Section 531 Southern and Eastern Kentucky Environmental Infrastructure Program

Environmental Assessment
Finding of No Significant Impact

December 4, 2020

MOUNT VERNON WATER TREATMENT PLANT IMPROVEMENTS PROJECT, ROCKCASTLE COUNTY, KENTUCKY

United States Army Corps of Engineers
Louisville District

FINDING OF NO SIGNIFICANT IMPACT

Mount Vernon Water Plant Improvements Project Rockcastle County, Kentucky

The U.S. Army Corps of Engineers, Louisville District (Corps) has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The final Environmental Assessment (EA) dated 2 October 2020, for the Section 531 Mount Vernon Water Plant Improvements Project addresses potential environmental impacts associated with improvements to the Mount Vernon Water Plant in the city of Mount Vernon, Kentucky.

The Final EA, incorporated herein by reference, evaluated an action alternative that would reduce taste and odor issues occurring with public drinking water in the study area. The recommended plan is the Locally Preferred Plan (LPP) and includes design and construction of a powder activated carbon (PAC) reactor basin, PAC storage building with feed equipment, and PAC feed line. The concrete reactor basin would be 24-feet by 34-feet. with a sidewall height of 17-feet and would contain four mixers to keep the PAC in suspension. The storage building to house the super-sacks of PAC and feed equipment would be an approximately 600 square foot brick and block building. Approximately, 1,000 feet of PAC feed line would be installed from the proposed PAC reactor basin/feed storage building to the water intake point at Lake Linville.

A "no action" plan, and four alternatives were evaluated in section 2.0 of the EA and are briefly discussed below.[1] The alternatives included 1) construction of a powder activated carbon reactor basin with associated storage building and feed lines; 2) Installation of reservoir ultrasonic treatment system; 3) Implementation of a reservoir algaecide treatment program; and 4) implementation of Advanced Oxidation Process and construction of a building to house the equipment.

For all alternatives, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the recommended plan are listed in Table 1:

Table 1: Summary of Potential Effects of the Recommended Plan

	Insignificant effects	Insignificant effects as a result of mitigation*	Resource unaffected by action
Aesthetics	☒	☐	☐
Air quality	☒	☐	☐
Aquatic resources/wetlands	☒	☐	☐
Invasive species	☐	☐	☒
Fish and wildlife habitat	☒	☐	☐
Threatened/Endangered species/critical habitat	☐	☒	☐

[1] 40 CFR 1505.2(b) requires a summary of the alternatives considered.

	Insignificant effects	Insignificant effects as a result of mitigation*	Resource unaffected by action
Historic properties	☐	☐	☒
Other cultural resources	☐	☐	☒
Floodplains	☒	☐	☐
Hazardous, toxic & radioactive waste	☐	☐	☒
Land use	☐	☐	☒
Navigation	☐	☐	☒
Noise levels	☒	☐	☐
Public infrastructure	☐	☐	☒
Socio-economics	☐	☐	☒
Environmental justice	☐	☐	☒
Soils	☒	☐	☐
Tribal trust resources	☐	☐	☒
Water quality	☒	☐	☐
Climate change	☐	☐	☒
Prime and unique farmland	☐	☐	☒
Wild and Scenic Rivers	☐	☐	☒
Transportation and traffic	☒	☐	☐

All practical means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices, as outlined in the EA (e.g., use of silt fences, fiber rolls, etc.), would be implemented before, during, and after construction would be expected to minimize the potential for deleterious effects to the environment by reducing storm water run-off, erosion, accidental spills of petroleum products, and other potentially harmful inputs. After construction was completed, re-seeding and re-vegetation would be performed to minimize erosion losses and protect surface soils.

Any mitigation measures required by the Kentucky Division of Water for in-stream impacts from the construction of the recommended plan would be implemented to offset loss of habitat. Further, the loss of terrestrial vegetation associated with construction activities would also be mitigated appropriately, according to the Kentucky Department of Environmental Protection regulations. There would also be mitigation for the loss of 0.12 acres of forest-dwelling bat habitat through the Imperiled Bat Conservation Fund according to the 2016 Forest-dwelling Bat Conservation Strategy (See section 3.11).

A 30-day public review of the draft EA and Finding of No Significant Impact (FONSI) was initiated on August 24th, 2020. No comments were received during the public comment period. Comments from the state and agency review did not result in significant changes to the EA.

Pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended, the U.S. Army Corps of Engineers determined that the recommended plan may affect and is likely to adversely affect the following federally listed species or their designated critical habitat.

Common Name	Scientific Name	Federal Status
Indiana bat	*Myotis sodalis*	Endangered
Northern long-eared bat	*Myotis septentrionalis*	Threatened

The loss of 0.12 acres of Indiana bat habitat will be addressed through a monetary contribution to the Imperiled Bat Conservation Fund. The USFWS on December 2, 2020 concurred with the Corps' determination about the Indiana Bat and concurred that any incidental take from implementing the recommended plan would not be prohibited, nor would it result in jeopardy to the species. With respect to the Northern long-eared bat, the USACE requested verification from the US Fish and Wildlife Service (USFWS) for applying USFWS's programmatic biological opinion for the 4(d) rule, and received it on December 3, 2020, fulfilling the Corps' responsibilities under ESA section 7(a)(2) relative to that species for this project.

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the U.S. Army Corps of Engineers determined that the recommended plan will have no effect on the following federally listed species or their designated critical habitat.

Common Name	Scientific Name	Federal Status
Gray bat	*Myotis grisescens*	Endangered
Virginia big-eared bat	*Corynorhinus townsendii virginianus*	Endangered
Cumberland bean	*Villosa trabalis*	Endangered
Cumberland elktoe	*Alasmidonta atropurpurea*	Endangered
Cumberland combshell	*Epioblasma brevidens*	Endangered
Fluted kidneyshell	*Ptychobranchus subtenum*	Endangered
Litllewing pearlymussel	*Pegias fabula*	Endangered
Tan riffleshell	*Epioblasma florentina walker*	Endangered
Virginia spiraea	*Spiraea virginiana*	Threatened

Pursuant to section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers determined that historic properties would not be adversely affected by the recommended plan. The Kentucky Heritage Council concurred with the determination on January 5, 2020.

All applicable environmental laws have been considered and coordination with appropriate agencies and officials is complete.

Technical, environmental, and economic criteria used in the formulation of alternative plans were those specified in the Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives.[2] Based on this report, the reviews by other Federal, State and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.[3]

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Eric D. Crispino
Colonel, Corps of Engineers
District Commander

[2] 40 CFR 1505.2(B) requires identification of relevant factors including any essential to national policy which were balanced in the agency decision.

[3] 40 CFR 1508.13 stated the FONSI shall include an EA or a summary of it and shall note any other environmental documents related to it. If an assessment is included, the FONSI need not repeat any of the discussion in the assessment but may incorporate by reference.

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1.0 PROJECT DESCRIPTION

1.1 Project Background and Authorization

The purpose of this Environmental Assessment (EA) is to analyze the potential environmental impacts related to the proposed project (Mount Vernon Water Treatment Plant Improvements Project, Rockcastle County, Kentucky), and to determine whether the preparation of an Environmental Impact Statement (EIS) is required.

The proposed project would be carried out through a partnership agreement between The City of Mount Vernon and the Louisville District United States Army Corps of Engineers (USACE) established under the authority of Section 531 of the Water Resources Development Act (WRDA) of 1996 (Public Law No. 104-303), as amended, which provides authority for the USACE to establish a program to provide environmental assistance to Non-Federal interests in southern and eastern Kentucky. This program provides design and construction assistance for water related environmental infrastructure projects to Non-Federal interests in southern and eastern Kentucky, including projects for wastewater treatment and related facilities, water supply, water storage, water treatment, water distribution facilities, and surface water resource protection and development.

This EA was prepared pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508), and Corps of Engineers Regulation ER 200-2-2, *Policy and Procedures for Implementing NEPA* (33 CFR 230). This EA was prepared to describe the existing conditions in the vicinity of the Project Area and evaluate the potential impacts associated with the proposed action and reasonable alternatives.

1.2 Purpose and Need

The City of Mount Vernon (hereafter referred to as “City”) has recurring issues with foul taste and odor (T&O) in its drinking water. Lake Linville (Figure 1) is the source for public water for approximately 95 percent of all residents in Rockcastle County, as well as numerous customers in six adjacent counties. Due to increased nutrient loads entering the lake, seasonal blue-green algae blooms release organic compounds in levels as high as over 200 times the human detection level. These compounds have been shown to be the cause of the T&O issues associated with the drinking water (USGS n.d.). Producing higher quality potable water with minimal T&O issues would improve the basic quality of life for existing residents and visitors, as well as increase the economic potential of the area; Rockcastle County has been designated as distressed by the Appalachian Regional Commission (Appalachian Regional Commission 2020).

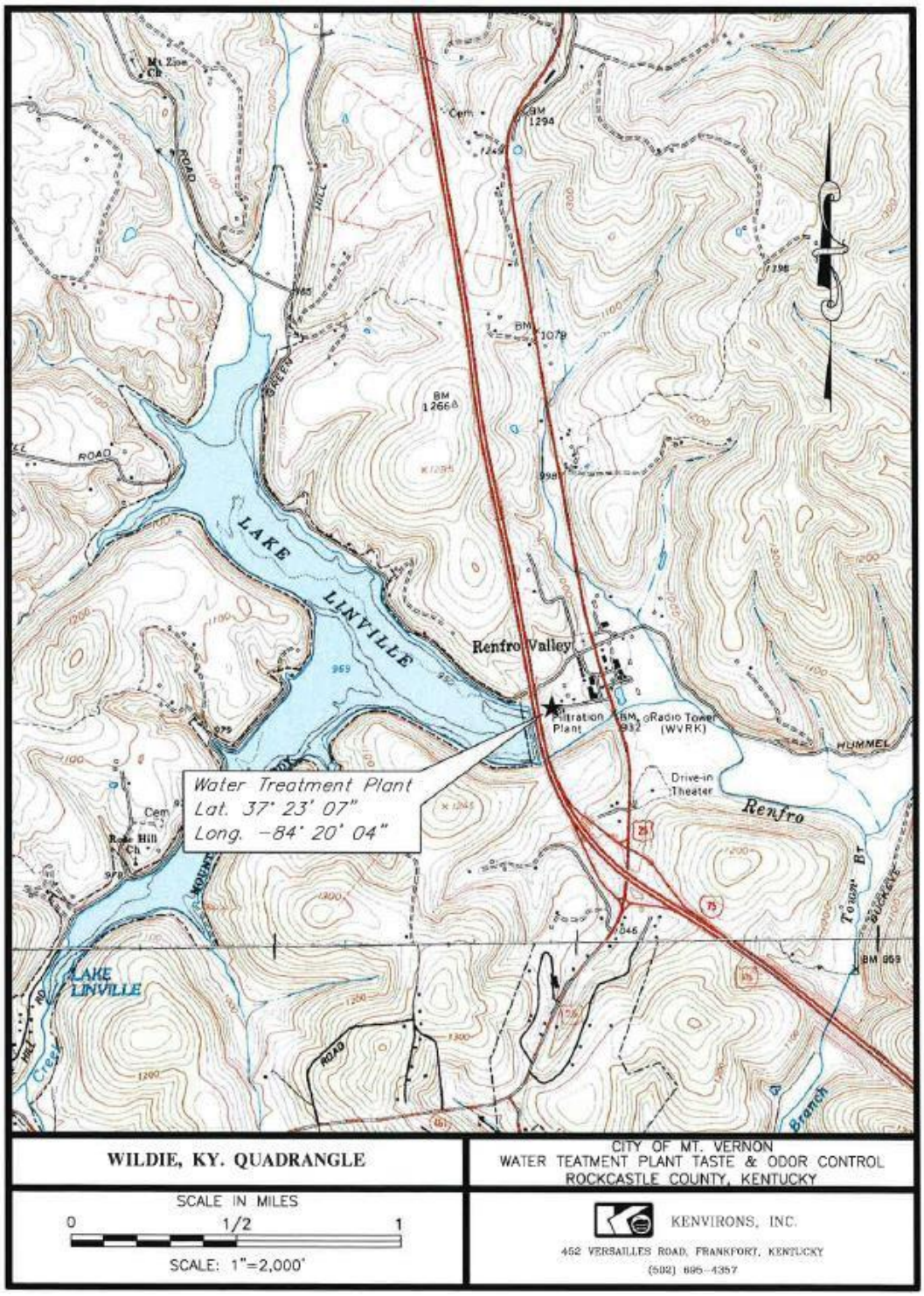

Figure 1. Lake Linville and Existing Water Treatment Plant Location

The City's lack of economic related growth may be attributed to the T&O issues with municipal water supplies (Appalachian Regional Commission 2020). The opportunity for industrial growth for the City has been directly affected. As an example, Kentucky Microfoodery LLC (cheese spread processing company), built a new facility in Mount Vernon in the spring of 2019, which is committed to supplying 50 new jobs to the distressed community and stimulated economic development. However, the company's concern over the quality of the City's water mandates that clean, fresh, tasteless and odorless water be hauled by tanker truck until the City's water treatment plant (WTP) could produce the quality of water needed for the industry's product. The direct improvement to economic potential for the area, through having higher quality potable water, would be growth in industry and potentially tourism.

1.3 Location

Rockcastle County is situated in the south-central region of Kentucky (Figure 1). Mount Vernon, the geographic center of the county, serves as the County Seat. Mount Vernon includes residences, a hospital, businesses, schools, a county library, as well as the shoreline of Lake Linville and tracts of deciduous forest. The Project Area is within the 8-digit U.S. Geological Survey (USGS) Hydrologic Unit Code (HUC) 05130102, which is the Rockcastle Watershed (KDOW).

Lake Linville is 356 acres in size and was created in 1968 by the construction of the Renfro Dam on Renfro Creek (see Figure 2). The dam is earthen, 72 ft. high, 1,100 ft. wide, and is owned and operated by the Commonwealth of Kentucky. Interstate 75 (I-75) lies on top of the embankment. The WTP that would be upgraded as part of this project is located directly below the Renfro Dam. The WTP was originally constructed in 1977. The City completed a $3,000,000 water storage and distribution system project that also included high service pump replacement at the water treatment plant (Kenvirons 2018).

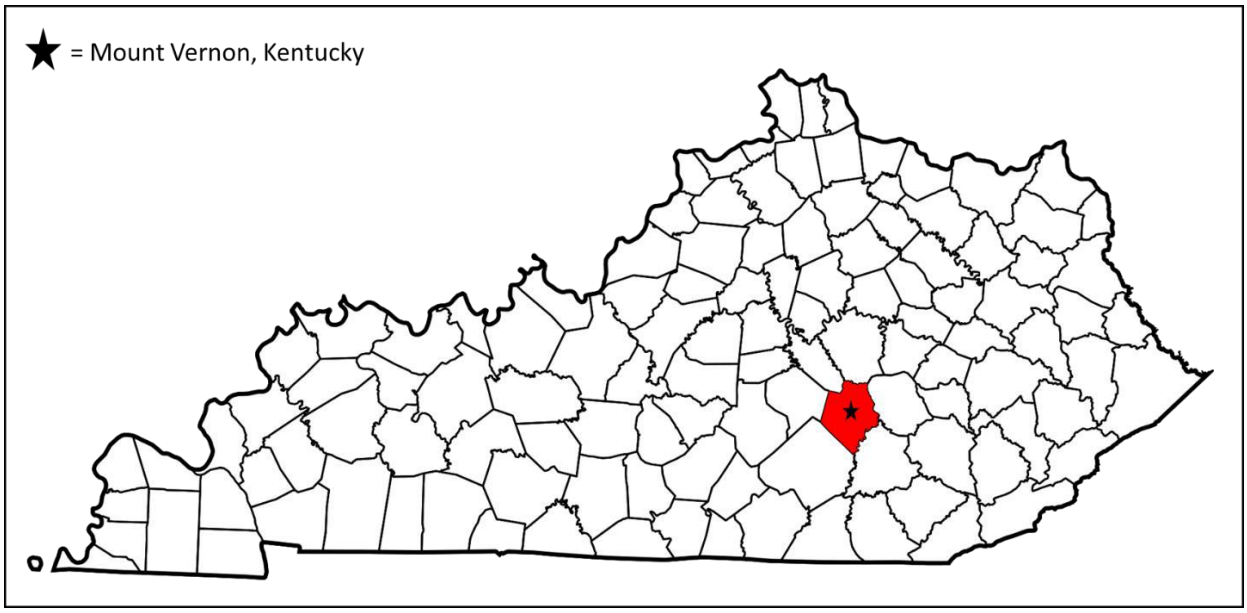

Figure 2. General location map of Rockcastle County, Kentucky.

2.0 PROPOSED ACTION AND ALTERNATIVES

This section summarizes the Proposed Action Alternative (PAA) and the No Action Alternative (NAA), as well as other alternatives considered during the planning process.

2.1 Proposed Action Alternative (PAA)

The Kentucky Division of Water (KDOW) has been aware of the T&O issues. The City has been in consultation with KDOW and the engineering firm, Kenvirons, Inc., to identify an economically feasible and effective method for reducing T&O issues. Research has indicated that contact time with powdered activated carbon (PAC) was an effective measure to reduce levels of the T&O-causing compounds to a manageable level (Kenvirons 2018). Through these consultations and research, a PAC feed system and reactor basin was selected as the locally preferred alternative. The feed system will introduce PAC to the water intake line as it is pumped to the reactor basin, thus starting the reaction as soon as possible (Figure 3). The reactor basin will keep PAC suspended in the water until the reaction is complete and water is pumped out of the reactor basin for further treatment at the existing facilities.

The Proposed Action Alternative (PAA) consists of the design and construction of a PAC reactor basin, PAC storage building with feed equipment, and PAC feed line. See Figure 3 for a map of project footprint. The concrete reactor basin would be 24 ft. by 34 ft., with a sidewall height of 17 ft. and would contain four mixers to keep the PAC in suspension. The storage building needed to house the super-sacks of PAC and feed equipment would be an approximately 600 sq. ft. brick and block building. Approximately 1,000 linear ft. of PAC feed line would be installed from the proposed PAC reactor basin/feed storage building to the water intake source at Lake Linville.

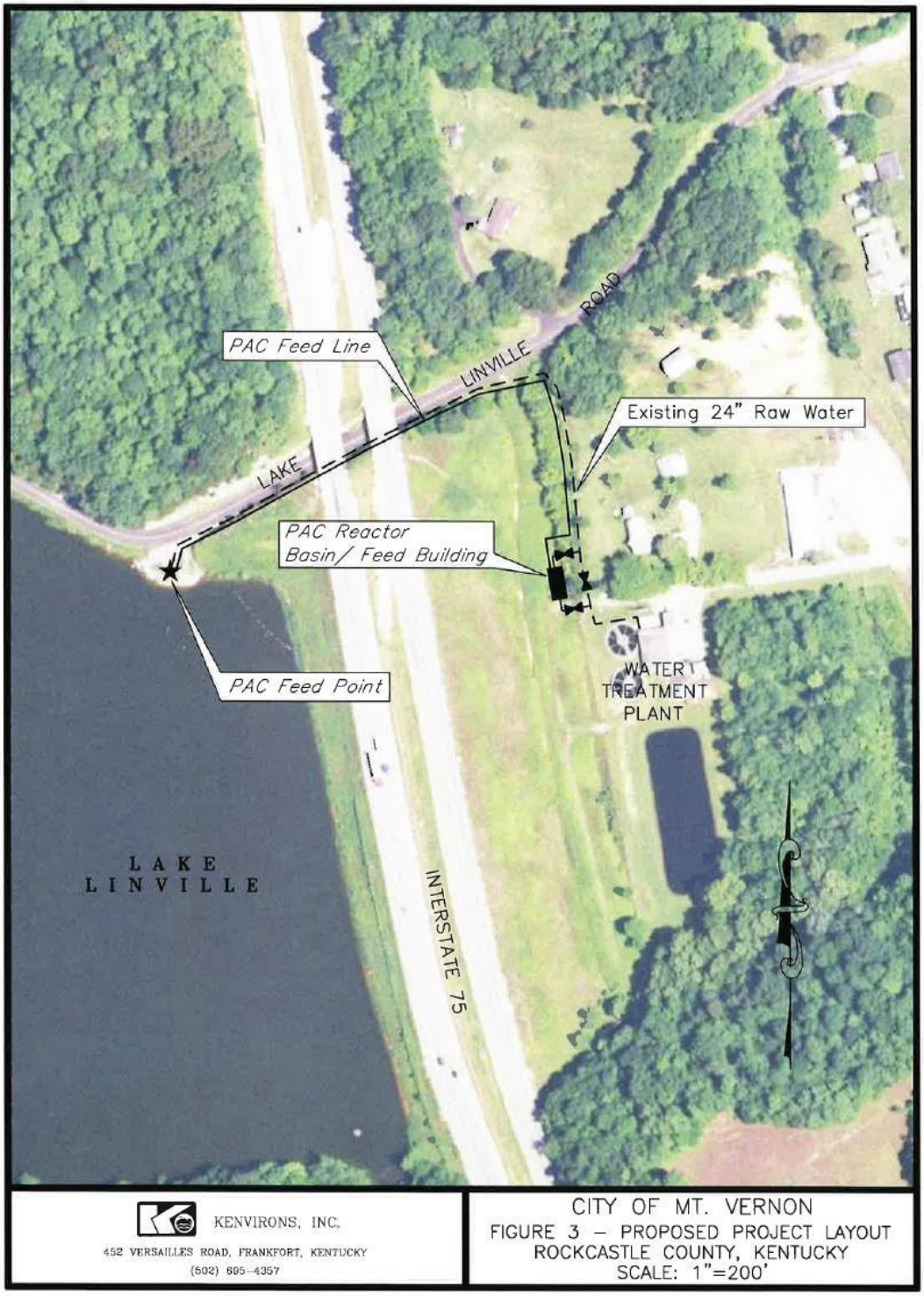

Figure 3. Map of Proposed Project Area Footprint.

These additions to the water treatment plant would minimize T&O issues and provide increased water quality to the City and Rockcastle County. The pipe trenches will be approximately 2 ft. wide and 30 inches deep. In two locations, the trench would need to cross a tributary to Renfro Creek (hereafter referred to as "tributary;" see Figure 3 for approximate locations of stream crossings). The crossings would be located approximately 100 and 60 ft. upstream of the tributary's crossing with a construction access road at the end of County Street 1091, or Water Plant Road, and would be 24 inches wide and 30 inches deep. Two valve boxes, installed at a depth of 4 ft., would need to be placed in two separate 4 ft. by 4 ft. dug holes east of the tributary. To allow access for construction equipment, vegetation removal would need to occur along the tributary (Figure 4). The construction duration is anticipated to be less than one year.

Figure 4. Location of proposed vegetation removal necessary for the Proposed Action Alternative

2.2 No Action Alternative (NAA)

Under the No Action Alternative (NAA), USACE examined the environmental effects of not implementing a project to address the T&O issues associated with the City's drinking water. CEQ regulations require analysis of the NAA to serve as a baseline against which to measure the environmental impacts of the PAA and to evaluate the adequacy of the PAA in meeting the purpose and need of the action.

2.3 Other Alternatives Considered

2.3.1 Reservoir Ultrasonic Treatment

This alternative would utilize ultrasonic sound waves, a new algae control technology, to eliminate algae from the reservoir. With this alternative, 10 ultrasonic buoys would be placed in the lake, of which, six would have water quality monitoring equipment attached. Each unit would be powered using solar panels and controlled through cellular data service.

