared to supplement the information provided in the archaeological report and the previous investigations at Spurlock Station. As previously noted, the goal of the investigation is to identify any potentially significant properties and incorporate avoidance into the proposed mitigation activities.

We would like your feedback on these APE/report recommendations as soon as possible and will coordinate fieldwork/report preparation with our consultant, Cultural Resource Analysts, Inc. accordingly.

Please let me know if you have any questions.

Thank you,

Josh Young  
East Kentucky Power Cooperative, Inc.  
Natural Resources and Environmental Communications  
4775 Lexington Road  
Winchester, KY 40391  
Office: (859) 745-9799  
Cell: (859) 749-0553  
Fax: (859) 744-6008  
[josh.young@ekpc.coop](mailto:josh.young@ekpc.coop)





## Josh Young

---

**From:** Laracuate, Nicolas (Heritage Council) <Nicolas.Laracuate@ky.gov>  
**Sent:** Tuesday, September 22, 2015 10:45 AM  
**To:** Josh Young; Ryall, Jennifer (Heritage Council)  
**Cc:** Larin Roberson; Patrick Stein  
**Subject:** RE: Spurlock Station Beasley Creek USACE Stream Mitigation Site - Mason County, KY

Josh,

After reviewing this, the archaeological APE looks fine to me. However, since this project involves USACE permitting you may need to consult them regarding the APE especially if they would be considered the lead federal agency on this particular project. They could recommend an APE that differs from what you have described here.

I know that Jenn Ryall hasn't commented on the Cultural Historic APE yet, but it may be time efficient to confirm this APE with the USACE.

Nick

Nicolas R. Laracuate  
 Archaeology Review Coordinator  
 Kentucky Heritage Council  
 300 Washington Street  
 Frankfort KY, 40601  
 502-564-7005 ext. 122  
<http://heritage.ky.gov>

---

**From:** Josh Young [mailto:josh.young@ekpc.coop]  
**Sent:** Wednesday, September 09, 2015 1:33 PM  
**To:** Ryall, Jennifer (Heritage Council); Laracuate, Nicolas (Heritage Council)  
**Cc:** Larin Roberson; Patrick Stein  
**Subject:** Spurlock Station Beasley Creek USACE Stream Mitigation Site - Mason County, KY  
**Importance:** High

Nick and Jenn

EKPC is proposing to conduct stream mitigation activities on-site at Spurlock Station within the Beasley Creek watershed in association with the U.S. Army Corps of Engineers permitting for the proposed Spurlock Station Landfill Area D Expansion Project. The proposed project would involve enhancement, restoration, and preservation of Beasley Creek and several Unnamed Tributaries within the upper reaches of the watershed. As a part of that process, we would like to coordinate development of cultural historic and archaeological areas of potential effect (APEs) and survey report requirements. Attached are a topographic map and aerial photograph depicting the location of the proposed project.

A large part of the Beasley Creek drainage was covered by the report entitled *An Archaeological Reconnaissance of Beasley Creek Hollow, Mason County, Kentucky*, May 8, 1978 by Kenneth C. Carstens and Kandis K. Jenings. EKPC is proposing the current survey work to update the previous survey using current fieldwork methodologies and reporting specifications as well as conduct an assessment of any cultural historic resources. The proposed Beasley Creek Survey Area APE was established based on the Spurlock Station property boundary to the west/north and previous Phase I and II archaeological investigation boundaries to the

## Josh Young

---

**From:** Ryall, Jennifer (Heritage Council) <Jennifer.Ryall@ky.gov>  
**Sent:** Tuesday, September 29, 2015 10:23 AM  
**To:** Josh Young; Laracuenta, Nicolas (Heritage Council)  
**Cc:** Larin Roberson; Patrick Stein  
**Subject:** RE: Spurlock Station Beasley Creek USACE Stream Mitigation Site - Mason County, KY

Hi Josh,

I concur that the proposed cultural historic APE is appropriate for the Spurlock Station Beasley Creek USACE Stream Mitigation Site and second Nick's recommendation of consulting with the Corps on the APE for this project if appropriate. I would note that, although you have cited some specific feedback from our office below, if assessments of the eligibility of cultural historic (aboveground) resources are made, those assessments need to be made by a qualified architectural historian and should not be included within the archaeology report regardless of the number of cultural historic resources that exist in the project. The reasoning for this is in our specs as well as with the unique filing requirements for archaeological and cultural historic reports. We need a separate report to file downstairs if eligibility assessments of aboveground resources are made. If photos and brief documentation are all that's included for the aboveground resources in the report without an assessment of their eligibility being made, this has been acceptable to include within a combined report prepared by an archaeologist.

Thanks,  
 ~Jenn

### Jennifer Ryall

Environmental Review Coordinator  
 Kentucky Heritage Council  
 300 Washington Street  
 Frankfort, Kentucky 40601  
 Phone: (502)564-7005 ext 121

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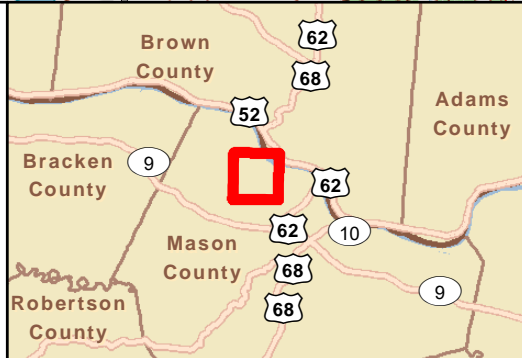
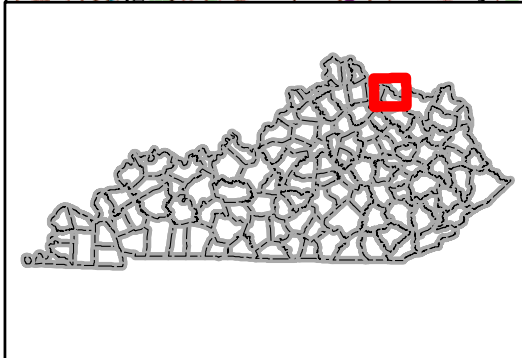
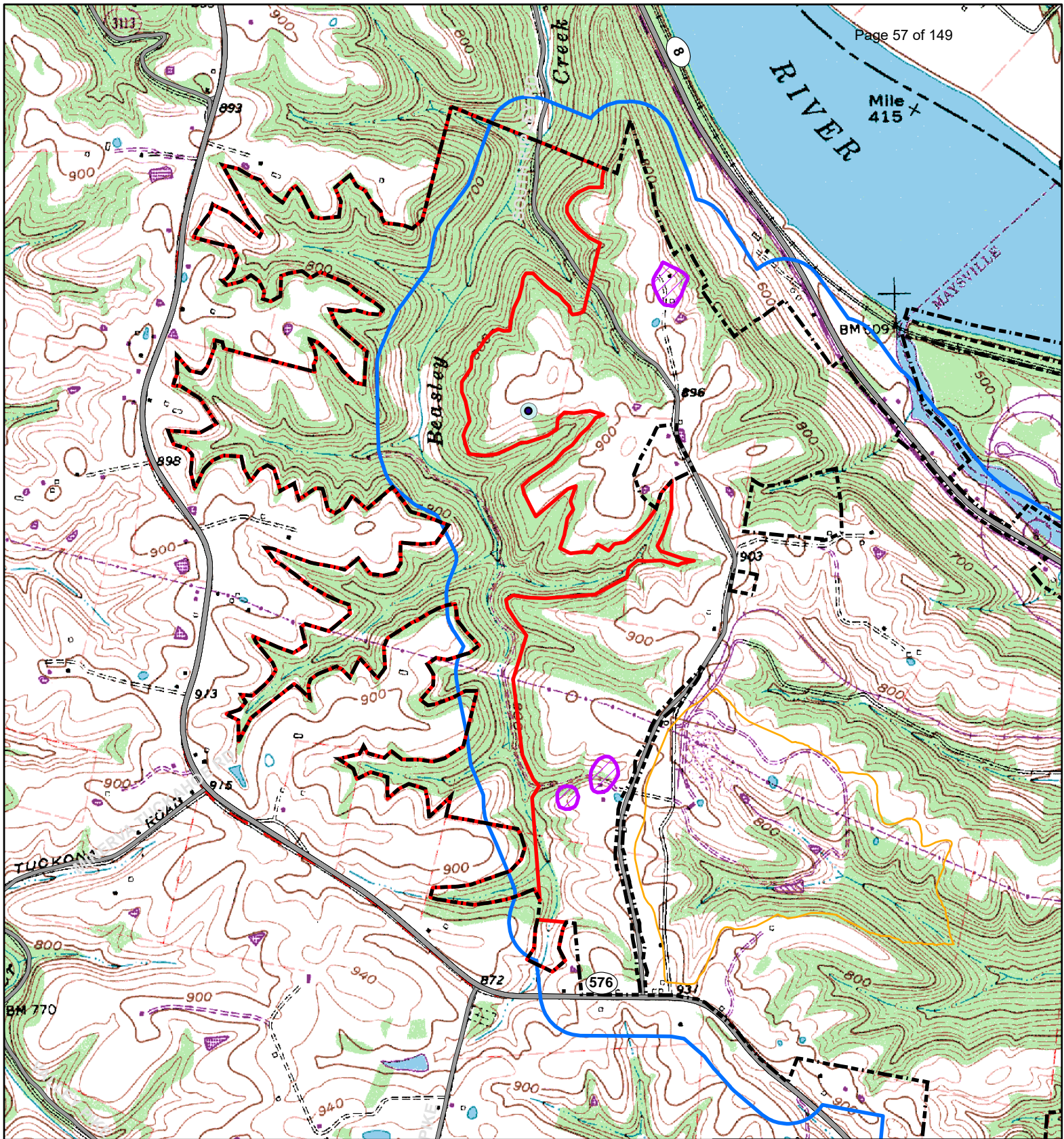
**From:** Josh Young [mailto:josh.young@ekpc.coop]  
**Sent:** Wednesday, September 09, 2015 1:33 PM  
**To:** Ryall, Jennifer (Heritage Council); Laracuenta, Nicolas (Heritage Council)  
**Cc:** Larin Roberson; Patrick Stein  
**Subject:** Spurlock Station Beasley Creek USACE Stream Mitigation Site - Mason County, KY  
**Importance:** High

Nick and Jenn

EKPC is proposing to conduct stream mitigation activities on-site at Spurlock Station within the Beasley Creek watershed in association with the U.S. Army Corps of Engineers permitting for the proposed Spurlock Station Landfill Area D Expansion Project. The proposed project would involve enhancement, restoration, and preservation of Beasley Creek and several Unnamed Tributaries within the upper reaches of the watershed. As a part of that process, we would like to coordinate development of cultural historic and archaeological areas of potential effect (APEs) and survey report requirements. Attached are a topographic map and aerial photograph depicting the location of the proposed project.

