APPENDIX D
HISTORIC AND CULTURAL

APPENDIX D-1
HISTORIC AND CULTURAL REPORT

Phase I Cultural Resources Survey Long Ridge Energy Terminal Transloading Facility and Natural Gas Liquids Pipeline Salem and Ohio Townships Monroe County, Ohio

Prepared for:

Federal Railroad Administration (FRA)
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Washington, DC 20590

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800 E. 17th Avenue
Columbus, OH 43211-2474

March 2020

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March 2020

ABSTRACT

The Federal Railroad Administration (FRA) has selected Monroe County to receive grant funding for the construction of a transportation and loading facility (Transloading Facility) at the Long Ridge Energy Terminal in Monroe County, Ohio. Construction of a pipeline from the Blue Racer processing facility in Natrium, West Virginia to the Long Ridge Energy Terminal is also a part of this undertaking, but only the Transloading Facility is federally funded. The FRA, in coordination with Monroe County and Ohio River Partners LLC., is preparing an Environmental Assessment (EA) for the undertaking in accordance with the National Environmental Policy Act (NEPA) and is coordinating the NEPA process with consultation pursuant to Section 106.

For the construction of the Transloading Facility, the Project applied for funding through the United States Department of Transportation 2018 Better Utilizing Investments to Leverage Development (BUILD) program. The proposed Transloading Facility has a footprint of roughly 20 acres entirely within the existing Long Ridge Energy Terminal.

The proposed pipeline originates at the Blue Racer processing facility in Natrium, West Virginia, crosses under the Ohio River via conventional bore, emerging from a bore-pit in Monroe County, Ohio, on a bluff overlooking the Ohio River. The natural gas liquids (NGL) pipeline extends a total of 5.9 miles of which, 5.4 miles are located in Ohio.

The APE for the Project is defined as the limits of disturbance (LOD) where actual ground disturbance will occur during construction of the pipeline and Transloading Facility, and any permanent visual effect that would occur. It is anticipated that the construction of the pipeline will require an LOD with a width of 100 feet (ft) extending 50 ft on either side of the centerline. The length of the direct APE on the Ohio side of the river from the bore pit exit to the LRET is approximately 28,387 feet. Thus, ground disturbing activities would be confined to a linear corridor measuring 28,387 feet by 100 feet (65.17 acres) for the construction of the pipeline, plus approximately 20 acres entirely within the existing LRET where the Transloading Facility would be constructed. Since the pipeline will be buried and the surface restored to preconstruction contours, the potential visual effects for the Project are limited to views of those portions of the pipeline LOD where tree clearing will occur and extend across areas measuring approximately 75 acres. Summing the individual disturbances associated with the Project gives a total APE of 160.17 acres.

In the fall of 2019, in support of the EA, Tetra Tech Inc., (Tetra Tech) conducted a Phase I archaeological survey and a reconnaissance level history/architectural survey for aboveground resources in the Project's APE. The Phase I archaeological survey identified one historic archaeological resource, 33MO211. This site consists of the disarticulated structural remains of an early to mid-twentieth century farmstead and a surface scatter of modern and early to mid-twentieth century artifacts. Site 33MO211 is recommended as not eligible for listing in the National Register of Historic Places (NRHP).

The reconnaissance level history/architectural survey identified five historic aboveground resources within the APE that meet the 50-year minimum age requirement for NHRP-listing. Two of these resources, the Lucas Farmstead (MOE005308) and Rufener Farmstead (MOE005408) are recommended as potentially eligible for NRHP-listing. The Lucas Farmstead is recommended as potentially eligible for NRHP-listing under Criteria A and C; it serves as a relatively well-preserved collective representation of a mid-twentieth century farmstead in Monroe County. Likewise, the Rufener Farmstead (MOE005408) is recommended potentially eligible for NRHP listing under Criteria A and C for its well-preserved collection of early twentieth-century domestic and agricultural buildings.

The Lucas Farmstead (MOE005308) and Rufener Farmstead (MOE005408) are located primarily in open agricultural land that would be restored to preconstruction conditions and the view of the permanent pipeline corridor would be minimal. Further, routing of the Project through mostly open agricultural land minimizes direct effects to historic agricultural landscape features such as treelines, wind breaks, and woodlots. As a result, the Project's potential direct and indirect effects would not occur to an extent that would diminish the historic integrity of the Lucas Farmstead (MOE005308) and Rufener Farmstead (MOE005408). Tetra Tech recommends that no adverse effect would occur to these potentially eligible resources as the result of Project activities.

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1.0 INTRODUCTION

The Federal Railroad Administration (FRA) has selected Monroe County to receive grant funding for the construction of a transportation and loading facility (Transloading Facility at) the Long Ridge Energy Terminal (LRET) in Monroe County, Ohio (Figure 1-1). Construction of a natural gas liquids (NGL) pipeline from the Blue Racer processing facility in Natrium, West Virginia to the Long Ridge Energy Terminal is also a part of this undertaking, but only the Transloading Facility is federally funded. The FRA, in coordination with Monroe County and Ohio River Partners LLC., is preparing an Environmental Assessment (EA) for the undertaking in accordance with the National Environmental Policy Act (NEPA) and is coordinating the NEPA process with consultation pursuant to Section 106.

For the construction of the Transloading Facility, the Project applied for funding through the United States Department of Transportation 2018 Better Utilizing Investments to Leverage Development (BUILD) program. The proposed Transloading Facility has a footprint of roughly 20 acres entirely within the existing LRET. Ohio River Partners LLC., owns and operates LRET, a storage and break-bulk facility that supports regional oil and gas drilling, and is positioned to support the storage and transport of NGL's. The LRET has 48 existing barge storage slips, several acres of surface storage, truck loadout facilities, and rail spurs connected to the Norfolk Southern rail system (Figure 1-1).

The proposed 10-inch NGL pipeline originates at a valve-connected pumping station at the existing Blue Racer facility. The pipeline then goes underground via a bore pit excavated inside the Blue Racer facility, crosses under the Ohio River via conventional bore, and surfaces at a valve site in Monroe County, Ohio on a bluff overlooking the Ohio River. The NGL pipeline has a total of 5.9 miles, of which,5.4 miles are located in Ohio (Figure 1-1). From the bore pit exit , the terrain encountered across the proposed pipeline route consists of east to west trending ridgelines separated by steep, narrow stream valleys. The pipeline component of the Project will utilize the United States Army Corps of Engineers (USACE) Nationwide Permit 12 for utility lines crossing of jurisdictional Waters of the United States. A large part of the southern section of the route is collocated in an existing and previously disturbed pipeline right-of-way (ROW).

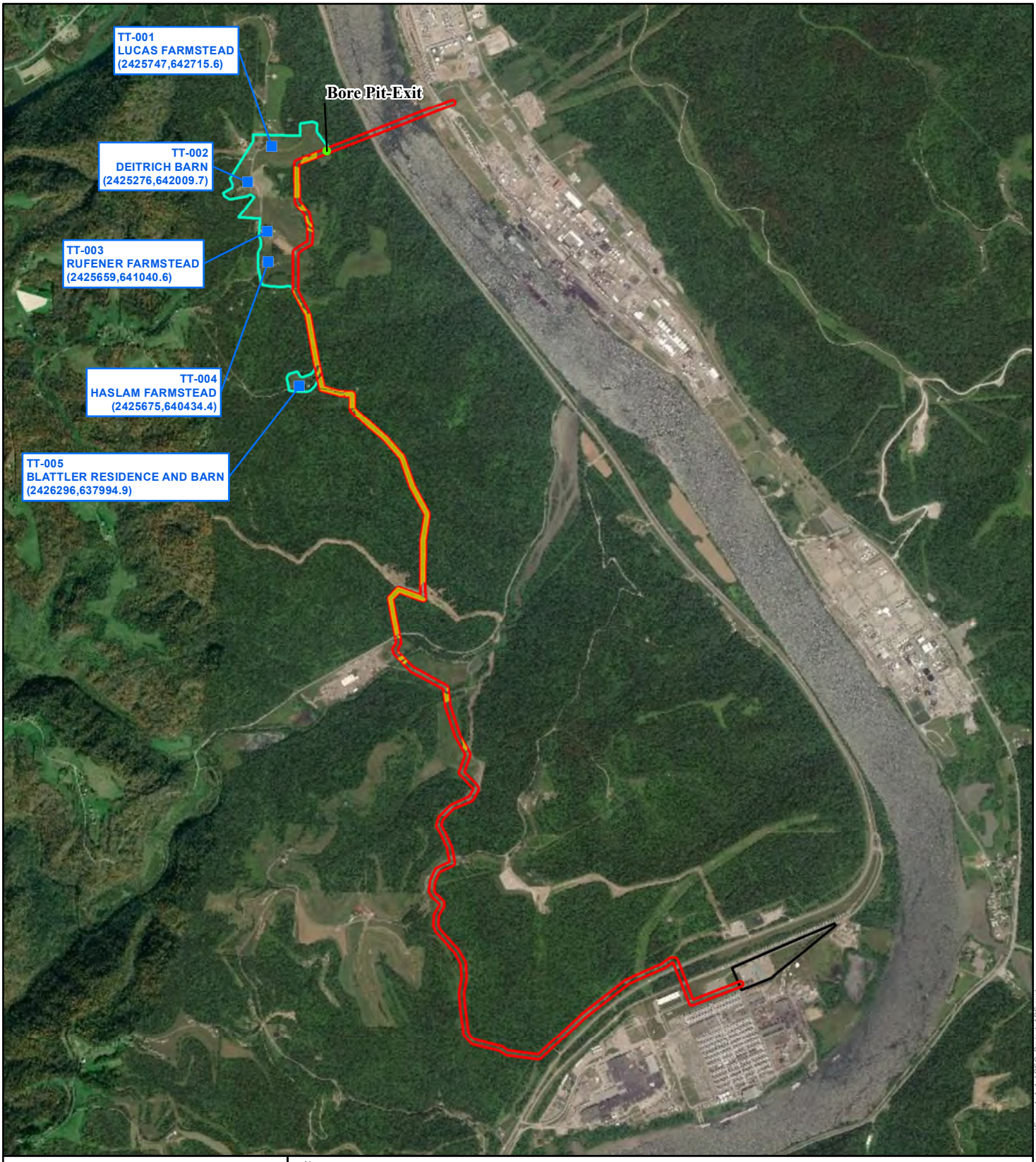
In support of the EA, Tetra Tech Inc., (Tetra Tech) conducted a cultural resources survey comprised of a Phase I archaeological survey and a reconnaissance level history/architectural survey for aboveground resources in the Project's area of potential effects (APE). This report details the methods and results of the surveys.

The archaeological survey was conducted according to the Ohio Historic Preservation Office's (OHPO's) *Archaeological Guidelines* (1994) and history/architectural survey under the *Guidelines for Conducting History/Architecture Surveys in Ohio* (2014) by personnel that meet or exceed the Secretary of the Interior's Professional Qualification Standards. The Principal Investigator was Mr. James T. Marine, MS/RPA. Ms. Hannah Dye, MA served as the architectural historian.

1.1 Area of Potential Effects

As defined in National Historic Preservation Act (NHPA) § 800.16(d), the Area of Potential Effects (APE) means "the geographic area or areas within which an undertaking may directly or indirectly cause alteration in the character of use of historic properties, if such properties exist. The area of potential effects is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking."

The APE for the Project is defined as the limits of disturbance (LOD) where actual ground disturbance will occur during construction of the pipeline and Transloading Facility, and any permanent visual effect that might occur.



TETRA TECH

N

0 1,250 2,500 5,000 Feet

Legend

Total APE = 160.17 acres

- Bore Pit-Exit
- Aboveground Historic Resource
- Extent of Tree Clearing in Pipeline LOD
- Pipeline LOD (65.17 acres)
- Potential Visual Effects (75 acres)
- Transloading Facility LOD (20 acres)

Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 1.1-1
Project APE

Date: 2/20/2020

Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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It is anticipated that the construction of the pipeline will require an LOD with a width of 100 feet (ft) extending 50 ft on either side of the centerline. The length of the LOD on the Ohio side of the river from the bore pit exit to the LRET is approximately 28,387 ft. Thus, ground disturbing activities would be confined to a linear corridor measuring 28,387 ft by 100 ft (65.17 acres) for the construction of the pipeline, plus approximately 20 acres entirely within the existing LRET where the Transloading Facility would be constructed.

Since the pipeline will be buried and the surface restored to preconstruction contours, the potential visual effects for the Project are limited to views of those portions of the pipeline LOD where tree clearing will occur, approximately 75 acres. Summing these components gives a total APE of 160.17 acres.

It should be noted that the Project design has not been finalized. Any changes in APE including minor route shifts, the addition of access roads, temporary workspaces, and staging areas will be addressed in an Addendum Report.

As stated above, the potential visual effects of the Project are limited to views of those portions of the LOD where tree clearing will occur, approximately 75 acres. Figure 1.1-1 depicts these areas in relation to historic aboveground resources with potential views of tree clearing. The potential visual effects for the Project considered current land uses and topography around the pipeline. For example, tree clearing will not occur in portions of the LOD running through open fields. There are no potential views of tree clearing in these areas, so the potential visual effects are limited to the LOD in these instances. Likewise, intervening landforms that preclude views of the LOD were considered.

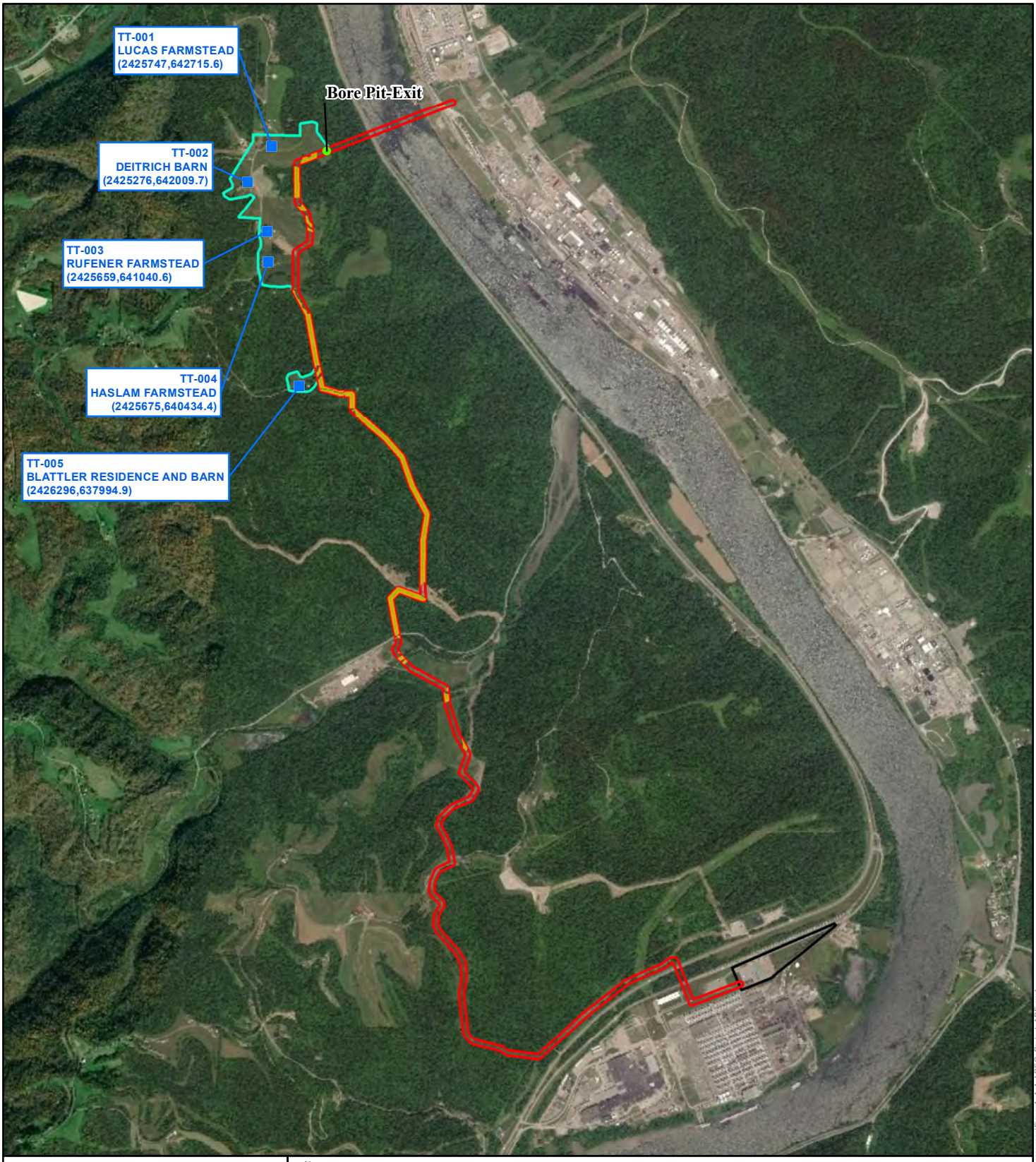
Since the Transloading Facility would be a sub-facility entirely contained in the existing footprint of the LRET, and the height of any new construction would not exceed the height of the existing facility, no new potential effects would occur. Therefore, the construction of the Transloading Facility does not have the potential to directly or indirectly cause changes in the character or use of historic properties.

1.2 Brief Summary of Results

The reconnaissance level history/architectural survey identified five historic aboveground resources within the APE that meet the 50-year minimum age requirement for NHRP listing. Two of these resources, the Lucas Farmstead (MOE005308) and Rufener Farmstead (MOE005408) are recommended as potentially eligible for NRHP-listing. The Lucas Farmstead is recommended as potentially eligible for NRHP-listing under Criteria A and C; it serves as a relatively well-preserved collective representation of a mid-twentieth century farmstead in Monroe County. Likewise, the Rufener Farmstead (MOE005408) is recommended potentially eligible for NRHP listing under Criteria A and C for its well-preserved collection of early twentieth-century domestic and agricultural buildings. The Draft Ohio Architectural Inventory Forms are included in Appendix C.

The Lucas Farmstead (MOE005308) and Rufener Farmsteads (MOE005408) are located primarily in open agricultural fields that would be restored to preconstruction conditions. The view of the permanent pipeline corridor would be minimal. Routing of the Project through open agricultural land minimizes visual effects to agricultural landscape features such as treelines, wind breaks, and woodlots. As a result, visual effects would not occur to an extent that would diminish the historic integrity of the Lucas Farmstead (MOE005308) or Rufener Farmstead (MOE005408). Tetra Tech recommends that no adverse effect would occur to these potentially eligible resources as the result of Project activities.

The entirety of the direct APE was subject to either pedestrian survey or subsurface investigation through the excavation of shovel test pits (STPs). A total of 76 STPs were excavated with no cultural material recovered. Pedestrian reconnaissance identified one historic archaeological resource, 33MO211. This site consists of the disarticulated structural remains of an early to mid-twentieth century farmstead and a surface scatter of modern and early to mid-twentieth century artifacts. Site 33MO211 is recommended as not eligible for listing in the National Register of Historic Places (NRHP). An Ohio Archeological Inventory Form is provided in Appendix E.



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Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 1.1-1
Project APE

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2.0 ENVIRONMENTAL SETTING

2.1 Physiography and Geology

The APE is located on the Marietta Plateau of the Allegheny Plateaus Physiographic Province (ODNR 1998). The two subdivisions of the Marietta Plateau, the Marietta Plateau proper to the west, and the Little Switzerland Plateau to the east, are separated by a geological feature referred to as the Flushing Divide. All portions of the plateau to the west of the divide flow into Muskingum River, while those of the Little Switzerland Plateau, in which the APE is located, flow directly into the Ohio River (Ohio Department of Natural Resources [ODNR] 1999). Little Switzerland region is characterized by high relief, is highly dissected by high gradient streams, and is underlain primarily by fine-grained rocks, red shales, and red soils (Cross and Hedges 1959; Schiefer 2002). In contrast, the area to the west of Flushing Divide exhibits wider ridges, less relief, and fewer small streams.

The entire APE is underlain by Pennsylvanian-Period bedrock. Formations of the Dunkard Group (Pc) forms most of the APE, while those of the Monongahela Group (Pm) are located at the southern end of the APE. Both groups are composed primarily of mudstone, shale, siltstone, sandstone, and limestone.

2.2 Soils

A review of United States Department of Agriculture Natural Resource Conservation Service (NRCS) mapping indicates a total of 13 different soil series or soil complexes have been mapped within the APE. Soils developed within the APE are generally derived from the *in situ* weathering of the underlying bedrock with colluvial soil developing along hillsides and at the base of slopes. An overview of soils is provided in Table 2.2-1.