This alternative was the most efficient option relative to cost. However, this method for controlling algae is relatively new and equipment manufacturers could not guarantee that this method would eliminate T&O issues, whereas the PAA is a proven method for eliminating T&O issues. As such, this alternative was not considered further in the planning process, and complete analysis of environmental effects was not necessary.

2.3.2 Reservoir Algaecide Treatment

This alternative would require applying algaecide along the shallow portions of the lake. The plan would consist of two to three seasonal applications of algaecide along the banks of the reservoir and near the intake of the water treatment plant. This would require approximately 15,000 gallons of algaecide be used annually to reduce the algae enough to impact the T&O issues.

This alternative would have met the purpose and need for the project; however, the annual operation cost was much higher than the PAA, making it infeasible. As such, this alternative was not considered further in the planning process, and complete analysis of environmental effects was not necessary.

2.3.3 Advanced Oxidation Process

This alternative would utilize an Advanced Oxidation Process (AOP) to combat T&O. This technology utilizes ultraviolet radiation and hydrogen peroxide to generate a hydroxyl radical that is capable of oxidizing the T&O compounds. The manufacturer of the equipment stated that the AOP would destroy 90 percent of the T&O compounds. This alternative would require a new building be constructed to house the UV and hydrogen peroxide equipment.

This alternative would have met the purpose and need for the project, however the initial capital needed to develop these systems and the annual operation cost were much higher than the PAA,

making it infeasible. As costs were much higher and the environmental effects were anticipated to be very similar to the PAA this alternative was not considered further in the planning process, and complete analysis of environmental effects was not necessary.

3.0 ENVIRONMENTAL SETTING AND CONSEQUENCES

The NEPA and CEQ Implementing Regulations require that an EA identify the likely environmental effects of a proposed project and that the agency determine whether those impacts may be significant. The determination of whether an impact significantly affects the quality of the human environment must consider the context of an action and the intensity of the impacts (40 CFR 1508.27).

The term context refers to the affected environment in which the proposed action would take place and is based on the specific location of the proposed action, taking into account the entire affected region, the affected interests, and the locality. The term intensity refers to the magnitude of change that would result if the proposed action were implemented.

Determining whether an effect significantly affects the quality of the human environment also requires an examination of the relationship between context and intensity. In general, the more sensitive the context (i.e., the specific resource in the proposed action's affected area), the less intense an impact needs to be in order for the action to be considered significant. Conversely, the less intense of an impact, the less scrutiny even sensitive resources need because of the overt inability of an action to effect change to the physical environment. The consideration of context and intensity also must account for the indirect and cumulative effects from a proposed action. This section describes the existing environmental conditions in the vicinity of the Project Area (affected environment), providing a baseline for measuring expected changes that would result from implementation of the scope of work for the project.

This section presents the adverse and beneficial environmental effects (direct and indirect) of the PAA and the NAA. The section is organized by resource topic, with the effects of alternatives discussed under each resource topic. Impacts are quantified whenever possible. Qualitative descriptions of impacts are explained by accompanying text where used.

Qualitative definitions/descriptions of impacts as used in this section of the EA include:

- Minor – noticeable impacts to the resource in the vicinity of the Project Area, but the resource is still mostly functional;
- Moderate – the resource is impaired, so that it cannot function normally; and
- Major – the resource is severely impaired so that it is no longer functional.

Duration:

- Short-term – temporary effects caused by the construction and/or implementation of a selected alternative; and
- Long-term – caused by an alternative after construction has been completed and/or when it is in full and complete operation.

3.1 Land Use

3.1.1 Existing Condition

Land use in the vicinity of the PAA is mixed. Deciduous forest exists north and south of the Project Area. Linville Lake, to the west, apart from serving as a water source for most of the county, provides opportunities for recreation, as well as fish and wildlife stewardship. East of the Project Area, land use is more urbanized, with a United States Postal Service office, a boutique, and a cabin museum. Parcels that surround the Project Area are comprised of mown lawn, deciduous forest, and grass/pasture.

3.1.2 Environmental Consequences

3.1.2.1 No Action

Under the NAA, it is expected that City water would continue to suffer from foul T&O. This could discourage or prevent future development of the land, as businesses such as the cheese processing company could be deterred from using the City's water supply.

3.1.2.2 Proposed Action

All construction activities would take place below Renfro Dam and along the road right-of-way (ROW) (see photos provided in Appendix A). As a result, the feed lines would be installed in previously disturbed areas and are not anticipated to change the short-term land use. Long-term changes to land use resulting from the PAA could include an increase in development of residential and commercial buildings in the Project Area to accommodate population growth. The City's Planning and Zoning Commission would continue to enforce land use guidelines to promote the health, safety, quality of life, and general welfare of the City. The Cumberland Valley Area Development District and the Department of Housing, Buildings, and Construction were given the opportunity to review the proposed project, and no negative comments were received from these two departments (see State E-Clearinghouse Comments in Appendix B).

3.2 Climate

3.2.1 Existing Condition

According to databases held by the National Weather Service the annual average high temperature for Mount Vernon is 65.8 degrees Fahrenheit and annual average low temperature is 44.8 degrees Fahrenheit. Yearly normal amount of precipitation is 49.12 inches. The area experiences seasonal weather patterns and climatic conditions typical of the Southeast Regions of the United States. Summers are usually characterized by warm to hot weather with periods of high humidity. Winters are typically mild. Fall is the driest season while spring is typically the wettest (NOAA).

3.2.2 Environmental Consequences

3.2.2.1 No Action

There would be no impacts to climate as a result of the NAA.

3.2.2.2 Proposed Action

Implementation of the PAA would not result in measurable impacts to climate change. Any adverse impacts to air quality from construction equipment emissions would be minor and short-term.

3.3 Terrestrial Habitat

3.3.1 Existing Condition

The Project Area is located in the Eastern Kentucky Coal Field province. The land within the Project Area may be classified as rural, typical of the Cumberland Plateau physiographic region. Rock in the area generally consists of sandstone, limestone, and shale, with siltstone, conglomerate, and coal occurring less often (fs.usda.gov). This region is characterized by steep, rugged mountains dissected by V-shaped valleys (KGS). Most development occurs along the relatively level stream terraces, while the mountainsides are characterized by typical Eastern deciduous second growth forests species (predominantly tulip poplar, white and chestnut oak, red and sugar maple, beech and sycamore).

The terrestrial habitats located in the vicinity of and within the project footprint (shown in Figure 3) consist of mowed grass, an approximately 40-ft. wide riparian vegetation strip (see Photos 3-3, 4-1, 5-1, 5-2, 6-1, and 8-1 in Appendix A), and grass and shrubs within the ROW of Lake Linville/Green Hill Road (see Photos 8-1, 9-1, and 10-1 in Appendix A for view of road ROW). Vegetation observed during the April 22, 2019 Project Site visit included trees such as eastern cottonwood, redbud, tulip poplar, oak and maple, vines and lower-lying vegetation such as Virginia creeper, milkweed, muscadine, poison ivy, and some non-native species such as honeysuckle.

3.3.2 Environmental Consequences

3.3.2.1 No Action

As the selection of the NAA would entail no changes to the Project Area, there are no impacts to terrestrial habitat anticipated as part of the NAA.

3.3.2.2 Proposed Action

The PAA would be constructed on previously disturbed areas adjacent to the Renfro Dam and along the road ROW; potential impacts to vegetation would be minor and short-term. Tree removal would be required as part of the PAA where dug trenches would cross vegetated areas (shown in Figure 3). Vegetation/tree removal is anticipated to occur on less than 0.03 acre of land. All construction would occur within existing easements held by the City or state; a previous project at this site replaced a 12-inch water main with the currently existing 24-inch water main. Impacts to terrestrial habitat would be minor and short-term.

3.4 Aquatic Habitat/Water Quality

3.4.1 Existing Condition

Renfro Creek is part of the Upper Cumberland River Watershed (USGS HUC 051301). Water quality within the watershed as a whole mirrors that of Renfro Creek. Out of approximately 3,100 miles of streams and rivers within the watershed, approximately 540 miles are impaired (Kentucky Division of Water 2018). Common impairments include bacteria, sedimentation, and specific conductance, with common sources being mining, failing septic tanks, and agriculture.

Kentucky's 303(d) list of impaired waters lists Renfro Creek from 0 to 3.1 miles (from its mouth to the Lake Linville Dam) as being designated warm water aquatic habitat and as being impaired for three pollutants. The three pollutants are sedimentation/siltation, organic enrichment (sewage) biological indicators, and nutrient/eutrophication biological indicators. The suspected source for sedimentation/siltation is habitat modification (e.g., loss of riparian habitat, silviculture activities, streambank modifications/destabilization, and urban runoff/storm sewers). The suspected source for the other pollutants is on-site sewage treatment systems (e.g., septic systems and similar decentralized systems), a package plant, or other permitted small flow discharges.

Despite its impairments, Lake Linville serves as habitat for channel catfish, flathead catfish, saugeye, largemouth bass, spotted bass, white crappie, bluegill, longear sunfish, carp, and yellow bullhead (KDFWR).

The project footprint overlaps with an ephemeral tributary to Renfro Creek (location shown in Figure 4); the tributary was determined to be ephemeral by the USACE Regulatory Division, Nashville District, on June 24, 2020. The tributary emerges from a culvert Approximately 70 ft. south of Green Hill Road and flows south toward Renfro Creek.

3.4.2 Environmental Consequences

3.4.2.1 No Action

Under the NAA, there would be no impact to aquatic habitat or quality of surface water in the Project Area. However, foul T&O issues would persist in drinking water.

3.4.2.2 Proposed Action

Two stream crossings over the ephemeral tributary to Renfro Creek (see Figure 4) would be required for installation of the PAC feed and water lines. Digging these trenches across the creek could result in short-term increases in turbidity in the tributary during construction activities. The Kentucky Department of Fish and Wildlife Resources recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways located within the Project Area (Appendix B). These measures, including silt fences and reseeding disturbed ground, would be developed and implemented and would be inspected and repaired

regularly as needed, to prevent any potential turbidity increases from surpassing minor levels within the tributary.

The PAA would not require authorization under section 404 of the Clean Water Act, as the stream is ephemeral, and therefore not considered waters of the United States. Approximately 40 ft. of stream bank would be impacted by the two stream crossings. Consultation with KDOW has confirmed that a stream construction permit application would need to be submitted for further review of this project, as construction would take place in the 100-year floodplain. The KDOW Water Infrastructure Branch has no objections to the proposed project, provided that plans and specifications, including hydraulic analysis, are submitted by a professional engineer in Kentucky (Appendix B). Additionally, the Watershed Management Branch of the KDOW would be contacted prior to construction to ensure adequate water quantity is available at the new intake location and justification would be provided that the new location is in compliance with KDOW's Five-Mile Policy, which prohibits public water supply being located within five miles downstream of a waste water treatment plant. Prior to construction, a Groundwater Protection Plan will be developed to protect groundwater resources within the area, and written approval of the Groundwater Protection Plan would be required from the KDOW prior to beginning of construction. These KDOW regulatory requirements would ensure that the quality of Renfro Creek and its tributary would not be degraded by implementation of the PAA. See Appendix B, Agency Coordination, for responses from the abovementioned agencies in the Kentucky Clearinghouse comments.

The PAA, which would increase the quality of drinking water for the City and others living within Rockcastle County, could potentially cause short-term, minor adverse impacts to the tributary due to construction-related increases in turbidity. However, all permit conditions would be followed and best management practices would be utilized, ensuring any potential short-term adverse impacts from turbidity are negligible and therefore would not impact aquatic functioning.

3.5 Floodplains

3.5.1 Existing Condition

The Project Area is within the 100-year floodplain of Renfro Creek. Figure 5 is the Federal Emergency Management Agency's (FEMA) flood map of the Project Area.

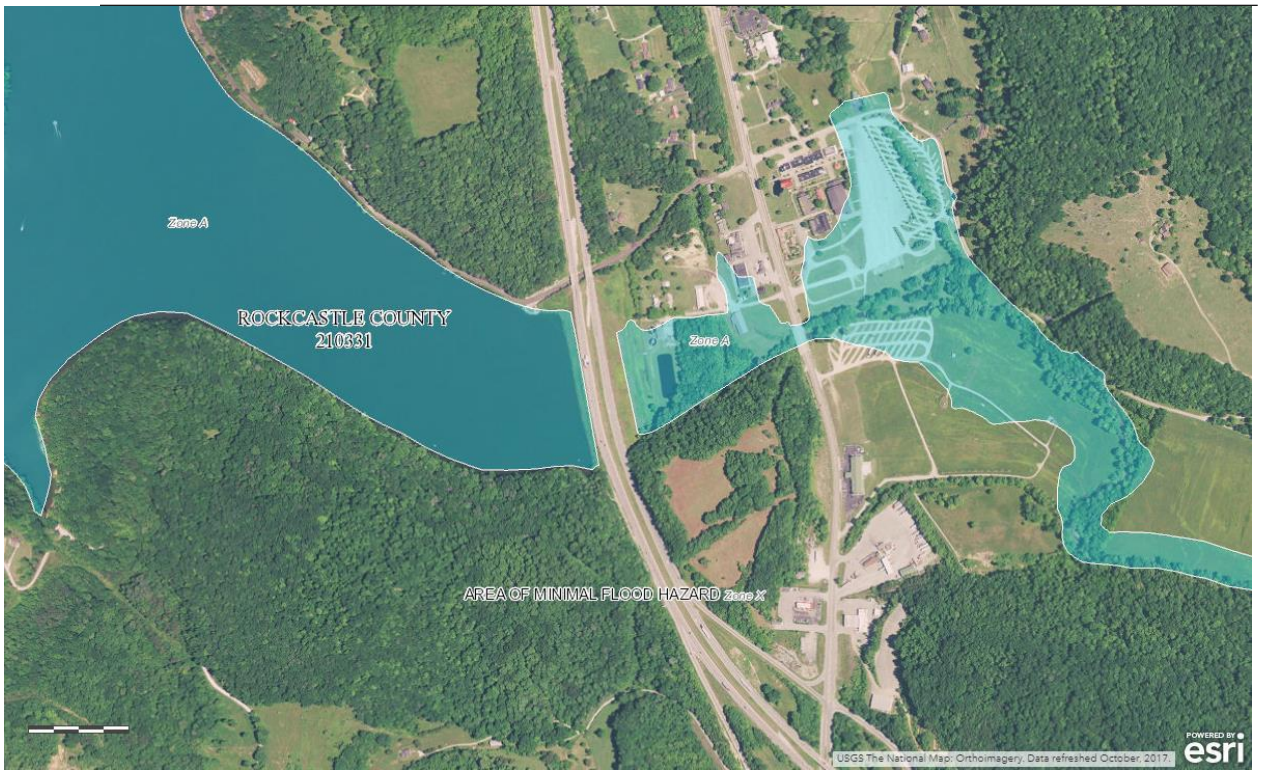

Figure 5. FEMA 100-year floodplain for the Project Area

3.5.2 Environmental Consequences

3.5.2.1 No Action

Under the NAA, no impacts to the floodplain would be anticipated.

3.5.2.2 Proposed Action

Executive Order 11988 requires Federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. Consultation with KDOW has confirmed that the Project Area is located in the 100-year, or 1% annual chance flood hazard zone, and therefore would require a floodplain construction permit. Implementation of the PAA would not be expected to alter elevation of the floodplain, impact floodplain function, or encourage development within the floodplain. Permitting and regulation by KDOW would ensure no adverse impacts on the floodplain from implementation of the PAA.

3.6 Soils and Prime and Unique Farmland

3.6.1 Existing Condition

The Farmland Protection Policy Act (FPPA) requires Federal agencies to minimize the conversion of prime and unique farmland to non-agricultural uses. The Project Area is located on previous farmland that was converted to non-agricultural areas. A database comparison between the NRCS list of prime farmland soil types (NRCS_1) and NRCS Web Soil Survey (NRCS_2) (Table 2) shows that while soil classification for Newark silt loam is prime farmland if drained, the portion of the project footprint over this soil class is land previously converted for the construction of the existing water treatment plant (Figure 6). Shelocta channery silt is farmland of statewide importance (Table 1). However, the Shelocta channery silt which would be disturbed by the PAA is within an existing ROW and sits between Renfro Dam and a privately owned lawn. Therefore, land use in the area currently precludes agricultural operations on the soils which would be disturbed by construction.

Table 1. List of Soil Classifications for the Mount Vernon Water Treatment Plant Improvement Project, Kentucky

Soil Code	Soil Type	Farmland Classification
WcF	Weikert channery silt loam, 40 to 80 percent slopes	Not prime farmland
SbC	Shelocta channery silt loam, 6 to 12 percent slopes	Farmland of statewide importance
Nd	Newark silt loam	Prime farmland if drained
WcF	Weikert channery silt loam, 40 to 80 percent slopes	Not prime farmland
BgD	Berea silt loam, 12 to 20 percent slopes	Not prime farmland

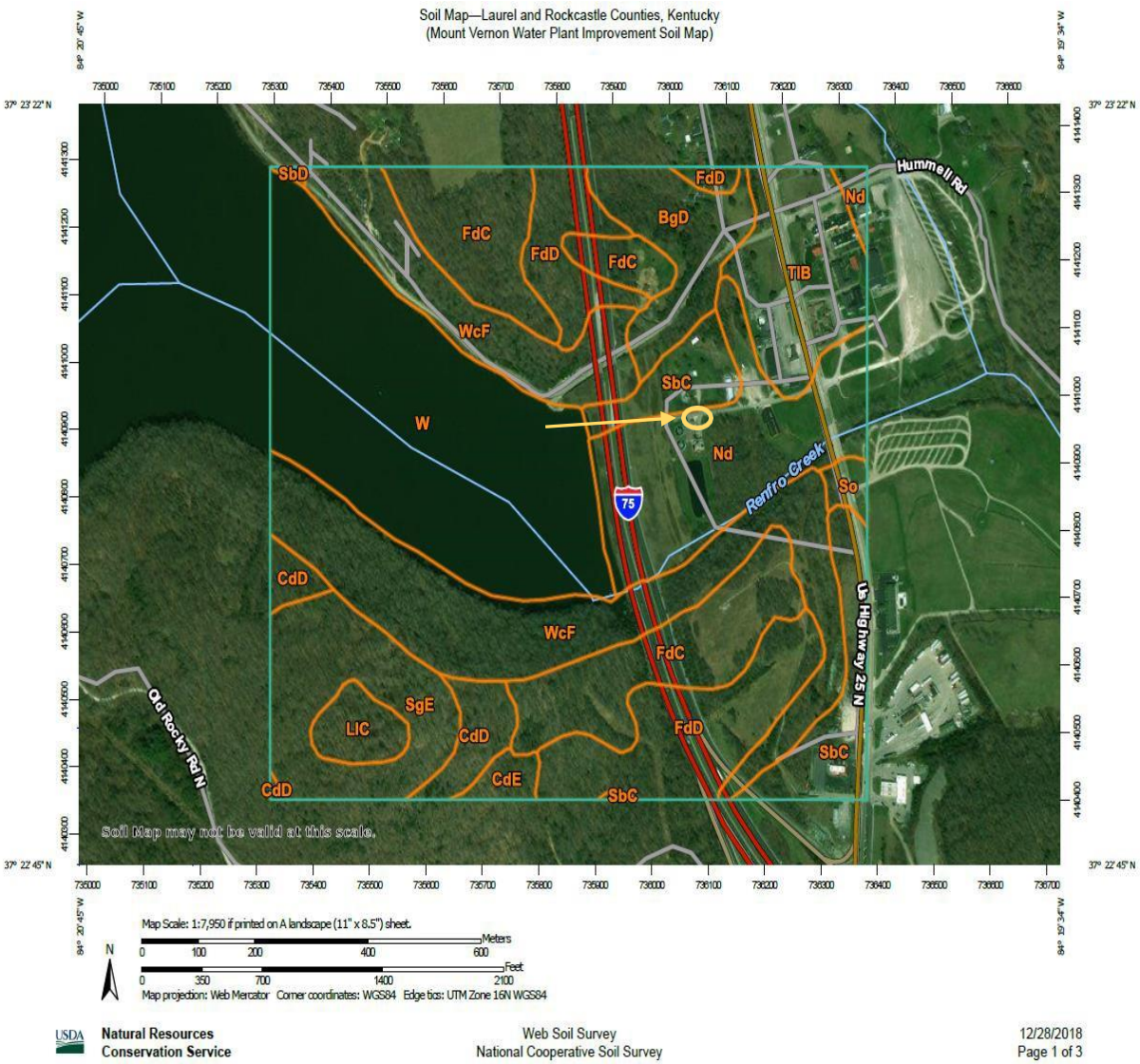

Figure 6. Web Soil Survey of Project Area. *Yellow arrow and oval indicate where project footprint may overlap with soil classified as prime farmland.

3.6.2 Environmental Consequences

3.6.2.1 No Action

There are no impacts to Prime and Unique Farmland anticipated as part of the NAA.

3.6.2.2 Proposed Action

Based upon NRCS database review and the conversion to non-agricultural land predating the PAA, the PAA would have no impact on Prime or Unique, Statewide, or Locally important farmland.

3.7 Wetlands

National Wetland Inventory (NWI) maps (Figure 7) were reviewed for the proposed Project Area and reconnaissance was conducted to determine validity of NWI Maps. The NWI maps indicated that there were no wetlands within the Project Area (USFWS_1), and this finding was confirmed during the Project Area reconnaissance. Therefore, no change to these resources is anticipated as a result of implementing either the NAA or PAA.

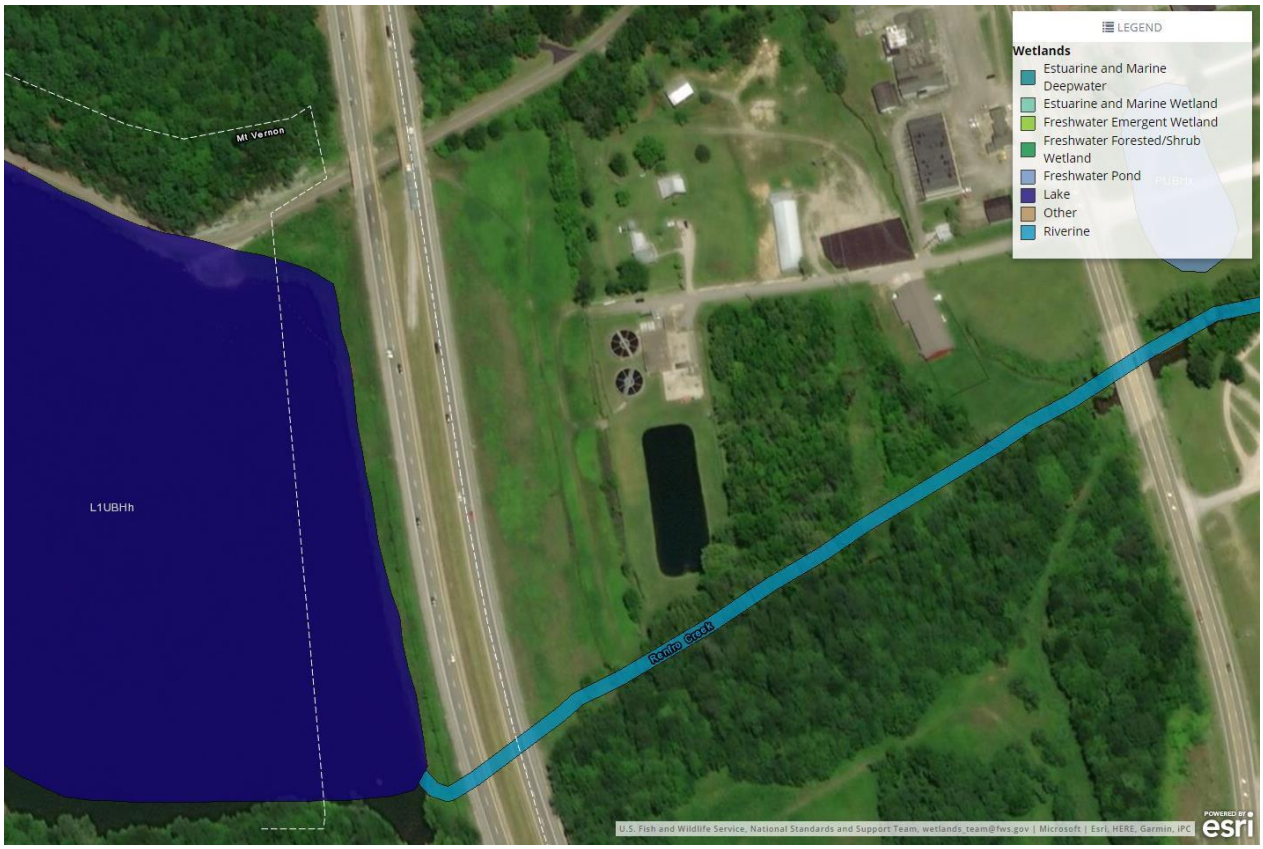

Figure 7. National Wetlands Inventory Map of Project Area

3.8 Wild and Scenic Rivers

No designated State Wild or Scenic Rivers are present within the Project Area (EPA_1). Therefore, no change to these resources is anticipated as part of the NAA or PAA.