A large part of the Beasley Creek drainage was covered by the report entitled *An Archaeological Reconnaissance of Beasley Creek Hollow, Mason County, Kentucky*, May 8, 1978 by Kenneth C. Carstens and Kandis K. Jenings. EKPC is proposing the current survey work to update the previous survey using current





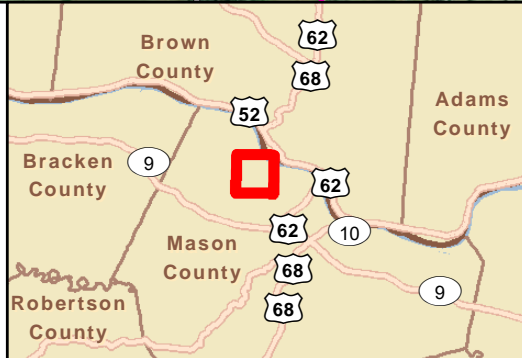
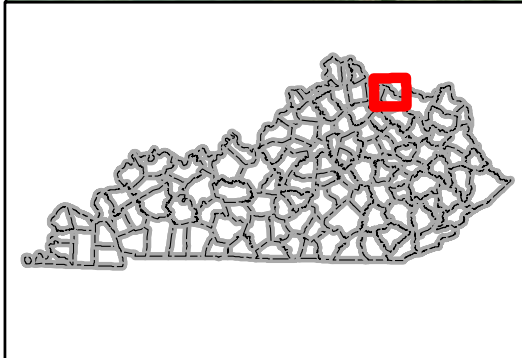
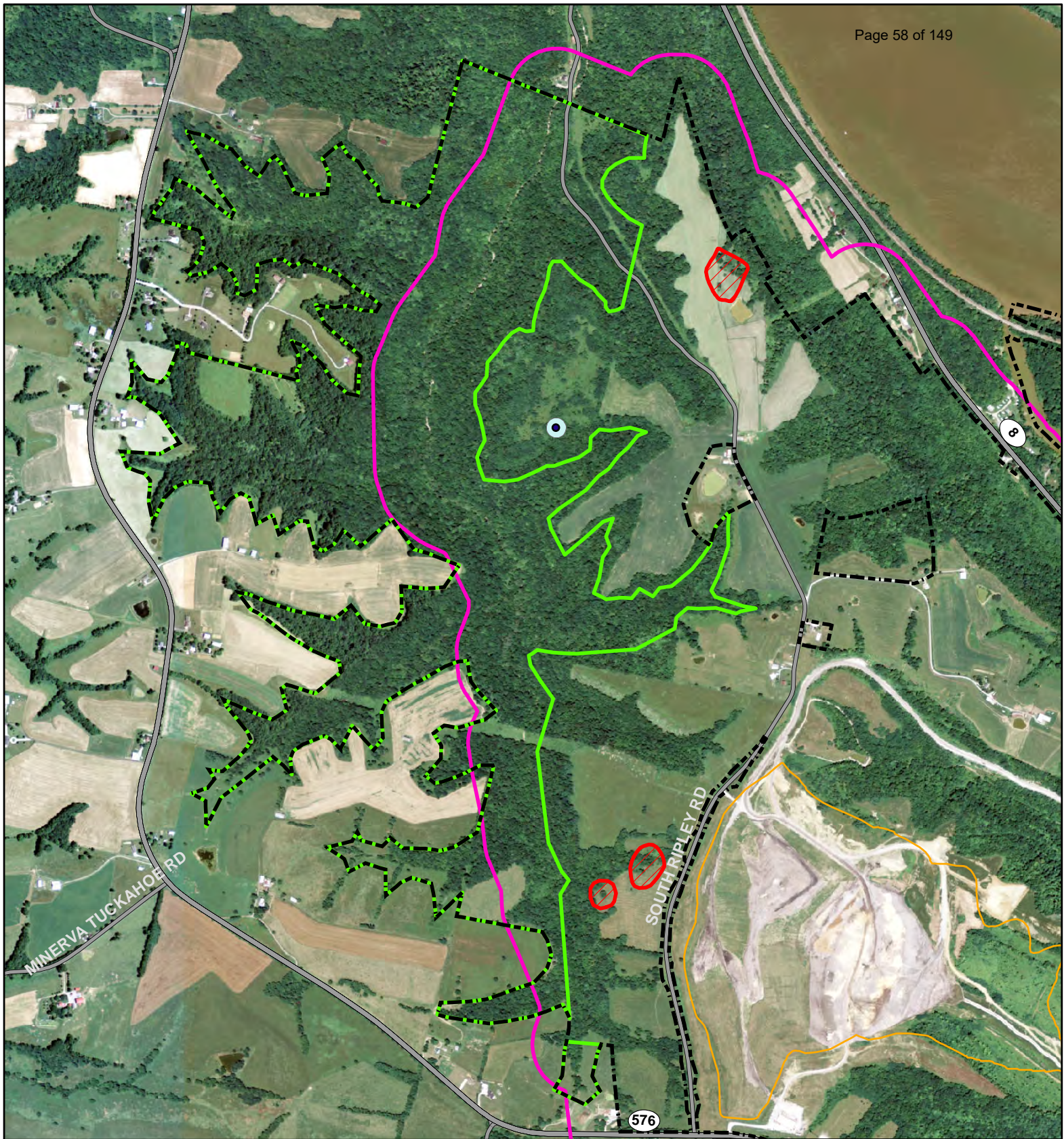
**Spurlock Station Landfill  
Area D Expansion Project  
Beasley Creek Mitigation Site**

- Spurlock Property Boundary
- Beasley Creek Survey Area
- Previous Cult. Historic Survey Area
- Archaeology Avoidance Areas
- Driskell-Thomas Cemetery

N

0 0.15 0.3 0.6 Miles





### Spurlock Station Landfill Area D Expansion Project Beasley Creek Mitigation Site

- Spurlock Property Boundary
- Beasley Creek Survey Area
- Previous Cult. Historic Survey Area
- Archaeology Avoidance Areas
- Driskell-Thomas Cemetery

N

0 0.125 0.25 0.5 Miles





STEVEN L. BESHEAR  
GOVERNOR

**TOURISM, ARTS AND HERITAGE CABINET  
KENTUCKY HERITAGE COUNCIL**

MARCHETA SPARROW  
SECRETARY

THE STATE HISTORIC PRESERVATION OFFICE  
300 WASHINGTON STREET  
FRANKFORT, KENTUCKY 40601  
PHONE (502) 564-7005  
FAX (502) 564-5820  
www.heritage.ky.gov

LINDY CASEBIER  
ACTING EXECUTIVE DIRECTOR AND  
STATE HISTORIC PRESERVATION OFFICER

March 26, 2013

Joe Settles  
Eastern Kentucky Power Cooperative  
4775 Lexington Rd.  
Winchester, Kentucky 40391

**Re: *Cultural Historic Resource Survey for the Proposed East Kentucky Power Cooperative Spurlock Landfill Expansion in Mason County, Kentucky by Kathy Martinolich and Sarah Reynolds, Cultural Resource Analysts, Inc.***

Dear Mr. Settles:

On March 6, the State Historic Preservation Office received for review and comment the above referenced report related to the proposed expansion of the special waste landfill boundary at the Spurlock Landfill. Most immediately, portions of the expanded landfill will be used for soil borrow needs. Five previously surveyed resources (MS-356, 357, 672, 673, and 355) and ten new resources (MS-679 through 688) were identified in the area of potential effect established for cultural historic survey. One site (MS-359) had been given a survey number, but had not been included in any known reports. None of these sites was found eligible for listing in the National Register of Historic Places.

We concur with eligibility assessments for MS-356, 357, 672, 673, and 679 through 688. We also agree that most of site MS-359 would be considered ineligible, though additional information would be needed to better assess Resource E (an early barn) at this site. Site MS-359 is located in the APE for indirect effects, but is not within the expanded permit boundary. Based on information available at this time, it is unlikely the boundary expansion would adversely affect those qualities which might qualify the barn the barn for listing.

More information would be needed to concur with the assessment for MS-355, specifically as it relates to the burials on site. The Bacon family has been presented as having local significance, and the resources which might otherwise have appropriately conveyed that significance through association with the family's productive life have been lost. The cemetery at MS-355 is located within the expanded permit boundary. Proposed borrow areas do not appear to impact the cemetery at this time, but if landfill activities in the future cannot avoid the cemetery, we would recommend further discussion regarding whether Criteria Consideration C might apply to John and Elizabeth Bacon's grave sites.

Page 2  
Joe Settles  
3/26/2013

If you have questions regarding these comments, please contact Jill Howe of my staff at 502-564-7005, ext. 121.

Sincerely,



Lindy Casebier  
Acting Executive Director and  
State Historic Preservation Officer

Cc: Liz Heavrin (CRAI)

LC;jh



RECEIVED

MAR 25 2013



BY STEVEN L. BESHEAR  
GOVERNOR

**TOURISM, ARTS AND HERITAGE CABINET  
KENTUCKY HERITAGE COUNCIL**

MARCHETA SPARROW  
SECRETARY

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www.heritage.ky.gov

**LINDY CASEBIER**  
ACTING EXECUTIVE DIRECTOR AND  
STATE HISTORIC PRESERVATION OFFICER

March 13, 2013

Mr. Joe Settles  
East Kentucky Power Cooperative  
4775 Lexington Road.  
Winchester, KY 40391

**Re: *An Archaeological Survey of the Proposed East Kentucky Power Cooperative Spurlock Landfill Expansion between Lawrence and Beasley Creeks in Mason County, Kentucky*** by Lisa J. Kelley with contributions by Fredrick H. Banschbach, Jennifer M. Faberson, Jonathan P. Kerr, and Thomas H. McAlpine (Cultural Resource Analysts, Inc.).

Dear Mr. Settles:

Thank you for your correspondence regarding the above referenced report for an archaeological survey conducted in Mason County for proposed Spurlock Landfill expansion. Survey of project area involved a combination of intensive pedestrian survey, screened shovel testing, bucket augering, and limited mechanical plow zone removal. Twenty-six new sites (15MS156-15MS181), four isolated finds, and three previously recorded sites (15Ms36, 15Ms45, 15MS155) were documented during this project. Six additional previously recorded sites (15Ms38, 15Ms44, 15Ms146, 15Ms152-154) were revisited during this project.


Six previously recorded sites (15Ms38, 15Ms44, 15Ms146, 15Ms152-154) located in the project boundaries were revisited during this investigation. The sites were most recently documented in 2009 and 2011 and were determined not eligible for listing in the National Register of Historic Places. The author's posit that since the condition of these sites is the same or worse than during the previous documentations that the sites are still not eligible and recommend no further work at these sites. I concur with the author's findings and recommendations.

Due to lack of cultural material, modern disturbances, little additional research potential, and limited potential for intact buried deposits the authors argue seventeen sites (15Ms36, 15Ms45, 15Ms158, 15Ms160, 15Ms162, 15Ms164, 15Ms167-15Ms170, 15Ms172, 15Ms174, 15Ms177-15Ms181) and the four isolated finds are not eligible for listing in the National Register of Historic Places and recommend no further work at these sites. I concur with the findings and recommendations for 14 of the sites. Three sites (15Ms168, 15Ms170, 15Ms18) all extend outside of the project area and the eligibility of the outside portions could not be assessed. Therefore, I recommend that either these sites be avoided or the portion of the site outside the boundaries be buffered by 50 feet into the project area.