Table 2.2-1 Previously Recorded Soils Located within the APE (NRCS 2017).

Soil Series	Mapping Units in APE	Parent Material	Typical Soil Profile
Made Land	Ma	N/A	Variable
Guernsey-Westmore Silt Loams	GwD2, GwG2, GwE2	Colluvium over Residuum	Ap/BE/Bt1/Bt2/Bt3/2C
Gilpin-Upshur Silt Loams	GkD, GkG, GkE2	Residuum	Ap/Bt1/Bt2/C
Wellston Silt Loam	WhD2	Loess over Residuum	A/E/BE/Bt1/Bt2/Bt3/2BC/2C
Gilpin-Westmoreland Silt Loams	GdC2, GoD2	Residuum	Ap/Bt_1/Bt_2/C
Guernsey-Upshur Complex	GrC2, GrE2, GlG, GsG	Colluvium over Residuum	Ap/BE/Bt1/Bt2/Bt3/2C
Westmoreland-Woodsfield Silt Loam	WmW1D2	Residuum	A/E/BE/Bt1/Bt2/BC/C
Upshur Silt Loam	UpC2	Residuum	Ap/Bt1/Bt2/Bt3/C1/C2
Brooke Silty Clay Loam	BwD2	Residuum	Ap/A3/B2t C
Chagrin Silt Loam	Chg1AF	Alluvium	Ap/Bw/C

Soil Series	Mapping Units in APE	Parent Material	Typical Soil Profile
Wolper Silt Loam	WxB	Colluvium	Ap/Bt1/Bt2/Bt3/C
Sees-Wolper Silt Loam	SsE	Colluvium	Ap/Bt1/Bt2/C
Hackers Silt Loam	HcB	Alluvium	Ap/BA/Bt/BC/C

2.3 Pleistocene and Holocene Paleoenvironment

The APE lies within the Cumberland and Allegheny Plateaus Section of the Mixed Mesophytic Forest Region as defined by Braun (1985). Extant secondary forests are composed of mesophytic species such as beech, white and red oak, sugar maple, ash, and walnut. However, the prehistoric forest was not only different from the modern forest in many respects but was also in a state of gradual change for at least 8,000 years following the retreat of glacial ice.

The Pleistocene Epoch witnessed a series of cold periods and associated "ice ages," the most recent of which terminated approximately 14,000 to 12,000 years before present (BP). One of the most dramatic effects of these "ice ages" was the lowering of ocean levels worldwide as rain water was frozen and trapped in glaciers and continental ice sheets. Milliman and Emery (1968) argued on the basis of 80 radiocarbon samples taken along the Atlantic continental shelf that sea levels 30,000 to 35,000 years BP were close to those at present. Sea levels dropped subsequently as much as 130 meters during the final glaciation circa (c.) 16,000 years BP. Along the Atlantic coast, ocean beaches lay at the edge of the modern continental shelf, perhaps 100 km east of the current New Jersey coastline. Belknap and Kraft (1977) questioned the maximum depth of sea level drop but agreed with the overall temporal trends.

Climatic patterns have changed on regional and continental scales during the Holocene Epoch, which began at the end of the Pleistocene c.12,000 to 10,000 years BP. Sea levels continued to rise as a result of the release of water from melting ice sheets. As the sea level rose, it began to transgress, or cover, the land mass of the "Continental Shelf" (the modern submerged Atlantic continental shelf) to the west. The Late Pleistocene-Holocene marine transgression, or sea level rise, began c. 14,000 years BP and proceeded rapidly until c. 7,000 years BP (Milliman and Emery 1968; Kraft and Belknap 1983). Custer (1994) suggested the slowing of sea level rise did not occur until c. 5,000 years BP.

The implications of such dynamic changes for any paleoenvironmental reconstruction of the Middle Atlantic Region during the Paleoindian Period are profound. Climatic changes resulted in a succession of vegetation types moving northward, while the coastline and associated marine and eustatic environments were approaching from the east. Paleoenvironmental reconstruction must therefore consider both the generally northward-moving vegetation patterns arising from the regional climatic shifts and the westward-moving coastal geomorphological changes associated with rising sea levels.

During the glacial maximum, the region was covered with conifer forests dominated by jack pine and spruce (Delcourt and Delcourt 1980; Wilkins et al. 1991). By 10,500 years BP, a mixed conifer-hardwood forest had been established on the Allegheny Plateau (Maxwell and Davis 1972; Watts 1979). In addition to conifers and oak, these forests included cold-adapted, mesic species such as birch, elm, ash, ironwood, maple, and beech. Oak pollen dominated at 10,000 years BP in a core from Browns Pond in the central Appalachians of Virginia (VA) (Kneller and Peteet 1999). The presence of carbonized grape, plum, and

hackberry in a Paleoindian hearth at the Shawnee Minisink site on the Delaware River indicates that understory vegetation common in the temperate forest was present in this early period (Dent and Kauffman 1985). Thus, by 10,000 years BP, the forest canopy in the region likely contained a substantial component of temperate hardwoods.

Faunal data also support the presence of a forest with a strong component of temperate species. Guilday (1982) has identified a Holocene fauna including six species of large mammals (deer, elk, mountain lion, timber wolf, bear, and bison) and a variety of small mammals such as rabbits, squirrel, grouse, and passenger pigeon. These mammals included mast feeders and browsers, as well as animals that subsisted on fruit or bark. Two sources of faunal data evaluated by Guilday are located in central Pennsylvania (PA)-New Paris No. 4, a cave in Bedford County (Guilday et al. 1964), and Hosterman's Pit, located in Centre County (Guilday 1967). The faunal complex at New Paris No. 4 was radiocarbon dated to 9,300 BC and revealed a fauna in transition from predominantly boreal-adapted species to a greater admixture of temperate forest-adapted species. At Hosterman's Pit, dated to 7,290 BC, fauna include predominantly temperate forest-dwelling species such as squirrel, pine mouse, rabbit, and deer. In addition to these central PA sites, fauna associated with temperate conditions were present in levels dated c. 11,300 years BP at Meadowcroft Rockshelter in western PA (Adovasio et al. 1985). The animals include box turtle, turkey, eastern mole, and pine or woodland vole.

Thus, the evidence suggests that faunal resources were diverse during the early Holocene, including both those adapted to boreal, and those adapted to deciduous, forests (Eisenberg 1978; Delcourt and Delcourt 1986). Guilday et al. (1977) note that the distribution of fauna depended on biotic gradients related to variations in topographic and edaphic conditions. Eisenberg (1978) cites evidence of mammoth and white-tailed deer co-occurring in the Northeast. The temperate forest faunal remains and pollen dating to c. 11,300 BP at Meadowcroft may have been the localized result of favorable temperature and moisture regimes within the Cross Creek drainage (Adovasio et al. 1985).

There is evidence to suggest that the period between 9,000 and 5,500 years BP was characterized by a climate warmer and drier than present. Evidence for this Hypsithermal Period is strong in the Midwest where pollen data shows an advance of the prairie eastward into Illinois, reaching its maximum extent at about 7,000 BP years (King 1980; Bartlein et al. 1984). In the eastern United States, evidence for a warmer, drier period at this time includes a peak in grasses at Bear Meadows in Centre County, PA (Kovar 1965), and xeric vegetation on the Cumberland Plateau in Tennessee (Delcourt 1979). Davis et al. (1980) point to an increase in the altitudinal range of hemlock and white pine as evidence of a warmer, drier period between 9,000 and 5,000 years BP in New England. Watts (1979) in his examination of pollen diagrams in the Middle Atlantic region supports the hypothesis of a warmer, drier climate between 8,500 and 5,500 years BP.

Effects of the warmer, drier climate included a decrease in the number of low-order streams, lower water volume in streams generally, a decrease in biomass on ridges, and a lowering of the water table (Graetzer 1986; Watts 1979). Evidence provided by correlations of pollen core data with pollen from surface samples from known vegetation types suggests that the overall composition of the vegetation did not change radically in the eastern United States (Bradstreet and Davis 1975). However, changes in hydrology and decreases in productivity would likely have had some effect on the distribution of prehistoric populations. Specifically, upland areas would have become relatively less attractive, whereas major riverine areas such as floodplains and terraces would have been relatively more attractive.

By 5,000 years BP, a relatively stable primary forest was established in the project area. There undoubtedly were fluctuations in temperature and moisture after 5,000 years BP, but evidence suggests that these were of low amplitude and short duration. Floodplain and terrace soils supported forests of white oak and beech along with other mesophytic species such as tulip tree, ash, and sugar maple (Braun 1985). Valley floor forests were predominantly beech, white oak and maple with black oak, sycamore, yellow poplar, and many other species as minor components. Edible tubers, berries, and fruits were abundant in the understory. Hill slopes supported forest communities dominated by white oak, black oak, and hickory with small proportions of beech and pine. Hill top forests were largely chestnut oak, with black and white oaks, pine, and hickory. Although generally less productive than that of the valley floor, the slope and ridge top forests also contained a number of edible plant species. Hickory, which has a relatively high caloric return for time and energy spent in gathering and processing, is better represented on the drier ridge tops and south-facing slopes than it is in ravines and north-facing slopes. Although similar in composition, the primary, or climax, forest found prior to agricultural clearing differed from the modern secondary forest in that the former was characterized by canopy gaps, resulting from falls of senescent trees that provided micro-environments favorable to a number of edible resources.

3.0 CULTURAL CONTEXT

3.1 Prehistoric Context

3.1.1 Paleo-Indian Period (11,500 - 10,000 BP)

The Paleoindian period is the earliest documented occupation in the Ohio region and the Eastern United States. This period is defined by distinctive cultural adaptations focused on the environmental milieu that characterized the late Pleistocene and early Holocene climatic periods. The key artifact type that identifies this period is the fluted projectile point, usually manufactured from a high quality crypto-crystalline lithic material, e.g. jasper, chert, or chalcedony. Although the Paleoindian stage is of short duration, three distinct Paleoindian sub-phases or periods have been proposed by Gardner for this period in the Middle Atlantic region, based on excavations at the Thunderbird site complex in the Shenandoah Valley of Virginia (Gardner 1974), a periodization that is relevant to the Ohio region as well. Gardner's three-part subdivision of the Paleoindian stage was, in part, based on stratigraphic excavations at the Thunderbird site in the Shenandoah Valley of Virginia (Gardner 1974) though it had precedent in earlier work conducted in Nova Scotia. Gardner noted that MacDonald had subdivided the Paleoindian stage into three separate phases based on his work with the Debert site materials in Nova Scotia (Gardner 1974:36, citing MacDonald 1968). MacDonald's Early Phase included only the Clovis points in his sequence. The second phase was defined by Folsom points and their cognate variants while the Dalton-Hardaway sub-phase is the final chronological period of the Paleoindian stage, characterized by the minimally fluted Dalton and Hardaway projectile points. Many other tool categories are usually associated with these projectile points that usually cannot be taken by themselves as diagnostic Paleoindian indicators. It is notable that Tankersley (1996; see also Jeffries 2008), has also outlined a three sub-period sequence for the Lower Ohio River Valley, one that follows Gardner's chronological subdivisions of the Paleoindian stage and the sub-phases that he identified within it. (Tankersley 1996; Jeffries 2008:69-87).

Paleoindian points almost always exhibit an advanced level of craftsmanship in their manufacture. Fluted points are highly diagnostic and appear in broad characteristics uniform in stylistic attributes across the continent. The classic lanceolate-shaped and fluted Clovis point marks the earliest phase of the Paleoindian stage. As a diagnostic type, the Clovis lanceolate point has a well-documented and widespread distribution across the continental United States (Gardner 1974, Anderson, O'Steen and Sassaman 1996). Anderson (1996) has modeled the distribution of this type across the Southeastern United States. Clovis points mark the key artifact type for inception of this stage (arguments for pre-Clovis aside); its distribution is continent-wide, and it even extends south into lower Central America (Ranere and Cooke 1991, 1995). Attributes such as basal grinding, lateral thinning, and straight to slightly waisted lower blade margins were common on specimens from this stage.

In Gardner's chronological framework noted above has strong implications for the Appalachian Plateau and Ohio, Clovis points and closely related types identify the first of the three sub-periods (Gardner 1974; Gardner and Verrey 1979); it was considered to date between 11,500 to 11,000 BP. The Middle Paleoindian period was placed between 11,000 to 10,500 years BP; it generally is characterized by smaller fluted point types, e.g. Folsom and related variants.

The final sub-period is identified by the characteristic Dalton or Dalton-Hardaway point types, is of interest since it serves as a transition to the sequent Early Archaic period of the Archaic stage. Dalton and cognate points are widespread throughout the Eastern United State. Goodyear, in his excellent paper on the Dalton horizon, reviewed the stratigraphic placement of Dalton points from a number of sites in this broad region. His review included the Hardaway Site in North Carolina, first tested by Coe (1964), the Stanfield-Worley

Bluff Shelter in Alabama (DeJarnette, Kurjack and Cambron 1962), the Modoc rockshelter in Illinois (Fowler 1959), and Graham Cave in Missouri (Logan 1952). In terms of stratigraphic placement, Goodyear noted that Dalton and related points had been consistently recovered from basal levels of these sites but were not associated with the classic fluted points (e.g. Clovis and Folsom specimens), but with specimens such as Quad points and, importantly, the Early Archaic Palmer-Kirk corner notched types (Goodyear 1982:384). The latter associations could be nothing more than poor depositional separation between living floors that are frequently found in rockshelter and cave sites where depositional processes are quite variable. Goodyear concluded that Dalton points fell into a chronological span post-dating classic fluted points and "overlapped to some extent" (his words) with specimens belonging to the Early Archaic period. Sassaman et al. reviewed Goodyear's (1982) data on Dalton points and suggested a chronological bracket from 10,500 to about 9,000 years BP (uncorrected) for the final sub-phase of the Paleoindian period. The latter date would overlap with the Early Archaic Palmer/Kirk corner notched points.

Goodyear also observed that there were strong continuities of other artifact categories found in Dalton assemblages shared with earlier Paleoindian tool kits. His work was based on extensive research from Arkansas to South Carolina. He stated that " the majority of non-projectile point stone tools found in Dalton tool kits can be matched in fluted point assemblages" (Goodyear 1982:384). A variety of unifacial flake tools and blades point to a high degree of technological continuity with earlier fluted point tool kits. Thus, Dalton represented a technological continuum with earlier Paleoindian phases (Goodyear 1982:384; (Goodyear, Michie and Charles 1989:39). In the latter paper, Goodyear et al. again mentioned that Dalton may straddle the Paleoindian to Archaic divide as noted above. They noted the frequent incidence of serrations of the blade element and the far greater number of sites as evidence reflecting the onset of the Early Archaic period which is discussed further below.

An analysis of fluted point distributions in Ohio suggests that Paleoindian site locations frequently are found in major stream valleys and at stream confluences close to quality flint resources. In Virginia, Gardner's (1974) quarry base camp model is applicable to a variety of geographic settings that includes Ohio, a model that Goodyear (1971) adopted for the Carolina region. As an example of this model, it common that many diagnostic Paleoindian points have been recovered far removed from the original lithic source from which they were made. One of the lamellar blades associated with the Clovis occupation at Big Bone Lick in northern Kentucky was, as noted by Tankersley, Waters and Stafford (2009:563) struck from a core of Fort Payne chert, a source that is nearly 420 km (261 mi) distant from the site from where it was recovered. Recovery of this lithic material far from its source reflects the high mobility of Early Paleoindian hunting groups. In addition, many points recovered distant from the quarry source exhibit curation or re-sharpening to preserve its useful life rather than selecting local lithic sources. Paleoindian sites are rarely documented in regions such as swampy lowlands or rugged highlands (Payne 1982) though the location of some upland Clovis point finds suggests that some use was made of these environmental settings. In particular, the Three Saylors site in Harlan County, Kentucky contained a moderate-sized Clovis component situated on a terrace along a small tributary of the Kentucky River (Tankersley 2008).

Paleoindian groups relied on late Pleistocene faunal and floral resources for subsistence. In terms of faunal remains, there are several sites that have good associations of extinct faunal specimens and Clovis tools in direct association in the region. This sample would include the well-known Big Bone Lick site in Boone County, Kentucky, where late Pleistocene fauna, including numerous mastodon remains, have been recovered since the beginning of the 19th Century (Tankersley 1985, 1987, 1998). Tankersley, Waters and Stafford (2009) reported on the association and dating of stratigraphic contexts at the site that contain Clovis points along with mastodon and other extinct mammalian species that were present during the late Pleistocene era. Although no direct evidence that the faunal remains reflect game that was actually

procured through hunting, the stratigraphic contexts of the site clearly illustrates the association of Clovis with mastodon remains. Excavations at Sheridan Cave site in NW Ohio revealed an association between a single Clovis point and extinct mammalian species. Radiocarbon dating of one of two bone points recovered from the same stratigraphic context as the Clovis point fragment produced a date of 10, 915 BP Calibrated, this date falls between 12, 925 and 13,000 BP (Waters, Stafford, Redmond and Tankersley 2009:109), a date that is well within the range for Clovis and the Early Paleoindian sub-phase or period. Of interest was the presence of extinct peccary in the faunal remains from the site among other species (Ibid:107-108), though secure associations between the Clovis fragment is not clear. It is likely that such patterns of faunal exploitation continued into the later phases of the Paleoindian stage though sites with good contexts are rare to non-existent in the project area.

3.1.2 Early Archaic Period (10,000 - 8,000 BP)

The Early Archaic period was a technological and adaptive continuum from the Paleoindian period. It also marked the advent of a different "stage" of cultural development following the chronological scheme discussed above (Willey and Phillips 1958, Griffin 1967). Across the Eastern United States projectile point assemblages exhibited a distinctive innovation in lithic technology not found in the earlier Paleoindian periods, the notching of projectile points, a trait that Gardner (1974) argued reflected the use of the spear-thrower used with lances bearing points fixed on detachable-shafts mounted on longer shafts or lances. Gardner argued that this may have been linked to the adoption of a throwing technique as opposed to a thrusting technique in hunting behavior, a change that may reflect an adaptation to the procurement of more solitary game species that were present in the changing environmental conditions that began towards the close of the Paleoindian period and accelerated during the onset of the Holocene climatic era and the Early Archaic period. A continuing climatic change post-dating the glacial recession led to the gradual reduction of the mixed open grassland biome and spruce forest characteristic of the Late Pleistocene. This change was coupled with the spread of a mixed deciduous forest biome (Carbone 1974) and in places, particularly in the Southeastern United States, to a more open grassland or savanna type environment.

Such changes were likely present in the eastern Ohio region and to an extent, the western edge of the Allegheny Plateau region. Development of the deciduous forest probably led to the greater dispersal of game species that were hunted during the Early Archaic period. Following Gardner's suggestion and based on their extensive work at the Haw River sites in North Carolina, Claggett and Cable (1982) argued that changes in biface technology from the earlier Paleoindian period reflected adaptations to a range of new environments that were the consequence of post-glacial warming trends (see discussion in Sassaman et al. 1990:9). Such changes are readily seen in the Early Archaic assemblages found in Ohio and the Plateau region in general.

Key projectile points that mark the onset of the Early Archaic period include the classic corner-notched Palmer and Kirk points and their cognate forms (Coe 1964; Gardner 1974; Chapman 1985). In his classic, well-known volume on the Carolina Piedmont, Coe suggested that the corner-notched Palmer point developed from the late Paleoindian Hardaway side notched types (Coe 1964). Palmer points frequently exhibit basal grinding, a trait found on many Paleoindian specimens. This may represent a carry-over in preparation techniques of the haft prior to mounting the point in a shaft along with other aspects of Early Archaic lithic technology. As noted below, basal grinding was a variable trait and not necessarily a good chronological indicator (see Kimball 1996). Many specimens from West Virginia exhibit heavily ground basal elements, likely tied to techniques of lashing a finished point to a haft.

Kirk Corner-Notched points may have developed out of Palmer, though Chapman, based on his extensive work in the Little Tennessee River, suggested that both types were contemporaneous and reflected nothing more than size differences based on raw material (Chapman 1985:147). In light of his extensive excavations at the Icehouse Bottom and Bacon sites, Chapman argued that the Early Archaic period marked by the appearance of corner notched Palmer/Kirk specimens could be subdivided into two sub-periods based on overall morphology, the earlier designated a "Lower Kirk" and the sequent one an "Upper Kirk" component (Chapman 1985:147). Additionally, Chapman suggested the use of the term Kirk Corner Notched “Cluster” for discussing the early corner notched Palmer and Kirk specimens and cognate corner-notched point forms. Distinguishing Palmer from Kirk specimens is based on the relative percentage of basal grinding, present more frequently on Palmer specimens and largely absent on the corner notched Kirk specimens. However, many corner-notched points from a range of sites exhibit variable to heavy basal grinding Coe did not report basal grinding on corner notched Kirk points from the Hardaway site (Coe 1964:70), perhaps an oversight.