3.9 Hazardous, Toxic, and Radioactive Waste (HTRW)

3.9.1 Existing Condition

A Phase I HTRW Environmental Site Assessment was conducted to identify environmental conditions and to identify the potential presence of HTRW contamination located in the project

area footprint (Figure 3). This investigation included a Federal and state environmental database search, Project Area reconnaissance, review of historical aerial and topographic mapping and interviews. Historic aerials and topographic mapping revealed that the land was farmland adjacent to Renfro Creek prior to construction of Renfro Dam, and undisturbed forest prior to becoming farmland. The investigation was performed in accordance with ASTM E-1527-13 Standards.

The U.S. Environmental Protection Agency's (EPA) Envirofacts Facility Database was queried regarding the potential location of any Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund) or Resource Conservation and Recovery Act (RCRA) sites in the vicinity of the proposed project footprint. There are sixteen inactive RCRA facilities which have no violations of EPA standards within two miles of the Project Area. Two active RCRA facilities within two miles of the project footprint have no violations of EPA compliance requirements. A complete list of RCRA facilities within two miles of the project footprint is provided in Appendix C. There are no CERCLA facilities within the vicinity of the Mount Vernon.

The Nationwide Environmental Title Research, LLC (NETR) website was queried for the presence of CERCLA "no further remedial action is planned" (NFRAP) sites within the Commonwealth of Kentucky. There are no NFRAP sites within the Commonwealth as of June 4, 2019. The EPA's Landfill Methane Outreach Program (LMOP) National Map was viewed to investigate the proximity of landfills to the Project Area. There is one landfill, the Berea Landfill in Paintsville, KY, approximately 16 miles north of the project footprint.

No evidence of underground storage tanks (UST) or aboveground storage tanks was discovered during the April 22, 2019 Project Area reconnaissance. Additionally, a previous main line replacement project within the footprint of the proposed project did not reveal the presence of USTs.

3.9.2 Environmental Consequences

3.9.2.1 No Action
The NAA would have no effect on HTRW.

3.9.2.2 Proposed Action
Because there is no evidence of HTRW within the footprint of the project or on adjacent properties, and the land has been previously disturbed due to installation of previous water lines and construction of the water treatment plant the PAA would have no effect to HTRW. Additionally, the PAA would not produce HTRW.

3.10 Cultural Resources

3.10.1 Existing Condition

A number of steps were taken in an effort to identify any historic properties within proposed footprint of the project. The Area of Potential Effects (APE) consists of the project area footprint

for the project, which measures approximately one acre (0.4 hectares) in size (Figure 3). The records search included a background check of the National Register of Historic Places (NRHP), Louisville District Geographic Information System (GIS), the Kentucky Office of State Archaeology (OSA) records, and previous cultural resource survey reports that have occurred near the vicinity of proposed project. The purpose of the search was to identify and locate any historic properties that could be potentially impacted by the proposed undertaking. The records review of the OSA on April 21, 2019 found no known archaeological sites within the APE. The records review of the NRHP database conducted on April 21, 2019 found there are two NRHP listed properties located within a 1.2 mile radius of the APE: the John Lair House and Stables and the Bennett Hiatt Log House.

3.10.2 Environmental Consequences

3.10.2.1 No Action

No impact to cultural resources would be expected from the NAA.

3.10.2.2 Proposed Action

The archaeological and cultural historic surveys revealed no evidence of historic properties within the APE. The John Lair House and Stables is listed in the NRHP and is located 0.25 miles northeast of the APE. The John Lair House and Stables is located outside of the APE and would not be impacted by the project. The NRHP listed Bennett Hiatt Log House is located adjacent to the APE. Due to the uncertainty of the boundary of the Bennett Hiatt Log House, USACE coordinated a revised NRHP boundary for the Bennett Hiatt Log House with the Kentucky Heritage Council (KHC). The KHC concurred with the revised boundary in an email dated October 14, 2019 and a follow up letter dated January 5, 2020 (see Appendix B). At its closest extent, the revised NRHP boundary of the Bennett Hiatt Log House is located approximately 2.5 m (eight ft.) east of the APE. Given these results, the proposed undertaking would have no adverse effect to historic properties eligible for listing to the NRHP (36CFR part 800.4 (d)(1). The KHC concurred with this determination of no adverse effect to historic properties in a letter dated January 5, 2020. The Cherokee Nation concurred with this determination of no adverse effect to historic properties in a letter dated December 2, 2019. The Eastern Band of Cherokee Indians concurred with this determination of no adverse effect to historic properties in a letter dated November 5, 2019. The Shawnee Tribe concurred with the determination of no adverse effect to historic properties in an email dated December 6, 2019. Copies of all agency and Tribal communications can be found in Appendix B. The full archaeological and cultural historic reports are provided in Appendix D.

3.11 Threatened and Endangered Species

3.11.1 Existing Condition

The Endangered Species Act of 1973 requires Federal agencies to consider the effects of actions on Federally listed endangered, threatened, and/or candidate species. The U.S. Fish and Wildlife Service (USFWS)-published list of endangered and threatened species in Kentucky was reviewed for this project. The Project Area is within the range of 11 federally threatened or endangered species (Table 2)

Table 2. Federally threatened and endangered species that have ranges overlapping with the Mount Vernon Water Treatment Plant Improvements Project Area.

Common Name	Scientific Name	Federal Status
Gray bat	*Myotis grisescens*	Endangered
Indiana bat	*Myotis sodalis*	Endangered
Northern long-eared bat	*Myotis septentrionalis*	Threatened
Virginia big-eared bat	*Corynorhinus townsendii virginianus*	Endangered
Cumberland bean	*Villosa trabalis*	Endangered
Cumberland elktoe	*Alasmidonta atropurpurea*	Endangered
Cumberland combshell	*Epioblasma brevidens*	Endangered
Fluted kidneyshell	*Ptychobranchus subtenum*	Endangered
Litllewing pearlymussel	*Pegias fabula*	Endangered
Tan riffleshell	*Epioblasma florentina walker*	Endangered
Virginia spiraea	*Spiraea virginiana*	Threatened

The gray bat roosts in caves year-round, and major threats facing the species include “human visitation to maternity roosts and hibernation caves, which disturbs bat populations at sensitive and important times,” waterway impoundments, and environmental contamination (USFWS).

The Indiana bat hibernates in cool, humid caves and spends summers in “wooded areas where they usually roost under loose tree bark on dead or dying trees.” Human disturbance during hibernation, loss and fragmentation of forested habitats (loss of summer habitat), and environmental contamination are major reasons for decline in numbers of Indiana bats (USFWS). The project area is within a known swarming area for this species. Based on the Official Species List, the proposed project occurs in “Known Swarming 1” habitat for the Indiana bat.

The Northern long-eared bat (NLEB) was listed as a threatened species in 2015 due to declines mostly associated with white-nose syndrome. This species spends the daylight hours taking refuge behind the loose bark of such tree species as the shag bark hickory (*Carya ovate*). The project area is not within 0.25 miles of a hibernacula and is not within 150 ft. of a known maternity roost tree.

The Virginia big-eared bat occurs in isolated populations in eastern Kentucky, eastern West Virginia, southwestern Virginia, and northwestern North Carolina. A distribution map in Kentucky shows that Rockcastle County is one of eleven counties in Kentucky to have known occurrences (see Appendix E). This nonmigratory bat resides in caves year round. Human disturbance is likely the biggest contributing factor to the decline of these bats (KYFW).

All of the above-mentioned mussel species require swift-flowing streams or rivers except for the Cumberland elktoe, which prefers slow-flowing, medium-sized rivers, and the littlewing pearlymussel, which is restricted to “small, cool streams” and “small to medium rivers” (IUCN, FWS [multiple], Davis and Layzer, DITC, NatureServe).

Virginia spiraea is found “along scoured banks of high gradient streams or on meander scrolls, point bars, natural levees, and braided features of lower stream reaches” (ECOS.FWS).

There are no federally designated critical habitats within the project footprint.

3.11.2 Environmental Consequences

3.11.2.1 No Action

There would be no negative effects resulting from the continued foul T&O of water associated with the NAA on federally listed species.

3.11.2.2 Proposed Action

The USACE has determined the PAA "may affect and is likely to adversely affect" the Indiana bat, due to 0.12 acres of tree removal (Figure 4). To mitigate for this, tree removal would only occur between November 15 and March 31 and the City of Mount Vernon would contribute $705.60 to the Imperiled Bat Fund. The mitigation cost was calculated at a penalty of $3,920 per acre of tree removal with a 50% penalty for being in known swarming habitat.

The USFWS determined that the PAA is consistent with the actions evaluated in the 2015 Biological Opinion: *Kentucky Field Office's Participation in Conservation Memoranda of Agreement for the Indiana Bat and/or Northern Long-eared Bat* (BO) that supports the Conservation Strategy. Any incidental take of Indiana bats resulting from forested habitat removal would not be prohibited. The BO concludes that this incidental take is not likely to jeopardize the continued existence of the Indiana bat. See the USFWS letter dated December 2, 2020 in Appendix E.

The USACE has also determined that the PAA "may affect, and is likely to adversely affect" the NLEB due to tree removal, but with no effects beyond those previously evaluated in the USFWS programmatic biological opinion for the NLEB final 4(d) rule dated January 5, 2016 (USFWS 2016). Any taking of NLEB that may occur incidental to the PAA is not prohibited under the final 4(d) rule. As such, the USACE requested reliance on the USFWS programmatic biological opinion for the 4(d) rule, which fulfills the Corps' responsibilities under ESA section 7(a)(2) relative to the northern long-eared bat for this project. The verification letter from USFWS can be found in Appendix E.

The USACE has determined that there would be no effect on any of the other species listed in Table 2. Both the gray bat and the Virginia big-eared bat utilize cave habitats rather than trees for summer roosting, unlike the Indiana and northern long-eared bats, and would be unaffected by the PAA. The federally listed mussels whose habitats could potentially overlap with the Project Area are highly unlikely to inhabit the tributary. This conclusion was reached after a thorough search of online resource agency and scientific literature to determine habitat types suitable for each listed mussel species which could be found in the Project Area, and after comparing these habitat requirements to the characteristics and quality of the tributary. Additionally, the tributary emerges from an underground culvert with no substrate approximately 200 ft. upstream of the stream crossings (see Figure 4), which would preclude mussel presence in the tributary due to the lack of substrate. Virginia spiraea was not located onsite during the April 22, 2019 Project Area visit and would be highly unlikely to occur. Accordingly, USACE has made a "no effect" determination for the gray bat, Virginia big-eared bat, Cumberland bean, Cumberland elktoe, Cumberlandian combshell, fluted kidneyshell, littlewing pearlymussel, tan riffleshell, and Virginia spiraea. Per

the Fish and Wildlife Coordination Act, this EA has been provided to the USFWS for review and concurrence regarding the above determinations has been sought.

3.12 Air Quality

3.12.1 Existing Condition
The Clean Air Act (CAA) allows the U.S. Environmental Protection Agency (USEPA) to set air quality standards for pollutants considered harmful to public health and welfare. The National Ambient Air Quality Standards (NAAQS) set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. These standards have been established for six criteria pollutants including carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and sulfur dioxide (SO_2), and each state is required to develop implementation plans for each pollutant. Areas are generally designated as being either in "attainment" of the standards for the pollutants listed above or in "nonattainment". Nonattainment areas are required by the CAA to comply with the NAAQS standards through the evaluation and development of a maintenance plan. The U.S. EPA makes a conformity determination to assure that the actions within the maintenance plan conform to the respective state's implementation plan for each nonattainment pollutant.

According to the EPA Green Book, Nonattainment/Maintenance Area Status for Each County by Year for All Criteria Pollutants, Rockcastle County is classified as in "attainment" for criteria pollutants.

3.12.2 Environmental Consequence

3.12.2.1 No Action
The NAA would not generate construction related air emissions.

3.12.2.2 Proposed Action
The operation of the PAA would not result in appreciable impacts to air quality; however, construction of the PAA would have the potential to cause minor, localized and short-term air quality impacts. Potential sources of these impacts include emissions from heavy equipment operation which include diesel fuel fumes and exhaust. The PAA would not require around the clock construction; therefore, equipment downtime would allow for dispersion of any fumes generated during construction.

3.13 Noise

3.13.1 Existing Condition
Noise in the vicinity of the Project Area is characterized by the heavy traffic of tractor trailers and vehicular traffic on I-75.

Noise is measured as Day Night average noise levels (DNL) in "A-weighted" decibels that the human ear is most sensitive to (dBA). There are no Federal standards for allowable noise levels. According to the Department of Housing and Urban Development (HUD) Guidelines, DNLs

below 65 dBA are normally acceptable levels of exterior noise in residential areas. The Federal Aviation Administration (FAA) denotes a DNL above 65 dBA as the level of significant noise impact. Several other agencies, including the Federal Energy Regulatory Commission, use a DNL criterion of 55 dBA as the threshold for defining noise impacts in suburban and rural residential areas. The Corps Safety and Health Requirements Manual provides criteria for short term permissible noise exposure levels (see Table 2), for consideration of hearing protection or the need to administer sound reduction controls.

Table 3. Permissible Non-Department of Defense Noise Exposures.

Duration/day (hours)	Noise level (dBA)
8	90
6	92
4	95
3	97
2	100
1.2	102
1	105

3.13.2 Environmental Consequences

3.13.2.1 No Action

There would be no change in noise with the NAA.

3.13.2.2 Proposed Action

Noise associated with the PAA would be limited to that generated during construction. The noise associated with construction would be short term and would only occur during daylight hours. Construction noise would be similar to that of farm equipment and other small machinery used in the local area. A backhoe and a front-end loader are examples of equipment that is likely to be used during construction. Each emits noise levels around 85 dBA at 45 ft.. Construction equipment would be operated during daylight hours; therefore, a reasonable exposure time of two hours would be expected during the time residents may be home during the day. Peak outdoor noise levels ranging from 78-90 dBA would occur during the time in which equipment is directly in front of or in proximity to homes and businesses (within 25-100 ft.). A maximum noise exposure of approximately 98 dBA, for one hour could occur if equipment were within 10 ft. of homes and business. The noise projections do not account for screening objects, such as trees, outbuildings or other objects that muffle and reduce the noise being emitted. The outdoor construction noise would be further muffled while residents are inside their homes. While the construction noise generated would be considered unacceptable according to HUD and FAA standards, these limited exposures and time intervals are still within allowable USACE safety levels. Further, they are similar to typical neighborhood noise generated by gas powered lawnmowers in the local area, which could range from 90-95 dBA at three ft. and 70-75 dBA at 100 ft. Resident exposure to these noise levels would occur if and/or when residents are home and outdoors.

Due to daytime construction and the short and limited duration of elevated noise levels associated with the PAA, impacts from the noise to local residents would be minor and short-term.

3.14 Socioeconomic Conditions

3.14.1 Existing Condition

Under Executive Order 12898 "Federal Action to Address Environmental Justice in Minority Populations and Low Income Populations," Federal agencies are directed to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority and low income populations.

According to the U.S. Census Bureau, the 2017 Population Estimate for Rockcastle County, Kentucky was 16,698. The area is 98.3% Caucasian and 77.7% of residents are age 18 and above, and 21.6% are age 62 and over. Median household income base for the county in 2017 was $35,888, compared to $48,375 for the state, and $61,372 nationally. Individuals below the poverty level were estimated to be 21% compared to 17.2% statewide, and 12.3% nationally for 2017.

3.14.2 Environmental Consequences

3.14.2.1 No Action

Under the NAA, the T&O issues related to the local water supply would remain the same. This would continue to have negative impacts on the economic and tourism related growth for the county, and thus disproportionately affect the relatively low-income population of Rockcastle County.

3.14.2.2 Proposed Action

The PAA is meant to improve the socioeconomic conditions by providing clean, tasteless and odorless drinking water for the residents of Rockcastle County. This action is anticipated to directly benefit the quality of life for people of all socioeconomic statures and ethnicities; therefore, the PAA meets the directive of EO 12898 by avoiding any disproportionately high adverse human health or environmental effects on minority or low-income populations.

3.15 Aesthetics

3.15.1 Existing Conditions

The surrounding landscape is dominated by existing infrastructure of the WTP, Renfro Dam and I-75. Linville Lake provides some pleasing visual aesthetics.

3.15.2 Environmental Consequences

3.15.2.1 No Action

The NAA would not significantly impact local aesthetics.

3.15.2.2 Proposed Action

The PAA would disturb the mowed grass surrounding the existing plant footprint in the short

term, but conditions would be returned to existing shortly after construction. The PAA would not alter the aesthetics of Linville Lake. Therefore, the PAA is expected to a minor and short-term impact on local aesthetics.

3.16 Transportation and Traffic

3.16.1 Existing Condition

The Project Area for the water treatment plant improvements (construction of the PAC reactor basin and the PAC storage building with feed equipment) is located off of Water Plant Road, which dead ends at the WTP. In addition to the WTP, Water Plant Road provides access for one residential household and the Bennett Hiatt Log House. A portion of the proposed alignment for the PAC feed line is located within the road ROW on the south side of Lake Linville Road/Green Hill Road (Figure 3).

3.16.2 Environmental Consequences

3.16.2.1 No Action

No impacts to transportation and traffic are anticipated to occur from the NAA.

3.16.2.2 Proposed Action

Construction of the PAA at the end of Water Plant Road and within the existing road ROW of Lake Linville Road/Green Hill Road would involve some short-term and minor delays and potential detours in the normal traffic flow. No impacts to traffic travelling on I-75 would be anticipated. Construction on and near road surfaces would be in compliance with Kentucky Transportation Cabinet (KYTC) guidelines. All appropriate KYTC guidelines for traffic control would be implemented and emergency access would be maintained. There would be no new traffic patterns as the result of the PAA and as such, no long-term impact would occur.

3.17 Health and Safety

3.17.1 Existing Condition

Data show that 28% of adults in Rockcastle County have “less than good health”, as compared to a state average of 23%. Prevalence of asthma and diabetes is nearly equal to state averages, but hypertension, cancer deaths, and heart disease deaths are all above state averages (KY Health Facts).

3.17.2 Environmental Consequences

3.17.2.1 No Action

Under the NAA, the customers serviced by the water treatment plant in Mount Vernon would continue to have issues with T&O of public water, however this water is potable and therefore would have no effect on human health.

3.17.2.2 Proposed Action

The PAA would improve the T&O issues associated with the water for Rockcastle County.

However, the water is currently potable. Therefore, the PAA will have no effect on human health, but will improve the quality of life for the residents that drink the water.

3.18 Cumulative Effects

USACE must consider the cumulative effects of the proposed project on the environment as stipulated in NEPA and its implementing regulations. Cumulative effects are "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 actions." Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR Part 1508.7, Council on Environmental Quality [CEQ] Regulations).

The cumulative effects analysis is based on the potential effects of the proposed project when added to similar impacts from other projects in the region. An inherent part of the cumulative effects analysis is the uncertainty surrounding actions that have not yet been fully developed. The CEQ regulations provide for the inclusion of uncertainties in the analysis and states that "when an agency is evaluating reasonably foreseeable significant adverse effects on the human environment...and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking" (40 CFR 1502.22).

Temporal and geographical limits for this project must be established in order to frame the cumulative effects analysis. These limits can vary by the resources that are affected. The addition of the PAC intake and line may have short term and minor negative impacts on certain resources during construction: soil and vegetation within existing ROWs, local air quality, noise levels, and transportation and traffic. No negative impacts are anticipated outside of the construction period. The geographical extent of consideration of cumulative impacts is broadened to consider effects beyond the vicinity of the Project Area. Only one other project within the region was identified. Kentucky Transportation Cabinet (KYTC) is widening I-75, which sits atop Renfro Dam. On the April 22, 2019 Project Area visit, dump trucks, backhoes, and cranes were seen working atop the dam (see Photos 1-1 through 3-2 and Photos 5-1, 7-1, 8-1, and 9-1). Because proper BMPs are being used for the KYTC I-75 project and would be used by the contractor for construction of the PPA, when considered along with the KYTC project, the PAA would not be expected to result in any significant adverse cumulative impacts.

While implementation of the PAA has potential to stimulate economic and industrial growth in the Project Area, an accurate forecast of the magnitude and timeframe at which it may occur cannot be made. For this reason, cumulative impacts to the human environment from the PAA cannot be quantified.

4.0 STATUS OF ENVIRONMENTAL COMPLIANCE

The PAA is in full compliance with all local, State, and Federal statutes as well as Executive Orders. Compliance is documented below in Table 3. Prior to construction, KDOW shall be contacted and construction of the wastewater components of this project shall not begin until written approval is received from KDOW, and all applicable permits such as a National Pollutant Discharge Elimination System permits are obtained. Additionally, construction

cannot begin until $705.60 is payed to the Imperiled Bat Fund as outlined by the USFWS in Appendix E.

Table 3. Environmental Compliance Status

Statute/Executive Order	Full	In Progress
National Environmental Policy Act	X	
Endangered Species Act	X	
Clean Water Act	X	
Wild and Scenic Rivers Act	X	
Clean Air Act	X	
National Historic Preservation Act	X	
Archeological Resources Protection Act	X	
Comprehensive, Environmental Response, Compensation and Liability Act	X	
Resource Conservation and Recovery Act	X	
Toxic Substances Control Act	X	
Quiet Communities Act	X	
Farmland Protection Act	X	
Executive Order 11988 Floodplain Management	X	
Executive Order 11990 Protection of Wetlands	X	
Executive Order12898 Environmental Justice for Minority and low-income populations	X	
Fish and Wildlife Coordination Act	X	

5.0 Public Review and Agency Coordination

An effort was made to coordinate with state agencies prior to public release of the draft EA and unsigned FONSI. During early coordination the USACE received comments from Kentucky agencies, which can be found in Appendix B. None of the comments expressed any opposition to the proposed project, and the USACE has taken all agency comments into account. All necessary changes were made to the draft EA prior to public release.

Public review of the draft EA and Finding of No Significant Impact (FONSI) was initiated on August 24th, 2020. A 30-day state and agency review of the draft EA and FONSI was also initiated on August 24th, 2020. A copy was circulated to the local community and local, state and Federal government agencies. All persons, agencies, and organizations notified of the EA's availability can be found in Table 4. Only comments from USFWS were received during the public comment period and all necessary changes were made regarding potential effects to endangered species from implementation of the PAA. Correspondence from the USFWS can be found in Appendix B.