Twelve sites (15Ms155 -15Ms157, 15Ms159, 15Ms161, 15Ms163, 15Ms165, 15Ms 166, 15Ms171, 15Ms173, 15Ms175, 15Ms176) require additional research to determine whether or not they are eligible for listing in the National Register of Historic Places. The author's recommend avoiding the site or additional investigations to determine eligibility. In a phone message on March 8th Mr. Settles indicated the sites along with a 50 foot buffer would be avoided and excluded from the permit to the Kentucky Division of Waste Management. I concur with the author's findings that these twelve sites should either be more fully investigated or avoided. If avoidance is chosen I concur with the plan to avoid the sites and a 50 foot buffer. In addition an unanticipated discoveries plan should be developed and in place in case the buried archaeological deposits extend outside of the presently recorded boundaries. The Unanticipated Discoveries Plan developed for the East Bend Station in Boone County would be an appropriate model for this current project.

If you have any questions, please contact Philip Mink at the Kentucky Heritage Council (State Historic Preservation Office) at (502)564.7005, ext. 112, or at Philip.Mink@ky.gov.

Sincerely,



Lindy Casebier  
Acting Executive Director and  
State Historic Preservation Officer

LC:pbm

cc: George Crothers, Charles Niquette, Ron Gruzsky



STEVEN L. BESHEAR  
GOVERNOR

**TOURISM, ARTS AND HERITAGE CABINET  
KENTUCKY HERITAGE COUNCIL**

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[www.heritage.ky.gov](http://www.heritage.ky.gov)

**CRAIG A. POTTS**  
EXECUTIVE DIRECTOR AND  
STATE HISTORIC PRESERVATION OFFICER

August 10, 2015

Mr. Josh Young  
Senior Environmental Scientist  
East Kentucky Power Cooperative  
4775 Lexington Road  
Winchester, Kentucky 40391

**Re: National Register Evaluation of Archaeological Sites 15Ms155, 15Ms156, 15Ms157, 15Ms159, 15Ms161, 15Ms163, 15Ms165, 15Ms166, 15Ms173, 15Ms175, and 15Ms176 for the Spurlock Landfill Expansion Project (Area D) in Mason County, Kentucky** by Richard L. Herndon and Tanya A. Faberson of Cultural Resource Analysts, Inc. (CRAI)

Dear Mr. Young,

Thank you for your correspondence concerning the above referenced report. The eleven (11) sites within the project boundaries tested for their eligibility for listing in the National Register of Historic Places (NRHP) by this study consisted of three (3) sites investigated for their historic components (15Ms156, 15Ms159 and 15Ms166) and eight (8) sites investigated for their prehistoric components (15Ms155, 15Ms157, 15Ms161, 15Ms163, 15Ms165, 15Ms173, 15Ms175, and 15Ms176). Investigative methods employed during the project included additional documentary research, geophysical survey, hand excavation of test units and selected features, and mechanical excavation of the plow zone.

Based on the results of Phase II testing, CRAI concluded that nine (9) sites (15Ms155, 15Ms156, 15Ms157, 15Ms161, 15Ms163, 15Ms165, 15Ms173, 15Ms175, and 15Ms176) are ineligible for NRHP listing as their research potential has been exhausted. CRAI recommended no further work for those sites.

The testing of two (2) historic sites (15Ms159 and 15Ms166) demonstrated the presence of intact cultural features at each site and CRAI concluded that those sites are eligible for NRHP listing due to further research potential. CRAI has recommended avoidance of the portions of those sites where the features are present. For site 15Ms159, CRAI has recommended avoidance of 3.2 acres of the eastern part of this 6.2 acre site, and has recommended that Phase III data recovery investigations be conducted if that portion of the site cannot be avoided.

For site 15Ms166, of the 9.71 acre site area, CRAI has recommended that 3.90 acres be avoided. The Bacon Cemetery, on the western side of the site, would to be avoided by a 100-foot buffer zone, a total area of 1.33 acres. Also, a 2.57-acre area at the northern end of the site has also been recommended for avoidance.



CRAI has recommended that Phase III data recovery investigations be conducted if those two areas of 15Ms166 cannot be avoided.

**We concur with the recommendations made and we accept the report without revision. As soil removal is proposed for portions of 15Ms159 and 15Ms166, we recommend that the portions of the sites to be avoided be clearly delineated on the ground as protected areas for the duration of the project.**

Should the project plans change or should additional information become available regarding cultural resources or citizens' concerns regarding impacts to cultural resources, please submit that information to our office as additional consultation will be warranted. Should you have any questions, please contact Yvonne Sherrick of my staff at 502.564.7005, extension 113.

Sincerely,



Craig A. Potts,  
Executive Director and  
State Historic Preservation Officer

CP: KHC # 44499- 4

Cc: George Crothers (OSA); Charles Niquette (CRAI)



STEVEN L. BESHEAR  
GOVERNOR

**TOURISM, ARTS AND HERITAGE CABINET  
KENTUCKY HERITAGE COUNCIL**

BOB STEWART  
SECRETARY

THE STATE HISTORIC PRESERVATION OFFICE  
300 WASHINGTON STREET  
FRANKFORT, KENTUCKY 40601  
PHONE (502) 564-7005  
FAX (502) 564-5820  
[www.heritage.ky.gov](http://www.heritage.ky.gov)

CRAIG A. POTTS  
EXECUTIVE DIRECTOR AND  
STATE HISTORIC PRESERVATION OFFICER

September 29, 2014

Mr. Josh Young  
East Kentucky Power Cooperative  
4775 Lexington Road  
Winchester, KY 40391

**Re: *An Archaeological Survey of Proposed Additional Soil Borrow Areas for the Spurlock Landfill Expansion for East Kentucky Power Cooperative in Mason County, Kentucky*** By James Heideman and Tanya A. Faberson, Cultural Resource Analysts Inc.

Dear Mr. Young:

Thank you for your letter concerning the above referenced report. This project entailed pedestrian survey and screened shovel testing within the project area. Three new archaeological sites (15Ms236-238) were documented and two previously documented archaeological sites (15Ms34 and 15Ms35) were revisited. Through consultation with the Office of State Archaeology the boundary of 15Ms35 was expanded incorporating 15Ms34. Due to the lack of integrity and sparse archaeological deposits the authors find archaeological sites 15Ms34, 15Ms236, and 15Ms237 are not eligible for listing on the National Register of Historic Places (NRHP). They recommend no further work on these sites. Site 15Ms238 is a historic cemetery that will be protected by a 30m buffer. The authors recommend that the site cannot be avoided that further work will be necessary at site 15Ms238.

I accept the above-referenced report without further revision and concur with the consultant's findings and recommendations regarding the cultural resources within this permit area. As currently detailed this project should have No Adverse Effect on cultural resources eligible for listing on the NRHP.

Should the project plans change, or should additional information become available regarding cultural resources or citizens' concerns regarding impacts to cultural resources, please submit that information to our office as additional consultation may be warranted. Should you have any questions, feel free to contact Nick Laracuate of my staff at 502.564.7005, extension 151.

Sincerely,

Craig A. Potts,  
Executive Director and  
State Historic Preservation Officer

CP:nrl KHC # 42515  
cc: George Crothers (OSA); Charles M. Niquette (CRAI)





STEVEN L. BESHEAR  
GOVERNOR

**TOURISM, ARTS AND HERITAGE CABINET  
KENTUCKY HERITAGE COUNCIL**

BOB STEWART  
SECRETARY

**THE STATE HISTORIC PRESERVATION OFFICE**  
300 WASHINGTON STREET  
FRANKFORT, KENTUCKY 40601  
PHONE (502) 564-7005  
FAX (502) 564-5820  
[www.heritage.ky.gov](http://www.heritage.ky.gov)

**CRAIG A. POTTS**  
EXECUTIVE DIRECTOR AND  
STATE HISTORIC PRESERVATION OFFICER

March 26, 2015

Mr. Josh Young  
East Kentucky Power Cooperative  
4775 Lexington Road  
Winchester, KY 40391

**Re: *An Archaeological Survey for the Proposed Spurlock Station Landfill Area D Expansion Project in Mason County, Kentucky*** By Brian G. DelCastello, Cultural Resource Analysts Inc.

Dear Mr. Young:

We received the above referenced report on from Cultural Resource Analysts Inc. on your behalf. This project entailed pedestrian survey and screened shovel testing within the project area. One new archaeological site, 15MS240, was documented. Site 15MS240 is a historic residence / farmstead dating to the early 20<sup>th</sup> Century. Due to the lack of integrity and low research potential the authors found archaeological site 15MS240 not eligible for listing on the National Register of Historic Places (NRHP). They recommend no further work.

I accept the above-referenced report without further revision and concur with the consultant's findings and recommendations regarding the cultural resources within this permit area.

Should the project plans change, or should additional information become available regarding cultural resources or citizens' concerns regarding impacts to cultural resources, please submit that information to our office as additional consultation may be warranted. Should you have any questions, feel free to contact Nick Laracuenta of my staff at 502.564.7005, extension 122.

Sincerely,

Craig A. Potts,  
Executive Director and  
State Historic Preservation Officer

CP:nrl KHC # 43555

cc: George Crothers (OSA); Charles M. Niquette (CRAI)





**MATTHEW G. BEVIN**  
GOVERNOR

**TOURISM, ARTS AND HERITAGE CABINET**  
**KENTUCKY HERITAGE COUNCIL**  
**THE STATE HISTORIC PRESERVATION OFFICE**

**REGINA STIVERS**  
DEPUTY SECRETARY

**DON PARKINSON**  
SECRETARY

300 WASHINGTON STREET  
FRANKFORT, KENTUCKY 40601  
PHONE (502) 564-7005  
FAX (502) 564-5820  
[www.heritage.ky.gov](http://www.heritage.ky.gov)

**CRAIG A. POTTS**  
EXECUTIVE DIRECTOR  
& STATE HISTORIC  
PRESERVATION OFFICER

January 12, 2017

Larin Roberson, Manager  
East Kentucky Power Cooperative  
4775 Lexington Road  
P.O. Box 707  
Winchester, KY 40392-0707

**Re: Cultural Historic Resource Survey for the Proposed Spurlock Station Beasley Creek Mitigation Site in Mason County, Kentucky**

Dear Mr. Roberson:

Thank you for the above referenced report referenced in your January 5, 2016 letter to our office. We were not able to review the above-ground component of this submission within the period allowed for our comment. However, in order to complete the recording of these historic properties in our databases we need to comment on the eligibility of each property. Upon review we concur with all of the eligibility recommendations listed in the above referenced report.

We apologize for the delay in our reply and look forward to working with you on future projects. If there are specific issues regarding the above referenced report that you still wish our office to comment or should additional information become available regarding cultural resources or citizens' concerns regarding impacts to cultural resources, please contact our new Site Protection Program Administrator, Nick Laracuente at [nicolas.laracuente@ky.gov](mailto:nicolas.laracuente@ky.gov).