At the outset of the Early Archaic period, lithic technology saw the continued the emphasis on the selection of high quality lithic raw materials employed during the Paleoindian period, especially during the Palmer sub-phase. Such a strong emphasis on the selection and use of cryptocrystalline lithic material for projectile point manufacture could suggest that a continuation of the quarry-base camp settlement model defined by Gardner (1974) and discussed further by Goodyear (1979) was still in use. Such a model may have been tied to mobility patterns related to the procurement of more solitary game species as well. A greater range of lithic raw materials appears to have been employed in the later Kirk phases and certainly by the onset of the Middle Archaic period.

Early Archaic settlement was likely timed to the distribution of faunal and floral resources that were being procured, and thus was distributed across a wider range of environmental zones than had been exploited previously when climatic conditions were different. For instance, to the south in eastern Tennessee, the Early Archaic sites along the Little Tennessee River are diverse in terms of resources exploited and include manos and metates for processing plant subsistence items. Such sites are called by Chapman “residential base camps” and are thought to mark larger social groups than those represented by small lithic scatters found in upland settings. The greater distribution of Early Archaic sites compared to the known extent and number of Paleoindian sites may reflect an adaptive pattern tied to dispersed or solitary roaming game species that were adapted to the gradually spreading deciduous forest. The greater number of Early Archaic sites is also testament to an increase in population over the Paleoindian period, if overall site density is used as a gross measure of population density.

A number of the Early Archaic components are present in multi-component sites in the Hocking River Valley (Shane and Murphy 1967). These sites, along with others identified in the Scioto River Valley (Prufer 1967a), demonstrate a selection for broad floodplain areas for base-camp locations. In eastern Ohio, most Early Archaic components are either isolated upland hunting stations or small overnight camps and larger residential base camps located in floodplain localities along the larger streams and rivers.

In many sites, the Early Archaic components found in the larger river drainages, such as those identified by Prufer (1967a) in the Scioto River Valley, were obscured by the intensive re-occupation by later Archaic and intense Woodland villages. Single-component residential base camps that yield better-defined Early Archaic diagnostic material have been located along the channels of smaller tributaries that were not used as frequently by later more sedentary Woodland components. The sites located along such smaller drainages have been interpreted as seasonal inland encampments (Pratt 1981). Evidence suggests that seasonal semi-sedentism began to develop around 7,000 B.C.; the subsistence and settlement systems

were characterized by scheduled exploitation of seasonally available resources and by a high degree of residential mobility within well-defined resource catchment areas (Muller 1986). This is a pattern that Gardner discussed as well for the Shenandoah region of Virginia and the greater Middle Atlantic area (Gardner 1974, 1980).

3.1.3 Middle Archaic Period (8,000 - 5,500 BP)

Characteristics that differentiate the Middle from the Early Archaic Period include a tool kit that includes groundstone grooved axes, bannerstones, bell-shaped pestles, and pendants; a decline in unifacially worked tools; and a shift in subsistence strategy to a heavier reliance on shellfish collecting along major drainages (Griffin 1967; Mayer-Oakes 1955). Numerous sites with Middle Archaic components also were identified during Prufer's (1967a) survey of the Scioto and Hocking River valleys. Middle Archaic sites seem to be concentrated along the smaller tributaries throughout southern Ohio.

The three general types of Middle Archaic sites suggested by DeRegnaucourt (1983) are small camps, large camps, and base camps. "Small camps" usually are less than 0.5 hectare (ha) (1.24 ac) in area, probably were occupied from one to a few days, and usually occur in upland areas away from streams on elevated ridges near springs. The category of "large camps" incorporates hunting camps, hunting and butchering camps, and chert quarrying and processing sites. These sites are consistent with encampments of one day to perhaps a week or slightly more; they typically occupy an area of between 0.5 ha and 2 ha (1.24 ac. – 4.94 ac). Base camps may be considered to represent the foci of a centrally based transhumance system, and probably were occupied seasonally. Base camps range from 0.5 ha (1.24 ac) to 8 ha (19.8 ac) in size and are located on prominent terraces, bluffs, or other elevations near the confluence of two small streams or a small stream and a larger river. The basic projectile point types for the Middle Archaic are the Lecroy Bifurcate (7,500 BP), the Eva basal notched (7,200 to 6,000 BP), and the Morrow Mountain (6,700 to 6,400 BP).

3.1.4 Late Archaic Period (3,500 - 1,000 BP)

The Late Archaic saw the advent of modern mixed deciduous forest communities throughout the northeastern United States. A hunting, fishing, and gathering economy developed around a seasonal schedule of resource procurement focused on white-tailed deer, nuts, waterfowl, fish, and mussels. Other economic functions and patterns also coincided with the scheduling of resources; bands or tribes settled either in seasonal base camps or in one semi-sedentary settlement with several satellite procurement stations distributed radially around them (Brose and Lee 1985; DeRegnaucourt 1986).

In Ohio, six site types occur: villages, camp sites, lithic scatters, find spots, rockshelters, and mortuary sites. The preference for habitation in all categories was for upland localities, particularly at the confluences of drainages, regardless of type of landform (Brose and Lee 1985). The primary Late Archaic artifact types are the stemmed and notched projectile point forms such as Lamoka, Dustin, Brewerton side notched, Brewerton corner-notched, Newton Falls side notched, Susquehanna/Ashtabula, and Narrow stemmed types. Less frequently found are hafted scrapers, knives, drills and perforators, ground stone axes, celts, grooved hammerstones, adzes, and pestles. An extensive bone and antler industry is evidence by such forms as bone fish hooks, bone awls, bone bodkins, hairpins, atlatl handles, antler points, and flakes, although it is probable that similar industries existed earlier (DeRegnaucourt 1986; Brose and Lee 1985). Other characteristics of the Late Archaic included the first appearance of ceremonial paraphernalia, and the first real signs of collective cemeteries located away from settlement areas also were established (Penny 1985).

3.1.5 Transitional Period (3,000 - 2,000 BP)

The Transitional Period can be viewed as a stage during which numerous small societies shared a fundamental cultural package and interacted with mutually influential, more complex neighboring societies (Mason 1981). By 2,600 BP, however, Early Woodland ceramic technology was firmly established throughout the region, ending the Transitional phase. In the Hocking River Valley, transitional sites that include habitation centers and ceremonial mounds are located in a wider variety of ecological settings, including upland terraces along smaller tributary streams (Abrams 1992). This pattern of site distribution seems to reflect a growing Adena influence that was grafted onto an Archaic-style framework of site location preferences. As mound-building became more prevalent, the variation in the ecological settings of sites narrowed, with nearly all sites located on the broad floodplains of major rivers (Abrams 1992).

Several types of projectile points are associated with the Transitional Period time frame. Meadowood points, thin, triangular, well-made bifaces with small side notches, generally are crafted from Onondaga chert. Leimbach stemmed points are ovate based, tapered and straight stemmed bifaces. The other two types are the large Feeheley bifaces, and the various small, micro regional projectile point types of which the Crawford Knoll type is the most common in northern Ohio. Cresap points are larger, stemmed bifaces that are believed to be a possible antecedent to later stemmed Adena projectile points (Shane 1967). Other artifacts that are diagnostic of the Transitional Period are stone bowls, birdstones, and smoking pipes (Mason 1981; and Stothers and Abel 1993).

3.1.6 Early Woodland Period (2,600 – 2,100 BP)

Early Woodland in Ohio is defined primarily with reference to the Adena Culture of central and southern Ohio, which in turn is divided into the Early Adena (3,000 – 2,500 BP), Late Adena (2,500 – 2,100 BP), and Transitional Adena-Hopewell (2,100 – 1,900 BP) sub-periods (Greber 1983). Specific Adena traits include: conical mounds located within earthen enclosures or constructed over burned dwellings; sacred circles with interior ditches; log tombs; circular houses with paired posts; and artifacts such as stemmed projectile points (especially the Robbins type), Adena Plain ceramics, expanded center gorgets, tubular tobacco pipes, hematite cones, galena artifacts, mica artifacts, use of ornamental copper, jaw spatulas, scapula awls, tablets with stylistic engravings, and sculpture in the round (Kime 1986).

Early Woodland social organization in southern Ohio adopted a hierarchical system that drew together groups on at least three social levels: regional bands, local bands, and band segments. Several types of Early Woodland sites are common throughout the region. Village sites accommodated large groups of more than five households as year-round primary domiciles; they frequently were occupied for more than one year, and they provide evidence of permanent structures. Camps were short-term seasonal occupation sites with structural remains, or were used for other special purpose activities. Mortuary sites contain one or more burials in non-mound contexts, as at the Caldwell's Little Bluff Site (Lovejoy 1967). Mounds are earth and stone deposits placed over one or more burials. Earthworks consist of earthen walls arranged in geometric patterns.

3.1.7 Middle Woodland Period (2,100 – 1,500 BP)

The Middle Woodland has been defined primarily with reference to the Hopewell culture. Ohio Hopewell culture was based primarily in the Ohio and Scioto river valleys. The Hopewell cultural phenomenon is defined by the exchange of rare ritual items rather than by local phases. Sizable populations were present, but truly large-scale agriculture was not practiced. Hopewell sites elaborated on Early Woodland models;

their larger earthworks and richer burials suggest intensified ceremonialism and greater social inequality. Specific Hopewell traits include enclosure, burial, and effigy mounds and earthworks; distinctive dentate-stamped and rocker-stamped ceramic vessels; platform pipes; cut animal jaws and teeth; pan pipes; extensive villages located near water sources; and widespread long-distance exchange networks (Fitting 1978).

Maslowski and Seeman (1992) identified five ecological zones for Hopewell habitation, including stream channel, flood zone, Wisconsin terraces, Illinoisan terraces, and uplands. The majority of recorded Scioto Valley sites are located on terraces overlooking the floodplain of the river, often near its confluence with a smaller stream (Prufer 1967a), although habitation sites from the Middle Woodland have been identified in all of the above-mentioned ecological zones. The primary Hopewell settlement pattern consisted of small farmsteads scattered around ceremonial centers (Fitting 1978), although the exact relationship between these two types of sites is still debated (Dancey and Pacheco 1997). Mound sites have been interpreted as communal hubs of trade, redistribution, and shared ceremonial events (Pacheco 1997).

3.1.8 Late Woodland Period (1,500 – 800 BP)

The Late Woodland Period was marked by the gradual disappearance of Hopewell influences and by a gradual contraction of the inter-regional exchange of raw materials and finished artifacts (Griffin 1983). In terms of settlement patterning, Dancey (1992), in his comparison of Middle and Late Woodland settlement patterns, noted that the size of Late Woodland habitation sites was 2 ha to 4 ha (4.94 ac – 9.88 ac), a marked increase from the previous average size of 0.6 ha to 2 ha (1.48 ac – 4.94 ac) during the Middle Woodland. The “nucleation” of typically dispersed populations in southern Ohio seems to have been tied directly to the advent of subsistence strategies that benefited from cooperation and creation of surpluses (Dancey 1992).

True maize-beans-and-squash agriculture adopted by the Late Woodland populations in the Ohio Valley, such as the occupants of the Water Plant Site in the Hocking River Valley (Dancey 1992), offered a more constant food source and decreased the area over which earlier populations ranged. Villages typically included several households, evidenced in the archeological record by numerous and spatially separate artifact distribution density peaks; these villages sometimes were surrounded by defensive ditches or palisades. Storage pit features are common, as at the Graham Site (McKenzie 1967). Village sites typically were located on level ground on higher terraces above major rivers, often near the confluence with a smaller stream.

Projectile point styles from the Late Woodland period in Ohio most often associated with bow and arrow technology are the Jack's Reef Corner Notched, Raccoon Notched, Hamilton and Levanna types. Thomas (1978) has put forth a quantitative analysis of the relative size of dart and arrow points, and according to his data only Madison triangular points (1,100 – 500 BP) qualify as true arrow points. Dates associated with Madison points may demonstrate a widespread acceptance of bow and arrow technology, with a “trial use” period from 600 to 800 A.D., marked by the some of the most pronounced changes in projectile point morphology in the Woodland period (Seeman 1992).

Ceramic traditions followed during the Late Woodland period in southern Ohio seems to represent a mingling of indigenous cultures with newly prominent Mississippian cultural traditions. In the Scioto Valley, Peters ceramics represents a continuation of local traditions (Prufer 1967b). Baum focus ceramics, marked by crushed granite temper, cord-wrapped paddle decoration and straight to slightly flaring lips, is often affiliated with the Fort Ancient tradition, and seems to represent a local population that had extensive interaction with and influence from Mississippian cultures (McKenzie 1967). Feurt ceramics typically are

incised and demonstrate mussel shell temper. These ceramics are likely a direct adoption of Mississippian technologies (Prufer 1967b).

3.1.9 Late Prehistoric Period (800 BP– 350 BP)

Mississippian culture spread northward from the Gulf Coast through all of the headwaters of the Mississippi drainage (Nass and Yerkes 1995; Rogers and Smith 1995; Rutter 1984; Stothers and Graves 1985; and Stothers and Rutter 1977). An Upper Mississippian manifestation in Southern Ohio from ca. 1,450 – 1,600 A.D. is known as Fort Ancient (Nass and Yerkes 1995; and Ullman 1985). Early Fort Ancient phase peoples still built monumental earthworks, but by A.D. 1300, mound building had ended and Fort Ancient peoples shifted to cemetery burial with no overt mound construction (Drooker 2000).

Fort Ancient villages generally consisted of several round or rectangular houses ranged around a central plaza, with later sites evidencing defensive works surrounding the settlement (Harper 2000). Maize production increased sharply during the period (Wymer 1992), although hunting was still an important part of Fort Ancient phase subsistence patterns. Prufer (1967a) and Shane and Murphy (1967) identified several sites with substantial Fort Ancient components in their surveys of the Scioto and Hocking River valleys. These sites often cover several acres and are located on the bottomlands below the Illinoisan terrace.

In eastern Ohio, the Late Prehistoric Period includes evidence for the Monongahela culture, better known from Pennsylvania and West Virginia. Defining artifacts of the tradition include limestone and shell tempered, collarless ceramic vessels demonstrating both plain and cordmarked exterior treatment, cannel coal pendants, bird bone beads, ceramic pipes, small triangular chert projectile points (Nass and Hart 2000, Mayer-Oakes 1955). The Monongahela lived in villages of several households organized around a central plaza, often situated in upland areas several kilometers from major river valleys. Semi-subterranean pits enclosed by bent posts covered with hides were popular means of storage among the Monongahela for the surplus of crops generated by their intensive maize agricultural practices (Nass and Hart 2000). Early Monongahela sites in eastern Ohio, such as the Opatrny site (Baker 1979), typically do not evidence a palisade or other defensive measures. Later sites in eastern Ohio show trends towards larger villages with greater complexity of house pattern and storage feature arrangement.

3.2 Historic Context

3.2.1 Frontier (ca. 1775–1795)

Until the late eighteenth century, few Euro-Americans had settled in Ohio. Those who were in Ohio either lived in or near Native American villages or were hunter-farmers. During the Revolutionary War, squatters from western Pennsylvania and Virginia began occupying land in the future Belmont, Carroll, Columbiana, Guernsey, Harrison, Jefferson, Monroe, Mahoning, and Stark counties. By 1779, there were clearances along the Ohio River as far south as the Muskingum River. In 1785, there were approximately 300 families at the falls of the Hocking River, 300 along the Muskingum River, and 1,500 along the Miami and the Scioto rivers (Jones 1983). These small settlements would have been rather perilous because they were not welcomed by the Native Americans, nor was their settlement sanctioned by the United States government. The descendants of these first migrants to Ohio probably formed the core of native-born Ohioans in eastern Ohio.

3.2.2 Settlement (1796–1819)

The Treaty of Greenville, signed August 3, 1795, was the impetus for rapid settlement of Ohio. Previously, Ohio pioneers, like pioneers of New England, had settled in defensible nucleated groups with in-lots and out-lots for mutual protection. Following the conflicts with Native Americans during 1794 and the Greenville Treaty line was established in 1795, the situation was drastically altered and most of Ohio was safe for isolated farms (Bond 1941).

Migrants to Ohio at first gravitated toward the Virginia Military District, the Symmes Purchase, and the Ohio Company Purchase. These areas were held privately and were already open for settlement. The Survey of the Seven Ranges (1785–1786) and the Connecticut Western Reserve greatly increased the available land (Bond 1941). Settlement of Northeast Ohio was essentially the result of migration from Mid-Atlantic states, especially Pennsylvania and Maryland. Settlers from this area moved westward, crossing the Ohio River and following its tributaries inland.

Most migrants were farmers seeking fertile farmland in the new frontier. Their livelihood depended on livestock raising and grain production, particularly wheat (Wilhelm 1982). Although new settlers, out of necessity, were self-sufficient, they still had to trade for basic supplies such as coffee, tea, salt, sugar, hardware, farm implements, and cloth. The average settler cleared only 2.47 ac (1 ha) of land per year. Generally, the early farmer only put a small portion of land (about 9.88 ac [4 ha]) for crops under the plow and reserved plenty for pasture for animals and forest for firewood and livestock, usually pigs. However, there was little advantage to producing much more than one's family needed as roads were not adequate to get their goods to market. Any surplus produce was used to trade for supplies or was distilled (Heald 1949; Noble and Wilhelm 1995).

The land comprising eastern Ohio was not ceded to the United States until the early nineteenth century through a succession of land treaties. The former Native American trails through the region aided in establishing frontier settlements (Blue 1928). The region's counties, known for their rich, agricultural lands, became great wheat producers and by 1815 were the center of an exclusively sheep-raising, agricultural region (Howe 1902). Coal-mining activity in the region has a history extending back to 1806. Ten years later, coal was the chief source of fuel in many counties (Perrin 1881).

3.2.3 Immigration

Little immigration occurred in the first decade-and-a-half of the nineteenth century, due to the disturbance of shipping caused by the Napoleonic Wars and the War of 1812. After peace was achieved by 1815, transatlantic shipping resumed. With a change in European land policies of the nineteenth century, emigration was also encouraged or viewed as the only viable option by European peasants (Wilhelm 1982).

Immigrants from Ireland, Scotland, and Germany left their homelands due in part to changing land policies. When the potato crops failed, most notably in Scotland in 1846 and in Ireland ca. 1830 to 1845, there was a massive wave of emigration from those countries. Many Germans left their homeland after the failed Revolution of 1848. These nineteenth-century German immigrants often joined and reinforced the cultural ways of the westward-moving Pennsylvania Dutch, descendants of eighteenth-century German immigrants (Wilhelm 1982).

Diverse social, economic, political, and material traits became established in eastern Ohio because of the varying cultural backgrounds of the migrants.

Since the major migrant groups became geographically distinct during settlement and did not overlap greatly, their respective cultural influences remained relatively unchanged and persistent, providing the basis of the region's cultural differentiation of today (Wilhelm 1982).

The 1850 census of Ohio is a good indicator of the ethnic and regional composition of the state in the middle of the nineteenth century, after the initial settlement and predominantly western European immigration, and before the largely eastern European immigration in the late nineteenth and early twentieth centuries (Wilhelm 1982). All of these groups probably shared a similar cultural background, that of Germanic/Pennsylvania Dutch. Judging by the sheer number of Pennsylvanian migrants, the Marylanders were probably from parts of Maryland strongly influenced and dominated by Pennsylvania culture. Likewise, the number of German immigrants indicates that the French were probably from parts of France strongly influenced and dominated by Germanic culture. Thus, a Germanic influence would be expected to dominate much of eastern Ohio due to the sheer numbers of the migrants from the Pennsylvania sphere, combined with the immigrants from the German sphere.