Table 4. Persons, Agencies, and Individuals Contacted for Public Review of the Mount Vernon Water Treatment Plant Improvements Project Environmental Assessment.

Person/Agency/Organization
State Historic Preservation Officer
Absentee-Shawnee Tribe of Indians
Eastern Shawnee Tribe of Oklahoma

Shawnee Tribe of Oklahoma
Eastern Band of Cherokee Indians
Cherokee Nations of Oklahoma
United Keetoowah Band of Indians in Oklahoma
Kentucky department of Fish and Wildlife Resources
United States Environmental Protection Agency
Office of Kentucky Nature Preserves
United States Fish and Wildlife Service
The Nature Conservancy of Kentucky
Kentucky Water Science Center
Kentucky Department of Parks
Kentucky Department for Environmental Protection
Kentucky Transportation Cabinet
United States Senator Mitch McConnell
United States Senator Rand Paul
United States Congressman Hal Rogers
State Representative Travis Brenda
State Senator Jared Carpenter

6.0 CONCLUSION

The City has recurring issues with foul T&O in its drinking water. Due to increased nutrient loads entering the lake, seasonal blue green algae blooms release compounds that have been shown to be the cause of the T&O issues associated with the drinking water. Longer contact time with PAC is known to reduce levels of the T&O causing compounds to a manageable level. Improved PAC facilities would enable the City to produce higher quality potable water with minimal issues associated with T&O. Construction would take place on previously disturbed land and easements held by the City and the Commonwealth. Effects associated with construction would be minor and short term. BMPs would be implemented during construction to minimize impacts to residents and the environment. No significant adverse impacts have been identified as a result of implementation of the proposed construction.

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Appendix A:

Photos from the April 22, 2019 Site Visit


7
8
6
9
5
Existing 24”
Raw Water
10
PAC Reactor Basin/
Feed Building
11
PAC Feed Line
12
4
3
2
1
PAC Feed Point
Water
Treatment
Plant
380 ft
1997
Google earth
Imagery Date: 6/6/2018 37°23'04.41" N 84°20'12.30" W elev 0 ft eye alt 1644 ft

Photo 1-1. Existing Mount Vernon water treatment plant. Facing southwest from Location 1. Southeastern portion of Renfro Dam shown.

Photo 1-2. East side of Renfro Dam showing Kentucky Department of Transportation (KY DOT) construction. Facing west/southwest from Location 1.

Photo 2-1. Northwestern portion of water treatment plant fencing, a tributary to Renfro Creek, and KY DOT construction on southeastern portion of Renfro Dam. Facing southwest from Location 2.

Photo 3-1. KY DOT construction on southeastern portion of Renfro Dam. Facing southwest from Location 3.

Photo 3-2. KY DOT construction on northeastern portion of Renfro Dam (left of frame) and a tributary to Renfro Creek (right of frame). Facing northwest from Location 3.

Photo 3-3. Riparian vegetation adjacent to a tributary to Renfro Creek. Facing north-northwest from Location 3.

Photo 3-4. A tributary to Renfro Creek. Facing south-southeast from Location 3.

Photo 4-1. A tributary to Renfro Creek. Facing north/northwest (upstream) from Location 4.

Photo 5-1. KY DOT construction along eastern side of Renfro Dam (right of frame) and riparian vegetation along a tributary to Renfro Creek. Looking south from Location 5.

Photo 5-2. Riparian vegetation along a tributary to Renfro Creek. Looking east from Location 5.

Photo 6-1. Looking south-southeast (downstream) from Location 6 at tributary to Renfro Creek.

Photo 6-2. Looking north at the tributary to Renfro Creek flowing out of an underground culvert at Location 6.

Photo 6-3. Looking south-southeast (downstream) from Location 6 at a tributary to Renfro Creek.

Photo 7-1. Infrastructure, likely drainage, just northeast of Renfro Dam. Photo was taken looking southwest from Location 7 (on Green Hill Rd/Lake Linville Rd).

Photo 8-1. Riparian vegetation along tributary to Renfro Creek (left of frame), construction access road (middle of frame), Renfro Dam with KY DOT construction (right of frame). Grass and shrubs within the right-of-way of Lake Linville/Green Hill Road are also shown in the foreground. Photo taken from Location 8 facing south-southeast.

Photo 9-1. Construction access road for road construction on Interstate 75 (I-75) which sits atop Renfro Dam. Photo is taken from Location 9 (on Green Hill Rd/Lake Linville Rd) looking south-southeast.

Photo 10-1. I-75 overpass over Green Hill Rd/Lake Linville Rd. where existing 24” raw water line and new PAC feed line will go (on southern side of road). Photo is taken from Location 10 facing east-northeast on Green Hill Rd/Lake Linville Rd.

Photo 11-1. Green Hill Rd/Lake Linville Rd showing I-75 overpass. Existing 24” raw water line is along and new PAC feed line will go along southern side of road. Photo is from Location 11 facing northeast.

Photo 11-2. Water intake infrastructure for the water treatment plant along Green Hill Rd/Lake Linville Rd. Photo is taken from Location 11 and faces southwest.

Photo 11-3. Drainage infrastructure adjacent to (east of) water intake infrastructure on Lake Linville. Photo is taken from Location 11 looking south at the ground.

Photo 11-4. Lake Linville with water intake infrastructure in right of frame. Photo is taken from Location 11 looking south.

Photo 12-1. Drainage structure feeding into Lake Linville. Photo is taken from Location 12, looking northeast.

Photo 12-2. Lake Linville and west side of Renfro Dam with I-75 on top. Photo is taken from Location 12 facing in the southeastern direction.

Appendix B:

Agency Coordination

MATTHEW G. BEVIN
GOVERNOR

DEPARTMENT FOR LOCAL GOVERNMENT
OFFICE OF THE GOVERNOR
1024 CAPITAL CENTER DRIVE, SUITE 340
FRANKFORT, KENTUCKY 40601-8204
PHONE (502) 573-2382 FAX (502) 573-2939
TOLL FREE (800) 346-5606/ TDD:711
WWW.kydlgweb.ky.gov

SANDRA K. DUNAHOO
COMMISSIONER

October 26, 2018

Mr. Mike Bryant
Mt Vernon
PO Box 1465
Mt Vernon, KY 40456

RE: Mount Vernon - Phase #3 - Water Treatment Plant Improvements
WX21203005
SAI# KY201810041083
CFDA# 23.002

Dear Mr. Bryant:

The Kentucky State e-Clearinghouse is the official designated Single Point of Contact (SPOC) for the Commonwealth pursuant to Presidential Executive Order 12372, and supported by Kentucky Statutes KRS 45.03. The primary function of the SPOC is to streamline the review aforementioned process for the applicant and the funding agency. This process helps in vocalizing the statutory and regulatory requirements. Information in the form of comments, if any, will be attached to this correspondence.

This proposal has been reviewed by the appropriate state agencies in the e-Clearinghouse for conflicts with state or local plans, goals and objectives. After receiving this letter, you should make it available to the funding agency and continue with the funding agencies application process. This e-clearinghouse SPOC letter signifies only that the project has followed the state reviewing requirements, and is neither a commitment of funds from this agency or any other state or federal agency. Please remember if any federal reviews are required the applicant must follow through with those federal agencies.

The results of this review are valid for one year from the date of this letter. If the project is not submitted to the funding agency or not approved within one year after the completion of this review, the applicant can request an extension by email to Lee.Nalley@ky.gov. If the project changes in any way after the review, the applicant must reapply through the eclearinghouse for a new review. There are no exceptions.

If you have any questions regarding this letter or the review process please contact the e-Clearinghouse office at 502-573-2382, ext. 274.

Sincerely,

Lee Nalley

Lee Nalley, SPOC
Kentucky State Clearinghouse

Attachment

Cumberland Valley ADD
Dreama Wright

No negative comments

Cumberland Valley Area Development District
Tim Schwendeman

No negative comment

Department of Housing, Buildings and Construction
Kevin Carlin

A complete set of construction drawings shall be submitted to the Department of Housing Buildings and Construction, Division of Building Code Enforcement for review and approval, prior to the start of any construction. For more information, you can call 502 573-0373 to speak to one of our technical advisors, or you can visit our website at http://dhbc.ky.gov, select 'forms', then 'building codes', to view our plan Application Submittal Guide.

Division of Enforcement
Tim Harrod

The Division of Enforcement does not object to the project proposed by the applicant.

Tim Harrod, Enforcement Specialist
Division of Enforcement
Timothy.Harrod@ky.gov

Division of Water
Andrea Fredenburg

Best management practices should be utilized to reduce runoff from project construction activities into nearby waters.

Division of Water
Julia Harrod

A 'stream construction permit application' will need to be submitted to the Division of Water for further review of this project.
Okay water withdrawal permitting.
Okay water management planning.

DOW
Daniel Fraley

Endorse

Division of Water
Abba Pourghasemi

The Engineering section of the Water Infrastructure Branch has no objections to the proposed project. Plans and specifications along with a hydraulic analysis of the proposed project must be submitted to the Division of Water's Water Infrastructure Branch by a registered professional engineer in Kentucky. Written approval must be received from the Division of Water prior to the beginning of construction. The Division of Water's "Water Shed Management Branch" must be contacted to ensure adequate water quantity is available at the new location and justification shall be provided that new intake location is in compliance with the DOW's Five-Mile Policy

Division of Water
Ryan Reed

The system was lacking managerial and financial capacity according to the most recent Sanitary Survey (August 2016). The following issues should be addressed:

- Review their follow-up effort with regard to the Non-Significant deficiencies that were identified.
- Calculating the cost to produce water
- Reviewing the additional recommendations noted in the Sanitary Survey

DOW
Wei Ji

The proposed work is endorsed by the Groundwater Section of the Watershed Management Branch. However, the proposed work is located in an area with a high potential for karst development where groundwater is susceptible to direct contamination from surface activities. It is our recommendation that proposed work be made aware of the requirements of 401 KAR 5:037 and the need to develop a Groundwater Protection Plan (GPP) for the protection of groundwater resources within that area. Questions should be directed to Wei Ji (502-782-6934) or Section Supervisor David Jackson (502-782-6986).

Fish and Wildlife
Dan Stoelb

To minimize impacts to the aquatic environment the Kentucky Dept. of Fish & Wildlife Resources 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. Please contact Dan Stoelb @ 502-892-4453 or Daniel.Stoelb@ky.gov if you have further questions or require additional information.

Kentucky Department for Environmental Protection
Larry Taylor

Joel Murphy - Endorse with Comments The proposed project is subject to Division of Water (DOW) jurisdiction because the following are or appear to be involved: water treatment plant improvements. Prior approval must be obtained from the DOW before construction can begin. The applicant must cite the State Application Identifier (SAI #KY201810041083) when submitting plans and specifications.

This project is consistent with the Rockcastle County Water Management Plan. It is approved for water management planning. It is approved for water withdrawal by the Water Quantity Management Section of DOW. From the application data, DOW ascertains that the proposed project is located in a floodplain area; therefore, a floodplain construction permit is required for this project. Julia Harrod, Watershed Management Branch, (502) 782-6967, Julia.Harrod@ky.gov.

Mt. Vernon Water Treatment Plant needs additional facilities and processes to treat the raw water prior to entering the plant in order to remove taste and odor issues in the finished water. Project involves a powdered activated carbon (PAC) reactor basin and associated appurtenances, building enclosure and carbon feed equipment. The project may also upgrade other necessary treatment equipment to insure the functionality of the plant.

The Engineering section of the Water Infrastructure Branch has no objections to the proposed project. Plans and specifications along with a hydraulic analysis of the proposed project must be submitted to the DOW's Water Infrastructure Branch by a registered professional engineer in Kentucky. Written approval must be received from the DOW prior to the beginning of construction. The DOW's "Watershed Management Branch" must be contacted to ensure adequate water quantity is available at the new location and justification shall be provided that new intake location is in compliance with the DOW's Five-Mile Policy. Abbas Pourghasemi, Water Infrastructure Branch, (502) 782-7041, Abbas.Pourghasemi@ky.gov.

The system was lacking managerial and financial capacity according to the most recent Sanitary Survey (August 2016). The following issues should be addressed: 1) review their follow-up effort with regard to the Non-Significant deficiencies that were identified, 2) calculating the cost to produce water, and 3) reviewing the additional recommendations noted in the Sanitary Survey. Ryan Reed, Water Infrastructure Branch, (502) 782-7045, Ryan Reed.

Best management practices should be utilized to reduce runoff from project construction activities into nearby waters. Andrea Fredenburg, Water Quality Branch, (502) 782-6950, Andrea.Fredenburg@ky.gov.

No comment. Daniel Fraley, Compliance and Technical Assistance Branch, (606) 783-8655, Daniel.Fraley@ky.gov.

The Division of Enforcement does not object to the project proposed by the applicant. Tim Harrod, Division of Enforcement, (502) 782-6858, Timothy.Harrod@ky.gov.

The proposed work is endorsed by the Groundwater Section of the Watershed Management Branch. However, the proposed work is located in an area with a high potential for karst development where groundwater is susceptible to direct contamination from surface activities. It is our recommendation that proposed work be made aware of the requirements of 401 KAR 5:037 and the need to develop a Groundwater Protection Plan (GPP) for the protection of groundwater resources within that area. Wei Ji, Watershed Management Branch, (502) 782-6934, Wei.Ji@ky.gov.

If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) storm water discharge permit.

Utility line projects that cross a stream will require a Section 404 permit from the US Army Corps of Engineers and a 401 Water Quality Certification from DOW.

The Kentucky Division of Water supports the goals of EPA's Sustainable Infrastructure Initiative. This Initiative seeks to promote sustainable practices that will help to reduce the potential gap between funding needs and spending at the local and national level. The Sustainable Infrastructure Initiative will guide our efforts in changing how Kentucky views, values, manages, and invests in its water infrastructure. This website, www.epa.gov/waterinfrastructure/, contains information that will help you ensure your facility and operations are consistent with and can benefit from the aims of the Sustainable Infrastructure Initiative.

Kentucky Division of Water
Chloe Brantley

A Water Withdrawal Application is not required for this proposed project. The proposed project is within the Mount Vernon Water Works designated Source Water Protection Area, Zone 1. Questions should be directed to Chloe Brantley at 502-782-6898 or Chloe.Brantley@ky.gov

The proposed project may require a Kentucky Division of Water Application for Permit to Construct Across or Along a Stream. Questions should be directed to Ron Dutta at 502-782-6941 or Ramendra.Dutta@ky.gov

Kentucky Infrastructure Authority
Dustin Horn

This project was reviewed in the WRIS Portal by KIA staff.

KY Heritage Council
Yvonne Sherrick

To receive a review from the KY Heritage Council/State Historical Preservation Office (SHPO) you must follow the instructions located on their website at http://www.heritage.ky.gov/siteprotect/ . There you will find the required documents for the Section 106 Review and Compliance for 36 CFR Part 800. This Section 106 submission process to SHPO will assist applicants and agencies in providing the appropriate level of information to receive comments from SHPO. If you have any questions please contact Yvonne Sherrick, Administrative Specialist III, (502) 564-7005, Ext. 113, yvonne.sherrick@ky.gov.

Please note: If your project is funded through Transportation Alternative (TAP), Transportation Enhancements (TE), Congestion, Mitigation, Air Quality (CMAQ), or Safe Routes to School (SRTS) you will need to send this information to Michael Jones, Historic Preservation Program Administrator with the Kentucky Transportation Cabinet via email MichaelR.Jones2@ky.gov or hard copy to Michael Jones, Office of Local Programs, KY Transportation Cabinet, 200 Mero Street Frankfort, KY 40622. Do not send materials directly to SHPO if your project involves funding from these four sources as it will cause delays in the review process. Michael Jones will consult directly with the SHPO on projects with these funding sources to complete the Section 106 review.

KYTC-Department of Highways
Jeff Dick (D 8)

If any work is performed on KYTC Right of Way, please contact Adam Dixon about obtaining an encroachment permit. Adam can be contacted at 606-677-4017.

GWYƆ DƁP
CHEROKEE NATION®
P.O. Box 948 • Tahlequah, OK 74465-0948
918-453-5000 • www.cherokee.org

Office of the Chief

Chuck Hoskin Jr.
Principal Chief

Bryan Warner
Deputy Principal Chief

December 2, 2019

Jared Barrett
United States Army Corps of Engineers
Louisville District
600 Dr. Martin Luther King, Jr. Pl
Louisville, KY 40202

Re: City of Mount Vernon Water Treatment Plant

Mr. Jared Barrett:

The Cherokee Nation (Nation) is in receipt of your correspondence about **City of Mount Vernon Water Treatment Plant**, and appreciates the opportunity to provide comment upon this project. Please allow this letter to serve as the Nation's interest in acting as a consulting party to this proposed project.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the United States Army Corps of Engineers (USACE) halt all project activities immediately and re-contact our Offices for further consultation if items of cultural significance are discovered during the course of this project.

Additionally, the Nation requests that USACE conduct appropriate inquiries with other pertinent Tribal and Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs, Tribal Historic Preservation Officer
Cherokee Nation Tribal Historic Preservation Office
elizabeth-toombs@cherokee.org
918.453.5389

Eastern Band of Cherokee Indians
Tribal Historic Preservation Office
P.O. Box 455
Cherokee, NC 28719
Ph: 828-359-6852 | Fax 828-488-2462

DATE: November 5, 2019

TO: Dan Vogler, P.G., Chief
Planning Section, Civil Works, Planning, Programs and Project Mgmt. Branch
Department of The Army
U.S. Army Corps of Engineers, Louisville District
600 Dr. Martin Luther King Jr Pl
Louisville, Ky 40202

CC: Jared Barrett, Archaeologist
United States Army Corps of Engineers – Louisville District

PROJECT: Mount Vernon Water Treatment Plant Improvements and Revised NRHP Bennett Hiatt Log House boundary, Rockcastle County, Kentucky

Dear Mr. Vogler:

The Tribal Historic Preservation Office of the Eastern Band of Cherokee Indians (EBCI THPO) would like to thank you for the opportunity to consult on the project: Mount Vernon Water Treatment Plant Improvements and Revised NRHP Bennett Hiatt Log House boundary, Rockcastle County, Kentucky. The EBCI THPO concurs with the findings described in the archaeological survey that, since there were no cultural resources discovered within the APE, there will not likely be any impacts to significant archaeological resources. The EBCI THPO also concurs that the Hiatt cemetery could be added to the NRHP listing, and we appreciate the effort and due diligence on the part of the USACE Louisville district archaeologist. The project, therefore, may proceed without further input from our office.

However, in the event that the project scope or plan for implementation is altered or revised, please inform our office to reinitiate the consultation process. Additionally, if during the course of the proposed work—or any ground disturbance during the course of the project—human remains (or unidentified cultural resources) are inadvertently disturbed or exposed, the EBCI THPO requests that all work in the immediate area surrounding the discovery cease, and (along with notification to the proper authorities) that you contact our office immediately to resume the consultation process.

We applaud the effort made to include the EBCI THPO as a consulting party. Thank you for your time and consideration. If we can be of further service, or if you have any comments or questions, please feel free to contact me at (828) 359-6852.

Sincerely,

Stephen J. Yerka
Historic Preservation Specialist
THPO, Eastern Band of Cherokee Indians (EBCI)
syerka@nc-cherokee.com
(828) 359-6852

ANDY BESHEAR
GOVERNOR

MIKE BERRY
SECRETARY

TOURISM, ARTS AND HERITAGE CABINET
KENTUCKY HERITAGE COUNCIL
THE STATE HISTORIC PRESERVATION OFFICE
410 HIGH STREET
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-7005
FAX (502) 564-5820
www.heritage.ky.gov

CRAIG A. POTTS
EXECUTIVE DIRECTOR
& STATE HISTORIC
PRESERVATION OFFICER

January 5, 2020

United States Army Corps of Engineers
ATTN: Mr. Jared Barrett
P. O. Box 59
Louisville, KY 40201-0059

Re: **Phase I Archaeological Survey of the City of Mount Vernon Water Treatment Plant Improvements, Rockcastle County, Kentucky** prepared by Jared Barrett of United States Army Corps of Engineers. Report dated December 3, 2019. and **Additional Information on City of Mt. Vernon WTP (Rockcastle County) Project**

Dear Mr. Barrett:

Thank you for the additional information concerning the above-mentioned project, received December 3 and December 5, 2019. Based on the preliminary engineering report sent in response to our request for additional information on November 27, 2019, we understand that the direct effects of the proposed project will occur outside the revised National Register boundary for the RK-9/ Bennett-Hiatt Log House (Jared Barrett to Jennifer Ryall, Chris Gunn, Andrew Reed via e-mail, 12-3-19). We also understand that this project should not result in cumulative indirect effects to RK-9/Bennett-Hiatt Log House with its revised NRHP boundary.

The archaeological report describes the intensive pedestrian reconnaissance, supplemented by screened shovel tests, of the proposed project area. No archaeological sites or materials were identified during the survey. After review of the report, we agree with its findings and recommendations. We accept this report as final. *Please submit two bound archival copies of the report.*

Based on our review, our office concurs that the revised boundary of the Bennett-Hiatt Log House appears to be appropriate and we reaffirm our informal concurrence on that boundary from 10-14-19. Based on the project as presented, our office concurs with the Corps' official determinations that the Bennett-Hiatt House preserves sufficient integrity and significance to remain Listed on the National Register and with the Corps' official determination of No Adverse Effect. If the project design or boundaries change, this office should be consulted to determine the nature and extent of additional documentation that may be needed. In the event of the unanticipated discovery of an archaeological site or object of antiquity, the discovery should be reported to the Kentucky Heritage Council and to the Kentucky Office of State Archaeology in the Anthropology Department at the University of Kentucky in accordance with KRS 164.730. In the event that human remains are encountered during project activities, all work should be immediately stopped in the area and the area cordoned off, and in accordance with KRS 72.020 the county coroner and local law enforcement must be contacted immediately. Upon confirmation that the human remains are not of forensic interest, the unanticipated discovery must be reported to the Kentucky Heritage Council. Should you have any questions, please contact Chris Gunn of my staff at (502) 892-3615 or chris.gunn@ky.gov or Jennifer Ryall at (502) 892-3619 or jennifer.ryall@ky.gov.

Sincerely,

Craig A. Potts,
Executive Director and State Historic Preservation Officer

CP: cmg KHC # 56435, 56516
cc: George Crothers (OSA)

From: Mcfadden, Thomas Steele (Steele) CIV USARMY CELRL (USA)
To: Garland, Jennifer
Cc: Markert, Tammy O CIV USARMY CELRL (USA)
Subject: RE: [EXTERNAL] Mt. Vernon Site Photo"s
Date: Friday, November 27, 2020 1:02:00 PM
Attachments: MountVernon_EA_Final_WithAppendices_Updated.docx

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Hi Jennifer,

Attached is the updated environmental assessment with requested changes for concurrence. Below is a summary of the changes, which can be found in section 3.11 of the attached document.

1. Acceptable tree removal dates changed to between November 15 to March 31
2. Tree removal acreage adjusted from 0.03 to 0.12 acres after updated analysis, with map updated.
3. Indiana bat “may effect” determination clarified, with mitigation for tree removal being $705.60 to the Imperiled Bat Conservation Fund
4. Northern long-eared bat “may effect” determination clarified with this species being covered under the 4(d) rule

If this is acceptable to you will I receive a concurrence letter? Please let me know what I need to do from here to complete the informal consultation process, and I appreciate your help with this project.