Sincerely,

Craig A. Potts,  
Executive Director and  
State Historic Preservation Officer

CP:nrl  
KHC # 45921  
Cc: Chuck Niquette (CRAI)



**MATTHEW G. BEVIN**  
GOVERNOR

**TOURISM, ARTS AND HERITAGE CABINET**  
**KENTUCKY HERITAGE COUNCIL**  
THE STATE HISTORIC PRESERVATION OFFICE

**REGINA STIVERS**  
DEPUTY SECRETARY

**DON PARKINSON**  
SECRETARY

300 WASHINGTON STREET  
FRANKFORT, KENTUCKY 40601  
PHONE (502) 564-7005  
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[www.heritage.ky.gov](http://www.heritage.ky.gov)

**CRAIG A. POTTS**  
EXECUTIVE DIRECTOR  
& STATE HISTORIC  
PRESERVATION OFFICER

January 29, 2016

Larin Roberson  
East Kentucky Power Cooperative  
4775 Lexington Road  
Winchester, KY 40391

**Re: An Archaeological Survey of the Spurlock Station Beasley Creek Mitigation Project for East Kentucky Power Cooperative in Mason County, Kentucky by Thaddeus G. Bissett of Cultural Resource Analysts, Inc.**

Dear Mr. Roberson:

Thank you for your letter concerning the above referenced report. This project entailed pedestrian survey and shovel testing of the 493.0 acre project area. The survey revisited two previously recorded sites and documented five new sites. Two additional sites that were mapped by the Office of State Archaeology records (15Ms12 and 15Ms33) within the project APE could not be relocated.

Sites 15Ms70, 15Ms71, 15Ms246, 15Ms247, 15Ms249, and 15Ms250 are historic farmsteads or residences. Site 15Ms248 is a historic mill. None of these sites were found to have integrity, were associated with very few artifacts, and were found to have no further research potential. The authors recommend that these sites are not eligible for listing on the NRHP and recommend no further work.

I accept this report without revision and concur with the author's findings and recommendations. We concur with EKPC that this undertaking will have no effect on archaeological resources.

Should you have any questions, feel free to contact Nick Laracuate of my staff at 502.564.7005, ext. 122 or email [nicolas.laracuate@ky.gov](mailto:nicolas.laracuate@ky.gov).

Sincerely,

Craig A. Potts,  
Executive Director and  
State Historic Preservation Officer

CP:mr1 KHC# 45936

Cc: George Crothers (OSA); Charles Niquette (CRAI)

**Patrick Stein**

---

**From:** Patrick Stein  
**Sent:** Friday, April 07, 2017 9:40 AM  
**To:** 'ledgerlegalads@lee.net'  
**Subject:** Public notice request

Good morning –

Per my recent phone inquiry, I would like to place a public notice to run one day in mid-April 2017. Please follow this request with a proof and the cost for placing the notice. If possible, I will be placing the ad on my corporate credit card. The public notice I wish to place reads as follows:

**Notice: East Kentucky Power Cooperative (EKPC) is seeking to permit an expansion of the existing special waste landfill at its H. L. Spurlock Power Station (Spurlock Station) in northern Mason County, Kentucky. Spurlock Station is located along the south bank of the Ohio River on either side of Kentucky Highway 8 (Mary Ingles Highway), approximately five miles northwest of the city of Maysville. The existing Spurlock Station Special Waste Landfill is located along South Ripley Road, approximately 0.5 mile south of KY Hwy 8 and 0.5 mile west of KY Hwy 1597 (Charleston Bottom Road).**

Based upon an analysis of project alternatives, EKPC has identified expansion of the existing Spurlock Station special waste landfill as the proposed alternative. The project would involve the construction, operation, and maintenance of a new cell (Area D) of the existing special waste landfill. The limits of disturbance directly associated with the proposed Landfill Area D have been identified to encompass approximately 181 acres. The borrow areas needed to provide the necessary liner and cover requirements were identified on the ridgetops adjacent to the landfill boundary.

The U.S. Department of Agriculture, Rural Utilities Service (RUS) is considering an application from EKPC for financial assistance and the U.S. Army Corps of Engineers (USACE) is considering the issuance of a permit to construct the proposed project. Actions taken by these agencies for the referenced project may be undertakings subject to review under Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800). This act requires federal agencies to consider the effects of its undertakings on important historic properties listed or eligible for listing in the National Register of Historic Places (NHRP). The area of potential effect for cultural resources occurs within the Spurlock Station property boundary to the south of KY Hwy 8 and west of KY Hwy 1597.

On behalf of RUS and the USACE, EKPC is seeking to identify persons who are interested in participating in the process for evaluating the potential effects of this proposed project on historic properties located in the project area that are listed or eligible for listing in the NHRP. If you have a legal or economic relation to properties that will be affected by the proposed project, or if you have a demonstrable interest in the historic built and/or archaeological environment in the project area, you are invited to participate as a consulting party in the Section 106 review process. If you believe you meet these criteria and you wish to participate as a consulting party, please send a letter with your contact information and statement of interest, to Josh Young at [josh.young@ekpc.coop](mailto:josh.young@ekpc.coop), or at East Kentucky Power Cooperative, 4775 Lexington Road, Winchester, KY 40391.

Please send a tear sheet once the public notice has been circulated. If you need any further information or wish to discuss this project, please feel free to contact me.

Thank you very much for your assistance in this matter.



Patrick

Patrick Stein  
East Kentucky Power Cooperative, Inc.  
Natural Resources and Environmental Communications  
4775 Lexington Road  
Winchester, KY 40391  
Office: (859) 744-4812  
Cell: (859) 907-4900  
Fax: (859) 744-6008  
[patrick.stein@ekpc.coop](mailto:patrick.stein@ekpc.coop)



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mower, 7'; Frontier WR1008 rake, 8 wheel w/ kicker; NH 266 rake, 5 bar; Farmhand 5 wheel hay rake; Sitrex 2GL302 tedder, 2 basket; Shaver post driver, 3 pt.; JD MX7 rotary cutter, like new; Woods 3 pt. finish mower, 54"; JD 616 rotary cutter, needs shaft repair; 2 wagon gears; Huskee 3 pt. post hole digger w/ 2 augers; Oliver 3x14" plows; Leinbach 2x14" plows; JD 3X16" plows, 3 pt.; Dearborn 2x12" plows, 3 pt.; 10' MF 520 disc; 3 pt, 5' disc; fertilizer spreader; Wind Power whole house generator, diesel powered; Bobcat 60" tooth bucket; JD 6' manure & 7' smooth buckets; 3 pt. bale spears; 2 fence line sprayers **CHICKEN COOPS & EQUIP:** : 2 chicken coop buildings; chicken feeders, heated water buckets & lights; chicken incubator; **HAY & LIVESTOCK EQUIP:** round bales of hay, 2016 cutting, approx. 20 inside & 30 outside, (to be removed 2 weeks with in from auction, make arrangement to pick up at farm); Blue Mule cattle chute; **LARGE AMOUNT OF SHOP ITEMS, ELECTRIC AND HAND TOOLS, FUEL TANKS, FENCING SUPPLIES, GATES, FEEDERS, LIVESTOCK ITEMS, DEER STANDS, & MISC.;** . CAR, FOUR WHEELER, ONE HORSE SLEIGH & TACK: 1976 MG Midget special convertible needs rebuilt and restored; JD 650 CVT 4x4 four wheeler; 1 horse open sleigh; **VERY FEW HOUSEHOLD ITEMS. CHECK WEB FOR COMPLETE LISTING @ WWW.HESSAUCTIONCO.COM**

**ITEMS MAY BE VIEWED AFTER 12:00 NOON APRIL 21. ALL ITEMS MUST BE REMOVED DAY OF AUCTION**  
**AUCTIONEER'S NOTE:** Due to John's passing, Donna has decided to disperse these items she no longer needs. Most everything is in good operating condition. Due to parking issues, we have decided to move the auction to the Highland Co. Fairgrounds, so items will need to be removed day of auction. **TERMS:** Cash or check w/ proper ID. Any announcements made by auctioneer on day of sale will take precedence over this ad.  
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Page 71 of 449

TERESA RICKETTS  
140 MERRICK ROAD  
BRIDGE, OH 43725

MARGARET CUNNINGHAM  
434 GREENGATE DR.  
LEBANON, OHIO 45036

KIRK TOLLE, CIRCUIT CLERK  
MASON COUNTY DISTRICT AND CLERK

**Mothers Day is Sunday**

*Happy Mother's Day*

**To: Kellie Cracraft**

**HAPPY MOTHERS DAY!**

**You are the GREATEST!!!**

Love, Alyssa & Breanna

Mail us your message or drop

Mother's Name: \_\_\_\_\_  
Name: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_  
Address: \_\_\_\_\_  
Message (15 words or less): \_\_\_\_\_

**THE LEDGER INDEPENDENT**  
www.maysville-online.com  
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Published on May 13th in The Ledger Independent

**Notice:** East Kentucky Power Cooperative (EKPC) is seeking to permit an expansion of the existing special waste landfill at its H. L. Spurlock Power Station (Spurlock Station) in northern Mason County, Kentucky. Spurlock Station is located along the south bank of the Ohio River on either side of Kentucky Highway 8 (Mary Ingles Highway), approximately five miles northwest of the city of Maysville. The existing Spurlock Station Special Waste Landfill is located along South Ripley Road, approximately 0.5 mile south of KY Hwy 8 and 0.5 mile west of KY Hwy 1597 (Charleston Bottom Road).

Based upon an analysis of project alternatives, EKPC has identified expansion of the existing Spurlock Station special waste landfill as the proposed alternative. The project would involve the construction, operation, and maintenance of a new cell (Area D) of the existing special waste landfill. The limits of disturbance directly associated with the proposed Landfill Area D have been identified to encompass approximately 181 acres. The borrow areas needed to provide the necessary liner and cover requirements were identified on the ridgetops adjacent to the landfill boundary.

The U.S. Department of Agriculture, Rural Utilities Service (RUS) is considering an application from EKPC for financial assistance and the U.S. Army Corps of Engineers (USACE) is considering the issuance of a permit to construct the proposed project. Actions taken by these agencies for the referenced project may be undertakings subject to review under Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470f, and its implementing regulations, Protection of Historic Properties (36 CFR Part 800). This act requires federal agencies to consider the effects of its undertakings on important historic properties listed or eligible for listing in the National Register of Historic Places (NHRP). The area of potential effect for cultural resources occurs within the Spurlock Station property boundary to the south of KY Hwy 8 and west of KY Hwy 1597.

On behalf of RUS and the USACE, EKPC is seeking to identify persons who are interested in participating in the process for evaluating the potential effects of this proposed project on historic properties located in the project area that are listed or eligible for listing in the NHRP. If you have a legal or economic relation to properties that will be affected by the proposed project, or if you have a demonstrable interest in the historic built and/or archaeological environment in the project area, you are invited to participate as a consulting party in the Section 106 review process. If you believe you meet these criteria and you wish to participate as a consulting party, please send a letter with your contact information and statement of interest to Josh Young at josh.young@ekpc.coop, or at East Kentucky Power Cooperative, 4775 Lexington Road, Winchester, KY 40391.