3.2.4 The Industrial Period (ca. 1850–1930)

An investment in infrastructure complemented Ohio's central location and put it at the heart of the nation's transportation system traveling north and south and east and west, and also gave eastern Ohio a head start during the national industrialization process which occurred during this period. By the late 1810s, the National Road crossed the Appalachian Mountains, connecting the region with the east coast. The Ohio River aided the agricultural economy by allowing farmers to move their goods by water to the southern states and the port of New Orleans. The construction of the Erie Canal in the 1820s allowed businesses to ship their goods through Lake Erie and to the east coast, which was followed by the completion of the Ohio and Erie Canal and the connection of Lake Erie with the Ohio River. This gave the region complete water access to the world within the borders of the United States. The Ohio Loan Law of 1837 allowed the state to loan one-third of construction costs to businesses, passed initially to aid the construction of canals, but instead used heavily for the construction of railroads. The Baltimore and Ohio Railroad crossed the Appalachians in the mid-1850s and connected the state with the east coast (Heald 1949).

With the emergence of a successful and growing industrial base in the region, the need for workers were high and the increase in population created a need for more housing (Heald 1949). For these developments to be attractive to potential property owners, improved transportation was required. At first there were horse-drawn trolley cars, but by the end of 1889, electric street railways were the norm. The interurban lines were popular until the early 1920s when automobiles and bus transportation became more highly used.

3.2.5 Twentieth Century

From the time Ohio attained statehood in 1803, the state's ready access to raw materials and navigable waterways at its northern and southern boundaries offered industrious entrepreneurs opportunity for profit. With an abundance of coal and iron ore, industrialists throughout the state erected iron works for the production of pig iron. The Mahoning Valley, in northeast Ohio, developed into a significant iron smelting area. The iron industry in turn facilitated development of a large steel industry, with Youngstown in the Mahoning Valley arising as one of the most prominent steel towns in the country (Hunker 1958:11–17).

During World War II, the region experienced significant industrial development and population growth. The state's diversified industrial base and geographical proximity to transportation routes and other population centers made it well suited for wartime production needs.

The industrial development and consequential economic prosperity generated during World War II shaped the region's economic, cultural, and social history for decades thereafter.

As the development of paved roads and automobiles accompanied this industrial development, demographic trends shifted from population increases in the cities at the expense of the countryside, to the opposite trend. The population of both the county and cities continued to grow, but the population living in the cities dropped to 59 percent, meaning the non-city population grew more quickly than the city population by that time. The suburban areas by 1958 had more residents than any single city in the region. Early suburban development in the post-World War I period had focused on subdivisions for the wealthy. In the post-World War II period, suburban living for city workers became the rule rather than the exception (Heald 1958).

The agricultural sector of the region's economy also benefitted from wartime expansion and demand. Eastern Ohio farmers worked within a constantly changing dynamic that involved weather, market forces, and technological developments. A farmer's success often depended on his or her acumen at correctly assessing both current events and future trends. At the onset of World War II, the region's farmers faced numerous difficult challenges, many of which had been brewing for more than two decades. Small and family farms met additional obstacles as most federal government programs were tailored toward consolidating farms and meeting the needs of large farmers. The resultant industrialization of agriculture that began during this period continued through the remainder of the twentieth century (Hunker 1958:67).

4.0 METHODS

4.1 Background Research Methods

Preliminary research was initiated by reviewing the archaeological and historical architecture files and relevant cultural resource management reports housed at the OHPO. Previously recorded cultural resources within approximately 1-mi of the APE were identified and mapped.

Additional research was undertaken to develop prehistoric and historic contexts to identify known and/or potential site locations within the project area. The cultural contexts included an assessment of the prehistory and history of the project area and formed the foundation required for the interpretation and evaluation of archaeological sites discovered during field investigations. Environmental research focused on aspects of local geology, soils, hydrology, geomorphology, vegetation, and recent natural and/or cultural disturbances to the project area. Existing data and preliminary background research, gathered during earlier studies, was incorporated and utilized, as appropriate.

4.2 Field Methods

The fieldwork entailed subsurface testing of all intact soils with slopes of less than 15 percent within the APE. Fieldwork was conducted using metric units. For the convenience of the reader the English conversions are provided in this section. Subsurface testing was achieved through the excavation of STPs. STPs were initially placed at 15-meter (m) (50-ft) intervals in all areas with slopes of less than 15 percent. Pedestrian reconnaissance was undertaken in all areas not shovel tested. These areas included locations with slope in excess of 15 percent were not shovel tested and areas that have been previously disturbed. Pedestrian reconnaissance inspected these areas for the presence of historic-period features as well as rockshelters and level benches that could contain prehistoric sites.

Each STP measured 50 x 50 centimeters (cm) [20-x-20 inches (in)] and was excavated at least 10 cm (4 in) into sterile subsoil. No alluvial soils were encountered during the investigation as all excavation took place within residual or disturbed soils. All excavated soils were sifted through 0.25 in mesh hardware cloth. When feasible, STPs were excavated by stratigraphic level and recovered artifacts were collected separately and placed in appropriately labeled containers. A description of each STP was recorded in the field. This included a description of the local terrain; the Munsell color, texture, composition and thickness of soil strata; the presence or absence of cultural materials; and a description of any signs of previous soil disturbance. All testing locations were plotted on maps in the field and recorded using a hand-held Trimble XH GPS unit with sub-meter accuracy.

4.3 Architectural Survey Methods

Field survey involved a systematic survey of historic architectural resources within the APE. The survey team members traversed all passable public roads located within the APE. Historic architectural resources were observed and documented from the public right-of-way unless otherwise accessed via privately-owned driveways or roads when express consent of the landowner was provided. Buildings normally construed as public, such as churches, stores, and cemeteries were approached more closely. Every effort was made to identify and record each resource over 50 years old within the APE. USGS topographical quadrangle maps dated from 1961 guided field observations related to dates of construction and the NRHP age criterion.

Pursuant to OHPO's *Guidelines for Conducting History/Architecture Surveys in Ohio (Revised 2014) and Archaeology and Historic Preservation*: Secretary of the Interior's Standards and Guidelines, the reconnaissance-level survey identified, digitally photographed, and recorded resources over 50 years old including primary buildings and any contributing outbuildings. The resources were recorded in Section III of the Project Review Form in the Section 106 Documentation Table (Appendix A). Photographs are provided as Appendix B. Tetra Tech architectural historians recorded the architectural style, condition, and important features of each resource and noted any major changes or alterations. The location of each resource was recorded using a handheld GPS (Trimble GeoExplorer XH 7000) unit. GPS data was differentially corrected and plotted on USGS 7.5-minute quadrangle maps.

5.0 RESULTS

In October 2019, Tetra Tech conducted a search of the OHPO Online Mapping System utilizing a 1.6-kilometer (km) (1-mi) buffer around the LOD prior to conducting fieldwork (Figure 5-1). The LOD roughly parallels the Ohio River following the upland ridgelines just west of the river. By using a 1.6-km (1-mi) buffer, the search radius includes similar terrain along the Ohio River but also looks to the west to follow the upland ridge spines further away from the river and covers the valley bottoms of watercourses that flow to the Ohio River. This search area includes the representative landforms present in the Ohio River valley.

5.1 Results of Background Research

This search identified a total of 12 previously conducted Phase I archaeological or cultural resource surveys within the search radius (Table 5.1-1; Figure 5.1-1). Four of these surveys were discovered based on references listed on Ohio Archaeological Inventory forms, but the survey boundaries are not present within the digital map inventory as either technical reports were not prepared or were not included in the database. One of the previously recorded surveys crosses the LOD along the northern bank of Opossum Creek (Hornum 2006). This survey did not identify any cultural resources and determined the area north of Opossum Creek within the current LOD has been previously disturbed. The majority of the remaining past surveys are linear surveys supporting pipeline development and cross a range of terrain. No archaeological resources were identified within the search radius by surveys documented in the Online Mapping System.

One previously recorded archaeological resource is located within the search radius (Figure 5.1-1). Site 33MO0155 consists of a historic artifact scatter associated with known historic structures along a ridgeline east of County Road 386. This site was professionally recorded but the survey information is not present within the Online Mapping System. The site form associated with the site does not recommend it as eligible for listing in the NRHP, but it is unknown if the OHPO concurred with the recommendation.

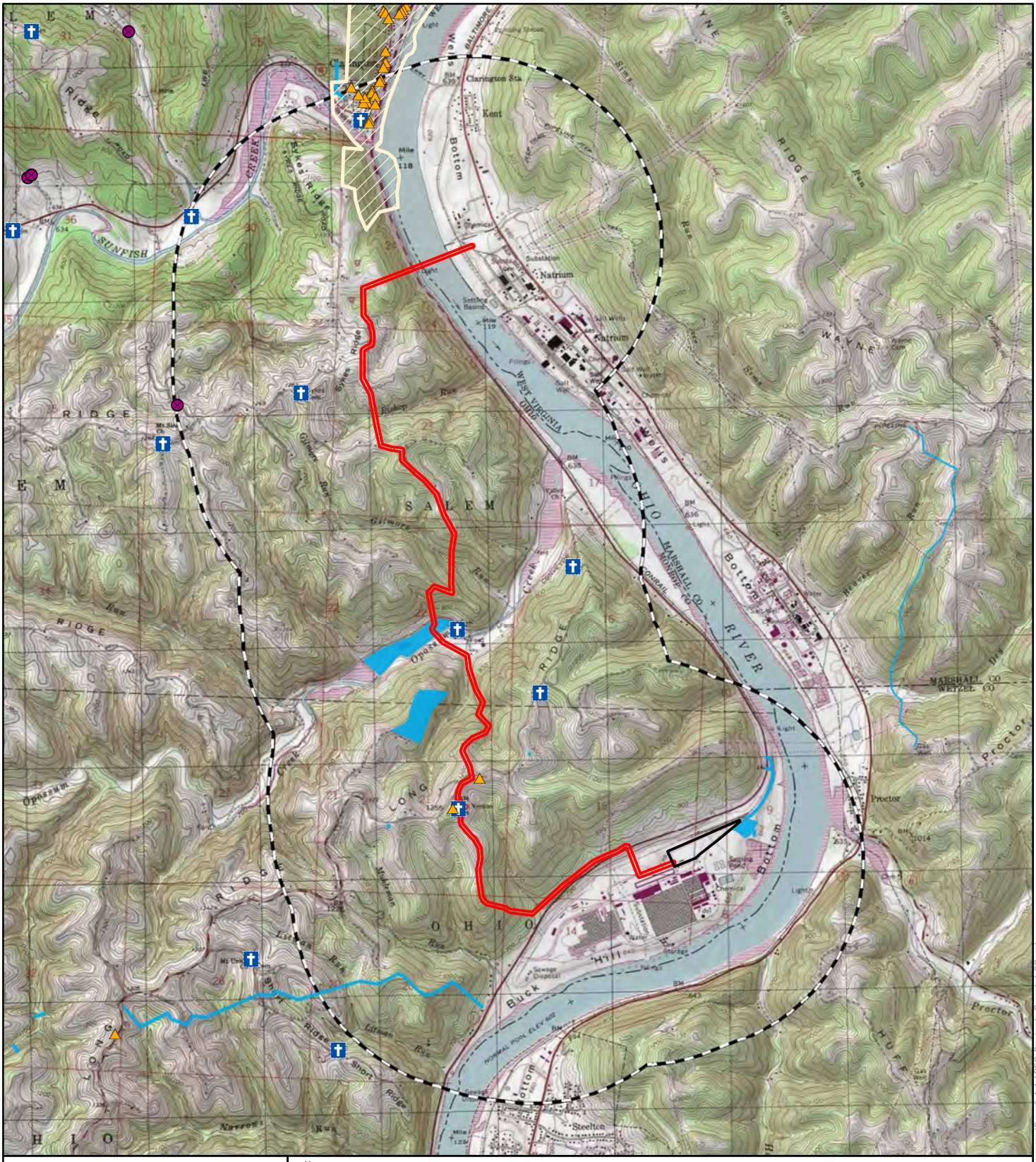
One above ground reconnaissance survey was conducted that intersects the LOD (Figure 5.1-1). This survey (Gibbs 1987) was part of a larger Monroe County survey that inventoried the historic resources of the county. This survey identified 15 aboveground resources in the search radius. None of these resources have been evaluated for listing in the NRHP.

The majority of historic resources within the search radius were identified in the village of Clarington (Table 5.2-1; Figure 5.1-1). In Clarington, the survey identified 13 structures within the search radius including six single dwellings, two commercial buildings, two church/religious structures, one municipal building, one school, and one structure of unknown use. An additional two historic structures were recorded within the search radius in Ohio Township. These two resources, MOE0031812 and MOE0031912, are located on opposite sides of an existing pipeline ROW in which part of the proposed NGL pipeline will be collocated.

In addition to the above ground structures, seven cemeteries were located within the search radius (Figure 5.1-1). None are located within the LOD. The cemeteries represent a mix of sizes and styles from small, historic family plots to larger, community cemeteries. None of the cemeteries have been evaluated for listing in the NRHP.

Table 5.1-1 Previous Archaeological Surveys within 1.6-km (1-mi) of the Project.

OHPOID	Report Title	Author1	Author2	Year	Phase
	A Phase I Archaeological Survey of the Proposed Powhatan 7 Mine Reclamation Borrow Area, Salem and Ohio Townships, Monroe County, Ohio	Murphy, James L.		1999	1
	Phase I Archaeological Survey of the Proposed SBA Network Services Long Ridge (Site #10135-061B) Wireless Communications Tower Location in Ohio Township, Monroe County, Ohio	Pecora, Albert M.		2001	1
25449	Proposed Berne to Natrium Natural Gas Liquid Condensate Pipeline Franklin, Summit, Center, Adams, and Salem Townships, Monroe County, Ohio	McHugh, Sean	Mary Lynne Rainey & Michael L. Young	2014	1
28004	Fourth Supplemental Phase I Archeological Survey For The Proposed Columbia Gas Transmission, LLC Leach Xpress Project Belmont, Fairfield, Guernsey, Hocking, Jackson, Lawrence, Monroe, Morgan, Muskingum, Noble, Perry, And Vinton Counties, Ohio	Hornum, Michael B.		2017	1
	Supplemental Phase I Archaeological Survey for the Proposed Time II Project, (Salem Township, Monroe County, Ohio	Hornum, Michael B.		2006	1
28004	Third Supplemental Phase I Archeological Survey for the Proposed Columbia Gas Transmission, LLC Leach Xpress Project - Belmont, Fairfield, Hocking, Jackson, Lawrence, Monroe, Morgan, Muskingum, Noble, Perry, and Vinton Counties, Ohio	Hornum, Michael B.	Alison Darling	2017	1
18986	Phase I Archaeological Survey (for the) Monroe Extension Natural Gas Pipeline Project in (Ohio Township) Monroe County, Ohio	Duerksen, Ken	Christopher A. Bergman	2011	1
	Phase I Archaeological Survey of the Proposed SBA Network Services Long Ridge (Site #10135-061) Wireless Communications Tower Location in Ohio Township, Monroe County, Ohio	Pecora, Albert M.		2001	1



TETRA TECH

N

0 0.25 0.5 1 Miles

Legend

- Previously Recorded Archaeological Site
- Previously Recorded Historic Structure
- Previously Recorded Cemetery
- Previously Surveyed for Historic Resources
- Previous Phase 1 Archaeological Survey
- Pipeline LOD
- Transloading Facility LOD
- 1.6-km (1-mile) Buffer - Pipeline LOD

Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 5-1-1
Previously Recorded Surveys and Cultural Resources

Date: 2/20/2020

Data Sources:ESRI USA Topo Map,

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Table 5.1-2 Previously Recorded Historic Structures within 1.6-km (1-mi) of the Project.

OHI Number	Address	Place Name	Architectural Style	Historic Use	Date
MOE0021008	Market St	Clarington	Vernacular	Single Dwelling	1900
MOE0021108	Market St	Clarington	Italianate	Single Dwelling	1880
MOE0021208	Market St	Clarington	Greek Revival	Village/Twp/City Hall	1870
MOE0021308	Market & Church	Clarington	Gothic Revival	Church/Religious Structure	1880
MOE0021408	Market St	Clarington	Vernacular	Single Dwelling	1880
MOE0021508	Ferry St & Market St	Clarington	Italianate	COMMERCIAL	1870
MOE0021608	Ferry St at 3rd	Clarington	Italianate	COMMERCIAL	1870
MOE0021708	Ferry St	Clarington	Queen Anne	Single Dwelling	1890
MOE0021808	3rd St & Ferry St	Clarington	Gothic Revival	Church/Religious Structure	1890
MOE0021908	Church St	Clarington	Tudor/English Revival	School	1925
MOE0022008	Ferry St & Front St	Clarington	Italianate	Unknown Use	1810
MOE0022108	Main St & Market St	Clarington	Italianate	Single Dwelling	1870
MOE0022208	Market St	Clarington	Eastlake	Single Dwelling	1890
MOE0031812	S Side Co 43	Ohio Township	Federal	Single Dwelling	1870
MOE0031912	S Side Co 43 Near Salem Twp	Ohio Township	Italianate	Church/Religious Structure	1870

5.2 Results Architectural Reconnaissance Survey

The reconnaissance survey identified five historic architectural resources and two previously recorded historic resources within the APE (Figure 5.2-1). No resources were identified within the Project's LOD. The five resources identified in this survey consist of historic farmsteads or farm buildings. two of which are recommended potentially NRHP-eligible as individual resources (Table 5.2-1). Two of these resources, the Lucas Farmstead (MOE005308) and the Rufener Farmstead (MOE005408) are recommended as potentially eligible for listing in the NRHP and described below.

Photo documentation of all five newly identified resources is provided in Appendix B. The draft I-Form documentation completed for the two resources recommended potentially eligible is provided in Appendix C. The potential for the presence of a historic agricultural district is not demonstrated. No further study regarding the potential for the APE to contain unrecorded rural or agricultural historic districts is recommended.

As described in Section 5.1, two previously recorded historic resources, MOE0031812 and MOE0031912, are located on opposite sides of an existing pipeline ROW in which the Project will be collocated. No additional tree clearing will be conducted in the existing pipeline ROW. Thus, visual effects to these resources will be temporary.

Lucas Farmstead – MOE005308

This resource is a farmstead located in a rural area with similar farmsteads and houses nearby. The house sits east of Sykes Ridge Road within a manicured yard with a few mature trees scattered about. Outbuildings located at the edge of the yard bordering agricultural fields include a workshop, Bank Barn, poultry house, and corn crib all of which date to the mid-twentieth century. The side gable workshop is constructed of concrete block and features metal sliding windows. The workshop's gable roof is covered in asphalt shingles. The Bank Barn stands on a concrete block foundation. The barn's exterior is clad in vinyl or aluminum siding. The barn's side gable roof is covered in asphalt shingles. The barn features a large sliding door on the upper eaves side. The poultry house stands on a concrete block foundation; its exterior walls are clad in asphalt siding. The poultry house's front gable roof is covered in asphalt shingles. Some of the poultry house's windows are no longer intact; the intact fenestration is comprised of 3/3 wood sash windows. The shed-roofed corn crib is constructed on wood piers. The corncrib's exterior is clad in vertical wood boards with spaces in between. The building's shed roof is covered in asphalt shingles.

The c. 1945, 1-story wood frame vernacular-style dwelling features replacement vinyl siding, replacement 1/1 vinyl sash windows, and a side gable roof covered in standing seam metal. The building is constructed on a rectangular plan. The three-bay facade has a centered entrance door which is sheltered by a small overhang supported by square wood posts. This dwelling is an example of a common mid-twentieth century vernacular form found throughout southeastern Ohio. The dwelling is part of a larger agricultural complex, of which a barn, workshop, poultry house and corncrib remain. The farmhouse and associated outbuildings convey their original function and purpose and demonstrate the spatial planning of small, mid-twentieth century farms in Monroe County. As such, the Lucas Farmstead is recommended eligible for NRHP listing under Criterion A for agriculture. No evidence linking this property to any significant individuals in local history could be identified. As such, this resource is recommended not eligible for NRHP listing under Criterion B. The Lucas Farmstead residence does not exemplify a remarkable or distinctive vernacular house form and has been altered with replacement siding and windows. The residence does not have sufficient architectural significance or integrity to warrant individual NRHP listing. However, coupled with the collection of relatively well-preserved outbuildings, the farmhouse provides architectural context for this mid-twentieth century Monroe County farm. The Lucas farmstead is recommended as potentially eligible for NRHP-listing under Criterion C; it serves as a relatively well-preserved collective representation of a mid-twentieth century farmstead in Monroe County.

TETRA TECH

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0 1,250 2,500 5,000 Feet

Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 5-2-1
Historic Architectural Resources Identified in the Reconnaissance Survey

Date: 2/20/2020

Data Sources:ESRI USA Topo Map,
Copyright: © 2014 National Geographic Society, i-cubed

Legend

- Aboveground Historic Resource
- Pipeline LOD
- Transloading Facility LOD

NOT FOR CONSTRUCTION

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Table 5.2-1 Recommendations for Resources Identified in the Reconnaissance Survey.