Cheers,

-Steele

[Thomas] Steele McFadden
Wildlife Biologist
USACE - Louisville District
Office: (502) 315-7451
Cell: (270) 577-8189

From: Mcfadden, Thomas Steele (Steele) CIV USARMY CELRL (USA)
Sent: Wednesday, November 18, 2020 1:32 PM
To: Garland, Jennifer <jennifer_garland@fws.gov>
Subject: RE: [EXTERNAL] Mt. Vernon Site Photo's

Jennifer,

Thank you for the heads-up. I will call at 3:00

Cheers,

-Steele

[Thomas] Steele McFadden
Wildlife Biologist
USACE - Louisville District
Office: (502) 315-7451
Cell: (270) 577-8189

From: Garland, Jennifer <jennifer_garland@fws.gov>
Sent: Wednesday, November 18, 2020 12:52 PM
To: Mcfadden, Thomas Steele (Steele) CIV USARMY CELRL (USA) <Steele.Mcfadden@usace.army.mil>
Subject: [Non-DoD Source] Re: [EXTERNAL] Mt. Vernon Site Photo's

I just had a call pop up from 2-3 but still open 3-4

From: Mcfadden, Thomas Steele (Steele) CIV USARMY CELRL (USA) <Steele.Mcfadden@usace.army.mil>
Sent: Wednesday, November 18, 2020 12:07 PM
To: Garland, Jennifer <jennifer_garland@fws.gov>
Subject: RE: [EXTERNAL] Mt. Vernon Site Photo's

Jennifer,

Sounds good, I will reach out to you then.

Cheers,

-Steele

[Thomas] Steele McFadden
Wildlife Biologist
USACE - Louisville District
Office: (502) 315-7451
Cell: (270) 577-8189

From: Garland, Jennifer <jennifer_garland@fws.gov>
Sent: Wednesday, November 18, 2020 11:12 AM
To: Mcfadden, Thomas Steele (Steele) CIV USARMY CELRL (USA) <Steele.Mcfadden@usace.army.mil>
Subject: [Non-DoD Source] Re: [EXTERNAL] Mt. Vernon Site Photo's

Thanks Steele
I have a call at 1 pm but would be available 2 - 4p

From: Mcfadden, Thomas Steele (Steele) CIV USARMY CELRL (USA) <Steele.Mcfadden@usace.army.mil>
Sent: Wednesday, November 18, 2020 10:59 AM
To: Garland, Jennifer <jennifer_garland@fws.gov>
Subject: [EXTERNAL] Mt. Vernon Site Photo's

Hi Jennifer,

Here are the trees that would be removed. They are bigger than I remember them being, definitely above 3". Species appear to be mostly Boxelder maple (Acer negundo). I also see some redbud (Cercis canadensis), eastern red cedar (Juniperus virginiana), and possibly a dead ash (Fraxinus sp.) I was not the biologist to do the field work or I would have a better species list for you.

Now that I am reading this EA again I see we are determining "May effect but not likely to effect" for Indiana Bat and Northern Long Eared Bat, and "No Effect" for Gray Bat, Virginia Big-eared Bat, all the mussels, and Virginia Spirea.

I am actually leaving to get a COVID test at 11:00 today. We are hoping to quarantine until Thanksgiving so we can spend time with family. Crazy times.

Anyway, I hope to call you after lunch and we can discuss the Indiana and NLEB may effect determinations. Would you be available at 1:00pm?

Thank you in advance for your help,

-Steele

[Thomas] Steele McFadden
Wildlife Biologist
USACE - Louisville District
Office: (502) 315-7451
Cell: (270) 577-8189

Appendix C:

List of EPA-Permitted Facilities Within the Vicinity of the Project Area

	A	B	C	D
1	**Facility Name and Address**	**RCRA ID**	**Facility Status**	**Violations**
2	58213 - DEBOARD OIL CO 145 W MAIN ST MOUNT VERNON, KY 40456	KYR000018119	Inactive	No violations
3	BISHOP TIRE SERVICE 495 RICHMOND ST MOUNT VERNON, KY 40456	KYR000017194	Inactive	No violations
4	CASTLE CLEANERS 265 EAST MAIN STREET MOUNT VERNON, KY 40456	KYR000005686	Inactive	No violations
5	CHEVRON USA PRODUCTS CO. #42748 I-75 & US 25 RENFRO VALLEY, KY 40473	KY0000042705	Inactive	No violations
6	DOLLAR GENERAL STORE #186 325 US HIGHWAY 150 MOUNT VERNON, KY 40456	KYR000062034	Inactive	No violations
7	DOLLAR GENERAL STORE #3858 906 WEST MAIN ST MOUNT VERNON, KY 40456	KYR000059675	Inactive	No violations
8	FAMILY DOLLAR #1215 355 US HWY 150 MOUNT VERNON, KY 40456	KYR000065128	Active	No violations
9	FE02 102 0075 B00037R I-75 OVER US 25 MT VERNON, KY 40456	KYR000010579	Inactive	No violations
10	HIGHWAY 25 CLEAN-UP SHOP US HWY 25 OFF EXIT 59 ON I-75S MT VERNON, KY 40456	KYR000013474	Inactive	No violations
11	KYDOH FE02-102-0075-062.65(B36) I-75 OVER GREEN HILL RD MT VERNON, KY 40456	KYR000010553	Inactive	No violations
12	MARSHA'S FLOWER SHOP HWY 150 BRODHEAD, KY 40409	KYR000017616	Inactive	No violations
13	MOUNT VERNON #160 395 RICHMOND STREET MOUNT VERNON, KY 40456	KYR000057455	Inactive	No violations
14	MT VERNON OIL & TIRE #75 HWY 150 MT VERNON, KY 40456	KYR000017400	Inactive	No violations
15	PLASTICWARE LLC ROUTE 4 - HIGHWAY 150 MOUNT VERNON, KY 40456	KYD981803588	Inactive	No violations
16	RITE AID #01744 1040 RICHMOND STREET MOUNT VERNON, KY 40456	KYR000054239	Active	No violations
17	SUNOCO SERVICE STATION I75 & US 25 MT VERNON, KY 40456	KYD000835991	Inactive	No violations
18	THOMASON AUTO REPAIR HWY 25 E MT VERNON, KY 40456	KYR000015347	Inactive	No violations
19	WHITTS AUTO SERVICE CENTER 93 E MAIN STREET BRODHEAD, KY 40409	KYR000031880 KYR000021147	Both inactive	No violations

Appendix D:

Cultural Resources Report

US Army Corps
of Engineers
Louisville District®

PHASE I ARCHAEOLOGICAL SURVEY OF THE CITY OF MOUNT VERNON WATER TREATMENT PLANT IMPROVEMENTS, ROCKCASTLE COUNTY, KENTUCKY

Kentucky Office of State Archaeology Permit Number 2019-22

December 2, 2019

Report authored by:

Jared Barrett
Archaeologist, MA, RPA

U.S. ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
ATTN: PMC-PL
P.O. BOX 59
LOUISVILLE, KENTUCKY 40201-0059
PHONE: (502) 315-6480
FAX: (502) 315- 6864
Email: jared.l.barrett@usace.army.mil

Abstract

The following report describes the results of the Phase I archaeological survey of the proposed improvements to the City of Mount Vernon Water Treatment Plant (WTP) located east of Lake Linville in Rockcastle County, Kentucky. This project was initiated under the authority of Section 531 of the Water Resources Development Act (WRDA) of 1996 (Public Law No. 104-303). The proposed improvements consist of the addition of a Power Activated Carbon (PAC) reactor basin, PAC storage building with feed equipment, and PAC feed lines. The proposed project will extend from Lake Linville, travel generally eastward along existing right of way along Lake Linville and Green Hill Roads before heading south along an existing waterline and ending at the existing WTP located at the end of Cs-1091.

The archaeological Area of Potential Effects (APE) for the proposed WTP improvements will consist of the contractor work limits for the project, which measures approximately one acre (0.4 hectares) in size. The PAC reactor basin is located on Interstate 75 right of way and this portion of the archaeological survey was covered under Permit Number 2019-22 issued by the Kentucky Office of Sate Archaeology.

Results of this archaeological survey revealed no evidence of prehistoric or historic cultural resources within the APE. Given these results, the proposed undertaking is considered to have no effect to historic properties eligible for listing to the National Register of Historic Places (NRHP) (36CFR part 800.4 (d)(1). Therefore no additional cultural resources survey is recommended for the proposed improvements to the City of Mount Vernon WTP.

Contents

List of Figures

Tables

Introduction

The following report describes the results of the Phase I archaeological survey of the proposed improvements to the City of Mount Vernon Water Treatment Plant (WTP) in Rockcastle County, Kentucky. This project was initiated under the authority of Section 531 of the Water Resources Development Act (WRDA) of 1996 (Public Law No. 104-303). The proposed improvements consist of the addition of a Power Activated Carbon (PAC) reactor basin, PAC storage building with feed equipment, and PAC feed lines. The proposed project will extend from Lake Linville, travel generally eastward along existing right of way along Lake Linville and Green Hill Roads before heading south beside an existing waterline and ending at the existing WTP located at the end of Cs-1091. The archaeological Area of Potential Effects (APE) for the proposed WTP improvements will consist of the contractor work limits for the project, which measures approximately one acre (0.4 hectares) in size. The PAC reactor basin is located on Interstate 75 right of way and this portion of the archaeological survey was covered under Permit Number 2019-22 issued by the Kentucky Office of Sate Archaeology (see Appendix A).

Results of this archaeological survey revealed no evidence of prehistoric or historic cultural resources within the APE. Given these results, the proposed undertaking is considered to have no effect to historic properties eligible for listing to the National Register of Historic Places (NRHP) (36CFR part 800.4 (d)(1). Therefore no additional cultural resources survey is recommended for the proposed improvements to the City of Mount Vernon WTP.

The survey was performed by personnel from the United States Army Corps of Engineers (USACE)-Louisville District. This undertaking is in compliance with Section 106 and 110 of the National Historic Preservation Act of 1966 (as amended). The work conducted follows the professional standards and guidelines outlined in the Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation (Secretary of the Interior 1983) and the *Specifications for Conducting Fieldwork and Preparing Cultural Resources Assessment Reports* from the Kentucky State Historic Preservation Office (KY-SHPO) and the Kentucky Heritage Council (Sanders 2017).

The goal of this survey was to identify any prehistoric and historic sites that could be eligible for the National Register of Historic Places (NRHP). This was met through a literature review and records search to identify any known cultural resources and an archaeological survey to locate any previously unknown cultural resources in the APE. USACE archaeologist Jared Barrett initially visited the site on April 22, 2019 to conduct a preliminary site visit of the project area to determine the proximity of the NRHP listed Bennett Hiatt Log House. Barrett conducted the archaeological survey on August 30, 2019 with the assistance of USACE archaeologist Jennifer Guffey. The archaeological survey took approximately four hours to complete. Barrett served as Principal Investigator and authored this report.

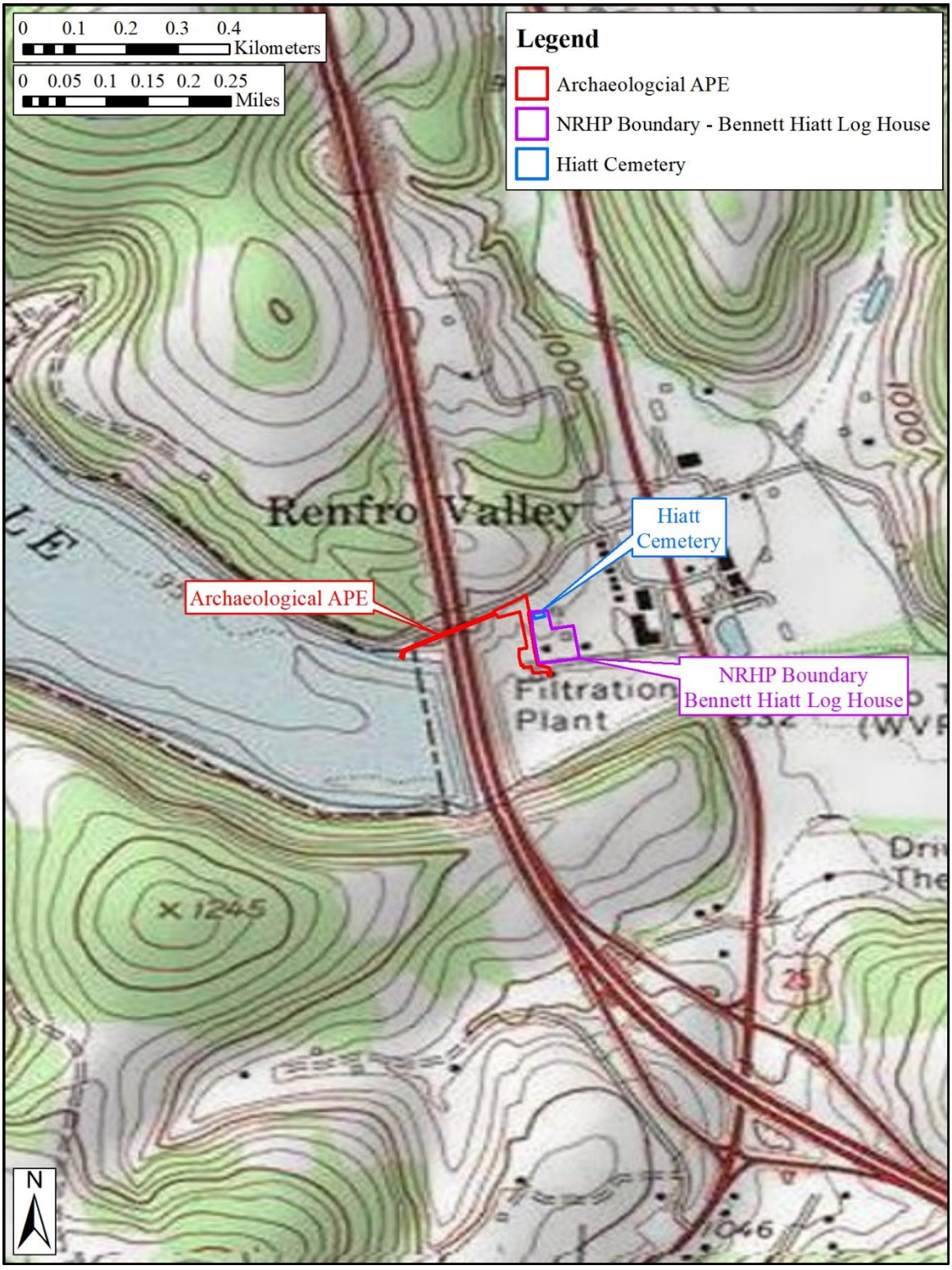

Figure 1. Excerpt of the Wildie, KY USGS 7.5-minute quadrangle map showing the location of the APE, NRHP listed Bennett Hiatt Log House, and Hiatt Cemetery.

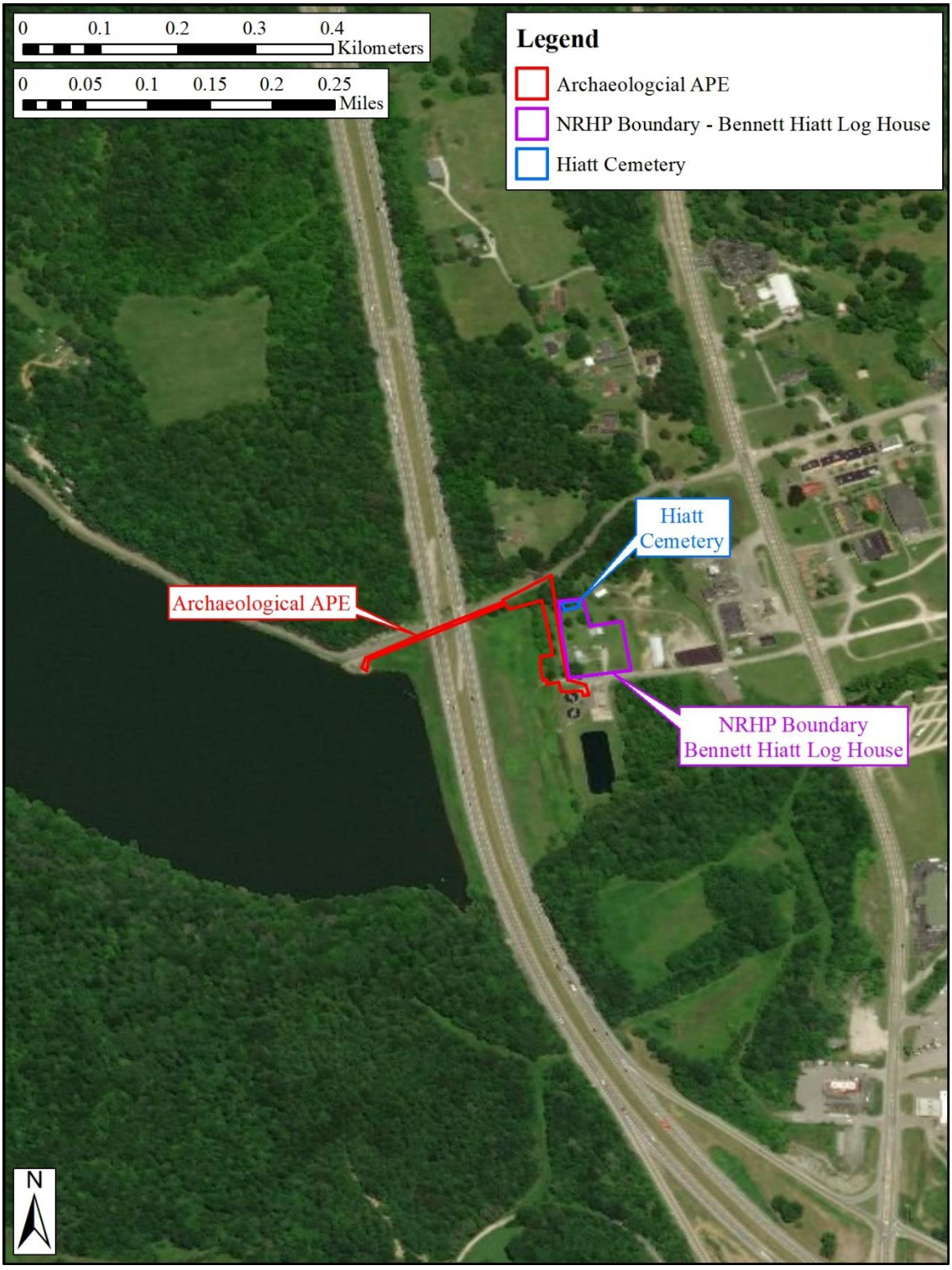

Figure 2. Aerial view showing the location of the archaeological APE, NRHP boundary of the Bennett Hiatt Log House, and the Hiatt Cemetery.

Literature Review and Records Check

A number of steps were taken in an effort to identify any cultural resources within a 1.2 mile (2 km) radius of the APE. These include a background check of the NRHP online database, Louisville District Geographic Information System (GIS), the Kentucky Office of State Archaeology (OSA) records, and previous cultural resources reports that have occurred at or in the vicinity of the APE.

The site file search of the GIS database allowed the use of topographic maps, previous investigations, and historic structures and archaeological sites to collect information about the project vicinity. Reviews of the previous survey reports of Rockcastle County were used to provide background information around the project area. The NRHP online database was used to collect information on NRHP eligible or listed properties located within a 1.2 mile (2 km) radius of the APE. It found there are two NRHP listed properties located within a 1.2 mile radius of the APE: the John Lair House and Stables and the Bennett Hiatt Log House. The John Lair House and Stables is listed in the NRHP and is located 0.25 miles northeast of the APE. The John Lair House and Stables is located outside of the APE and will not be impacted by the project. The NRHP listed Bennett Hiatt Log House is located adjacent to the APE. Due to the uncertainty of the boundary of the Bennett Hiatt Log House, USACE coordinated a revised NRHP boundary for the Bennett Hiatt Log House with the Kentucky Heritage Council (KHC). The KHC concurred with the revised boundary in an email dated October 14, 2019 (see Appendix B). At its closest extent, the revised NRHP boundary of the Bennett Hiatt Log House is located approximately 2.5 m (eight feet) east of the APE. The revised NRHP boundary is located outside the APE and the Bennett Hiatt Log House will not be impacted by the proposed improvements to the WTP.

According to a check of the Kentucky Office of State Archaeology (OSA) GIS database on April 21, 2019, no archaeological sites are located within the APE. The search of the OSA database did uncover that three archaeological sites have been identified within a 1.2 miles (2 km) radius of the APE. Site 15Rk54 was recorded during the cultural resource assessment of the Renfro Valley Barn Dance complex (Rossen 1989). Sites 15Rk99 and 15RK100 were recorded during the cultural resources survey of the proposed Rockcastle County tourist center (Curran et al 2009). For a complete list of these sites see Table 1. None of these sites will be impacted by the construction of the proposed improvements to the WTP.

Table 1. List of previous archaeological sites located within a 1.2 mile (2 km) radius of the APE.

Site Number	Cultural Affiliation and Site Type	NRHP Eligibility	Distance and direction from APE
15Rk54	Archaic, Indeterminate / Open habitation without mounds	Site does not presently meet National Register criteria	0.19 miles east of APE
15Rk99	Indeterminate Prehistoric / Open habitation without mounds	Site does not presently meet National Register criteria	0.15 miles southeast of APE
15Rk100	Indeterminate Prehistoric / Open habitation without mounds	Site does not presently meet National Register criteria	0.16 miles south of APE

One survey covers a portion of the existing APE. Jack Schock in 2006 conducted a survey for approximately 2 miles of sewer line improvements for the City of Mount Vernon along Lake Linville and Green Hill Roads (Schock 2006). Schock's survey did not uncover any archaeological sites. In addition to Schock's survey, four other surveys have been carried out near the APE. These include a cultural resources assessment of the Renfro Valley Barn Dane Complex located 0.08 miles east of the APE (Rossen 1989), a cultural resources survey of the proposed Rockcastle County tourist center located 0.14 miles south of the APE (Curran at al. 2009), a survey of two water tank sites located 0.95 miles southeast of the APE (Schock 2013), and the widening of Interstate 75 in Rockcastle County located 0.16 miles south of the APE (Herndon 2017).

Survey Predictions

The APE is situated in the Interior Mountains of Management Area 6 (Upper Kentucky / Licking) (Stackelbeck and Mink 2008). This management area is drained by the upper portions of the Kentucky and Licking River drainages and Rockcastle River, which flows into the upper Cumberland River. The Upper Kentucky / Licking Management Area lies almost entirely within the Cumberland Plateaus. Rockshelter sites (n=1577) make up over 40 percent of the sites recorded in this management area, followed by open habitations without mounds with less than 30 percent (Stackelbeck and Mink 2008). This high number of recorded rockshelter sites is not surprising given the topography of the region on the Cumberland Plateaus. The two most predominant site types in the Interior Mountain Section are open habitation site without mounds and rockshelters each making up 31.5 percent of the sites within this section (Stackelbeck and Mink 2008). Only seven sites have been nominated or listed to the NRHP in the Interior Mountains Section. The Interior Mountains Section has had the most surveys completed since 1987 (n=1434) and currently has the second highest number of reports in the state (n=1563). Surveys undertaken in the Interior Mountains Section have been conducted as part of cultural resource management projects related to the Daniel Boone National Forest and small scale cultural resource surveys (Stackelbeck and Mink 2008).

Expectations for the recovery of cultural material during field investigations were low, considering the APE is located in areas previously disturbed by the development of the water line, WTP, and ROW of the road. The area in and around the proposed WTP improvements has been rural throughout the nineteenth century and into the mid twentieth century. Maps of the area from 1897 and 1953 show the area as relatively rural prior to the construction of Linville Lake, Interstate 75, and the WTP (Figures 3 and 4). Since the 1960s, the APE has changed significantly over the years with the construction of Linville Lake, Interstate 75, and the WTP. The expected site type, given the topographic setting of the APE, is a prehistoric open habitation without mounds or a historic farmstead or historic artifact scatter.