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## AFFIDAVIT OF PUBLICATION

State of Kentucky

County of Mason

Kellie Cracraft being duly sworn deposes and says that she is Business Manager of The Ledger-Independent, a newspaper published in the City of Maysville and that advertising for the East Kentucky Power Coop was published the said newspaper and that the following is a true description of each advertisement as to date of publication and amount of space occupied:

DATE	SPACE	CAPTION
04/12/2017	3 x 3.50	NOTICE- Expansion Permit

Signed Kellie Cracraft

Subscribed and sworn to before me this 2<sup>nd</sup> day of May 2017

Pamela J. Payne  
Notary Public

State of Kentucky

My commission expires February 13, 2019

528199





April 7, 2017

The Honorable Joseph P. Pfeffer  
Mason County Judge/Executive  
Mason County Fiscal Court  
221 Stanley Reed Court Street  
Maysville, KY 41056

**RE: Invitation to Participate as a Consulting Party for the Section 106 Review Process for the Proposed Spurlock Station Landfill Area D Expansion Project**

Dear Judge Pfeffer,

Thank you for taking the time to review this letter regarding the potential involvement by your office in the above referenced project. The U.S. Department of Agriculture, Rural Utilities Service (RUS), is considering an application from East Kentucky Power Cooperative (EKPC) for financial assistance, and the U.S. Army Corps of Engineers (USACE) is considering the issuance of a permit for the expansion of the existing special waste landfill at its H.L. Spurlock Power Station (Spurlock Station) in Mason County, Kentucky. Actions taken by these agencies for the referenced project may be undertakings subject to review under Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800). This act requires federal agencies to consider the effects of its undertakings on important historic properties listed or eligible for listing in the National Register of Historic Places (NHRP).

Spurlock Station is located along the south bank of the Ohio River on either side of Kentucky Highway 8 (Mary Ingles Highway), approximately five miles northwest of the city of Maysville. The existing Spurlock Station Special Waste Landfill is located along South Ripley Road, approximately 0.5 mile south of KY Hwy 8 and 0.5 mile west of KY Hwy 1597 (Charleston Bottom Road). The area of potential effect (APE) for cultural resources occurs within the Spurlock Station property boundary to the south of KY Hwy 8 and west of KY Hwy 1597. Enclosed please find an aerial photograph and topographic map detailing the project location.

Based upon an analysis of project alternatives, EKPC has identified expansion of the existing Spurlock Station special waste landfill as the proposed alternative. The project would involve the construction, operation, and maintenance of a new cell (Area D) of the existing special waste landfill. The limits of disturbance directly associated with the proposed Landfill Area D have been identified to encompass approximately 181 acres. The borrow areas needed to provide the necessary liner and cover requirements were identified on the ridgetops adjacent to the landfill boundary.

4775 Lexington Road 40391  
P.O. Box 707, Winchester  
Kentucky 40392-0707

Tel. (859) 744-4812  
Fax: (859) 744-6008  
<http://www.ekpc.coop>

As head of the local government in the area that will be affected by the project, and in accordance with 36 CFR Part 800 and the National Historic Preservation Act of 1966, as amended, you and/or your representative(s) are entitled to participate in the Section 106 review process as a consulting party. If you desire to become formally involved in the regulatory process as a consulting party, please send an email or letter to *josh.young@ekpc.coop*, or at East Kentucky Power Cooperative, 4775 Lexington Road, Winchester, KY 40391.

We look forward to hearing from you.

Sincerely,



Patrick Stein  
Environmental Scientist  
Natural Resources and Environmental Communications

Enclosures

cc: Jerry Purvis (EKPC)  
Joe VonDerHaar (EKPC)  
Craig Johnson (EKPC)  
Mark Brewer (EKPC)  
Patrick Bischoff (EKPC)  
Lauren McGee Rayburn (RUS)

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<p>1. Article Addressed to:</p> <p><i>The Honorable Joseph P. Pfeffer                  Mason County Fiscal Court                  221 Stanley Reed Court St.                  Maysville, KY. 41056</i></p>  <p>9590 9402 2422 6249 3930 64</p>	<p>B. Received by (Printed Name)  <i>Richard Neuberger</i></p>	<p>C. Date of Delivery  <i>4/10/17</i></p>														
<p>2. Article Number (Transfer from service label)                  7015 1520 0002 9756 7535</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes                  If YES, enter delivery address below: <input type="checkbox"/> No</p>															
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**Rural Development**

January 6, 2017

Rural Utilities Service

Lauren Rayburn  
USDA/RD  
84 Coxe Ave.  
Suite 1E  
Asheville, NC 28801

Mr. Jason Ross  
S106 Program Manager  
Delaware Nation  
PO Box 825  
Anadarko, OK 73005

Voice: (202) 695-2540  
Fax: (202) 690-0649

**SUBJECT: Consultation under Section 106 of NHPA  
Spurlock Station Landfill Area D Expansion Project  
Mason County, Kentucky**

Dear Mr. Ross,

The U.S. Department of Agriculture Rural Utilities Service (RUS) is considering an application from East Kentucky Power Cooperative, Inc. (EKPC) for financial assistance in completing the proposed Spurlock Station Landfill Area D Expansion Project in Mason County, Kentucky. RUS is considering funding this application, thereby making the referenced project an undertaking subject to review under Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800).

The purpose of the project is to provide an economically feasible and environmentally sound disposal site for the coal combustion residuals (CCR) resulting from the long-term operation of Spurlock Station. The existing Spurlock Station Special Waste Landfill Area C, where CCR waste is currently disposed, is reaching capacity, necessitating the proposed expansion project. Additionally, soil borrow areas would be required to fulfill future liner and cover requirements associated with the expanded landfill facility.

Spurlock Station occupies just over 2,800 acres along the south bank of the Ohio River on either side of KY Highway 8 (Mary Ingles Highway), approximately five miles northwest of the city of Maysville. The existing Spurlock Station Special Waste Landfill Area C is located along South Ripley Road, approximately 0.5 mile south of KY Hwy 8 and 0.5 mile west of KY Hwy 1597 (Charleston Bottom Road). The proposed project is anticipated to disturb up to 571 acres, which would include the approximately 181 acres directly associated with the proposed expansion project and 390 acres of potential soil borrow areas. Enclosed please find maps detailing the project location.

Between 2011 and 2015, five archaeological surveys and two cultural historic surveys were conducted within the proposed project APE at Spurlock Station by Cultural Resource Analysts, Inc. (CRA), in accordance with current Kentucky State Historic Preservation Office (SHPO) guidelines. During the cultural resource surveys, the majority of the identified sites were determined to be not eligible for listing in the National Register of Historic Places (NRHP). However, 11 sites and a cemetery were considered potentially eligible and a Phase II Archaeological Investigation was conducted at these sites. The Phase II surveys resulted in CRA recommending that

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two sites (15Ms159 and 15Ms166) be considered eligible for listing in the NRHP. These early-to mid-nineteenth century historic farm/residence sites and associated cemeteries contained intact features with the potential for numerous more features to be discovered. Given this research potential, along with the local and regional importance of these sites, CRA recommended portions of sites 15Ms159 and 15Ms166 be avoided by the proposed project through the establishment of archaeological avoidance areas. Additionally, the Driskell-Thomas Cemetery, which is located in close proximity to the project APE, will be avoided by the proposed Area D expansion and associated borrow activities. There were no cultural historic resources recommended as eligible for listing on the NRHP.

The results of all archaeological and cultural historic surveys and recommended findings of effect for each survey conducted within the project APE were submitted to the Kentucky SHPO for review. For all surveys, the Kentucky SHPO has concurred with CRA's findings that the majority of the documented archaeological sites and all cultural historic sites were not eligible for listing in the NRHP. For the eligible archaeological sites, the SHPO has also concurred with the recommended finding of no effect, provided EKPC adheres to the avoidance measures. The enclosed aerial map depicts the location of the eligible sites and the Driskell-Thomas Cemetery in relation to the proposed project activities.

RUS is inviting the Delaware Nation to participate in consultation for the proposed Spurlock Station Landfill Area D Expansion Project. If the Delaware Nation decides to participate in consultation, I request that you notify RUS as soon as possible, but no later than February 7, 2017. In your notification, please include information about historic properties that are located in the APE and your recommendations regarding the scope of the proposed archaeological investigation.

RUS appreciates your attention to this matter. Should you have any questions or require additional information, please contact me at (202) 695-2540 or [lauren.rayburn@wdc.usda.gov](mailto:lauren.rayburn@wdc.usda.gov), or EKPC's Senior Environmental Scientist, Josh Young, at 859-745-9799 or [josh.young@ekpc.coop](mailto:josh.young@ekpc.coop).

Sincerely,



LAUREN MCGEE RAYBURN  
Environmental Scientist  
USDA, Rural Utilities Service

Enclosures

cc:

Jerry Purvis, EKPC  
Josh Young, EKPC





**Rural Development**

January 6, 2017

Rural Utilities Service

Lauren Rayburn  
USDA/RD  
84 Coxe Ave.  
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Asheville, NC 28801

Ms. Holly Austin  
Federal Cultural Resource Law Liaison  
Eastern Band of Cherokee Indians  
PO Box 455  
Cherokee, NC 28719

Voice: (202) 695-2540  
Fax: (202) 690-0649

**SUBJECT: Consultation under Section 106 of NHPA  
Spurlock Station Landfill Area D Expansion Project  
Mason County, Kentucky**

Dear Ms. Austin,

The U.S. Department of Agriculture Rural Utilities Service (RUS) is considering an application from East Kentucky Power Cooperative, Inc. (EKPC) for financial assistance in completing the proposed Spurlock Station Landfill Area D Expansion Project in Mason County, Kentucky. RUS is considering funding this application, thereby making the referenced project an undertaking subject to review under Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800).

The purpose of the project is to provide an economically feasible and environmentally sound disposal site for the coal combustion residuals (CCR) resulting from the long-term operation of Spurlock Station. The existing Spurlock Station Special Waste Landfill Area C, where CCR waste is currently disposed, is reaching capacity, necessitating the proposed expansion project. Additionally, soil borrow areas would be required to fulfill future liner and cover requirements associated with the expanded landfill facility.

Spurlock Station occupies just over 2,800 acres along the south bank of the Ohio River on either side of KY Highway 8 (Mary Ingles Highway), approximately five miles northwest of the city of Maysville. The existing Spurlock Station Special Waste Landfill Area C is located along South Ripley Road, approximately 0.5 mile south of KY Hwy 8 and 0.5 mile west of KY Hwy 1597 (Charleston Bottom Road). The proposed project is anticipated to disturb up to 571 acres, which would include the approximately 181 acres directly associated with the proposed expansion project and 390 acres of potential soil borrow areas. Enclosed please find maps detailing the project location.

Between 2011 and 2015, five archaeological surveys and two cultural historic surveys were conducted within the proposed project APE at Spurlock Station by Cultural Resource Analysts, Inc. (CRA), in accordance with current Kentucky State Historic Preservation Office (SHPO) guidelines. During the cultural resource surveys, the majority of the identified sites were determined to be not eligible for listing in the National Register of Historic Places (NRHP). However, 11 sites and a cemetery were considered potentially eligible and a Phase II Archaeological Investigation was conducted at these sites. The Phase II surveys resulted in CRA recommending that

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RUS is inviting the Eastern Band of Cherokee Indians to participate in consultation for the proposed Spurlock Station Landfill Area D Expansion Project. If the Eastern Band of Cherokee Indians decides to participate in consultation, I request that you notify RUS as soon as possible, but no later than February 7, 2017. In your notification, please include information about historic properties that are located in the APE and your recommendations regarding the scope of the proposed archaeological investigation.

RUS appreciates your attention to this matter. Should you have any questions or require additional information, please contact me at (202) 695-2540 or [lauren.rayburn@wdc.usda.gov](mailto:lauren.rayburn@wdc.usda.gov), or EKPC's Senior Environmental Scientist, Josh Young, at 859-745-9799 or [josh.young@ekpc.coop](mailto:josh.young@ekpc.coop).