Reference/SHPO ID	Resource Name	Street Address	City	Date	Architectural Style	Recommendation
TT-001/MOE0055308	Lucas Farmstead	52189 Sykes Ridge Road	Clarington	c.1945	Vernacular	Potentially Eligible – Criteria A and C
TT-002	Deitrich Barn	52146 Sykes Ridge Road	Clarington	Unknown	Vernacular	Not Eligible
TT-003/MOE0055408	Rufener Farmstead	52067 Sykes Ridge Road	Clarington	c.1915; c.1930	Vernacular	Potentially Eligible – Criteria A and C
TT-004	Haslam Farmstead	52017 Sykes Ridge Road	Clarington	unknown	Vernacular	Not Eligible
TT-005	Blatter Residence and Barn	52246 Rouse Road	Clarington	unknown	Vernacular	Not Eligible

Rufener Farmstead – MOE005408

This resource is a farmstead located in a rural area with similar farmsteads and houses nearby. The house sits east of Sykes Ridge Road within a manicured yard with a few scattered mature trees. Outbuildings located at the edge of the yard bordering agricultural fields include a Basement Barn, milk house, silo, machine/hay shed, pigsty, and smoke house. Two modern garages are also located in close proximity to the house near the property's driveway. The exterior of the c.1915 Basement Barn is clad in a combination of vertical wood boards and aluminum or vinyl siding. The upper eaves side of the barn features large siding doors and simple wood brackets along the roof line. The barn's side gable roof is covered in corrugated metal. Located at the west gable end of the barn is a concrete stave silo. A c.1930 concrete block milk house with a pyramidal roof is located at the barn's northwest corner adjacent to the driveway. The milk house's pyramidal roof is covered in asphalt shingles. The c.1915, side gable, wood frame smoke house stands on stone piers. The smoke house's exterior is clad in a combination of weatherboard and vertical wood boards. The smoke house features two human doors on the eaves side. A pigsty is located at the southeast corner of the barnyard and is constructed on a concrete block foundation. The pigsty's exterior is clad in an unknown material. The pigsty's side gable roof is covered in corrugated metal. The machine/ hay shed is comprised of a side gable structure with a completely enclosed shed-roofed addition. The side gable portion of the shed is clad in vertical wood boards; the rear addition is clad in standing seam metal. The two modern garages are side-gabled and are clad in standing seam metal.

The c.1915, 2-story, 5-bay I-house features aluminum siding, 1/1 windows (sash material unknown), and a side gable rood covered in asphalt shingles. The main block and rear ell form an L plan. The 5-bay facade has a centered entrance door which is sheltered by a small overhang supported by decorative steel columns. This I-house is an example of a common early-twentieth century vernacular form found throughout southeastern Ohio. The dwelling is part of a larger agricultural complex, of which a Basement Barn, milk house, silo, pigsty, smoke house, and machine/hay shed remain. The complex also includes two garages of recent construction. The farmhouse and associated outbuildings (with the exception of the modern garages) convey their original function and purpose and demonstrate the spatial planning of early-twentieth century dairy farms in Monroe County. As such, the Rufener Farmstead is recommended eligible for NRHP listing under Criterion A for agriculture. No evidence linking this property to any significant individuals in local history could be identified. As such, this resource is recommended not eligible for NRHP listing under Criterion B. The Rufener Farmstead residence does not exemplify a remarkable or distinctive vernacular house form and does not have sufficient architectural significance or integrity to warrant individual NRHP listing. However, coupled with the collection of well-preserved outbuildings, the farmhouse provide context for this early-twentieth century Monroe County dairy farm. The Rufener farmstead is recommended potentially eligible for NRHP listing under Criterion C for its well-preserved collection of early twentieth-century domestic and agricultural buildings.

5.3 Results of Phase I Archaeological Survey

The Phase I archaeological survey consisted of pedestrian reconnaissance and subsurface excavation along the entirety of Project's LOD. A total of 76 STPs were excavated during the investigation with no cultural material recovered from subsurface investigations (Figure 5.3-1, Pages 1-6). Pedestrian reconnaissance identified the disarticulated structural remains of a mid to early twentieth-century farmstead, 33MO211, within the LOD (Figure 5.3-1, Page 2).

Subsurface testing began at bore pit exit on the eastern edge of a bluff overlooking the Ohio River (Figure 5.3-1, Page 1). From this location at the northern end of the LOD the pipeline roughly parallels the Ohio River southward for approximately 5.4 mi before reaching the LRET. The terrain encountered across the LOD generally consists of east to west trending ridgelines separated by steep, narrow stream valleys.

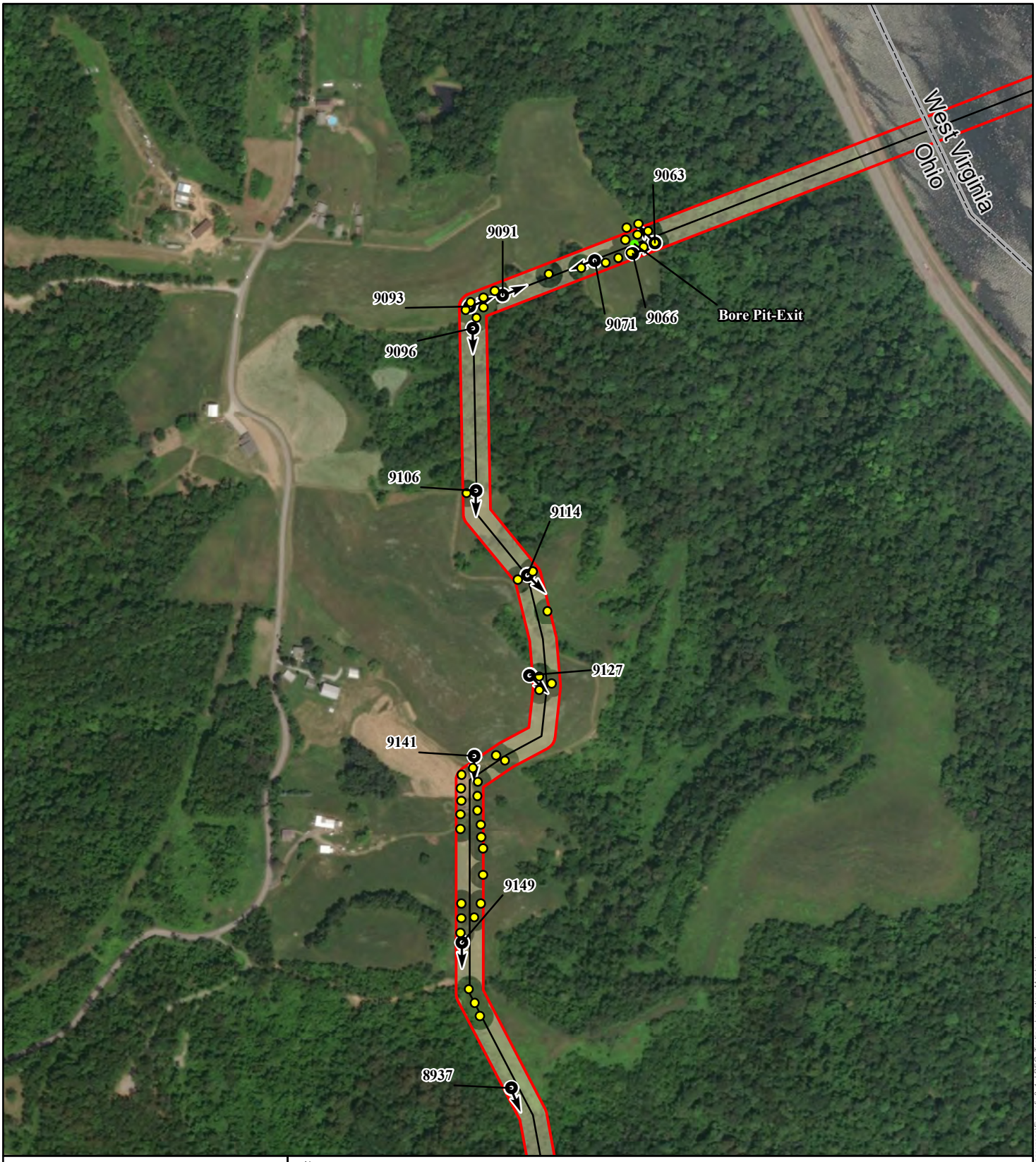
Subsurface testing was generally limited to the flat portions of the upland ridgelines, however some isolated testing of hillside benches, potential rock shelters, and stream benches was undertaken when such areas were identified during pedestrian reconnaissance. Soil encountered in the upland portions of the direct APE were formed in residuum, generally with a plowzone (Ap-horizon) overlying a Bt- or BC-horizon (Figure 5.3.2). STPs generally extended to depths of 30-40 cm (11.8-13.8 in) below surface before being terminated in sterile subsoil (Photos 5.3-1 and 5.3-2).

Subsurface testing also occurred on the floodplain south of Opossum Run (Figure 5.3-1, Page 3) and within a grouping of four rock overhangs on the side slopes above Gilmore Run (Figure 5.3-1, Page 2). While the floodplain south of Opossum Creek is mapped as the alluvial Chagrin silt loam, this area previously served as a coal processing area for the former Powhatan Mine Works. Aerial imagery dating to 1994 (Google Earth 2019) shows several large coal piles and conveyer belts within the direct APE that shows the area being used to store and transport coal from the mine to the Ohio River. Limited shovel testing within the floodplain to investigate this area determined the floodplain has been subject to reclamation with STPs exhibiting a mix of imported soil mix of unsorted gravel and rock to impasse at approximately 25 cm (19.7 in) below surface (Figure 5.3.2; Photo 5.3-3).

The cluster of four rock overhangs were noted on the south facing ridge of the slopes north of Gilmore Run (Figure 5.3-1, Page 2). The first two overhangs were clustered near the top of the ridge at approximately 348 m (1,140 ft) above mean sea level (amsl) (Photo 5.3-4, Location 9210). The two other overhangs were clustered together further down slope at approximately 357 m (1,170 ft) amsl (Figure 5.3-1, Page 2, Location 9230). Five STPs were excavated within and around the two upper rock overhangs with no cultural material recovered (Figure 5.3-1, Page 2, Location 9210). Soil profiles exhibited in these STPs exhibited residual soil profiles overlying rock impasse at 38 cm (15.7 in) below surface (Figure 5.3-2) Due to the severe slope and unstable ground around the two lower rock overhangs, only one STP, RO4 was excavated at this location exhibiting shallow lenses of loose silt developed over rock impasse (Figure 5.3.2; Photos 5.3-6 and 5.3-7).

The remainder of the LOD was subject to pedestrian survey. Those areas where slope exceeded 15 percent or where obvious past disturbance had destroyed the integrity of the landscape were photo-documented. Photo-documentation is provided in Appendix D. The pipeline will be either co-located with an existing pipeline ROW or within the existing terminal facility for the southernmost 1.8 km (2.49 mi) of the proposed route.

The following section discusses site 33MO211 in more detail.



TETRA TECH

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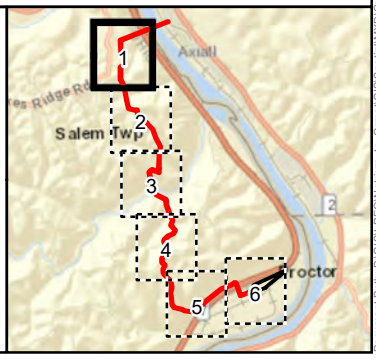
Legend

- Negative Shovel Test
- Photo_Location
- Bore Pit-Exit
- Centerline
- State Boundary
- Pedestrian Survey
- Pipeline LOD



Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 1 of 6

Date: 2/20/2020

Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

NOT FOR CONSTRUCTION

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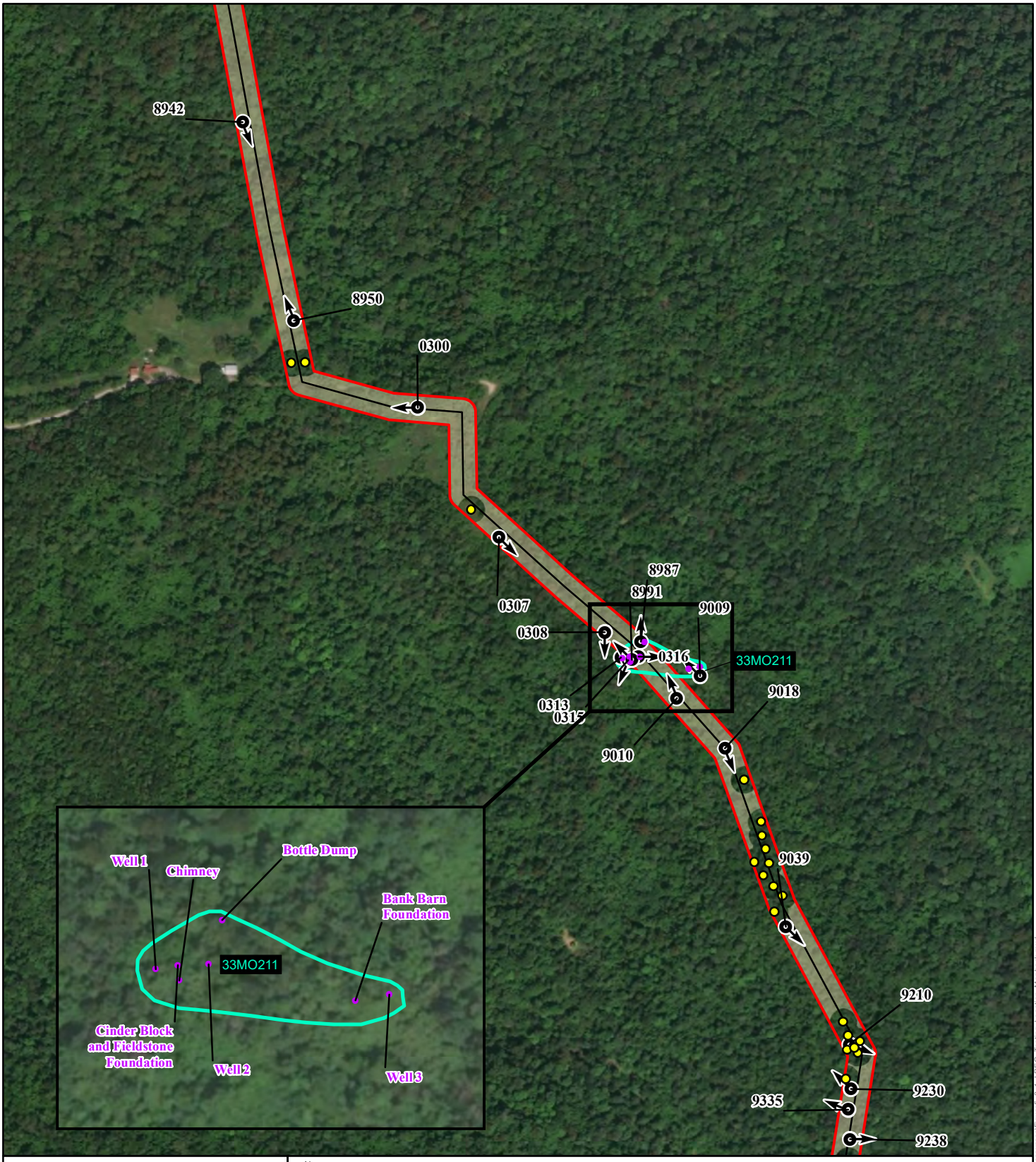


TETRA TECH

Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 2 of 6

Date: 2/20/2020

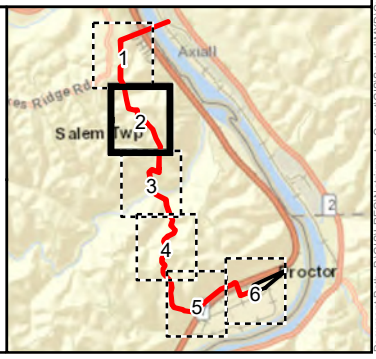
Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 250 500 1,000 Feet

Legend

- Negative Shovel Test
- Historic Cultural Feature
- Photo_Location
- Centerline
- Site 33MO211
- Pedestrian Survey
- Pipeline LOD



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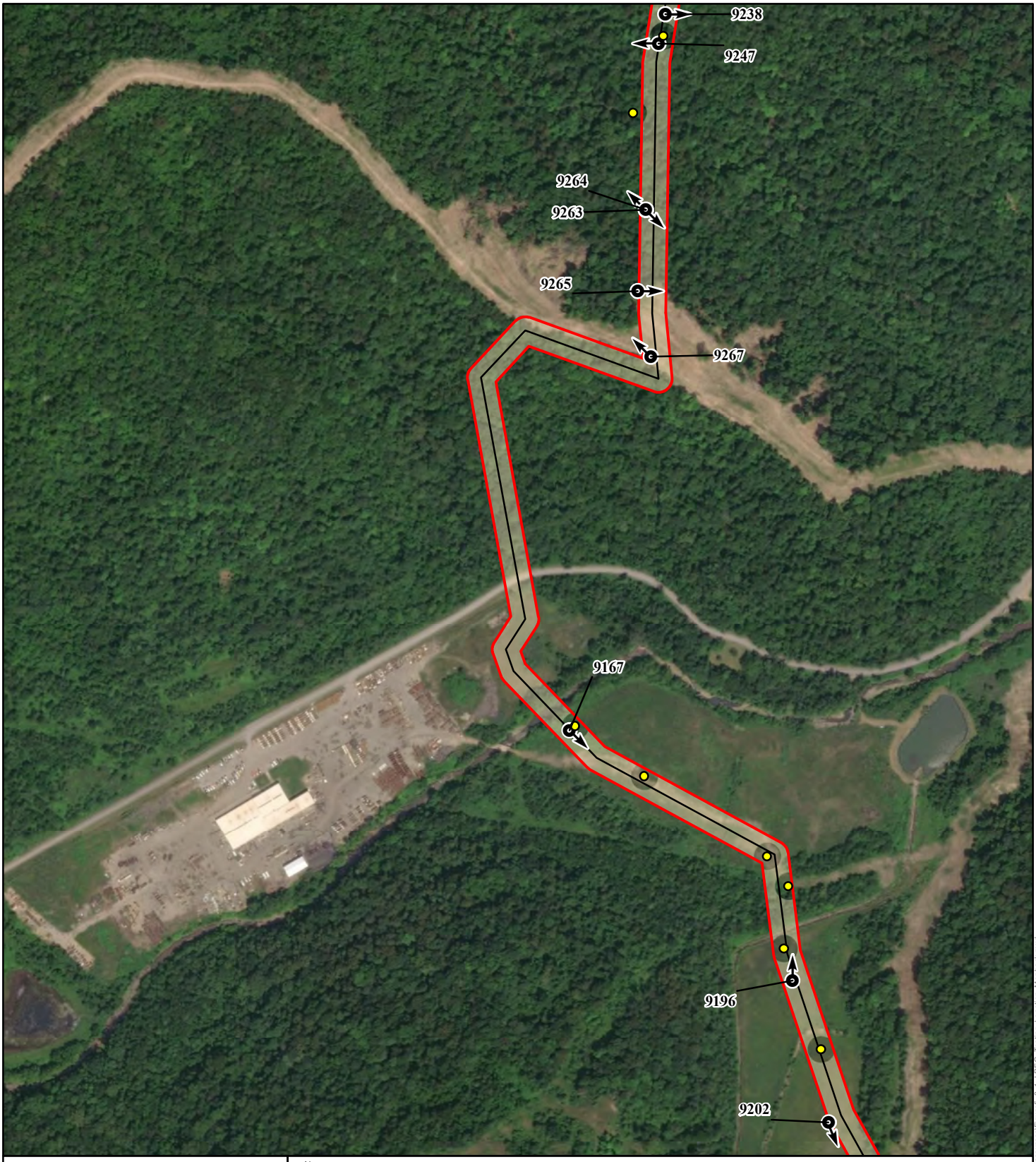


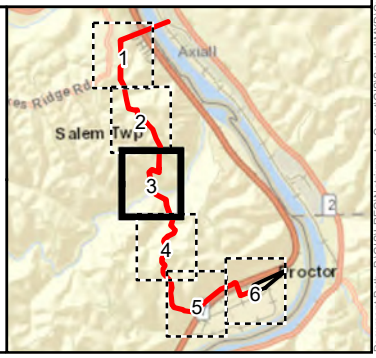
TETRA TECH

N

0 250 500 1,000 Feet

Legend

- Negative Shovel Test
- Photo_Location
- Centerline
- Pedestrian Survey
- Pipeline LOD



Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 3 of 6

Date: 2/20/2020

Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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TETRA TECH

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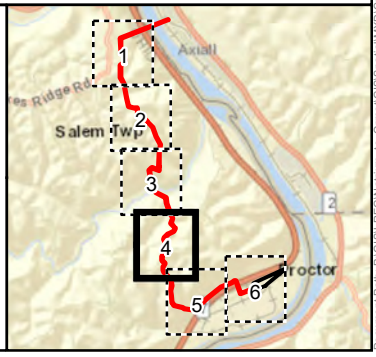
Legend

- Photo_Location
- Centerline
- Pedestrian Survey
- Pipeline LOD



Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 4 of 6

Date: 2/20/2020

Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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TETRA TECH

Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 5 of 6

Date: 2/20/2020

Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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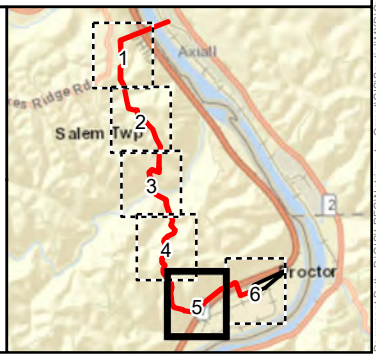
Legend

- Photo_Location
- Centerline
- Pedestrian Survey
- Pipeline LOD



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TETRA TECH

Long Ridge Energy Terminal
Transloading Facility and NGL Pipeline
Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 6 of 6

Date: 2/20/2020

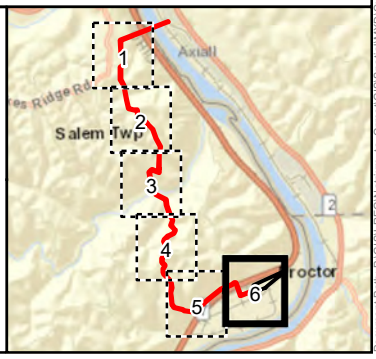
Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 250 500 1,000 Feet

Legend

- Centerline
- State Boundary
- Pedestrian Survey
- Pipeline LOD
- Transloading Facility LOD



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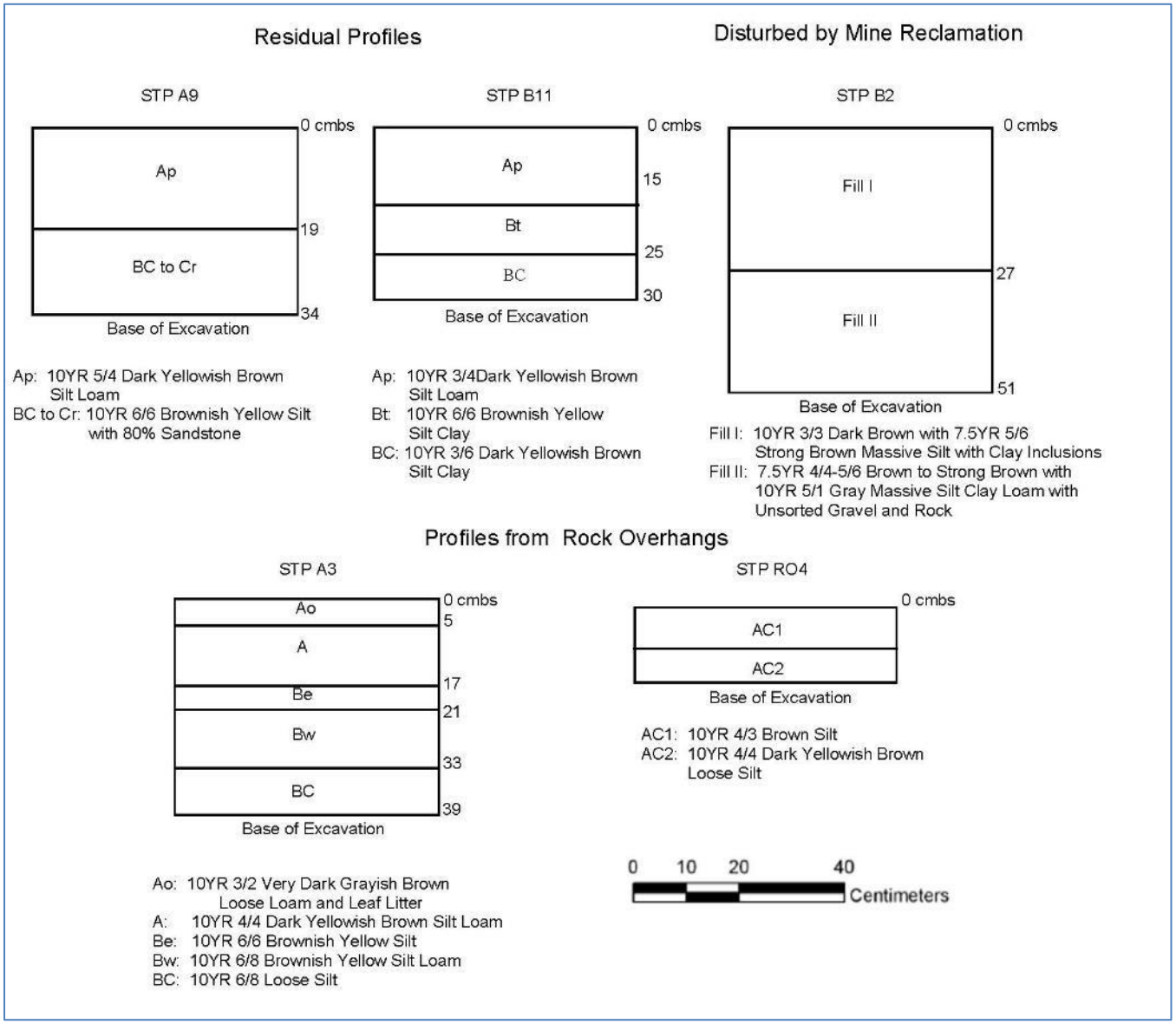


Figure 5.3-2 Representative Soil Profiles .

Photo 5.3-1 Residual Soil Profile, STP A9.

Photo 5.3-2 Residual Soil Profile, STP B11.

Photo 5.3-3 Disturbed Soil Profile, Opossum Creek Floodplain, STP B2.

Photo 5.3-4 (Location 9211) Rock Overhangs, Facing East.

Photo 5.3-5 (Location 9230) Rock Overhang, Facing West

Photo 5.3-6 Rock Overhang Soil Profile, STP RO4.

Photo 5.3-7 Rock Overhang Soil Profile, STP A3.

Site 33MO211

Site 33MO211 consists of the structural remains of a historic farmstead. The remains consisted of a fieldstone and concrete block foundation, likely a residential structure, an adjacent cement pad, a fieldstone bank barn foundation, three fieldstone and ceramic lined wells, remnant electrical or telephone and fence poles, and a scatter of mid-twentieth century to modern glass and ceramic fragments (Figure 5.3-1, Page 2). The bank barn foundation is located outside of the LOD. The site is located at the end of Township Road 2124 which extends south along a narrow ridge spine approximately 500 m (1,640 ft) south of Rouse Road/County Road 388.

The fieldstone and concrete block foundation was centered approximately 38.7 ft west of the proposed centerline. The foundation is oriented roughly 11.2 (m) 36.75 ft north to south and 7.2 m (23.6 ft) east to west (Figure 5.3-3). The unimproved extension of Township Road 2124 is situated roughly 16.4 ft to the northeast of the foundation. The approximate northern half of the foundation is composed of dry laid fieldstone cut into the hillside to a depth of 0.91 (3.01 ft) (Photo 5.3-8). The southern half of the foundation transitions to concrete block at the point where the foundation is no longer cut into the hillside (Photo 5.3-9). The concrete block reaches a maximum height of 1.12 m (3.67 ft) along the southern wall. A terra cotta line concrete block chimney is situated along the southern façade of the foundation and an approximately 2.5-2.0 m (8.2-x-6.4 ft) concrete pad was located directly north of the foundation.

Two stone lined wells were noted on either side of the foundation. Well 1 was located approximately 1.5 m (4.9 ft) west of the foundation and consists of a stone lined, bell shaped well with a surface radius of 3.6 ft and reached a maximum depth of 3.9 ft below surface (Photo 5.3-10). Well 2 was located approximately 9.0 m (29.5 ft) southeast of the foundation. This well consisted of a 9.2-m (30.2-ft) deep stone lined shaft capped with a ceramic ring (Photo 5.3-11). Two metal pipes extended out from the side of the ceramic ring and would have drained into the well. The ceramic ring measured approximately 70 cm (27.6 in) in circumference and extended to a depth of 1.8 m (6 ft) before resting on the stone lined portion of the well.

A small bottle dump situated in a shallow depression along the east side of the unimproved road was identified approximately 22 m (72.2 ft) northeast of the foundation (Photo 5.3-12). The bottles were composed of a mix of modern to mid-twentieth century container and non-diagnostic glass.

A Bank Barn foundation was identified approximately 60 m (197 ft) southeast of the house foundation, opposite the unimproved road (Photo 5.3.13). The eastern wall of the foundation was composed of dry laid fieldstone measuring 1.6 m (5.25 ft) in height and 7.9 m (26 ft) in width. The remaining three sides of the Bank Barn were nearly flush to the ground. A third circular, stone lined structure, possibly a third well or a trough was noted was southeast of the barn foundation. Both the barn foundation and the stone lined well/trough are outside of the Project's LOD.

A light scatter of historic period architectural materials such as brick and degrading sheet metal was spread about the site. Adjacent to the north side of the foundation was a small, disarticulated pile of bricks stamped with the word "ALAMO" (Photo 5.3.14). This style of brick was produced between from 1935 to the early 1960's by the Harbison-Walker Refractories Co. in Vandalia and Fulton, Missouri (Gurcke 1987). Outside of the bottle dump, limited evidence of domestic kitchen or personal items were noted at the site. Photographs of a representative sample of artifacts were taken but were otherwise left *in situ* at the site (Photo 5.3-15).

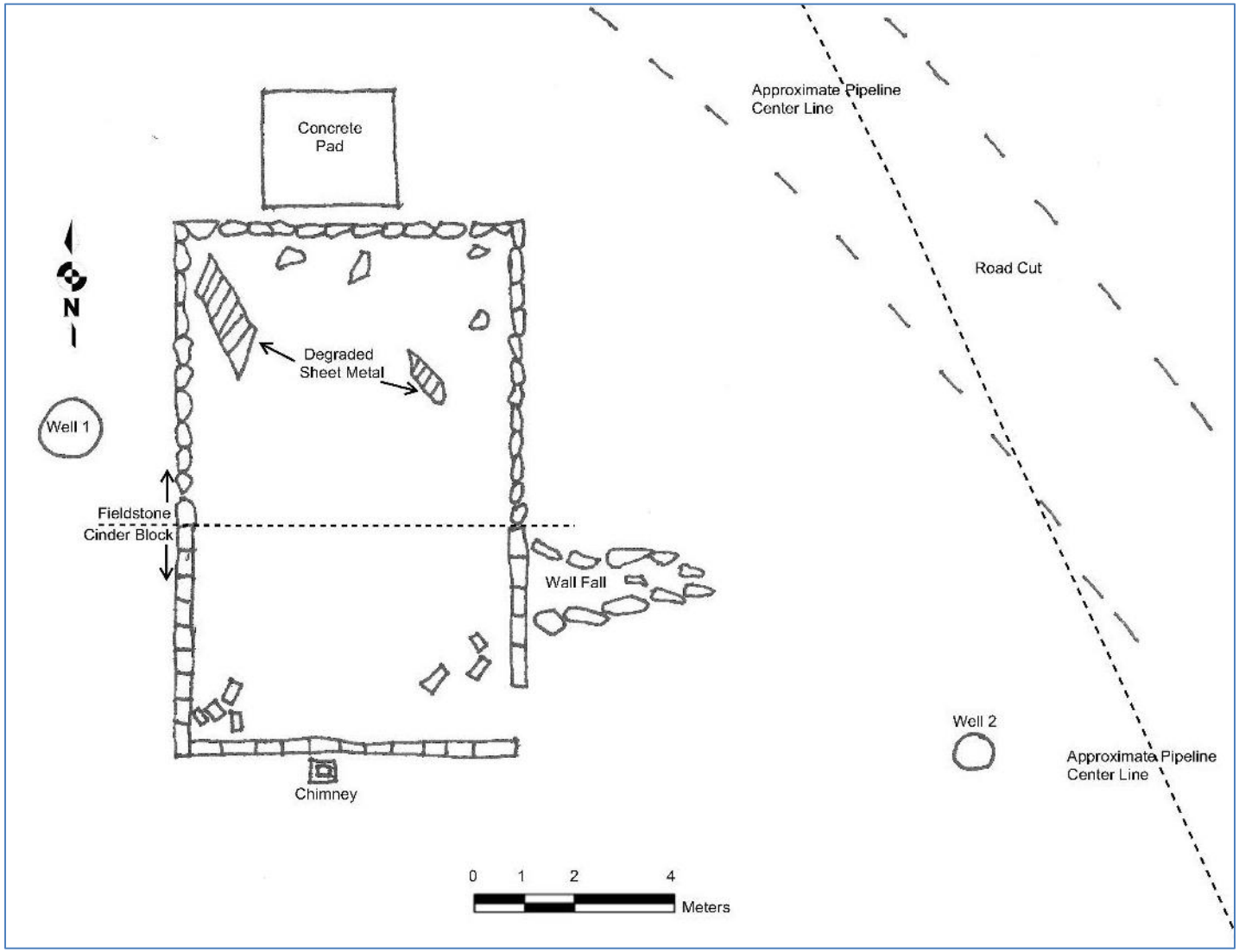


Figure 5.3-3 Scaled Field Drawing of Site 33MO211 within the LOD.

Photo 5.3-8 (Location 8991) North Half of Foundation, Facing West.

Photo 5.3-9 (Location 315) South Half of Foundation, Facing Southwest .

Photo 5.3-10 (Location 313) Well 1 West of House Foundation.

Photo 5.3-11 (Location 316) Well 2 with Metal Pipes Extending into Well Wall.

Photo 5.3-12 (Location 308) Bottle Dump Northeast of House Foundation.

Photo 5.3-13 (Location 9009) Bank Barn Wall Outside Direct APE, Facing West.

Photo 5.3-14 Brick with "ALAMO" Makers Mark.

Photo 5.3-15 (Location 8987) Representative Bottles from Bottle Dump.

A review of available cartographic resources of the region identified land records for this property extending as far back as 1853. Monroe County Tax & Plat Maps from 1853 (Monroe County) and 1859 (Monroe County) indicate the land was once owned by Daniel Steenrod. By 1869, David Potts is depicted as the owner of the property, but no evidence of a structure is depicted at the site (Noll 1869). A structure is represented at the location of the remnant structures in 1898 when the property is owned by W.A. Rouch (Caldwell 1898). This structure continues to be exhibited on the New Martinsville USGS quadrangles throughout the twentieth century (USGS 1906, 1924, 1960, 1976, 1994). Township Maps through the period show the property continues to be held by members of the Rouch family until the 1960s (Monroe County 2019). By the 1960's the property changes hands numerous times in short succession before being sold to the Quarto Mining Company by 1980. The Quarto Mining Company held the property until 2018 when it was sold to CNX Land, LLC.

Additional research into the local history of the County determined the W.A. Rouch shown on the 1898 map first depicting the structure was likely owned by William A. Roush (Hardesty 1882). Mr. Roush descended from German immigrants who arrived in the United States in the eighteenth century and the Fisher family from Maryland. Members of the Roush family arrived in Harrison County in the mid-eighteenth century before moving to both Belmont and Monroe Counties. By the late-nineteenth century, Mr. Rouch had four children, only two of which survived to adulthood (Hardesty 1882). Boston Earl Roush lived from 1884 to 1908 and Matilda Blanche Roush lived from 1887 to 1963, neither of whom ever married. The "Rouch" family members depicted on the tax and plat maps (Monroe County 2019) are likely William's daughter Matilda or "Mattie" and his brother John. Members of the Roush family are buried in the Sykes Cemetery (OGS ID 8167) at the intersection of Rouse Rd/County Rd 388 and Sykes Ridge Road approximately 1.4 km (0.87 mi) northwest of the site while Matilda is buried in Wetzel County, West Virginia.

Documentary research and artifact analysis indicate the site is a former farmstead associated with the Roush Family who occupied the site in the early to mid-twentieth century. While the Roush family are noted in the local history of the area, they are not described as historically significant members of the local community. Cartographic research indicates a structure was present as early as 1898 and continued to be represented on USGS maps until the 1990s. Given the death in 1963 of the last member of the Roush family to be associated with the property and the subsequent sale of the property to the Quarto Mining Company, occupation of the site likely did not extend past the 1960s. Given the narrow range of occupation, additional investigation into the site are unlikely to yield significant information regarding long term trends in agriculture, labor, or domestic life of rural Ohio. In addition, the mix of modern and historic material strewn about the surface of the site indicate discrete archaeological deposits relating to the period of occupation at the site are unlikely to remain intact. Better preserved, active farmsteads that are contemporaneous to site 33MO211 are also located within the project vicinity (see Section 5.2.1) that better preserve evidence of agricultural practices of the region. Tetra Tech recommends site 33MO211 as not eligible for listing in the NRHP.

6.0 SUMMARY AND CONCLUSIONS

In the Fall of 2019, Tetra Tech conducted a Phase I cultural resources survey for the proposed LRET Project. The two components of the Project include an approximately 9.5-km (5.9-mi) NGL pipeline and a Transloading Facility. The pipeline originates from the Blue Racer NGP processing facility at Natrium, West Virginia and extends under the Ohio River via conventional bore into the uplands west of the river. The length of the LOD on the Ohio side of the river from the bore pit exit to the LRET is approximately 23,387 ft. Thus, the LOD for construction of the pipeline is defined by a linear corridor measuring 23,387 ft by 100 ft (65.17 acres). Adding the 20-acre footprint of the Transloading Facility gives a total LOD of approximately 85.17 acres. Since the pipeline will be buried and the surface restored to preconstruction contours, the potential visual effects for the Project are limited to views of those portions of the pipeline LOD where tree clearing will occur, approximately 75 acres. Summing these components gives a total APE of 160.17 acres.

The entirety of the LOD was subject to either pedestrian survey or subsurface investigation through the excavation of STPs. A total of 76 STPs were excavated with no cultural material recovered. Pedestrian reconnaissance identified one historic archaeological resource, 33MO211. This site consists of the disarticulated structural remains of an early to mid-twentieth century farmstead and a surface scatter of modern and early to mid-twentieth century artifacts. Based on a review of cultural material at the site and the historical record the site represents a narrow range of occupation. Additional investigation into the site is unlikely to yield significant information regarding long term trends in agriculture, labor, or domestic life of rural Ohio. In addition, the mix of modern and historic material strewn about the surface of the site indicate discrete archaeological deposits relating to the period of occupation at the site are unlikely to remain intact. Better preserved, active farmsteads contemporaneous with site 33MO211 that preserve evidence of agricultural practices of the region are located in the Project vicinity (see Section 5.2.1). As such, Tetra Tech does not recommend this site as eligible for listing in the NRHP and no additional archaeological investigations are recommended.

The reconnaissance level history/architectural survey identified five historic aboveground resources within the APE that meet the 50-year minimum age requirement for NHRP listing. Two of these resources, the Lucas Farmstead (MOE005308) and Rufener Farmstead (MOE005408) are recommended as potentially eligible for NRHP-listing. The Lucas Farmstead is recommended as potentially eligible for NRHP-listing under Criteria A and C; it serves as a relatively well-preserved collective representation of a mid-twentieth century farmstead in Monroe County. Likewise, the Rufener Farmstead (MOE005408) is recommended potentially eligible for NRHP listing under Criteria A and C for its well-preserved collection of early twentieth-century domestic and agricultural buildings. The Draft Ohio Architectural Inventory Forms are included in Appendix C. It should be noted that these two farmsteads, together with the three other historic aboveground resources identified, are not spatially related in a manner that exhibits a somewhat contiguous collection of resources. Further, due to the proximity to the river, the area encompassing these resources is heavily infiltrated by modern industrial development. As such, the potential for the presence of a historic agricultural district is not demonstrated. No further study regarding the potential for the APE to contain unrecorded rural or agricultural historic districts is recommended.