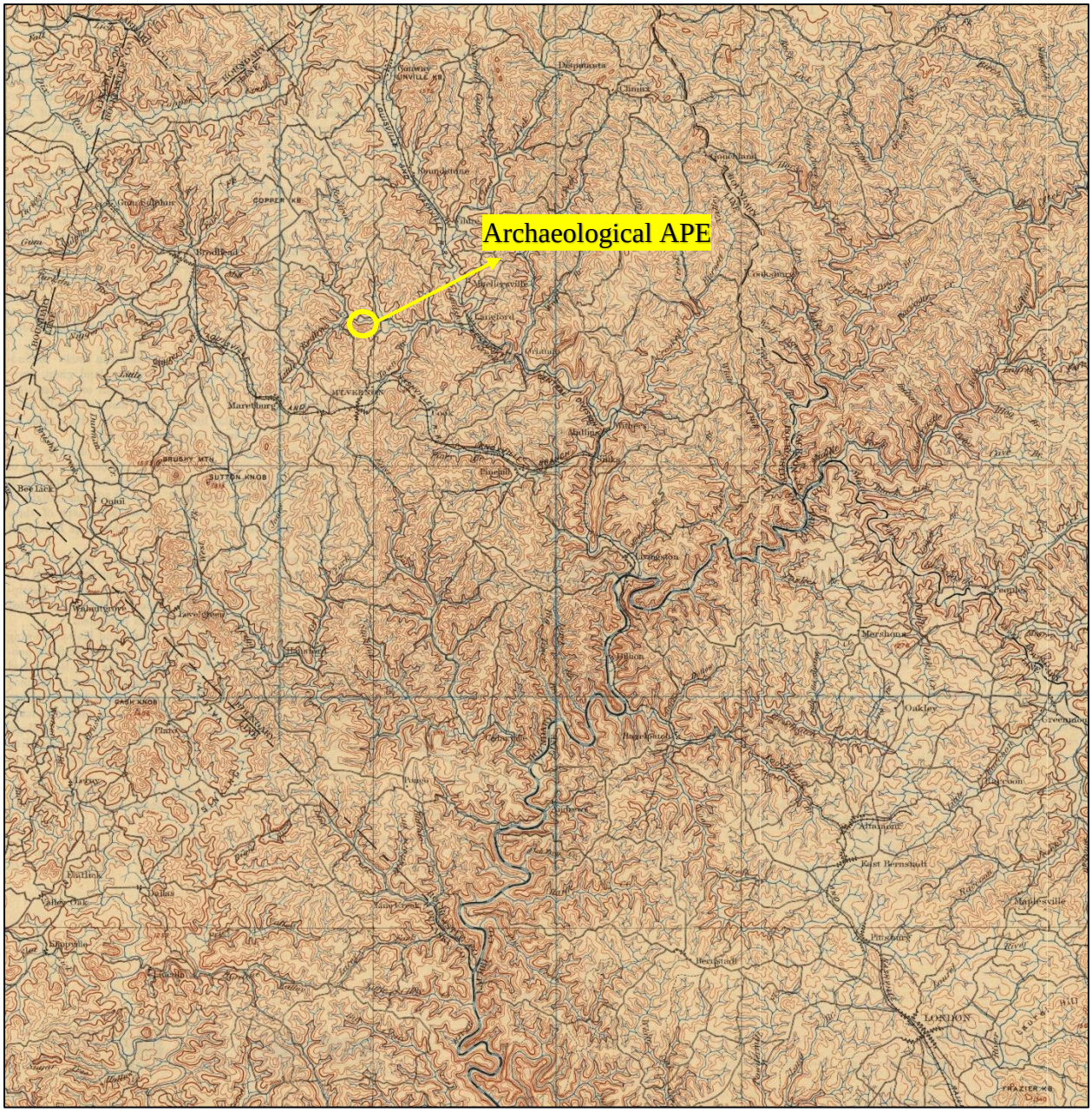

Figure 3. Excerpt of the 1897 1:125,000 USGS London, Kentucky USGS topographic map showing the area prior to the development of Linville Lake and Interstate 75 (general location of APE highlighted in yellow).

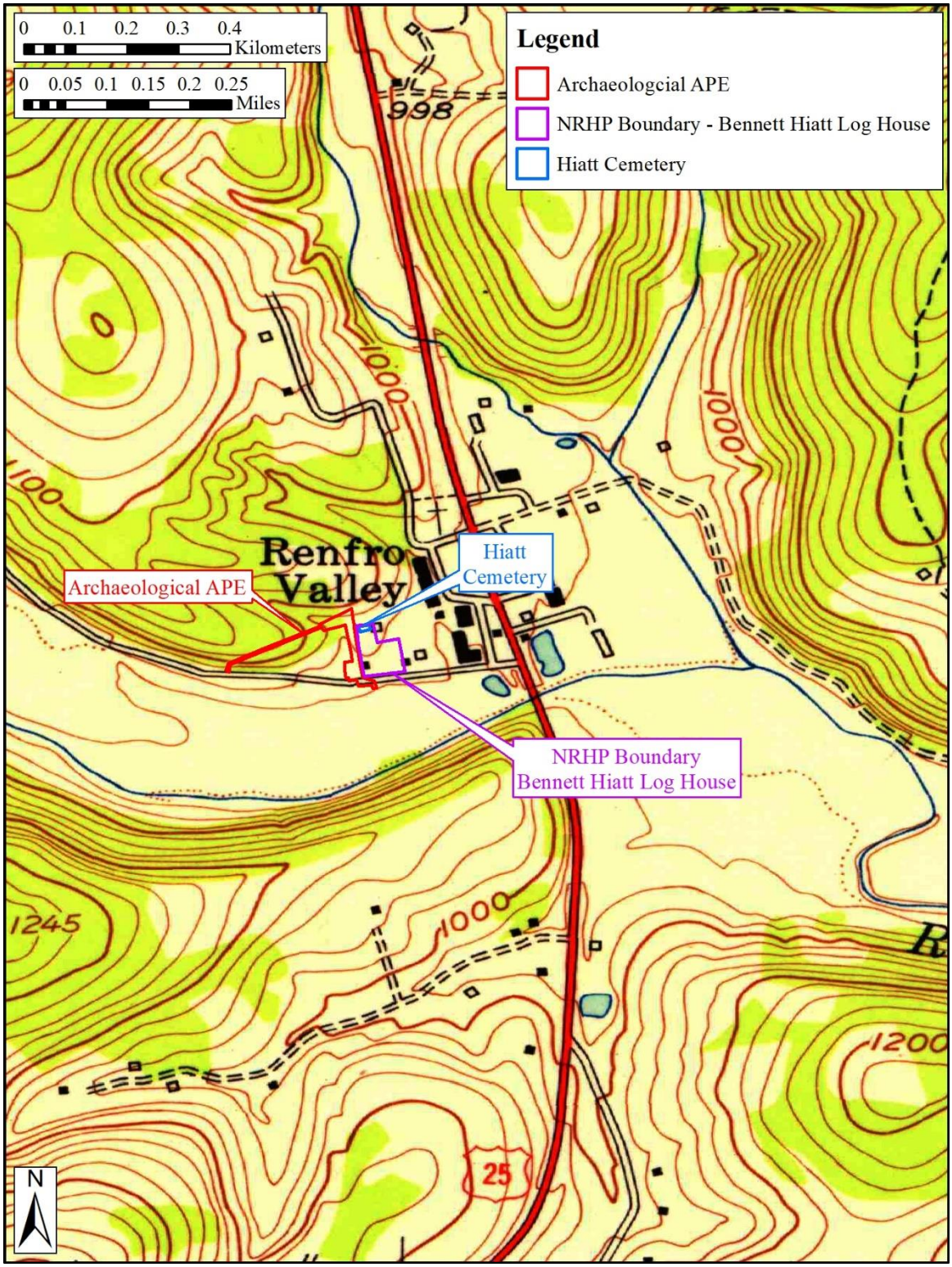

Figure 4. Excerpt of the 1953 Wildie, KY USGS 7.5' quadrangle showing the location of the APE.

Field Methods and Survey Results

Approximately one acre (0.4 hectares) were surveyed during field investigations (Figures 5 and 6). The survey closely followed all guidelines for Phase I archaeological investigations as defined in the "Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports," issued by the KY-SHPO (Sanders 2017). USACE personnel surveyed the proposed APE on foot. The survey included a combination of systematic pedestrian examination of all sloped terrain greater than 15 percent or previously disturbed, developed areas and shovel testing of areas located on terrain with a slope less than 15 percent and having poor surface visibility. Shovel tests consisted of 30 x 30 centimeter [cm] (11.8 x 11.8 inch) excavations into subsoil, with five excavated within the undisturbed sections of the APE. Fill dirt was screened through ¼-inch (0.64 cm) mesh hardware cloth to insure uniform artifact recovery. All shovel tests were immediately backfilled following recordation. The Principal Investigator maintained field notes during the project, recording work accomplished, and general observations. Photographs of the APE were taken using a digital camera and a detailed photographic log was kept.

Land use within the APE consists of riprapped shoreline of the lake, road right of way, manicured lawns, secondary growth forest, and an existing WTP (Figures 6–10). The APE is located at the base of dissected uplands overlooking Renfro Creek. The APE is made up of the proposed WTP improvements which consists of the addition of a PAC reactor basin, PAC storage building with feed equipment, and PAC feed lines. The proposed project will extend from Lake Linville, travel generally eastward along existing right of way along Lake Linville and Green Hill Roads before heading south and ending at the existing WTP located at the end of Cs-1091. The archaeological APE for the proposed WTP improvements will consist of the contractor work limits for the project, which measures approximately one acre (0.4 hectares) in size.

Ground surface visibility was zero percent within the APE. Most of the APE is located on terrain that has been either previously disturbed from prior construction of roads or the WTP or is located on terrain with a slope greater than 15 percent. These areas of disturbed soils and sloped terrain were visually scanned for cultural material and features.

Soils within the proposed APE belong to the Berea silt loam, Newark silt loam, Shelocta Channery silt loam and Weikert Channery silt loam (USDA NRCS 2019). Berea silt loam soils are located on ridges on terrain with 12 to 20 percent slopes. The parent material of Berea silt loam is a fine-silty residuum weathered from acid shale. Newark silt loam soils are located on flood plains with the parent material consisting of a mixed fine-silty alluvium. Shelocta Channery silt loam soils are located on hills on terrain with six to 12 percent slopes. The parent material of Shelocta channery silt loam is a fine loamy colluvium derived from sandstone and shale. Weikert Channery silt loam soils are located on ridges on terrain with a 40 to 80 percent slopes. The parent material of Weikert Channery silt loam soils are loamy skeletal residuum weathered from siltstone.

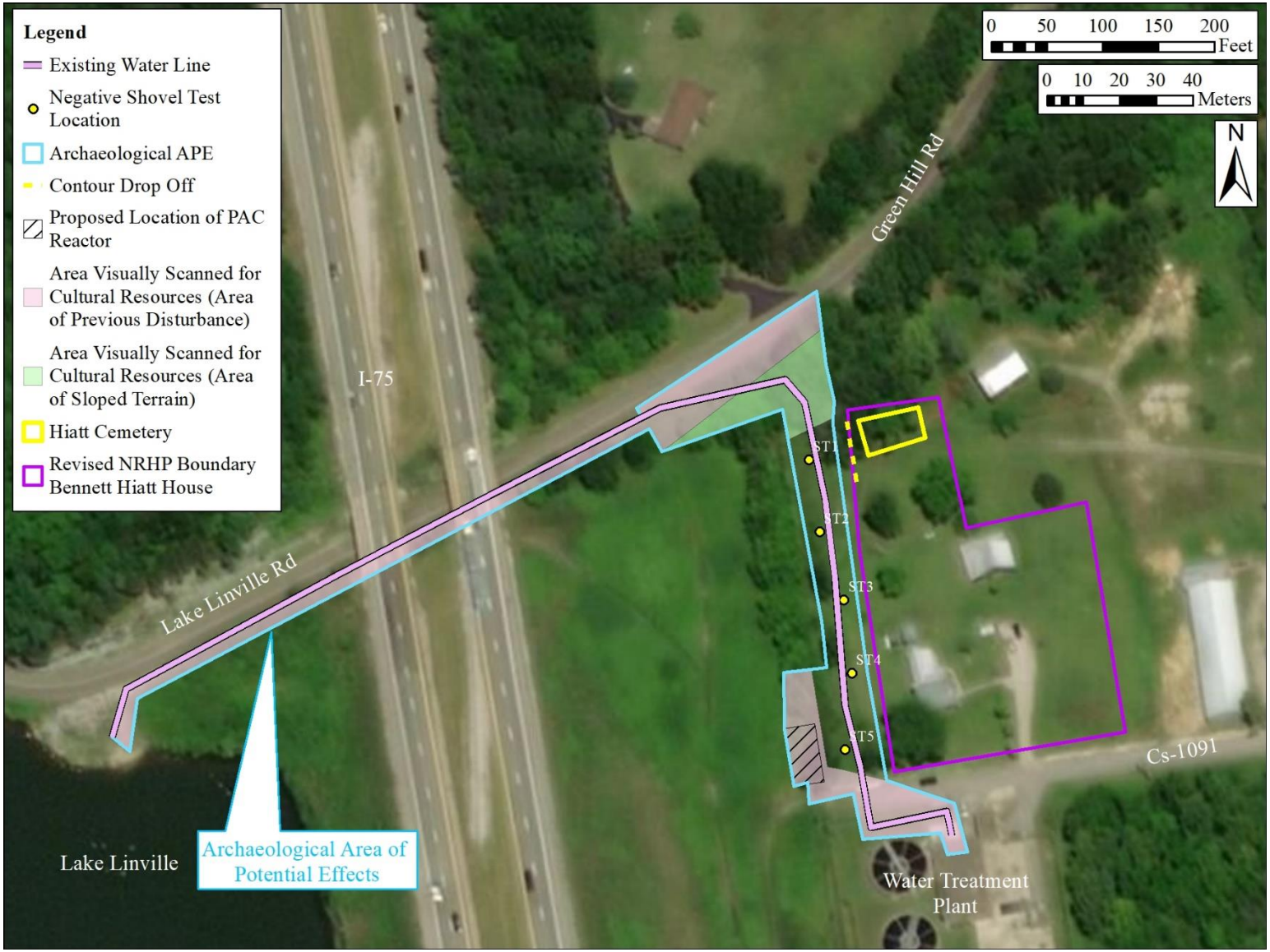

Figure 5. Overview of the APE, shovel test locations, Hiatt Cemetery, and the NRHP listed Bennett Hiatt Log House.

Figure 6. Overview of proposed intake at Linville Lake for the WTP improvements, facing east.

Figure 7. View of APE along the ROW of Green Hill Road, facing southwest.

Figure 8. Overview of APE starting at Green Hill Road looking at the WTP and the Bennett Hiatt Log House to the left, facing south.

Figure 9. Overview of proposed PAC reactor location, partially on I-75 ROW, facing north.

Figure 10. Overview of where improvements tie into existing WTP, facing southeast.

Five shovel tests were excavated west of the NRHP listed Bennett Hiatt Log House (see Figure 5). These five shovel tests showed soils in the APE consist of a 10YR 5/3 brown silt loam topsoil extending up to 30 cm (11.8 inches) below ground surface. This topsoil was underlain by a 10YR 6/6 brownish yellow silty clay subsoil (Figures 11 and 12). No cultural resources were recovered within the five shovel tests or the visual examination of the sloped and previously disturbed soils identified within the APE.

In addition to the shovel tests and visual examination of the previously disturbed soils and sloped terrain, the survey also examined the Hiatt Cemetery to determine if it was located within the APE (see Figure 1, 2 and 5). During the site visit in August 2019, it was noted that there was a sharp drop (approximately 2 to 2.5 feet) in contour elevation between the cemetery and the location of the APE (Figure 13). No headstones, footstones, or grave depressions associated with the Hiatt Cemetery were noted extending into the APE during the archaeological survey (Figure 14). The four corners of the cemetery were previously staked with land surveyor markers. There is also an existing water line within the APE, west of the cemetery (see Figure 5). In addition, submeter GPS points taken of the boundary of the cemetery show that at its closest extent, the cemetery is located approximately 7.2 meters (23.5 feet) east of the APE boundary. The Hiatt Cemetery will not be impacted by the proposed improvements to the WTP.

Figure 11. Soil profile of Shovel Test 4, facing east (scale in cm).

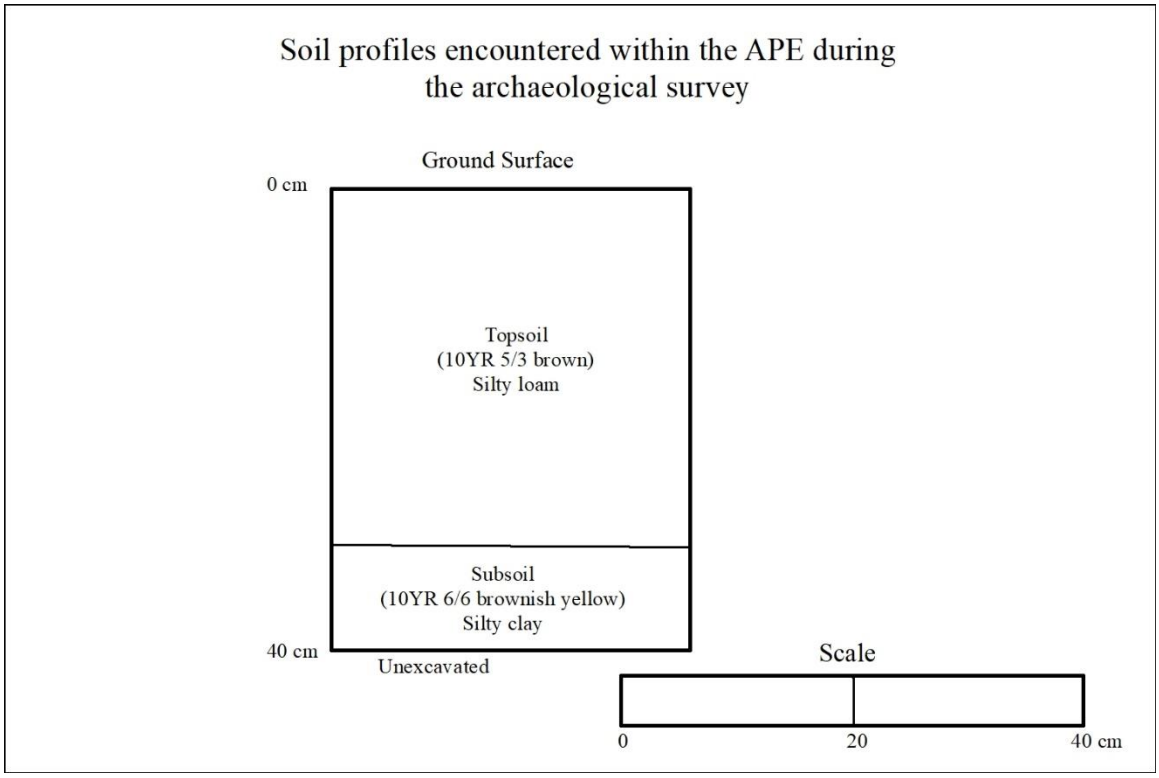

Figure 12. Example of soil profiles encountered within the APE.

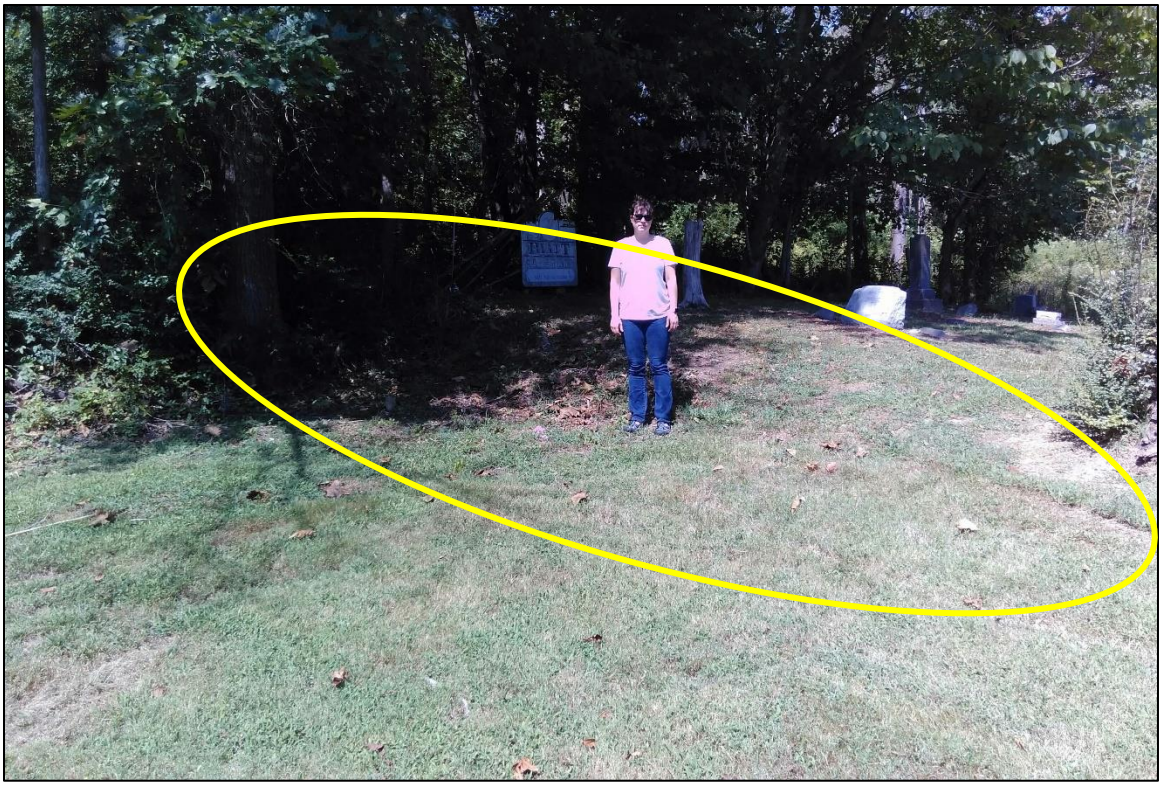

Figure 13. View of Hiatt Cemetery showing contour elevation change, facing northeast.