Sincerely,



LAUREN MCGEE RAYBURN  
Environmental Scientist  
USDA, Rural Utilities Service

Enclosures

cc:

Mr. Russell Townsend, Eastern Band of Cherokee Indians  
Jerry Purvis, EKPC  
Josh Young, EKPC



**Rural Development**

January 6, 2017

Rural Utilities Service

Lauren Rayburn  
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Mr. Russell Townsend  
Tribal Historic Preservation Officer  
Eastern Band of Cherokee Indians  
PO Box 455  
Cherokee, NC 28719

Voice: (202) 695-2540  
Fax: (202) 690-0649

**SUBJECT: Consultation under Section 106 of NHPA  
Spurlock Station Landfill Area D Expansion Project  
Mason County, Kentucky**

Dear Mr. Townsend,

The U.S. Department of Agriculture Rural Utilities Service (RUS) is considering an application from East Kentucky Power Cooperative, Inc. (EKPC) for financial assistance in completing the proposed Spurlock Station Landfill Area D Expansion Project in Mason County, Kentucky. RUS is considering funding this application, thereby making the referenced project an undertaking subject to review under Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800).

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Sincerely,



LAUREN MCGEE RAYBURN  
Environmental Scientist  
USDA, Rural Utilities Service

Enclosures

cc:

Ms. Holly Austin, Eastern Band of Cherokee Indians  
Jerry Purvis, EKPC  
Josh Young, EKPC



**Rural Development**

January 6, 2017

Rural Utilities Service

Lauren Rayburn  
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Mr. George J. Strack  
Tribal Historic Preservation Officer  
Miami Nation  
PO Box 1326  
Miami, OK 74355

Voice: (202) 695-2540  
Fax: (202) 690-0649

**SUBJECT: Consultation under Section 106 of NHPA  
Spurlock Station Landfill Area D Expansion Project  
Mason County, Kentucky**

Dear Mr. Strack,

The U.S. Department of Agriculture Rural Utilities Service (RUS) is considering an application from East Kentucky Power Cooperative, Inc. (EKPC) for financial assistance in completing the proposed Spurlock Station Landfill Area D Expansion Project in Mason County, Kentucky. RUS is considering funding this application, thereby making the referenced project an undertaking subject to review under Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470f, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800).

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RUS is inviting the Miami Nation to participate in consultation for the proposed Spurlock Station Landfill Area D Expansion Project. If the Miami Nation decides to participate in consultation, I request that you notify RUS as soon as possible, but no later than February 7, 2017. In your notification, please include information about historic properties that are located in the APE and your recommendations regarding the scope of the proposed archaeological investigation.

RUS appreciates your attention to this matter. Should you have any questions or require additional information, please contact me at (202) 695-2540 or [lauren.rayburn@wdc.usda.gov](mailto:lauren.rayburn@wdc.usda.gov), or EKPC's Senior Environmental Scientist, Josh Young, at 859-745-9799 or [josh.young@ekpc.coop](mailto:josh.young@ekpc.coop).

Sincerely,



LAUREN MCGEE RAYBURN  
Environmental Scientist  
USDA, Rural Utilities Service

Enclosures


cc:

Jerry Purvis, EKPC  
Josh Young, EKPC

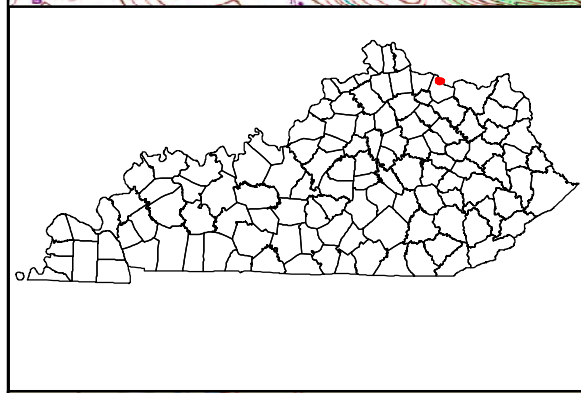
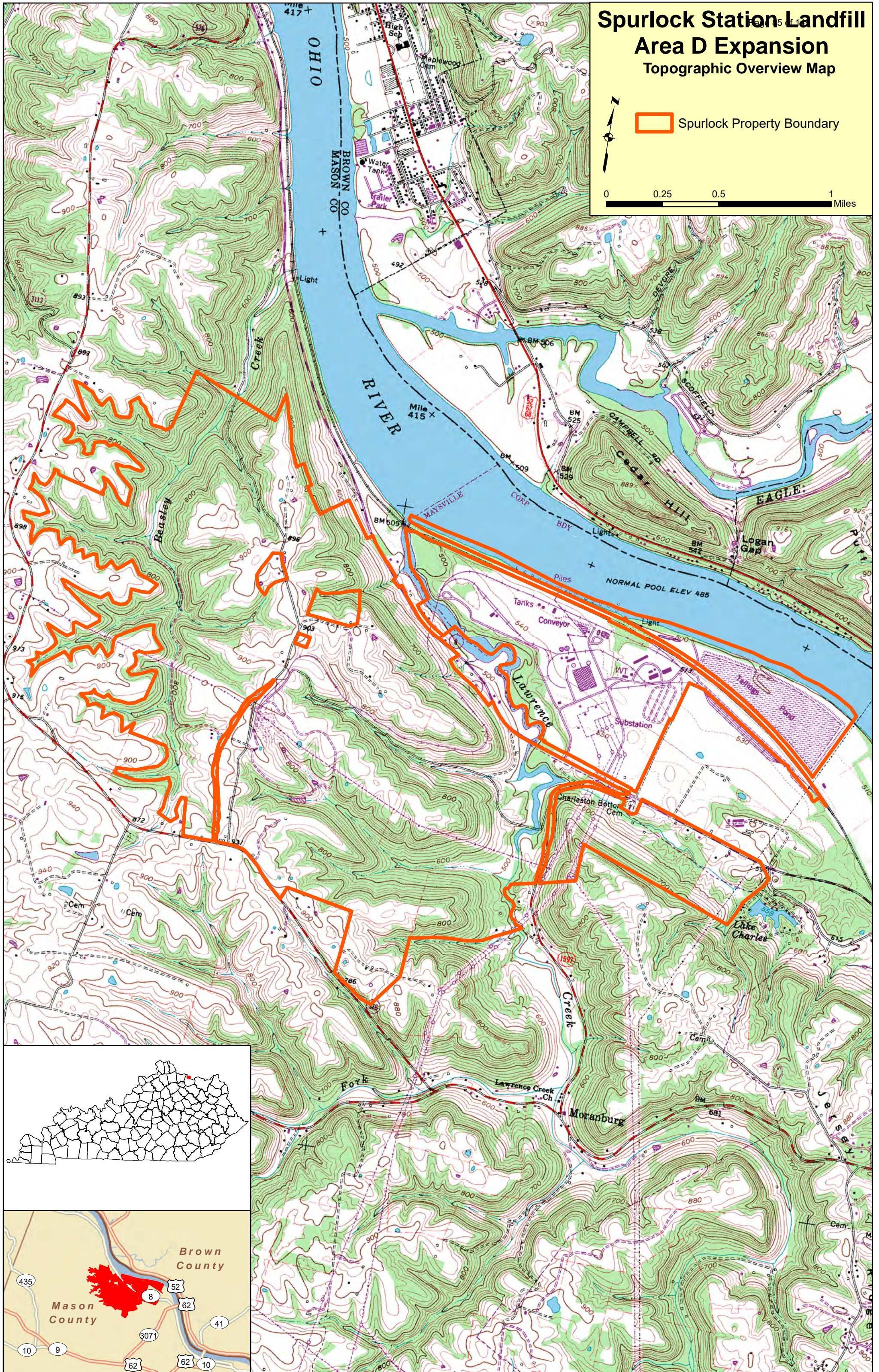


# Spurlock Station Landfill Area D Expansion Topographic Overview Map



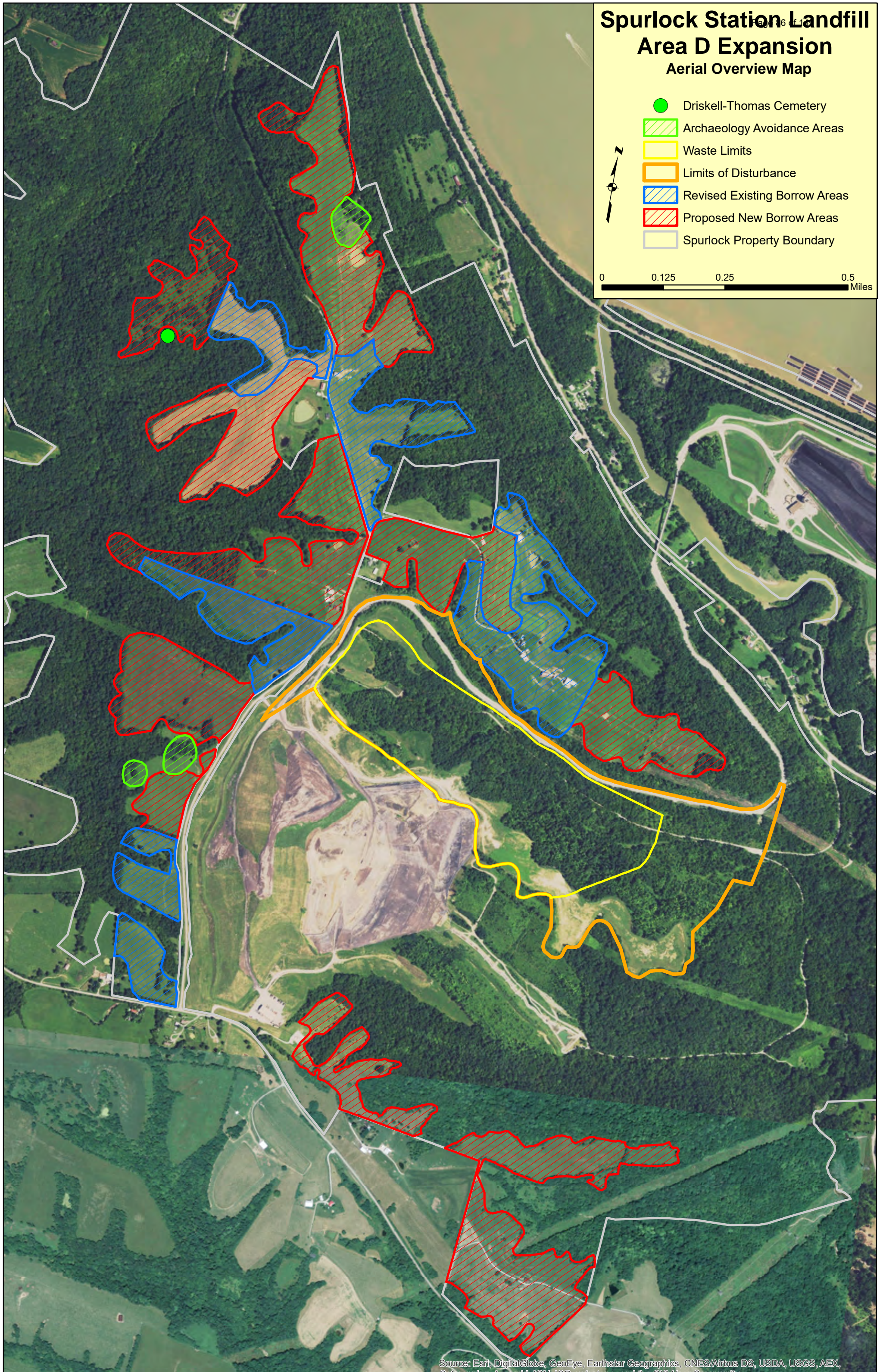
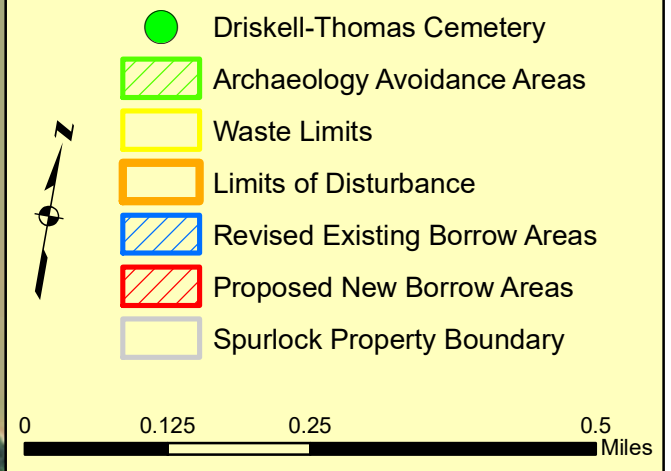
 Spurlock Property Boundary