The Lucas Farmstead (MOE005308) and Rufener Farmstead (MOE005408) are located primarily in open agricultural land that would be restored to preconstruction conditions and the view of the permanent pipeline corridor would be minimal. Further, routing of the Project through mostly open agricultural land minimizes effects to historic agricultural landscape features such as treelines, wind breaks, and woodlots. As a result, the Project's effects would not occur to an extent that would diminish the historic integrity of the Lucas Farmstead (MOE005308) and Rufener Farmstead (MOE005408). Tetra Tech recommends that no adverse effect would occur to these potentially eligible resources as the result of Project activities.

7.0 REFERENCES CITED

Adovasio, J.M., R.C. Carlisle, K.A. Cushman, J. Donahue, J.E. Guilday, W.C. Johnson, K. Lord, P.W. Parmalee, R. Stuckenwrath, Jr., and P.W. Wiegman.
1985 Paleoenvironmental Reconstruction at Meadowcroft Rockshelter, Washington County Pennsylvania. In Environmental Extinction: Man in Late Glacial North America, edited by Jim I. Mead and David J. Meltzer, pp. 73-110. Peopling of the Americas. Center for the Study of Early Man, University of Maine, Orono.

Anderson, David G.
1996 Models of Paleoindian and Early Archaic Settlement in the Lower Southeast. In *The Paleoindian and Early Archaic Southeast*, edited by David G. Anderson and Kenneth E. Sassaman. The University of Alabama Press, Tuscaloosa and London.

Anderson, David G. and J. W. Joseph
1988 *Prehistory and History along the Upper Savannah River: Technical Synthesis of Cultural Resource Investigations, Richard B. Russell Multiple Resource Area*. Russell Papers, Interagency Archeological Services Division, National Park Service, Atlanta.

Baker, S.W.
1979 Radiocarbon Information from Eastern Ohio and a Summary of the Late Prehistoric Occupation at the Opatrny Village Site. *Ohio Archaeologist* 29(2):40-41.

Bartlein, P.J., T. Webb III, and E. Fleri
1984 Holocene Climatic Change in the Northern Midwest: Pollen-Derived Estimates. Quaternary Research 22:361-374.

Belknap, Daniel, and John Kraft
1977 Holocene Relative Sea-Level Changes and Coastal Stratigraphic Units on the Northwest Flank of the Baltimore Canyon Trough Geosyncline. Journal of Sedimentary Petrology 47:610-629.

Bense, Judith A.
1994 *Archaeology of the Southeastern United States: Paleoindian to World War I*. Academic Press, San Diego, California.

Black, Deborah B.
1979 Adena and Hopewell Relations in the Lower Hocking Valley. *Hopewell Archaeology: The Chillicothe Conference.* D.S. Brose and N. Greber, eds. Pp. 19-26. Kent State University Press, Kent, OH.

Bond, Beverly W., Jr.
1941 The Foundations of Ohio. In The History of the State Of Ohio, vol. 1, edited by C. Wittke, pp. 1–507. Ohio State Archaeological and Historical Society, Columbus.

Bradbury, Andrew
1998 The Examination of Lithic Artifacts from an Early Archaic Assemblage: Strengthening Inference through Multiple Lines of Evidence. *Mid-Continental Journal of Archaeology* 23(2):263-288.

Bradbury, Andrew and Philip J. Carr
1999 Examining Stage and Continuum Models of Flake Debris Analysis: An Experimental Approach. *Journal of Anthropological Science* 26:105-116.

Bradstreet, T.E. and R.B. Davis
1975 Mid-Postglacial Environments with Emphasis on Maine. Arctic Anthropology 12(2):7-22.

Braun, E.L.
1985 Deciduous Forests of North America. The Free Press, New York, NY (Facsimilie of the 1950 edition).

Brockman, C. Scott
1998 "Physiographic Regions of Ohio." Electronic Document. http://www.epa.state.oh.us/portals/27/sip/nonattain/f2-physiographic_regions_of_ohio.pdf. Accessed January 31, 2017.

Brose, David S. and Alfred Lee
1985 A Model of Historical Sites Archeology in the Inner City. *Cleveland Museum of Natural History, Research Report* No. 55.

Broyles, Bettye J.
1971 Second Preliminary Report: The St. Albans Site, Kanawha County, West Virginia, 1964-1968. Report of Archaeological Investigations 3, West Virginia Geological and Economic Survey, Morgantown.

Burger, Richard L.
1995 *Chavin and the Origins of Andean Civilization*. Thames and Hudson.

Caldwell, J.A.
1898 Atlas of Monroe County, Ohio. Atlas Publishing Company, Mount Vernon, Ohio.

Carbone, Victor
1974 *Environment and Prehistory in the Shenandoah Valley.* Ph.D. Dissertation, Department of Anthropology, Catholic University of America, Washington, D.C.

Chapman, Jefferson
1975 The Rose Island Site and the Bifurcate Point Tradition. University of Tennessee, Department of Anthropology, *Report of Investigations 14*.

1985 Archeology and the Archaic Period in the Southern Ridge and Valley Province. In *Structure and Process in Southeastern Archeology*, edited by Roy S. Dickens and H. Trawick Ward, Alabama.

Claflin, William H.
1931 The Stallings Island Mound, Columbia County, Georgia. *Peabody Museum of American Archaeology and Ethnology Papers* 14(1):1-47.

Claggett, Stephen R., and John S. Cable
1982 *The Haw River Sites: Archaeological Investigations at Two Stratified Sites in the North Carolina Piedmont*. Commonwealth Associates, Inc., Report No. 23386. Prepared for Wilmington District Corps of Engineers, Wilmington, NC.

Coe, Joffre
1964 The Formative Cultures of the Carolina Piedmont. *Transactions of the American Philosophical Society 54(5)*.

Dancey, William S.
1992 Village Origins in Central Ohio: The results and Implications of recent Middle and Late Woodland Research. From *Cultural Variability in Context: Woodland Settlements of the Mid-Ohio Valley*. Edited by Mark F. Seeman. Kent University Press.

Dancey, William S. and Paul J. Pacheco
1997 A Community Model of Ohio Hopewell Settlement. From *Ohio Hopewell Community Organization*. Edited by William S. Dancey and Paul J. Pacheco. Kent State University Press.

Davis, M.B., R.W. Spear, and L.C.K. Shane
1980 Holocene Climate of New England. Quaternary Research 14:240-250.

DeJarnette, David L., Edward Kurjack, and James Cambron
1962 Stanfield-Worley Bluff Shelter Excavations. *Journal of Alabama Archaeology*, Volume VIII, Numbers 1 and 2. Alabama Archaeological Society, University of Alabama.

Delcourt, H.R.
1979 Late Quaternary Vegetation History of the Eastern Highland Rim and Adjacent Cumberland Plateau of Tennessee. Ecological Monographs 255-280.

Delcourt, Paul A. and Hazel R. Delcourt
1980 Vegetation Maps for Eastern North America: 40,000 Years B.P. to the Present. In Geobotany II, edited by Robert C. Romans. Plenum Press, New York.
1986 Late Quaternary Vegetational Change in the Central Atlantic States. In The Quaternary of Virginia–A Symposium Volume, edited by J.N. McDonald and S.O. Bird, pp. 23-35. Commonwealth of Virginia, Department of Mines, Minerals, and Energy, Charlottesville.

DeRegnaucourt, R.
1983 *Middle Archaic (Data Free Zone) Study Unit for All of Ohio*. Report to the Ohio Historic Preservation Office, Columbus.

1986 *Preservation Plan for Late Archaic Study Unit in Northwestern Ohio*. Report to the Ohio Historic Preservation Office, Columbus.

Dragoo, Don. W.
1963 *Mounds for the Dead*. Annals of the Carnegie Museum, Volume 37. Pittsburgh.

1976 Adena and the Eastern Burial Cult. *Archaeology of Eastern North America* 4:1-8.

Driskell, Boyce N.
1996 Stratified Late Pleistocene and Early Holocene Deposits at Dust Cave, Northwestern Alabama. In *The Paleoindian and Early Archaic Southeast*, edited by David G. Anderson and Kenneth E. Sassaman. The University of Alabama Press, Tuscaloosa and London.

Fitting, J.
1978 Regional Cultural Development, 300 B.C. to A.D. 1000. *In Handbook of North American Indians: Northeast, Volume 15*, edited by B. Trigger. Smithsonian Institution, Washington DC.

Fowler, Melvin L.
1959 Summary Repost of Modoc Rock Shelter 1952, 1953, 1955, 1956. *Illinois State Museum Report of Investigations* No. 8:1-72. Modoc Rock Shelter: An Early Archaic Site in Southern Illinois. *American Antiquity* 24(3): 257-270.

Gardner, William M.
1974 *The Flint Run Paleo Indian Complex: Report on the 1971-1973 Seasons.* Occasional Publication 1, Department of Anthropology, Catholic University of America, Washington, D.C.\

1980 *The Archaic*. Paper presented at the 11th Middle Atlantic Archeological Conference, Rehoboth Beach, Delaware.

1987 Comparison of Ridge and Valley, Blue Ridge, Piedmont, and Coastal Plain Archaic Period Site Distribution: An Idealized Transect (Preliminary Model). *Journal of Middle Atlantic Archaeology* 3:49-80.

Gardner, William M. and Robert Verrey
1979 Typology and Chronology of Fluted Points from the Flint Run Area. *Pennsylvania Archaeologist* 49:13-45.

Goodyear, Albert C. III
1979 *A Hypothesis for the Use of Cryptocrystalline raw materials among Paleoindian Groups of North America*. Research Manuscript Series, University of South Carolina Institute of Archaeology and Anthropology. Columbia, South Carolina.

1982 The Chronological position of the Dalton Horizon in the Southeastern United States. *American Antiquity* 47(2): 382-395.

1989 A Hypothesis for the Use of Cryptocrystalline Raw Materials among Paleoindian Groups of North America. In *Eastern Paleoindian Lithic Resource Use*, edited by Christopher Ellis and Jonathan C. Lothrop, pp. 1-9. Boulder, Colorado: Westview.

Goodyear, Albert C. III, James L. Michie, and Tommy Charles
1989 The Earliest South Carolinians. In *Studies in South Carolina Archaeology: Essays in honor of Robert L. Stephenson*, edited by Albert C. Goodyear,III, and Glen T. Hanson, pp.19-52. Anthropological Studies 9. Columbia: South Carolina Institute of Archaeology and Anthropology, University of South Carolina.

Graetzer, M.A.
1986 Settlement Patterns and Paleoclimatic Modeling: A Preliminary Study of Data from the Bald Eagle Watershed of Central Pennsylvania. Masters paper, Department of Anthropology, Pennsylvania State University, University Park.

Greber, N.
1983 *Early-Middle Woodland Study Unit Archeological Resource Plan, Northeast Ohio*. Report to the Ohio Historic Preservation Office, Columbus.

Griffin, James B.
1943 *The Fort Ancient Aspects: Its Cultural and Chronological Position in Mississippi Valley Archaeology.* University of Michigan Press, Ann Arbor.

1967 Eastern North American Archaeology: A Summary. *Science* 15(3772):175-191.

Guilday, John E.
1967 The Climatic Significance of the Hosterman's Pit Local Fauna, Centre County, Pennsylvania. American Antiquity 32(2):231-232.
1982 Appalachia 11,000-12,000 Years Ago: A Biological Review. Archaeology of Eastern North America 10:22-26.
Gurke, Karl,
1987 *Bricks and Brickmaking*: A Handbook for Historical Archaeology. University of Idaho Press, Boise.
Hardesty, H.H.
1882 *A History of Monroe County, Ohio.* H.H. Hardesty & Co. Publishers, Chicago and Toledo.

Holmes, William H.
1912 Steatite. In Handbook of American Indians, edited by Frederick Webb Hodge. *Bulletin of the Bureau of American Ethnology* 30:635-36.

Hansen, Michael C.
1995 The Ice Age in Ohio. Modified from Education Leaflet No. 7 Revised Edition 2008 ODNR Division of Geological Survey

Jeffries, Richard W.
2008 *Holocene Hunter-Gatherers of the Lower Ohio River Valley*. University of Alabama Press, Tuscaloosa.

Jenkins, Ned J.
1975 The Wheeler Series and Southeastern Prehistory. *Florida Anthropologist* 18:17-26.

Jonathon Kerr and Andrew P. Bradbury
1999 Paleo-Indian and Archaic Settlement at Kentucky Lake. *Tennessee Anthropologist* 23:1-20.

Johnson, William C., William P. Athens, Martin T. Fuess, Luis G. Jaramillo, Keith R. Bastianini, and Elizabeth Ramos
1989 *Late Prehistoric Period Monongahela Culture Site and Cultural Resource Inventory*. Prepared by the University of Pittsburgh Cultural Resource Program for the Pennsylvania Historical and Museum Commission, Harrisburg.

Justice, N.D.
1987 Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States. Indiana University Press, Bloomington and Indianapolis.

Kimball, Larry R.
1996 Early Archaic Settlement and Technology: Lessons from Tellico. In *The Paleoindian and Early Archaic Southeast*, edited by David G. Anderson and Kenneth E. Sassaman. The University of Alabama Press, Tuscaloosa and London.

Kime, J.
1986 *Preservation Plan for Early Woodland Study Unit Drainage A, Western Lake Erie Spatial Unit*. Report to the Ohio Historic Preservation Office, Columbus.

King, J.E.
1980 Post-Pleistocene Vegetational Changes in the Midwestern United States. In Archaic Prehistory of the Prairie-Plains Border, edited by A.E. Johnson, pp. 3-11. University of Kansas Publications in Anthropology No. 12, Lawrence, Kansas.

Kneberg, Madeline
1956 Some important projectile points types found in the Tennessee area. *Tennessee Archaeologist, Vol. XII, No. 1:17-28*. Knoxville.

Kneller, Margaret and Dorothy Peteet
1999 Late-Glacial to Early Holocene Climate Changes from a Central Appalachian Pollen and Macrofossil Record. Quaternary Research 51:133-147.

Kraft, John, and Daniel Belknap
1983 Potentials of Discovery of Human Occupation Sites on the Continental Shelves and Nearshore Coastal Zone. In Quaternary Coastlines and Marine Archaeology: Towards the Prehistory of Land Bridges and Continental Shelves, edited by P. Masters and N. Flemming, pp. 87-100. Academic Press, London.

Lewis, Thomas M. N. and Madeline Kneberg Lewis
1961 *Eva: An Archaic Site*. A University of Tennessee Study in Anthropology. The University of Tennessee Press. Knoxville.

Logan, Wilfred D.
1952 Graham Cave: An Archaic Site in Montgomery County, Missouri. *Missouri Archaeological Society Memoir* No. 2.

Lovejoy, Claude O.
1967 Caldwell's Little Bluff: An Unusual Adena Burial Site. *Studies in Ohio Archeology*. Edited by Olaf H. Prufer and Douglas H. McKenzie. Press of Western Reserve University. Cleveland.

MacDonald, George F.
1968 Debert: A Paleo-Indian Site in Central Nova Scotia. National Museums of Canada. *Anthropology Papers* No.16.

Maslowski, Robert F. and Mark F. Seeman
1992 Woodland Archeology in the Mid-Ohio Valley: Setting Parameters for Ohio Main Stem/ Tributary Comparisons. *Cultural Variability in Context: Woodland Settlements of the Mid-Ohio Valley*. Edited by Mark F. Seeman. Kent University Press.

Maxwell, J. S., and M.B. Davis
1972 Pollen Evidence of Pleistocene and Holocene Vegetation on the Allegheny Plateau, Maryland. Quaternary Research: 2:506-530.

Mayer-Oakes, William J.
1955 *Prehistory of the Upper Ohio Valley: An Introductory Archeological Study*. Annals of the Carnegie Museum, Volume 34. Pittsburgh.

McKelvey, A.T.
1903 Centennial History of Belmont County, Ohio and Representative Citizens. Biographic Publishing Company, Chicago Illinois.

McKenzie, Douglas H.
1967 The Graham Village Site: A Fort Ancient Settlement in the Hocking Valley, Ohio. *Studies in Ohio Archeology*. Edited by Olaf H. Prufer and Douglas H. McKenzie. Press of Western Reserve University. Cleveland.

McMichael, Edward V.
1968 *Introduction to West Virginia Archaeology*. Second edition. West Virginia Geological and Economic Survey, Morgantown.

1970 Adena East, an appraisal of the more easterly extensions of the spread of the Adena Phenomenon. In *Adena: The Seeking of an Identity*, edited by B.K. Swartz, Jr., pp. 88-96. Ball State University Press, Muncie.

Means, Bernard
2007 *Circular Villages of the Monongahela Tradition*. University of Alabama Press, Tuscaloosa.

Michie, James L.
1969 Excavations at Tom's (Thom's) Creek. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, *The Notebook* 1 (10):2-16.

1978 An Intensive Archaeological Test of the Endenwood Site, 38LX135, Lexington County, South Carolina. South Carolina Antiquities 10(2).

1996 The Taylor Site: An Early Occupation in Central South Carolina. In *The Paleoindian and Early Archaic Southeast*, edited by David G. Anderson and Kenneth E. Sassaman. The University of Alabama Press, Tuscaloosa and London.

Milliman, J., and K. Emery
1968 Sea Levels during the Past 35,000 Years. Science 162:1121-1123.

Monroe County
1853 Monroe County Tax & Plat Map. Electronic Document. https://www.monroecountyohio.com/departments/tax_map_department/historical_maps.php. Accessed November 8, 2019.
1859 Monroe County Tax & Plat Map. Electronic Document. https://www.monroecountyohio.com/departments/tax_map_department/historical_maps.php. Accessed November 8, 2019.
2019 Historical Maps. Electronic Document. https://www.monroecountyohio.com/departments/tax_map_department/historical_maps.php. Accessed November 8, 2019.

Muller, Jon
1986 *Archaeology of the Lower Ohio River Valley*. Academic Press, Inc., New York.

Nass, J. and R. Yerkes
1995 Social Differentiation in Mississippian and Fort Ancient Societies. *In Mississippian Communities and Households*, edited by J. Rodgers and B. Smith. University of Alabama Press, Tuscaloosa.

Neumann, Thomas W.
1988 High-magnification use-wear analysis of projectile points from southeastern Minnesota. *Plains Anthropologist* 33:367-375.

Niquette, Charles M., Albert Pecora, Richard W. Yerkes, and Kathryn J. Saul
1991 Test Excavations at the Glasgow Site: A Stratified terminal Early Archaic and Late Archaic Site in Kanawha County, West Virginia. *West Virginia Archaeologist*, Volume 43:27-56.

Noll, JNO. B.
1869 Map of Monroe County, Ohio. Published by Ehrgott, Forbriger,& Co. Cincinnati, Ohio.

NRCS
2017 Web Soil Survey. Electronic Document. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Ohio Historic Preservation Office (OHPO)
1994 Archaeology Guidelines. Publisher: Ohio Historical Society, Cincinnati.

Pacheco, Paul J.
1997 Ohio Middle Woodland Intracommunity Settlement Variability: A Case Study from the Licking Valley. *Ohio Hopewell Community Organization*. Edited by William S. Dancey and Paul J. Pacheco. Kent State University Press.

Painter, Floyd
1988 Two Terminal Archaic cultures of S.E. Virginia and N.E. North Carolina. *Journal of Middle Atlantic Archaeology* 4:25-38.

Payne, J. H.
1987 Windy City (154-16): A Paleoindian Lithic Workshop in Northern Maine. Unpublished M.A. thesis, University of Maine, Orono.

Penny, David W.
1985 The Late Archaic Period. In *Ancient Art of the American Woodland Indians*, (pp.15-41) edited by David S. Brose, James A. Brown, and David. W. Penny. Harry N. Abrams, Inc., New York.

Pratt, G. Michael
1981 *The Western Basin Tradition: Changing Settlement-Subsistence Adaptation in the Western Lake Erie Basin Region*. Unpublished Ph D. dissertation, Case Western Reserve University.

Prufer, Olaf H.
1967a The Scioto Valley Archaeological Survey. In *Studies in Ohio Archaeology*, edited by Olaf H. Prufer and Douglas H. McKenzie. Western Reserve University Press, Cleveland.

1967b Chesser Cave: A Late Woodland Phase in Southeastern Ohio. *In Studies in Ohio Archaeology*, edited by Olaf H. Prufer and D. McKenzie, pp. 267-328. The Press of Case Western Reserve University, Cleveland.