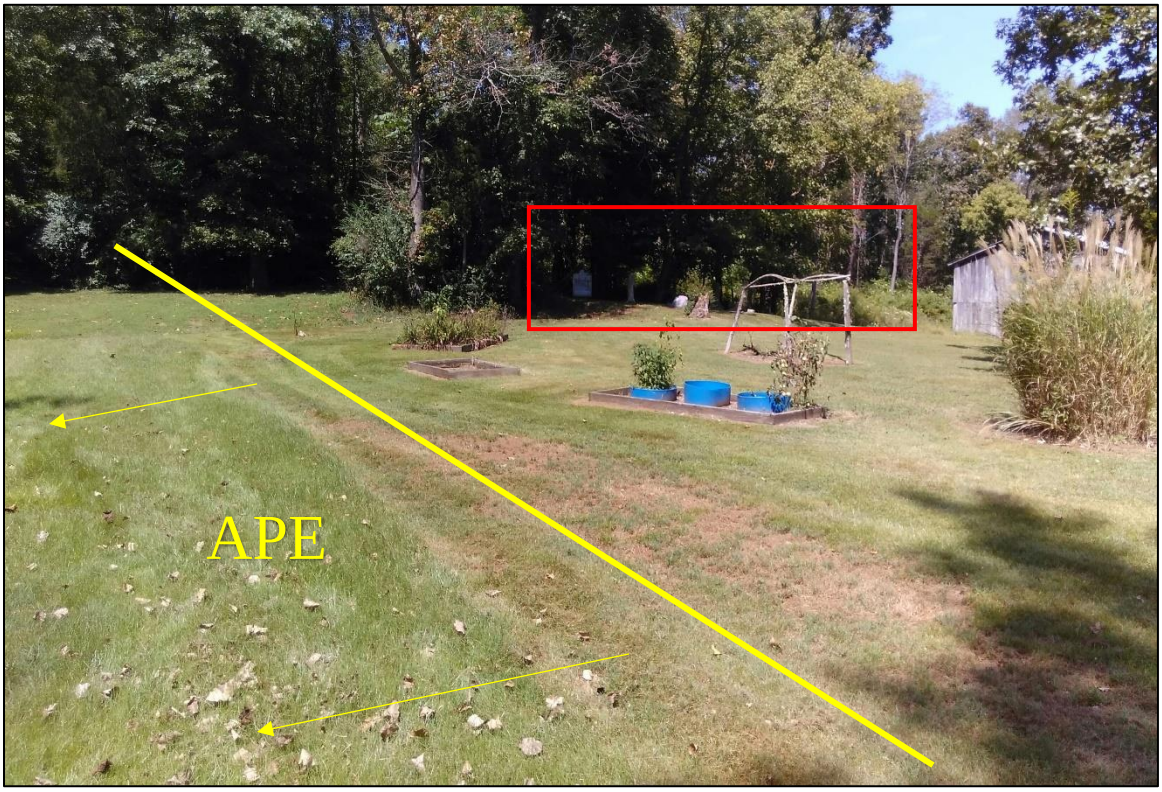

Figure 14. View of APE (yellow line) in relation to the Hiatt Cemetery (highlighted in red) facing northeast.

Conclusion and Recommendations

An archaeological survey of the proposed improvements of the WTP in the City of Mount Vernon revealed no evidence of cultural resources. Given these results, the proposed undertaking is considered to have no effect to historic properties eligible for listing to the NRHP [36CFR part 800.4 (d)(1)]. Therefore no additional cultural resources survey is recommended for this undertaking.

References

Curran, Michael, Jennifer Barber, and Frederick Banschbach
2009 *A Cultural Resource Survey of the Proposed Rockcastle County Tourist Center, Rockcastle County, Kentucky*. Report on file at the Kentucky Office of State Archaeology.

Herndon, Richard L.
2017 *An Archaeological Survey for the Proposed Widening of Interstate 75 in Rockcastle County, Kentucky (Item Number 8-6.2)*. Report on file at the Kentucky Office of State Archaeology.

Rossen, Jack
1989 *A Cultural Resource Assessment of the Renfro Valley Barn Dance Complex, Rockcastle County, Kentucky*. Report on file at the Kentucky Office of State Archaeology.

Sanders, Thomas N. (editor)
2017 *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports.* Issued by the Kentucky State Historic Preservation Office and the Kentucky Heritage Council, Edition 2.5, Frankfort, Kentucky.

Schock, Jack M.
2006 *An Archaeological Survey of Approximately 2 Miles for Sewer Line Improvements at Mount Vernon in Rockcastle County, Kentucky*. Report on file at the Kentucky Office of State Archaeology.

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United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS)
2019 Online soil survey website. Available online at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Site accessed on October 11, 2019.

Appendix A: Permit Number 2019-22 Kentucky Office of State Archaeology Permit for Archaeological Investigations on State, County, or Municipal Lands

KENTUCKY OFFICE OF STATE ARCHAEOLOGY

University of Kentucky, 1020A Export Street, Lexington, KY 40506-9854

859-257-1944 • fax: 859-323-9866 • email: ky-osa@uky.edu

Permit for Archaeological Investigations on State, County, or Municipal Lands Pursuant to KRS 164.720. Permit required to excavate.

PERMIT NUMBER 2019-22
COUNTY OF Rockcastle
Expiration Date: 31 December 2019

This permit authorizes:

Name: Jared Barrett
Affiliation: U.S. Army Corps of Engineers (Louisville)
Address: P.O. Box 59
Room 708 ATTN: CELRL-PMC-PL
Louisville, KY 40201

and qualified individuals working under the direct supervision of the permittee to explore, excavate, appropriate, or remove from land owned or leased by the Commonwealth or any state agency or any political subdivision or municipal corporation of the commonwealth, any archaeological site or object of antiquity in accordance with the following described project:

Phase I survey of Mt Vernon water treatment plant

Purpose of Collection: Archaeological Survey

Dispostion of Collection and Special Conditions: All official notes, records, and artifacts are property of the Commonwealth and are to be retained permanently for future study and stored with an appropriate institution. This permit does not authorize the collection of any items or objects of antiquity for personal use.

This permit is issued on July 18, 2019 by:

Philip B. Mink, II
Assistant Director, Office of State Archaeology

Appendix B: Kentucky Heritage Council email regarding NRHP boundary of the Bennett Hiatt Log House dated October 14, 2019

Barrett, Jared L CIV USARMY CELRL (USA)

From: Ryall, Jennifer (Heritage Council) <Jennifer.Ryall@ky.gov>
Sent: Monday, October 14, 2019 10:34 AM
To: Barrett, Jared L CIV USARMY CELRL (USA)
Cc: Reed, Andrew J CIV USARMY CELRL (US)
Subject: [Non-DoD Source] RE: Proposed Revised Boundary of NRHP listed Bennett Hiatt Log House (UNCLASSIFIED)

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Jared,

Our office informally concurs that the updated Revised Bennett Hiatt Log House boundary as presented in the attachment to this e-mail appears to be appropriate and appears to adequately include all the contributing (and proposed contributing) elements. Thanks for the re-visit to document the Hiatt Cemetery and for being so through to make sure we have a solid, updated boundary for this NRHP-Listed historic property. I'll give you a more formal concurrence once we receive your official determination with the hard copy submission.

Thanks,
~Jenn

Jennifer Ryall
Environmental Review Coordinator
Kentucky Heritage Council
410 High Street
Frankfort, Kentucky 40601
Phone: (502) 892-3619

-----Original Message-----
From: Barrett, Jared L CIV USARMY CELRL (USA) <Jared.L.Barrett@usace.army.mil>
Sent: Thursday, October 10, 2019 2:55 PM
To: Ryall, Jennifer (Heritage Council) <Jennifer.Ryall@ky.gov>
Cc: Reed, Andrew J CIV USARMY CELRL (US) <Andrew.J.Reed@usace.army.mil>
Subject: RE: Proposed Revised Boundary of NRHP listed Bennett Hiatt Log House (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good afternoon Jennifer,
Thanks for your phone call yesterday about the status of the NRHP listed Bennett Hiatt Log House. Attached is my update regarding the NRHP listed Bennett Hiatt Log House which includes the Hiatt Cemetery as a contributing resource.

Please take a look at the attached and let me know if you concur with the proposed revised NRHP boundary which now includes the Hiatt Cemetery.

Thank you,

Jared Barrett, MA, RPA
Archaeologist
Planning Section, Civil Works, Planning, Programs and Project Mgmt Branch Louisville District U.S. Army Corps of Engineers Office Phone 502.315.6480 Office Fax 502.315.6864
Email: Jared.L.Barrett@usace.army.mil
Blockedhttps://urldefense.proofpoint.com/v2/url?u=http-3A__www.lrl.usace.army.mil_&d=DwIFAg&c=jvUANN7rYqzaQJvTqI-69lgi41yDEZ3CXTgIEaHlx7c&r=TYInNH_X79TvK6oDkoGhRlARwPtGBzIDF-cwbV1g02M&m=j_6o2E1xq20DrxkfOV75pESRcuVZkrE5-_UqzRjzkcw&s=d-ZnyVVJBTI_r80lqNbOpEaGsJ9cvBnMf7q9Zs6Xd4o&e=

-----Original Message-----
From: Barrett, Jared L CIV USARMY CELRL (USA)
Sent: Tuesday, May 28, 2019 11:03 AM
To: Ryall, Jennifer (Heritage Council) <Jennifer.Ryall@ky.gov>
Cc: Reed, Andrew J CIV USARMY CELRL (US) <Andrew.J.Reed@usace.army.mil>
Subject: RE: Proposed Revised Boundary of NRHP listed Bennett Hiatt Log House (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning Jenn,
I have attached an aerial map showing the location of the Hiatt Cemetery in relation to the Bennett Hiatt Log House. The historic cemetery is located on the north side of Lake Linville Road and is 189 meters northeast of the proposed NRHP boundary. I also attached a Google Earth street view image showing the sign for the Hiatt Cemetery. When we did our site visit in April, there was no sign of a cemetery on the property. I believe the Hiatt Cemetery referenced on the Kentucky Inventory Form is the one located along Lake Linville Road.

I also attached a table of the resources that are part of the Bennett Hiatt Log House NRHP listing and whether or not they are destroyed, still extant, or extant but modified.

Let me know if you need anything else regarding this proposed NRHP boundary update.

Thanks,

Jared Barrett

-----Original Message-----
From: Ryall, Jennifer (Heritage Council) [mailto:Jennifer.Ryall@ky.gov]
Sent: Friday, May 24, 2019 4:22 PM
To: Barrett, Jared L CIV USARMY CELRL (USA) <Jared.L.Barrett@usace.army.mil>
Cc: Reed, Andrew J CIV USARMY CELRL (US) <Andrew.J.Reed@usace.army.mil>
Subject: [Non-DoD Source] RE: Proposed Revised Boundary of NRHP listed Bennett Hiatt Log House (UNCLASSIFIED)

Sounds good! When you went on the site visit, were you able to get any information about the cemetery (photos, approximate age, condition, etc)? It's very likely something could have been overlooked on the original nomination

form. Since the cemetery shares the same family name as the house, I'm guessing it was associated (at least at some point).

~Jenn

Jennifer Ryall
Environmental Review Coordinator
Kentucky Heritage Council
410 High Street
Frankfort, Kentucky 40601
Phone: (502) 892-3619

-----Original Message-----
From: Barrett, Jared L CIV USARMY CELRL (USA) <Jared.L.Barrett@usace.army.mil>
Sent: Friday, May 24, 2019 3:57 PM
To: Ryall, Jennifer (Heritage Council) <Jennifer.Ryall@ky.gov>
Cc: Reed, Andrew J CIV USARMY CELRL (US) <Andrew.J.Reed@usace.army.mil>
Subject: RE: Proposed Revised Boundary of NRHP listed Bennett Hiatt Log House (UNCLASSIFIED)

_____

CLASSIFICATION: UNCLASSIFIED

Thanks Jenn,
Yes, that is a new barn since it wasn't listed with the initial survey form from 1984. The initial log barn they recorded is still there.

I believe the Hiatt Family Cemetery is on the form for a point of reference and is not considered a contributing element to the NRHP listing. When I reviewed the NRHP form it does not mention the cemetery as a contributing element. I believe the cemetery is located further north and away from the house.

I can work up a table of the contributing elements on Tuesday and get it back to you.

And thanks for the compliments.

Jared

-----Original Message-----
From: Ryall, Jennifer (Heritage Council) [mailto:Jennifer.Ryall@ky.gov]
Sent: Thursday, May 23, 2019 4:21 PM
To: Barrett, Jared L CIV USARMY CELRL (USA) <Jared.L.Barrett@usace.army.mil>
Cc: Reed, Andrew J CIV USARMY CELRL (US) <Andrew.J.Reed@usace.army.mil>
Subject: [Non-DoD Source] RE: Proposed Revised Boundary of NRHP listed Bennett Hiatt Log House (UNCLASSIFIED)

Hey Jared,

What's the building that looks barn-like to the north of the proposed boundary - a new barn?
And is the Hiatt Family Cemetery still extant? If so, it currently included within the boundary?
Could you provide a list of the all the (extant) proposed contributing elements? I think that would help.

Finally, what a great house!! And thank you for the site visit to get everything so accurate. That's greatly appreciated.

~Jenn

Jennifer Ryall
Environmental Review Coordinator
Kentucky Heritage Council
410 High Street
Frankfort, Kentucky 40601
Phone: (502) 892-3619

-----Original Message-----
From: Barrett, Jared L CIV USARMY CELRL (USA) <Jared.L.Barrett@usace.army.mil>
Sent: Thursday, May 23, 2019 2:58 PM
To: Ryall, Jennifer (Heritage Council) <Jennifer.Ryall@ky.gov>
Cc: Reed, Andrew J CIV USARMY CELRL (US) <Andrew.J.Reed@usace.army.mil>
Subject: Proposed Revised Boundary of NRHP listed Bennett Hiatt Log House (UNCLASSIFIED)

_____

CLASSIFICATION: UNCLASSIFIED

Good afternoon Jenn,
Attached is our proposal for the revised boundary of the NRHP listed Bennett Hiatt Log House. Please review and let us know if you agree with the revised boundary as presented. I can also supply you with a shapefile of the revised boundary as well.

Thanks Jenn

Jared Barrett, MA, RPA
Archaeologist
Planning Section,
Civil Works, Planning, Programs and Project Mgmt Branch Louisville District U.S. Army Corps of Engineers Office Phone 502.315.6480 Office Fax 502.315.6864
Email: Jared.L.Barrett@usace.army.mil
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CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

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CLASSIFICATION: UNCLASSIFIED

Proposed Revised Boundary for NRHP Listed Bennett Hiatt Log House

Prepared by Jared Barrett, Archaeologist
United States Army Corps of Engineers – Louisville District
October 10, 2019

The United States Army Corps of Engineers Louisville District (USACE) is partnering with the City of Mount Vernon to improve their water treatment plant in Rockcastle County, Kentucky. During the initial stages of planning for the project, USACE determined that the Bennett Hiatt Log House (Bennett House) is located adjacent to the proposed water treatment improvement project (Figures 1 and 2). The Bennett House is listed in the National Register of Historic Places (NRHP) for its historical association with the exploration and settlement of Rockcastle County. The dwelling is also listed for its architectural significance as a representation of a rectangular single-pen log structure in the county.

USACE obtained the NRHP nomination form and the Kentucky Historic Resources Inventory form for the Bennett House in order to research its boundary as well as its history. The nomination form lists the Bennett House as the main structure for the listing. It is described as a one and a half story log dwelling which has been weather boarded with a one and a-half story frame ell. In addition to the log dwelling, the nomination form also lists several outbuildings that are associated with the house. These buildings include a one-story frame privy, a single-story frame meat house, a one-story frame woodshed, a stuccoed limestone root cellar, and a one and one-half story weatherboarded log barn with saddle notching (Figure 3). The nomination form does not list the Hiatt Cemetery as a contributing resource of the Bennett House.

The NRHP boundary for the property is listed as a verbal description rather than a marked boundary on a map. The verbal description from the nomination form states, "*Beginning at a point on the north side of the farm lane leading to the house, approximately 180 feet from the center of the dwelling, proceed 200 feet in a northward direction; thence 400 feet in a westward direction; thence 200 feet in a southward direction; thence 400 feet in an eastward direction to the point of origin. The boundary is drawn to include the log dwelling and five outbuildings associated with the house.*" Based on the verbal description of the boundary, it was unclear where the boundaries are located.

USACE archaeologist Jared Barrett conducted two separate site visits to the Bennett House on April 22 and August 30, 2019 in order to assess the current condition of the property and to determine the NRHP boundary for the property. The site visit documented that since its listing, the privy and meat house have been demolished (Figures 4 and 5). The site visit also documented that the main house, the woodshed, root cellar, and weatherboarded log barn are still intact (Figures 6 and 7). It appears the root cellar has been rebuilt when comparing its current condition to the photo taken of it in 1984 (Figure 8). USACE was not able to access the property in April 2019. USACE obtained permission to enter the property and revisited it on August 30, 2019. During the site revisit, USACE discovered that the Hiatt Cemetery shown on the Kentucky Historic Resource Inventory form is located approximately 182 feet north of the Bennett House (Figure 9). The dates on the headstones in the cemetery range from the nineteenth to early twentieth century with most of the surnames belonging to the Hiatts. In the original NRHP listing, the cemetery is not listed as a contributing element to the Bennett House. Based on its

association with the Bennett House and history of the Hiatt family, USACE is proposing that the Hiatt Cemetery be included as contributing resource to the Bennett House. Using the verbal description from the NRHP nomination, USACE attempted to define the boundary but due to changes to the landscape and nearby buildings, was unable to do so.

Based on the site visits and information from the NRHP nomination form, USACE has developed a revised NRHP boundary for the Bennett House (Figure 10). This boundary is based on current conditions on the property and accounts for the previous demolition of the privy and meat house and includes the Hiatt Cemetery due to its association with the history of the Hiatt family. USACE is seeking concurrence with this recommended revised NRHP boundary for the Bennett House.

Figure 1. Excerpt of the Wildie and Mount Vernon, Kentucky USGS topographic maps showing the location of the NRHP listed Bennett Hiatt Log House.

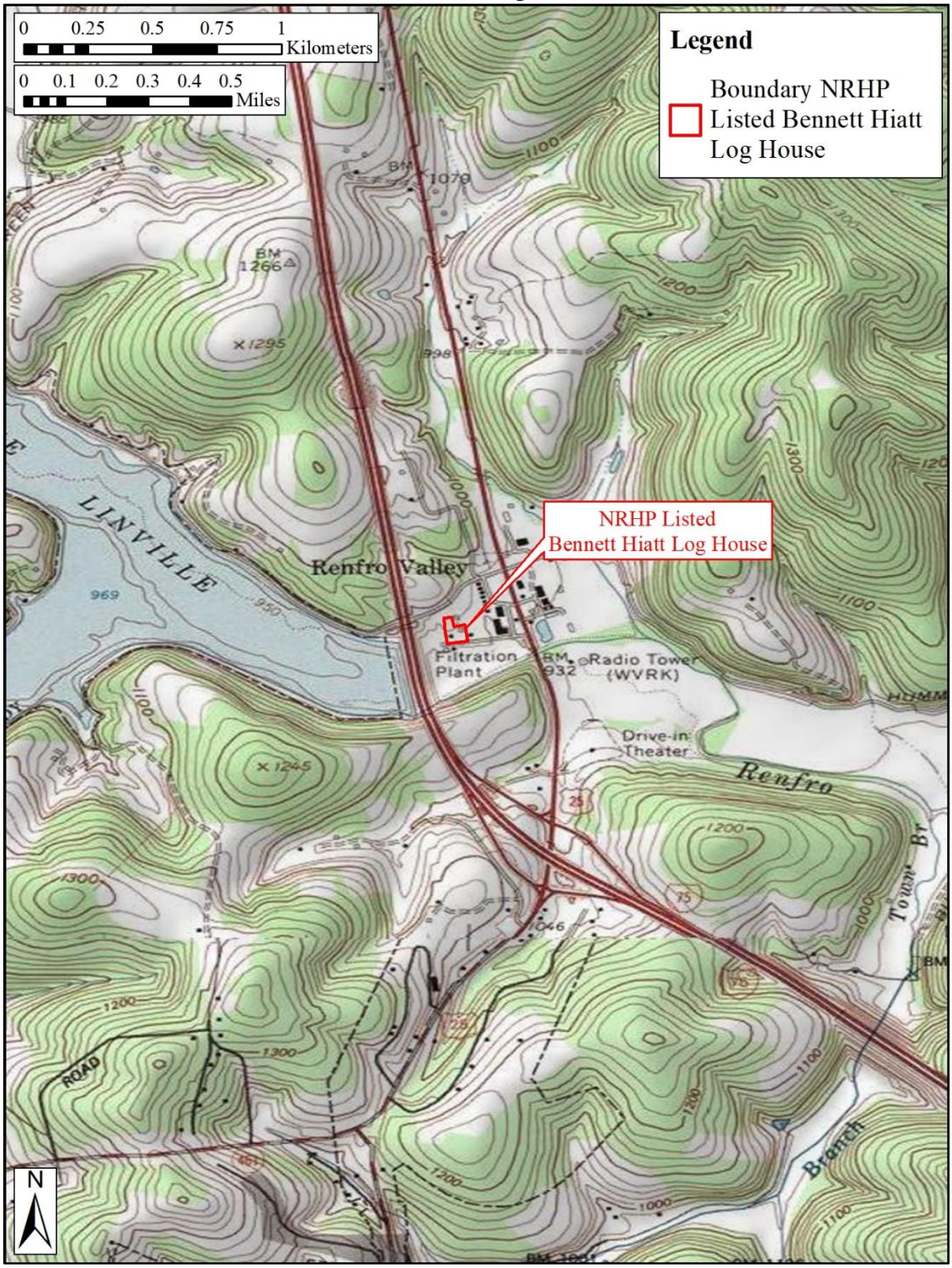


Figure 2. Aerial view showing the location of the NRHP listed Bennett Hiatt Log House in relation to the water treatment plant, I-75, and Linville Lake.

Proposed Revised Boundary for NRHP Listed Bennett Hiatt Log House

Figure 3. Layout of Bennett Hiatt Log House from Kentucky Historic Resources Inventory Form (map not to scale).

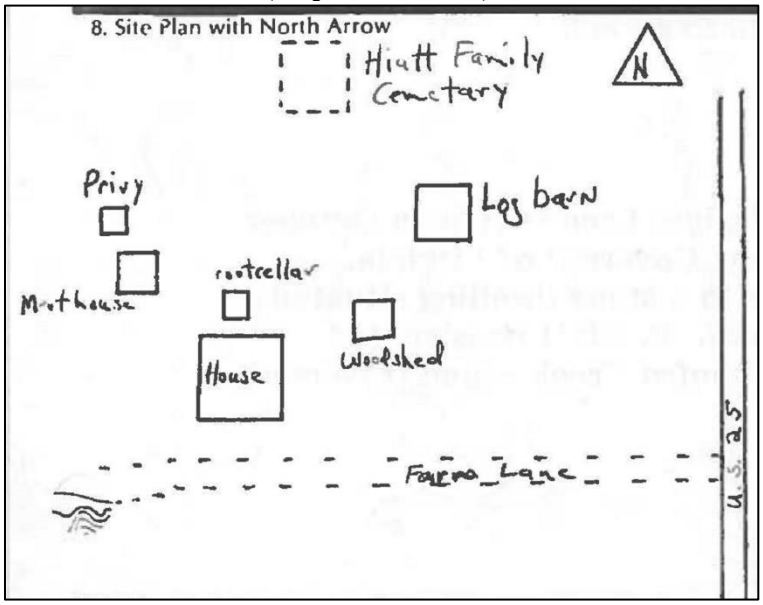


Figure 4. View of where privy and meat house were located (highlighted in yellow), facing north.