0 0.25 0.5 1 Miles





# Spurlock Station Landfill Area D Expansion Aerial Overview Map









**Steven L. Beshear**  
Governor



**Leonard K. Peters**  
Secretary  
Energy and Environment Cabinet

**Donald S. Dott, Jr.**  
Director

**Commonwealth of Kentucky**  
**Kentucky State Nature Preserves Commission**  
801 Schenkel Lane  
Frankfort, Kentucky 40601-1403  
502-573-2886 Voice  
502-573-2355 Fax

January 24, 2013

Josh Young  
EKP  
4775 Lexington Road  
Winchester, KY 40391

Data Request 13-042

Dear Mr. Young:

This letter is in response to your data request of January 7, 2013 for the Spurlock Landfill Boundary Expansion Project(Mason County) project. We have reviewed our Natural Heritage Program Database to determine if any of the endangered, threatened, or special concern plants and animals or exemplary natural communities monitored by the Kentucky State Nature Preserves Commission occur near the project area on the Maysville West USGS Quadrangle, as shown on the map provided. Please see the attached reports for more information, which reflect analysis of the project area with three buffers applied:

- 1-mile for all records – 3 records
- 5-mile for aquatic records – 2 records
- 5-mile for federally listed species – 3 records
- 10-mile for mammals and birds – 4 records

*Myotis sodalis* (Indiana myotis, federally listed endangered, KSNPC endangered) has been detected through Anabat calls within one mile of the proposed project. A thorough survey for this species should be conducted by a qualified biologist if suitable habitat will be disturbed. The survey should include a search for potential roost and winter sites, and a mistnetting census at numerous points within the proposed corridor, particularly in preferred summer habitat. Summer foraging habitats include upland forests, bottomland forests and riparian corridors. Suitable roost and winter sites include sandstone and limestone caves, rockhouses, clifflines, auger holes, and abandoned mines. In order to avoid impacts to bats, bottomland forests and riparian corridors, particularly near caves, should not be disturbed.

*Falco peregrinus* (Peregrine Falcon, KSNPC endangered, federal species of management concern) typically nests on rocky cliffs, bluffs, or dirt banks. Ideal locations include undisturbed

Data Request 13-042

January 24, 2013

Page 2

areas with a wide view, near water, and close to plentiful prey. Substitute man-made sites include tall buildings, bridges, rock quarries, and raised platforms.

*Haliaeetus leucocephalus* (Bald eagle, federally delisted, KSNPC threatened) can be found near seacoasts, rivers and large lakes. Preferentially roosts in conifers in winter in some areas. In winter, may associate with waterfowl concentrations or congregate in areas with abundant dead fish.

Aquatic species and habitats in the area may be sensitive to increased turbidity, sediment, and other adverse influences on water quality. A written erosion control plan should be developed that includes stringent erosion control methods (i.e., straw bales, silt fences and erosion mats, immediate seeding and mulching of disturbed areas), which are placed in a staggered manner to provide several stages of control. All erosion control measures should be monitored periodically to ensure that they are functioning as planned. Our data are not sufficient to guarantee absence of endangered, threatened or sensitive species from the sites of proposed construction disturbance. We recommend that impacted streams be thoroughly surveyed by a qualified biologist prior to any in-stream disturbance.

I would like to take this opportunity to remind you of the terms of the data request license, which you agreed upon in order to submit your request. The license agreement states "Data and data products received from the Kentucky State Nature Preserves Commission, including any portion thereof, may not be reproduced in any form or by any means without the express written authorization of the Kentucky State Nature Preserves Commission." The exact location of plants, animals, and natural communities, if released by the Kentucky State Nature Preserves Commission, may not be released in any document or correspondence. These products are provided on a temporary basis for the express project (described above) of the requester, and may not be redistributed, resold or copied without the written permission of the Kentucky State Nature Preserves Commission's Data Manager (801 Schenkel Lane, Frankfort, KY, 40601. Phone: (502) 573-2886).

Please note that the quantity and quality of data collected by the Kentucky Natural Heritage Program are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Kentucky have never been thoroughly surveyed, and new plants and animals are still being discovered. For these reasons, the Kentucky Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of Kentucky. Heritage reports summarize the existing information known to the Kentucky Natural Heritage Program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. We would greatly appreciate receiving any pertinent information obtained as a result of on-site surveys.

Data Request 13-042

January 24, 2013

Page 3

If you have any questions or if I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Sara Hines  
Data Manager

SLD/SGH

Enclosures: Data Report and Interpretation Key



**Josh Young**

---

**From:** Josh Young  
**Sent:** Monday, April 3, 2017 9:57 AM  
**To:** 'Stoelb, Daniel (FW)'  
**Cc:** Patrick Stein  
**Subject:** Data Request - Spurlock Station Landfill Area D Expansion Project, Mason County, KY  
**Attachments:** Spurlock Landfill Area D Expansion Project\_KDFWR Maps.pdf

Mr. Dan Stoelb  
KY Dept. of Fish and Wildlife Resources  
#1 Sportsman's Lane  
Frankfort, KY 40601

Mr. Stoelb

Thank you for taking my call. As we discussed, East Kentucky Power Cooperative, Inc. (EKPC) is in the process of submitting applications and preparing an environmental report for the various federal and state permits and/or approvals that may be needed for the proposed Spurlock Station Landfill Area D Expansion Project. As a part of this process, we would like to coordinate with your office regarding the presence of any listed or proposed Threatened or Endangered species and/or designated or proposed Critical Habitat that may be present in the project area.

EKPC is seeking to permit an expansion of the existing special waste landfill at its H. L. Spurlock Power Station (Spurlock Station) in northern Mason County, Kentucky. Spurlock Station occupies just over 2,800 acres along the south bank of the Ohio River on either side of Kentucky Highway 8 (Mary Ingles Highway), approximately five miles northwest of the city of Maysville. The existing Spurlock Station Special Waste Landfill is located along South Ripley Road, approximately 0.5 mile south of KY Hwy 8 and 0.5 mile west of KY Hwy 1597 (Charleston Bottom Road). The proposed landfill expansion project would be centered at roughly 38.694552°N, -83.835519°W. A topographic map and aerial photographs depicting the location of the proposed project are attached for your review.

Based upon an analysis of project alternatives, EKPC has identified expansion of the existing Spurlock Station special waste landfill as the proposed alternative. The project would involve the construction, operation, and maintenance of a new cell (Area D) of the existing special waste landfill. The limits of disturbance directly associated with the proposed Landfill Area D have been identified to encompass approximately 181 acres. Within the limits of disturbance, project activities would include preparation of the site for placement of the landfill liner system and coal combustion residual (CCR) material within the proposed waste limits (102 acres), sediment pond to be constructed east of the proposed waste limits (2 acres), and 77 acres of potential ancillary disturbances associated with all required compliance structures (i.e. groundwater monitoring points, sediment control structures, diversion ditches [both run-on and run-off], roadways, underdrains, leachate containment structures, and composite landfill liner system).

The borrow areas needed to provide the necessary liner and cover requirements were identified on the ridgetops located within the proposed permit boundary just to the north, south, and west of the landfill expansion area. The six existing borrow areas have been slightly modified from what is currently permitted to reflect the updated Waters of the U.S. jurisdictional determinations and account for an updated property boundary survey conducted following a recent property acquisition. The existing borrow areas would now encompass 117 acres (previously 115 acres). Additional soil borrow areas beyond those currently available would be needed to meet the long-term

cover requirements of the Spurlock Station landfill; therefore, eight new borrow areas covering an additional 273 acres would be established as part of the project. The use of these borrow areas will be phased over the course of landfill operations and the total area to be affected will be determined by the extent to which the identified borrow areas require utilization, which is dependent upon the actual soil volumes encountered. New disturbance activities for construction of the proposed landfill expansion project would be limited to the limits of disturbance and identified soil borrow areas.

We would like to request a review of your information system regarding the presence of any listed or proposed Threatened or Endangered species and/or designated or proposed Critical Habitat in the project area. I would appreciate your comments on this project as soon as possible. If you need any further information or wish to discuss this project, please feel free to contact me.

Thank you,

Josh Young  
East Kentucky Power Cooperative, Inc.  
Natural Resources and Environmental Communications  
4775 Lexington Road  
Winchester, KY 40391  
Office: (859) 745-9799  
Cell: (859) 749-0553  
[josh.young@ekpc.coop](mailto:josh.young@ekpc.coop)

*the Reason I Go Home Tonight*



6 April 2017

East Kentucky Power Cooperative, Inc.  
Attn: Josh Young  
Natural Resources and Environmental Communications  
4775 Lexington Road  
Winchester, KY 40391

RE: Spurlock Station Landfill Area D Expansion Project  
Mason County, Kentucky

Dear Mr. Young:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for information pertaining to the subject project. The Kentucky Fish and Wildlife Information System indicates the federally-listed Northern Long-eared Bat (*Myotis septentrionalis*), Sheepnose (*Plethobasus cyphus*), and Rough Pigtoe (*Pleurobema plenum*) are known to occur within 10 miles of the project site. The state-listed Northern Leopard Frog (*Rana pipiens*) and Peregrine Falcon (*Falco peregrinus*) are known to occur within one mile of the project site. No designated critical habitat, unique natural areas, or caves are known to occur within the boundaries of the project. Please be aware that our database system is a dynamic one that only represents our current knowledge of various species distributions.