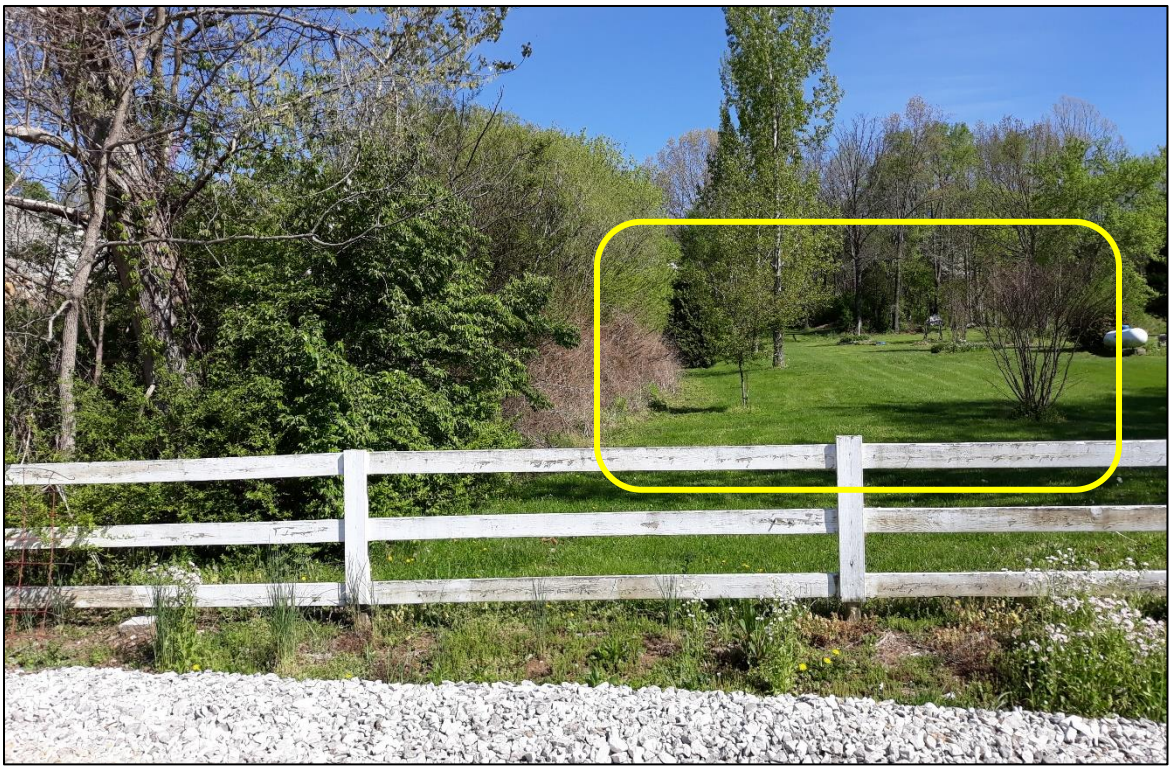


Figure 5. View of house, root cellar, and where privy and meat house were located (highlighted in yellow), facing south.

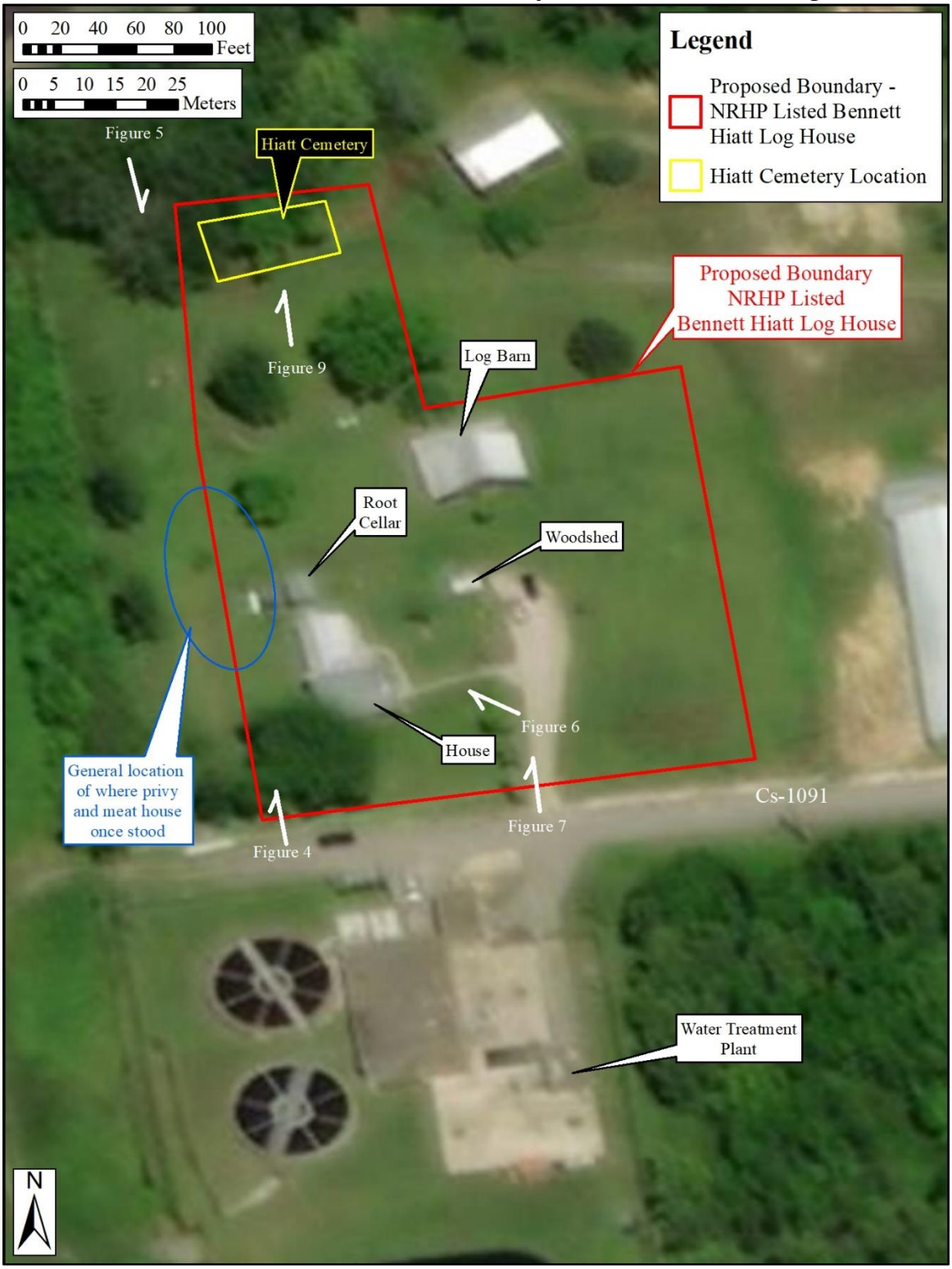
Figure 6. View of house, root cellar, and where privy and meat house were located (highlighted in yellow), facing northwest.

Figure 7. View of house, log barn, woodshed, and where privy and meat house were located (highlighted in yellow) facing north.

Figure 8. View of root cellar taken in June 1984, southwest view.

Figure 9. Overview of Hiatt Cemetery, facing north.

Figure 10. Aerial view showing direction of photos taken of the NRHP property (white arrows) and the location of the revised NRHP boundary for the Bennett Hiatt Log House.



Proposed Revised Boundary for NRHP Listed Bennett Hiatt Log House

From:	Tonya Tipton
To:	Barrett, Jared L CIV USARMY CELRL (USA)
Subject:	[Non-DoD Source] RE: Mount Vernon Water Treatment Plant Improvements NHPA Section 106 Consultation (UNCLASSIFIED)
Date:	Friday, December 6, 2019 12:53:16 PM

This letter is in response to the above referenced project.

The Shawnee Tribe's Tribal Historic Preservation Department concurs that no known historic properties will be negatively impacted by this project.

We have no issues or concerns at this time, but in the event that archaeological materials are encountered during construction, use, or maintenance of this location, please re-notify us at that time as we would like to resume immediate consultation under such a circumstance.

If you have any questions, you may contact me via email at tonya@shawnee-tribe.com <mailto:tonya@shawnee-tribe.com>

Thank you for giving us the opportunity to comment on this project.

Sincerely,

Tonya Tipton

Shawnee Tribe-THPO

29 S Highway 69A

Miami, OK 74354

Phone:(918)542-2441

Fax: (918)542-2922

tonya@shawnee-tribe.com <mailto:tonya@shawnee-tribe.com>

-----Original Message-----
From: Barrett, Jared L CIV USARMY CELRL (USA) <Jared.L.Barrett@usace.army.mil>
Sent: Tuesday, November 5, 2019 10:18 AM
To: Tonya Tipton <tonya@shawnee-tribe.com>
Subject: Mount Vernon Water Treatment Plant Improvements NHPA Section 106 Consultation (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning Tonya,

The Louisville District Corps of Engineers, Planning Branch, sent a consultation letter for the proposed Mount Vernon Water Treatment Plant improvement project in Rockcastle County, Kentucky to your Nation's Leader. I am submitting the record copy of the letter with enclosures to you via email so that you will have additional time to review the information. Please let me know if you have any trouble opening the attachment. I look forward to your comments. Thank you!

Jared Barrett, MA, RPA

Archaeologist

Planning Section, Civil Works, Planning, Programs and Project Mgmt Branch Louisville District U.S. Army Corps of Engineers Office Phone 502.315.6480 Office Fax 502.315.6864

Email: Jared.L.Barrett@usace.army.mil <mailto:Jared.L.Barrett@usace.army.mil>

Blockedhttp://www.lrl.usace.army.mil/ <Blockedhttp://www.lrl.usace.army.mil/>

CLASSIFICATION: UNCLASSIFIED

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CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

Appendix E:

Threatened and Endangered Species Documentation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0468 Fax: (502) 695-1024
http://www.fws.gov/frankfort/

In Reply Refer To: June 10, 2020
Consultation Code: 04EK1000-2020-SLI-1296
Event Code: 04EK1000-2020-E-03378
Project Name: Mount Vernon Water Line

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

Your concern for the protection of endangered and threatened species is greatly appreciated. The purpose of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.) (ESA) is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. The species list attached to this letter fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the ESA to provide information as to whether any proposed or listed species may be present in the area of a proposed action. This is not a concurrence letter; additional consultation with the Service may be required.

The Information in Your Species List:

The enclosed species list identifies federal trust species and critical habitat that may occur within the boundary that you entered into IPaC. For your species list to most accurately represent the species that may potentially be affected by the proposed project, the boundary that you input into IPaC should represent the entire “action area” of the proposed project by considering all the potential “effects of the action,” including potential direct, indirect, and cumulative effects, to federally-listed species or their critical habitat as defined in 50 CFR 402.02. This includes effects of any “interrelated actions” that are part of a larger action and depend on the larger action for their justification and “interdependent actions” that have no independent utility apart from the action under consideration (e.g.; utilities, access roads, etc.) and future actions that are reasonably certain to occur as a result of the proposed project (e.g.; development in response to a new road). If your project is likely to have significant indirect effects that extend well beyond the project footprint (e.g., long-term impacts to water quality), we highly recommend that you

coordinate with the Service early to appropriately define your action area and ensure that you are evaluating all the species that could potentially be affected.

We must advise you that our database is a compilation of collection records made available by various individuals and resource agencies available to the Service and may not be all-inclusive. This information is seldom based on comprehensive surveys of all potential habitats and, thus, does not necessarily provide conclusive evidence that species are present or absent at a specific locality. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please note that “critical habitat” refers to specific areas identified as essential for the conservation of a species that have been designated by regulation. Critical habitat usually does not include all the habitat that the species is known to occupy or all the habitat that may be important to the species. Thus, even if your project area does not include critical habitat, the species on the list may still be present.

Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and associated information. To re-access your project in IPaC, go to the IPaC web site (https://ecos.fws.gov/ipac/), select “Need an updated species list?”, and enter the consultation code on this letter.

ESA Obligations for Federal Projects:

Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

If a Federal project (a project authorized, funded, or carried out by a federal agency) may affect federally-listed species or critical habitat, the Federal agency is required to consult with the Service under section 7 of the ESA, pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). Recommended contents of a Biological Assessment are described at 50 CFR 402.12. For projects other than major construction activities, the Service suggests that a biological evaluation

similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat.

ESA Obligations for Non-federal Projects:

Proposed projects that do not have a federal nexus (non-federal projects) are not subject to the obligation to consult under section 7 of the ESA. However, section 9 of the ESA prohibits certain activities that directly or indirectly affect federally-listed species. These prohibitions apply to all individuals subject to the jurisdiction of the United States. Non-federal project proponents can request technical assistance from the Service regarding recommendations on how to avoid and/or minimize impacts to listed species. The project proponent can choose to implement avoidance, minimization, and mitigation measures in a proposed project design to avoid ESA violations.

Additional Species-specific Information:

In addition to the species list, IPaC also provides general species-specific technical assistance that may be helpful when designing a project and evaluating potential impacts to species. To access this information from the IPaC site (https://ecos.fws.gov/ipac/), click on the text “My Projects” on the left of the black bar at the top of the screen (you will need to be logged into your account to do this). Click on the project name in the list of projects; then, click on the “Project Home” button that appears. Next, click on the “See Resources” button under the “Resources” heading. A list of species will appear on the screen. Directly above this list, on the right side, is a link that will take you to pdfs of the “Species Guidelines” available for species in your list. Alternatively, these documents and a link to the “ECOS species profile” can be accessed by clicking on an individual species in the online resource list.

Next Steps:

Requests for additional technical assistance or consultation from the Kentucky Field Office should be submitted following guidance on the following page http://www.fws.gov/frankfort/PreDevelopment.html and the document retrieved by clicking the “outline” link at that page. When submitting correspondence about your project to our office, please include the Consultation Tracking Number in the header of this letter. (There is no need to provide us with a copy of the IPaC-generated letter and species list.)

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
(502) 695-0468

Project Summary

Consultation Code: 04EK1000-2020-SLI-1296

Event Code: 04EK1000-2020-E-03378

Project Name: Mount Vernon Water Line

Project Type: WATER SUPPLY / DELIVERY

Project Description: New water line going from renfro lake to water treatment plant upgrades to address taste and odor issues.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.3849952836283N84.33455963346648W

Counties: Rockcastle, KY

Endangered Species Act Species

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 3 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS

Gray Bat *Myotis grisescens* — Endangered

No critical habitat has been designated for this species.

This species only needs to be considered under the following conditions:

- The project area includes potential gray bat habitat.

Species profile: https://ecos.fws.gov/ecp/species/6329

General project design guidelines:
https://ecos.fws.gov/ipac/guideline/design/population/21/office/42431.pdf

Indiana Bat *Myotis sodalis* — Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.

This species only needs to be considered under the following conditions:

- The project area includes known 'swarming 1' habitat.

Species profile: https://ecos.fws.gov/ecp/species/5949

General project design guidelines:
https://ecos.fws.gov/ipac/guideline/design/population/1/office/42431.pdf

Northern Long-eared Bat *Myotis septentrionalis* — Threatened

No critical habitat has been designated for this species.

This species only needs to be considered under the following conditions:

- The specified area includes areas in which incidental take would not be prohibited under the 4(d) rule. For reporting purposes, please use the "streamlined consultation form," linked to in the "general project design guidelines" for the species.

Species profile: https://ecos.fws.gov/ecp/species/9045

General project design guidelines:
https://ecos.fws.gov/ipac/guideline/design/population/10043/office/42431.pdf

Virginia Big-eared Bat *Corynorhinus (=Plecotus) townsendii virginianus* — Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.

Species profile: https://ecos.fws.gov/ecp/species/8369

General project design guidelines:
https://ecos.fws.gov/ipac/guideline/design/population/27/office/42431.pdf

Clams

NAME	STATUS
Cumberland Bean (pearlymussel) *Villosa trabalis*	Endangered
Population: Wherever found; Except where listed as Experimental Populations No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6061 General project design guidelines: https://ecos.fws.gov/ipac/guideline/design/population/317/office/42431.pdf	
Cumberland Elktoe *Alasmidonta atropurpurea*	Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1248	
Cumberlandian Combshell *Epioblasma brevidens*	Endangered
Population: Wherever found; Except where listed as Experimental Populations There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3119 General project design guidelines: https://ecos.fws.gov/ipac/guideline/design/population/353/office/42431.pdf	
Fluted Kidneyshell *Ptychobranchus subtentum*	Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1397 General project design guidelines: https://ecos.fws.gov/ipac/guideline/design/population/1559/office/42431.pdf	
Littlewing Pearlymussel *Pegias fabula*	Endangered
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2572 General project design guidelines: https://ecos.fws.gov/ipac/guideline/design/population/335/office/42431.pdf	
Tan Riffleshell *Epioblasma florentina walkeri (=E. walkeri)*	Endangered
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1247 General project design guidelines: https://ecos.fws.gov/ipac/guideline/design/population/346/office/42431.pdf	

Flowering Plants

NAME	STATUS
Virginia Spiraea *Spiraea virginiana*	Threatened
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1728	

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

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

December 2, 2020

Mr. Thomas McFadden
U.S. Army Engineers
Louisville District
Louisville, KY 40201

Subject: FWS 2020-B-0719; USACE Section 531 Infrastructure Project; Mount Vernon Water Treatment Plant Improvement; Rockcastle County, Kentucky

Dear Mr. McFadden:

The U.S. Fish and Wildlife Service's Kentucky Field Office (KFO) has reviewed the U.S. Army Corps of Engineers' (USACE) Environmental Assessment (EA) for the above-referenced project and request for concurrence received by our office on October 2, 2020 and additional information received on November 18, 2020 and November 27, 2020. The KFO offers the following comments in accordance with the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Project Background
The Final EA evaluated an action alternative that would reduce taste and odor issues occurring with public drinking water in the study area. The recommended plan is the Locally Preferred Plan (LPP) and includes design and construction of a powder activated carbon (PAC) reactor basin, PAC storage building with feed equipment, and PAC feed line. The concrete reactor basin would be 24-ft. by 34-ft. with a sidewall height of 17-ft. and would contain four mixers to keep the PAC in suspension. The storage building to house the super-sacks of PAC and feed equipment would be an approximately 600 sq. ft. brick and block building. Approximately, 1,000 ft. of PAC feed line would be installed from the proposed PAC reactor basin/feed storage building to the water intake point at Lake Linville.

Federally Listed Species
The USACE has determined that the proposed project will have "no effect" on the gray bat (*Myotis grisescens*), Virginia big-eared bat (*Corynorhinus townsendii virginianu*), Virginia spiraea (*Spiraea virginiana*), Cumberland bean (*Villosa trabalis*), Cumberland elktoe (*Alasmidonta atropurpurea*), Cumberlandian combshell (*Epioblasma brevidens*), fluted kidneyshell (*Ptychobranchus subtenum*), littlewing pearlymussel (*Pegias fabula*), and tan riffleshell (*Epioblasma florentina walker*) as no habitat for these species would be impacted by the proposed project. There is no statutory requirement to request concurrence with a "no effect"

determination; however, the KFO acknowledges these determinations and has no additional comments or concerns regarding these species.

The USACE has also determined that the proposed project has the potential to affect the Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) (NLEB)

Indiana bat: There are no caves or cave-like features within the project area that could be used as winter roosts by the Indiana bat. Based on the Official Species List, the proposed project occurs in Known Swarming 1 habitat for the Indiana bat. This project would require the removal of 0.12 acres of suitable roosting habitat for the Indiana bat. These acres would be removed during the unoccupied timeframe (November 15 – March 31). In order to address impacts associated with Indiana bat habitat removal, the applicant has chosen to make a voluntary payment to the Imperiled Bat Conservation Fund (IBCF) as part of the proposed action. A voluntary payment to the IBCF is a conservation measure that is identified in the KFO's 2016 *Revised Conservation Strategy for Forest-Dwelling Bats* (Conservation Strategy). Based on the Conservation Strategy, the voluntary payment to the IBCF should be $705.60.

We have determined that the proposed action is consistent with the actions evaluated in the 2015 Biological Opinion: *Kentucky Field Office's Participation in Conservation Memoranda of Agreement for the Indiana Bat and/or Northern Long-eared Bat* (BO) that supports the Conservation Strategy. Any incidental take of Indiana bats resulting from forested habitat removal would not be prohibited. The BO concludes that this incidental take is not likely to jeopardize the continued existence of the Indiana bat. To complete this proposed conservation measure, the applicant should mail the voluntary payment to the Imperiled Bat Conservation Fund administered by Kentucky Natural Lands Trust. **The check or money order should be made payable to Kentucky Natural Lands Trust with "Imperiled Bat Conservation Fund" in the memo line. At this time, payments can only be received via U.S. Postal Service delivery due to office closures in response to COVID-19.**

Mail to:
Imperiled Bat Conservation Fund
c/o Kentucky Natural Lands Trust
433 Chestnut Street
Berea, KY 40403

The voluntary payment should include a cover letter with the following information: the applicant's name, the FWS project number referenced in the subject line of this letter, and a contact name and address to receive the receipt of payment. If the applicant will make the voluntary payment on or after August 31, 2021, the applicant should contact the KFO to get an updated mitigation cost value.

Northern Long-eared Bat (NLEB): Based on the information available to us, this project may affect the northern long-eared bat, but with no effects beyond those previously evaluated in the Service's programmatic biological opinion for the northern long-eared bat final 4(d) rule dated January 5, 2016 (FWS Log# 03E00000-2016-F-0001). Any taking that may occur incidental to this project is not prohibited under the final 4(d) rule (50 CFR §17.40(o)). We recommend you

fulfill responsibilities under ESA section 7(a)(2) relative to the northern long-eared bat for this project by requesting reliance on the Service's programmatic biological opinion for the 4(d) rule. To request reliance on the programmatic biological opinion, Federal Action Agencies may follow the procedures provided at http://www.fws.gov/midwest/endangered/mammals/nleb/S7.html, or at the Service's Information for Planning and Consultation (IPaC) website, https://ecos.fws.gov/ipac/.

Summary

The KFO agrees that the project is consistent with the IBCF process and the Service's programmatic biological opinion for the northern long-eared bat final 4(d) rule. In view of these findings, we believe that the requirements of section 7 of the Endangered Species Act have been fulfilled for this project. Your obligations under section 7 must be reconsidered, however, if: (1) new information reveals that the proposed action may affect listed species in a manner or to an extent not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated.

We appreciate the opportunity to review the proposed project. If you have any questions, please contact Jennifer Garland of my staff at Jennifer_Garland@fws.gov or 502-695-0468, extension 46115.

Sincerely,

for Virgil Lee Andrews, Jr.
Field Supervisor

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0468 Fax: (502) 695-1024
http://www.fws.gov/frankfort/

In Reply Refer To: December 03, 2020
Consultation Code: 04EK1000-2020-TA-1296
Event Code: 04EK1000-2021-E-00787
Project Name: Mount Vernon Water Line

Subject: Verification letter for the 'Mount Vernon Water Line' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Steele McFadden:

The U.S. Fish and Wildlife Service (Service) received on November 27, 2020 your effects determination for the 'Mount Vernon Water Line' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Cumberland Bean (pearlymussel), *Villosa trabalis* (Endangered)
- Cumberland Elktoe, *Alasmidonta atropurpurea* (Endangered)
- Cumberlandian Combshell, *Epioblasma brevidens* (Endangered)
- Fluted Kidneyshell, *Ptychobranchus subtentus* (Endangered)
- Gray Bat, *Myotis grisescens* (Endangered)
- Indiana Bat, *Myotis sodalis* (Endangered)
- Littlewing Pearlymussel, *Pegias fabula* (Endangered)
- Tan Riffleshell, *Epioblasma florentina walkeri (=E. walkeri)* (Endangered)
- Virginia Big-eared Bat, *Corynorhinus (=Plecotus) townsendii virginianus* (Endangered)
- Virginia Spiraea, *Spiraea virginiana* (Threatened)

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

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[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Mount Vernon Water Line

2. Description

The following description was provided for the project 'Mount Vernon Water Line':

> New water line going from renfro lake to water treatment plant upgrades to address taste and odor issues.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.3849952836283N84.33455963346648W

Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

5. [Semantic] Is the project action area located within 0.25 miles of a known northern long-eared bat hibernaculum?

   Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency

   Automatically answered
   No

6. [Semantic] Is the project action area located within 150 feet of a known occupied northern long-eared bat maternity roost tree?

   Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency

   Automatically answered
   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type ‘0’ in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type ‘0’ in questions 4-6.

4. Estimated total acres of timber harvest

0.12

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type ‘0’ in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type ‘0’ in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?
0