KDFWR requests you coordinate the project with the U.S. Fish and Wildlife Service Kentucky Field Office (502-695-0468). They may provide specific guidance as it relates to federally-listed species. It appears that the proposed project has the potential to impact wetland habitats. KDFWR recommends that you look at the appropriate US Department of Interior National Wetland Inventory Map (NWI) and the appropriate county soil surveys to determine where the proposed project may impact wetlands. Additionally, field verification may be needed to determine the extent and quality of wetland habitats within the project area. Any planning should include measures designed to eliminate and/or reduce impacts to wetland habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. KDFWR will recommend, at a minimum, a 2:1 mitigation ratio for any permanent loss or degradation of wetland habitats.

KDFWR recommends you contact the appropriate US Army Corps of Engineers office and the Kentucky Division of Water prior to any work within the waterways or wetland habitats of Kentucky. Additionally, KDFWR recommends the following for the portions of the project that impact streams:

- Channel changes located within the project area should incorporate natural stream channel design.
- If culverts are used, the culvert should be designed to allow the passage of aquatic organisms.
- Culverts should be designed so that degradation upstream and downstream of the culvert does not occur.



- Development/excavation during low flow period to minimize disturbances.
- Proper placement of erosion control structures below highly disturbed areas to minimize entry of silt into area streams.
- Replanting of disturbed areas after construction, including stream banks, with native vegetation for soil stabilization and enhancement of fish and wildlife populations. We recommend a 100 foot forested buffer along each stream bank.
- Return all disturbed instream habitat to a stable condition upon completion of construction in the area.
- Preservation of any tree canopy overhanging any streams within the project area.

To minimize indirect impacts to the aquatic environment, the KDFWR recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

I hope this information is helpful to you, and if you have questions or require additional information, please call me at (502) 564-7109 extension 4453.

Sincerely,



Dan Stoelb  
Environmental Scientist

Cc: Environmental Section File



*Certified Mail*  
7015 1520 0002 9756 7122

January 10, 2017

Mr. Lee Andrews  
U.S. Fish and Wildlife Service  
J. C. Watts Federal Building, Room 265  
330 West Broadway  
Frankfort, KY 40601

Dear Mr. Andrews,

East Kentucky Power Cooperative, Inc. (EKPC) is in the process of submitting applications and preparing an environmental assessment for the various federal and state permits and/or approvals that may be needed for the following project:

**Spurlock Station Landfill Area D Expansion Project**  
**IPaC Consultation Code: 04EK1000-2017-SLI-0075**

EKPC is seeking to permit an expansion of the existing special waste landfill at its H. L. Spurlock Power Station (Spurlock Station) in northern Mason County, Kentucky. Spurlock Station occupies just over 2,800 acres along the south bank of the Ohio River on either side of Kentucky Highway (KY Hwy) 8 (Mary Ingles Highway), approximately five miles northwest of the city of Maysville. The existing Spurlock Station Special Waste Landfill is located along South Ripley Road, approximately 0.5 mile south of KY Hwy 8 and 0.5 mile west of KY Hwy 1597 (Charleston Bottom Road). The existing Spurlock Station Landfill Area C is located directly to the south of the proposed Area D expansion area, and the two areas would be combined to form a single landfill following completion of the proposed project activities. Topographic maps and aerial photographs depicting the location of the proposed project are enclosed with this letter.

Spurlock Station is the largest coal-fired electric generating facility owned by EKPC and has been in operation since 1977. The power produced at Spurlock Station is transmitted to EKPC's 16 Owner-Member Electric Distribution Cooperatives, which serve approximately 530,000 homes, farms, and commercial and industrial establishments in 87 Kentucky counties. Electric generation at Spurlock Station typically produces approximately 1,800,000 cubic yards of coal combustion residuals (CCR) annually, which is transported via a private haul road and bridge across KY Hwy 8 to the active permitted special waste landfill for disposal. To continue uninterrupted operations at the facility, EKPC is seeking to permit a horizontal expansion of the existing Spurlock Station Special Waste Landfill, which is reaching capacity. Per EKPC landfill management planning, the available waste disposal area must be of sufficient size to allow for long-term planning and operation of the facility. Landfill Area C is projected to be at its operational capacity as early as 2023 and Landfill Area D will extend the operational capacity of the Spurlock Station Landfill until approximately 2037.

**PROJECT PURPOSE AND NEED**

The purpose of the project is to provide an economically feasible and environmentally sound disposal site for CCR generated as a result of the long-term operation of Spurlock Station. At the current rate of production, the CCR disposal capacity at Spurlock Station Landfill Area C will be exhausted as early as 2023, when it reaches its full capacity. As Spurlock Station is expected to continue in operation for the foreseeable future, EKPC must identify feasible disposal options for CCR generated beyond the 2023

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timeframe at Spurlock Station. Prudent planning indicates that the life expectancy of a waste disposal area must be sufficient to allow for reasonable return on the capital investment of engineering design, permit acquisition, and infrastructure development and should be of sufficient length to provide long-term disposal capacity at Spurlock Station. Furthermore, additional soil borrow areas would be necessary for future cover and liner requirements associated with CCR disposal at the Spurlock Station Landfill. Lack of a permanent disposal facility to receive CCR from Spurlock Station or insufficient cover materials would interfere with EKPC's ability to meet its statutory obligation to provide cost-effective, reliable electric power to its Owner-Member Distribution Cooperatives and their residential and commercial customers.

## PROJECT DESCRIPTION

Based upon an analysis of project alternatives, EKPC has identified expansion of the existing Spurlock Station special waste landfill as the proposed alternative. The project would involve the construction, operation, and maintenance of a new cell (Area D) of the existing special waste landfill. EKPC is currently seeking a permit modification from the Kentucky Division of Waste Management (KDWM) to horizontally expand the waste limits of the existing permitted facility, modify existing soil borrow areas, establish new soil borrow areas, and decrease the footprint of the existing KDWM permit boundary. EKPC is requesting to decrease the permit boundary from approximately 1,602 acres to 1,369 acres to exclude the stream mitigation area that is being proposed to mitigate for stream impacts as part of the U.S. Army Corps of Engineers permitting process. The proposed stream mitigation area would occur within a portion of the existing KDWM permit boundary in the Beasley Creek drainage; thus, the need to modify the boundary. All proposed Area D landfill expansion project-related activities would occur within this newly established KDWM permit boundary.

The limits of disturbance directly associated with the proposed Landfill Area D have been identified to encompass approximately 181 acres. Within the limits of disturbance, project activities would include preparation of the site for placement of the landfill liner system and CCR material within the proposed waste limits (102 acres), sediment pond to be constructed east of the proposed waste limits (2 acres), and 77 acres of potential ancillary disturbances associated with all required compliance structures (i.e. groundwater monitoring points, sediment control structures, diversion ditches [both run-on and run-off], roadways, underdrains, leachate containment structures, and composite landfill liner system).

The borrow areas needed to provide the necessary liner and cover requirements were identified on the ridgetops located within the permit boundary just to the north, south, and west of the landfill expansion area. The six existing borrow areas have been slightly modified from what is currently permitted to reflect the updated Waters of the U.S. jurisdictional determinations and account for an updated property boundary survey conducted following a recent property acquisition. The existing borrow areas would now encompass 117 acres (previously 115 acres). Additional soil borrow areas beyond those currently available would be needed to meet the long-term cover requirements of the Spurlock Station landfill; therefore, eight new borrow areas covering an additional 273 acres would be established as part of the project. The use of these borrow areas will be phased over the course of landfill operations and the total area to be affected will be determined by the extent to which the identified borrow areas require utilization, which is dependent upon the actual soil volumes encountered.

Also located within the proposed KDWM permit boundary is the approximately 250-acre existing special waste landfill and roughly 548-acres of forested and open lands, which would not be disturbed as a result of the proposed project. This acreage is primarily located to the north and east of the proposed landfill and borrow areas and would serve as a buffer between the proposed landfill expansion activities and adjacent properties. EKPC also proposes to compensate for the permanent stream impacts that would result from the landfill expansion through an on-site stream restoration project within the adjacent 83.9-acre Beasley Creek Mitigation Area. New disturbance activities for construction of the proposed landfill



expansion project would be limited to the limits of disturbance and identified soil borrow areas. The project components are presented in the table below and shown on the included mapping.

### Project Components

Component	Proposed Acreage
<b>Landfill Limits of Disturbance</b>	<b>181</b>
<i>Waste Limits</i>	102
<i>Sediment Pond</i>	2
<i>Ancillary Impacts</i>	77
<b>Soil Borrow Areas</b>	<b>390</b>
<i>Revised Existing Borrow Areas</i>	117
<i>Proposed New Borrow Areas</i>	273
<b>Total</b>	<b>571</b>

### SITE DESCRIPTION

Due to its location in northcentral Mason County, Spurlock Station lies within the Outer Bluegrass Physiographic region, which is generally characterized by gently rolling to hilly terrain with more deeply dissected valleys occurring near the major waterways, such as the Ohio River. The site is underlain by a succession of shale and limestone formations from the Ordovician Period. Areas near Spurlock Station contain some of the greatest local reliefs occurring in the Outer Bluegrass region with the difference in elevation between ridgetops and the valley bottoms being more than 400 feet<sup>1</sup>. The site is located in the Ohio River Basin and is drained by first, second, and third order streams, including Lawrence Creek, Beasley Creek, and several unnamed tributaries.

EKPC biologists conducted field surveys within the proposed permit boundary to determine the habitat types present. Nearly all of the uplands in this portion of Mason County have been cleared and are used for agricultural purposes, such as crop/hay production and livestock grazing. Likewise, the soil borrow areas identified for the proposed project are located along ridgetops that are predominantly fescue dominated pastures utilized for grazing/hay production and/or row cropping (Photos 6 – 8 below). The project area is located in the Oak-Hickory Forest Region, which extends across much of the eastern two-thirds of Kentucky. In this portion of the state the forests are generally characterized by a mixture of deciduous tree species, especially oaks and hickories, as well as American elm, American basswood, black cherry, black walnut, and white ash<sup>2</sup>. Within the project area, forested habitat is generally limited to valleys and drainages where agricultural practices are not practical, and there are two relatively large tracts of forested habitat in the Lawrence Creek and Beasley Creek drainages (Photos 1 – 5 below). Common species observed in the wooded areas include hackberry (*Celtis occidentalis*), honey locust (*Gleditsia triacanthos*), shagbark hickory (*Carya ovata*), white ash (*Fraxinus americana*), American elm (*Ulmus americana*), buckeye (*Aesculus glabra*), pawpaw (*Asimina triloba*), boxelder (*Acer negundo*), black cherry (*Prunus serotina*), white snakeroot (*Ageratina altissima*), Japanese honeysuckle (*Lonicera japonica*), poison ivy (*Toxicodendron radicans*), field garlic (*Allium vineale*), Virginia wildrye (*Elymus virginicus*), multiflora rose (*Rosa multiflora*), indian strawberry (*Potentilla indica*), chickweed (*Stellaria media*), bush honeysuckle (*Lonicera maackii*), Canada wildrye (*E. canadensis*), and avens (*Geum* sp.).

<sup>1</sup> McGrain, P. and J. C. Currens. 1978. Topography of Kentucky. Kentucky Geological Survey, Ser. X, Special Pub. 25, University of Kentucky, Lexington, KY.

<sup>2</sup> Jones, R. L. 2005. Plant Life of Kentucky. University Press of Kentucky. Lexington, Kentucky.