Ranere, Anthony and Richard Cooke
1991 Paleoindian Occupation in the Central American Tropics. In: *Clovis! Origins and Adaptations*, edited by Rob Bonnichsen and K.L. Turner. Center for the Study of the First Americans, Corvallis.

1995 Evidencias de ocupacion humana en Panama al fin del Pleistoceno y comienzos del Holoceno. In *Ambito y Ocupaciones Tempaanas de La America Tropica,* edited by Ines Cavelier and Santiago Mora, Fundacion Erigale, Bocota.

Ritchie, William A.
1971 A Typology and Nomenclature for New York Projectile Points, Revised Edition. New York State Museum and Science Service, *Bulletin Number 384*.

Rogers, J. and B. Smith (editors)
1995 Mississippian Communities and Households. University of Alabama Press, Tuscaloosa.

Rutter, W.
1984 *The Upper Mississippian Component at the Fort Meigs Site, Northwest Ohio, With Special Emphasis on the Analysis of the Ceramic Assemblage*. Unpublished M.A. Thesis, Department of Anthropology, University of Toledo, Ohio.

Sassaman, Kenneth E.
1993 *Early Pottery in the Southeast: Tradition and Innovation in Cooking Technology.* University of Alabama Press, Tuscaloosa.

Sassaman, Kenneth E., Mark J. Brooks, Glen T. Hanson and David G. Anderson
1990 *Native American Prehistory in the Middle Savannah River Valley: Synthesis of Archaeological Investigations on the Savannah River Site, Aiken and Barnwell Counties, South Carolina.* Savannah River Archaeological Research Papers 1. South Carolina Institute of Archaeology and Anthropology, Columbia.

Scully, Edward G.
1951 *Some Central Mississippi Valley Projectile Point Types.* Museum of Anthropology, University of Michigan.

Seeman, Mark F.
1992 *Cultural Variability in Context: Woodland Settlements of the Mid-Ohio Valley*. Kent State University Press.

Shane, Orrin C. and James L. Murphy
1967 A Survey of the Hocking Valley, Ohio. In *Studies in Ohio Archaeology*, edited by Olaf H. Prufer and Douglas H. McKenzie. Western Reserve University Press, Cleveland.

Slucher, E.R. and Rice, C.L.
1994 "Key rock units and distribution of marine and brackish water strata in the Pottsville Group, northeastern Ohio." *in Elements of Pennsylvanian stratigraphy, central Appalachian basin: Geological Society of America Special Paper*, *294*. edited by C.L. Rice, p. 27-40.

Stoltman, James B.
1974 *Groton Plantation: An Archaeological Study of a South Carolina Locality*. Monographs of the Peabody Museum 1. Harvard University, Cambridge.

Stothers, D. and J. Graves
1985 The Prairie Peninsula Co-Tradition: A Hypothesis for Hopewellian to Upper Mississippian Continuity. *Archeology of Eastern North America* 13:153-175.

Stothers, D. and W. Rutter
1977 The LaSalle Site (33WO42): An Upper Mississippian Manifestation in the Western Lake Erie Basin. *Toledo Area Aboriginal Research Bulletin News and Notes* 78:1-2.

Struever, Stuart
1968 Problems, Methods, and Organization: A Disparity in the Growth of Archaeology. In *Anthropological Archaeology in the Americas.* Betty J. Meggers, ed., pp.131-151. Anthropological Society of Washington, Washington, D.C.

Tankersley, Kenneth B.
1996 Ice Age hunters and Gatherers. In, *Kentucky Archaeology*, edited by R. Barry Lewis, pp.21-38. University Press of Kentucky, Lexington.

2008 Three Saylors: An Appalachian Mountain Clovis Site in Southeastern Kentucky. Current Research in the Pleistocene 25:110-112.

Tankersley, Kenneth B., Michael R. Waters, and Thomas W. Stafford
2009 Clovis and the American Mastadon at Big Bone lick, Kentucky. *American Antiquity* 74:1-10.

Tuck, James A.
1974 Early Archaic Horizons in Eastern North America. *Archaeology of Eastern North America* 2(1):72-80.

Ullman, K.
1985 *The Ceramics from the Kramer Village Site (33RO33), Ross County, Ohio*. Kent State Research Papers in Archeology No. 5. Kent State University, Kent, Ohio.

United States Geological Survey (USGS)
1911 *Cumberland, Ohio 15 Minute Quadrangle.* USGS: Washington D.C.

Ward, H., Davis, Stephen R.P.,
1999 *Time Before History*: The Archaeology of North Carolina, UNC Press,

Waters, Michael R., Thomas W. Stafford, Jr., Brian g. Redmond, Kenneth B. Tankersley
2009 The Age of the Paleoindian Assemblage at Sheriden Cave, Ohio. American Antiquity 74:107-111.

Watts, W. A.
1983 Vegetational History of the Eastern United States 25,000 to 10,000 years ago. Late Quaternary Environments of the United States Volume I: the Late Pleistocene. Edited by Stephen C. Porter, pp. 294-310. University of Minnesota Press, Minneapolis

Webb, Clarence H.
1977 The Poverty Point Culture. *Geoscience and Man.* School of Geoscience, Louisiana State University, Baton Rouge.

White, Anta Montet
1968 *The Lithic Industries of the Illinois Valley in the Early and Middle Woodland Period*. University of Michigan Museum of Anthropology Anthropological Papers No. 35.

Wilkins, G.R., P.A. Delcourt, H.R. Delcourt, F.W. Harrison, and M.T. Turner
1991 Paleoecology of Central Kentucky since the Last Glacial Maximum. Quaternary Research 36:224-239.

Willey, Gordon R., and Philip Phillips
1958 *Method and Theory in American Archaeology*. The University of Chicago Press. Chicago.

William M.
1980 *The Archaic*. Paper presented at the 11th Middle Atlantic Archeological Conference, Rehoboth Beach, Delaware.

Winters, Howard D.
1963 An Archaeological Survey of the Wabash Valley in Illinois. *Illinois State Museum, Report of Investigations* No. 10. Springfield.

1969 *The Riverton Culture: A Second Millennium Occupation in the Central Wabash Valley*. The Illinois State Museum, Reports of Investigations, No. 13, and the Illinois Archaeological Survey. Springfield, Illinois.

Witthoft, John
1953 Broad Spearpoints and the Transitional Period Cultures. *Pennsylvania Archaeologist 23(1):4-31*.

APPENDIX A
Section 106 Documentation Table

Section 106 Review Project Summary Form Documentation Table

Project Number:

Photo ID	Ref. Number / County / Quad. Name	Present Name / Property Address	UTM Coord.	Owner Information	Present use / Building Type / Architectural Style	Foundation Material / Wall Construction / Exterior Wall	Year Built/Altered / Alterations / Current Condition	NRHP Elig.
9271-4, 9276-80	TT-001 Monroe Powhatan Point (W.	Lucas Farmstead 52189 Sykes Ridge Road Clarington	17 510819 4400386	Mark E. and Lori A. Lucas 52189 Sykes Ridge Road Clarington, OH 43915	RESIDENTIAL/DOMESTIC Other House Type No academic style - Vernacular	Concrete block Unknown Aluminum or vinyl siding	/ Some alteration	☑
Additional Sources of Information: Potentially eligible Criteria A (Agriculture) and C (Architecture: well preserved, collective representatation of a mid-20th century farmstead)				**Further Description** **OHI Number:** Ancillary buildings include: 1 - Photos #9273, 9274- workshop 2 - Photos #9275, 9276 - poultry house 3 - Photos #9277, 9278 - Bank Barn			**Preparer Information** Hannah Dye Tetra Tech	
8926-7, 9284	TT-002 Monroe Powhatan Point (W.	Deitrich Barn 52146 Sykes Ridge Road Clarington	17 510697 4400148	Derek J. and Kari Deitrich 52146 Sykes Ridge Road Clarington, OH 43772	Agricultural Outbuildings Other Barn No academic style - Vernacular	Unknown Unknown Vertical board	/ Deteriorated	☐
Additional Sources of Information:				**Further Description** **OHI Number:** Basement barn is only structure meeting NRHP 50-year age criterion; residence (Photo #8927) is recent construction.			**Preparer Information** Hannah Dye Tetra Tech	
8929, 9297-9304	TT-003 Monroe Powhatan Point (W.	Rufener Farmstead 52067 Sykes Ridge Road Clarington	17 510794 4399872	Roger K. Rufener 52067 Sykes Ridge Road Clarington, OH 43915	RESIDENTIAL/DOMESTIC I House No academic style - Vernacular	Concrete block Unknown Aluminum or vinyl siding	/ Some alteration	☑
Additional Sources of Information: Potentially eligible Criteria A (Agriculture) and C (Architecture; well preserved collection of domestic and agricultural outbuildings)				**Further Description** **OHI Number:** Photo IDs (Continued): 9306 Ancillary outbuildings:1-Basement Barn (Photo #s 8929, 9294, 9297, 9304); 2-concrete stave silo (#9297);3-milk house (#9303); 4-smoke house (#9301); 5- machine/hay shed (#9305-9306);6-pig sty (#9301); and 2 modern garages.			**Preparer Information** Hannah Dye Tetra Tech	
9286-9293	TT-004 Monroe Powhatan Point (W.	Haslam Farmstead 52017 Sykes Ridge Road Clarington	17 510781 4399690	Dewey E. and Ruth A. Has 52017 Sykes Ridge Road Clarington, OH 43772	RESIDENTIAL/DOMESTIC Bungalow Dormer Front No academic style - Vernacular	Concrete block Unknown Aluminum or vinyl siding	/ Some alteration	☐
Additional Sources of Information:				**Further Description** **OHI Number:** Ancillary outbuildings are heavily altered and mixed with newer construction. Overall, the property has been substantially altered.			**Preparer Information** Hannah Dye Tetra Tech	
8952, 4, 8971-2	TT-005 Monroe Powhatan Point (W.	Blattler Residence and Barn 52246 Rouse Road Clarington	17 510965 439852	Ronald E. Blattler 52246 Rouse Road Clarington, OH 43772	RESIDENTIAL/DOMESTIC I House No academic style - Vernacular	Concrete block Unknown Aluminum or vinyl siding	/ Some alteration	☐
Additional Sources of Information:				**Further Description** **OHI Number:** Photo IDs (continued): 9308-9 Property includes a barn (similar in form to an English Barn) that appears to have been reconstructed.			**Preparer Information** Hannah Dye Tetra Tech	

APPENDIX B
Architectural Survey Resource Photos

LIST OF PHOTOGRAPHS

Photo 1 (9271), Lucas Farmstead (TT-001), Residence, 52189 Sykes Ridge Rd, Monroe County, Ohio, Northeast 1

Photo 2 (9272), Lucas Farmstead (TT-001), Residence, 52189 Sykes Ridge Rd, Monroe County, Ohio, East 1

Photo 3 (9273), Lucas Farmstead (TT-001), Workshop, 52189 Sykes Ridge Rd, Monroe County, Ohio, North 2

Photo 4 (9274), Lucas Farmstead (TT-001), Workshop, 52189 Sykes Ridge Rd, Monroe County, Ohio, Southwest 2

Photo 5 (9275), Lucas Farmstead (TT-001), Poultry House, 52189 Sykes Ridge Rd, Monroe County, Ohio, Southeast 3

Photo 7 (9277), Lucas Farmstead (TT-001), Bank Barn, 52189 Sykes Ridge Rd, Monroe County, Ohio, Southeast 4

Photo 8 (9278), Lucas Farmstead (TT-001), Bank Barn, 52189 Sykes Ridge Rd, Monroe County, Ohio, Southwest 4

Photo 9 (9278), Lucas Farmstead (TT-001), Corn Crib, 52189 Sykes Ridge Rd, Monroe County, Ohio, Southwest 5

Photo 10 (9279), Lucas Farmstead (TT-001), Corn Crib, 52189 Sykes Ridge Rd, Monroe County, Ohio, West-Northwest 5

Photo 11 (9280), Lucas Farmstead (TT-001), Corn Crib, 52189 Sykes Ridge Rd, Monroe County, Ohio, West-Northeast 6

Photo 12 (8926), Deitrich Barn (TT-002), 52146 Sykes Ridge Rd, Monroe County, Ohio, West 8

Photo 13 (8297), Deitrich Barn (TT-002), Modern Residence, 52146 Sykes Ridge Rd, Monroe County, Ohio, West 8

Photo 14 (9284), Deitrich Barn (TT-002), 52146 Sykes Ridge Rd, Monroe County, Ohio, Southwest 9

Photo 15 (8929), Rufener Farmstead (TT-003), Basement Barn, 52067 Sykes Ridge Rd, Monroe County, Ohio, West 11

Photo 16 (9295), Rufener Farmstead (TT-003), Overview [(Left to Right) Modern Garage, Residence, Modern garage, Silo, Basement Barn, Pig Sty], 52067 Sykes Ridge Rd, Monroe County, Ohio, Northeast 11

Photo 17 (9297), Rufener Farmstead (TT-003), Concrete Stave Silo and Basement Barn, 52067 Sykes Ridge Rd, Monroe County, Ohio, Northeast 12

Photo 18 (9298), Rufener Farmstead (TT-003), Residence, 52067 Sykes Ridge Rd, Monroe County, Ohio, Northeast 12

Photo 19 (9299), Rufener Farmstead (TT-003), Modern Garage, 52067 Sykes Ridge Rd, Monroe County, Ohio, South 13

Photo 20 (9300), Rufener Farmstead (TT-003), Residence, 52067 Sykes Ridge Rd, Monroe County, Ohio, North 13

Photo 21 (9301), Rufener Farmstead (TT-003), Smoke House, 52067 Sykes Ridge Rd, Monroe County, Ohio, Northeast 14

Photo 22 (9302), Rufener Farmstead (TT-003), Modern Garage, 52067 Sykes Ridge Rd, Monroe County, Ohio, South-Southwest 14

Photo 23 (9303), Rufener Farmstead (TT-003), Milk House, Concrete Stave Silo, and Basement Barn, 52067 Sykes Ridge Rd, Monroe County, Ohio, Southeast 15

Photo 24 (9304), Rufener Farmstead (TT-003), Basement Barn, 52067 Sykes Ridge Rd, Monroe County, Ohio, Southwest 15

Photo 25 (9306), Rufener Farmstead (TT-003), Machine/Hay Shed, 52067 Sykes Ridge Rd, Monroe County, Ohio, Southeast 16

Photo 26 (9286), Haslam Farmstead (TT-004), Residence, 52017 Sykes Ridge Rd, Monroe County, Ohio, North-Northwest 18

Photo 27 (9287), Haslam Farmstead (TT-004), Residence, 52017 Sykes Ridge Rd, Monroe County, Ohio, Northeast 18

Photo 28 (9288), Haslam Farmstead (TT-004), Residence, 52017 Sykes Ridge Rd, Monroe County, Ohio, West-Southwest 19

Photo 29 (9289), Haslam Farmstead (TT-004), Outbuildings, 52017 Sykes Ridge Rd, Monroe County, Ohio, East-Southeast 19

Photo 30 (9290), Haslam Farmstead (TT-004), Outbuildings, 52017 Sykes Ridge Rd, Monroe County, Ohio, Northeast 20

Photo 31 (9291), Haslam Farmstead (TT-004), Machine/Wood Shed, 52017 Sykes Ridge Rd, Monroe County, Ohio, Southeast 20

Photo 32 (9293), Haslam Farmstead (TT-004), Outbuildings, 52017 Sykes Ridge Rd, Monroe County, Ohio Southeast 21

Photo 33 (8952), Blattler Residence and Barn (TT-005), Barn, 52246 Rouse Rd, Monroe County, Ohio, Northwest 23

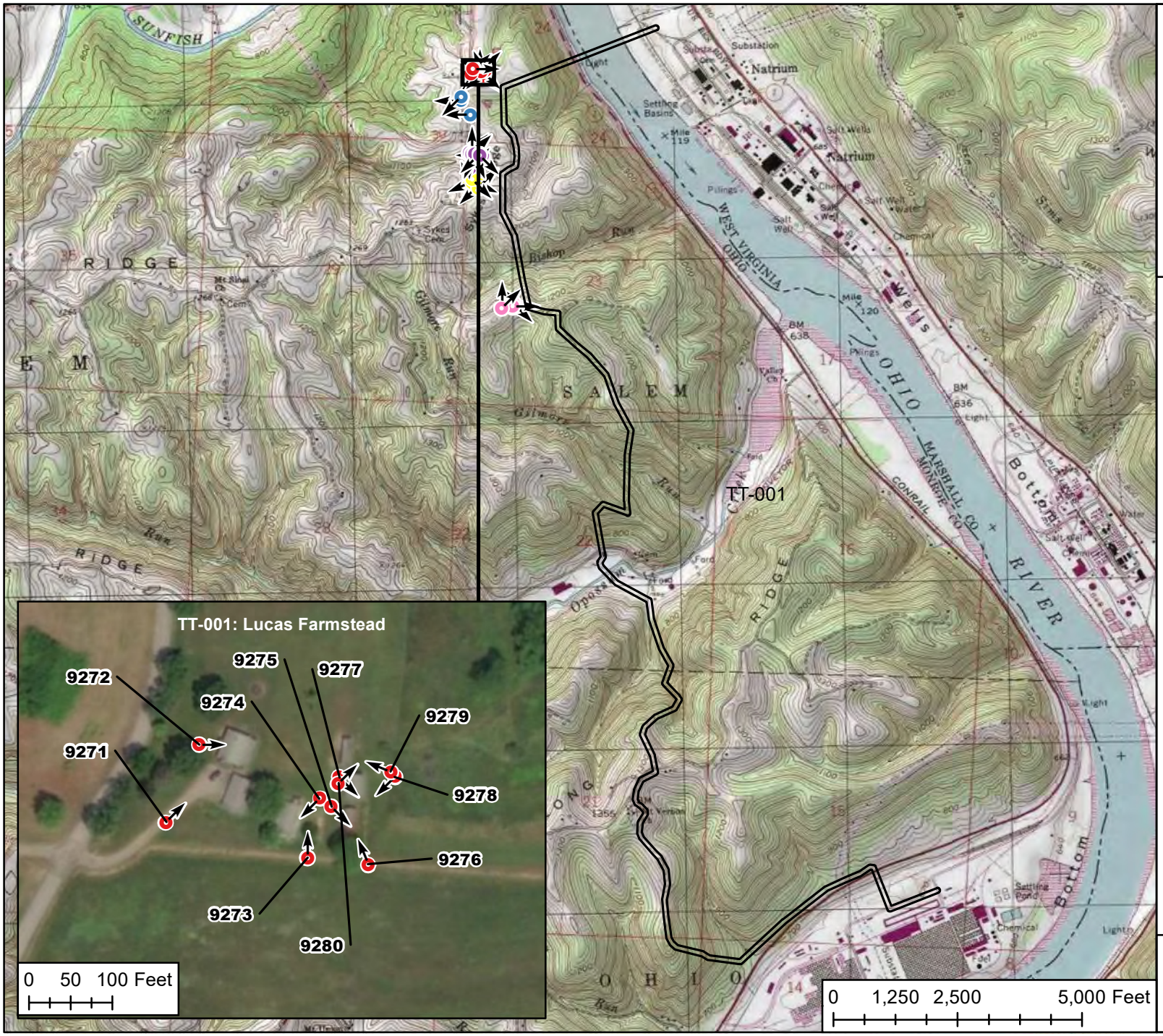
Photo 34 (8954), Blattler Residence and Barn (TT-005), Barn, 52246 Rouse Rd, Monroe County, Ohio, East 23

Photo 35 (8971), Blattler Residence and Barn (TT-005), Barn, 52246 Rouse Rd, Monroe County, Ohio, Southeast 24

Photo 36 (8972), Blattler Residence and Barn (TT-005), Barn, 52246 Rouse Rd, Monroe County, Ohio, East 24

Photo 37 (9308), Blattler Residence and Barn (TT-005), Residence, 52246 Rouse Rd, Monroe County, Ohio, North 25

Photo 38 (9309), Blattler Residence and Barn (TT-005), Residence, 52246 Rouse Rd, Monroe County, Ohio, Northeast 25



Natirum to Long Ridge Energy Terminal Pipeline and Transloading Facility
Monroe County, Ohio

Photo Location Map
for Aboveground Historic Resources

TT-001: Lucas Farmstead

Date: 11/22/2019

Legend

Photo Location by Resource ID

- TT-001
- TT-002
- TT-003
- TT-004
- TT-005
- Direct APE

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TETRA TECH

Photo 1 (9271), Lucas Farmstead (TT-001), Residence, 52189 Sykes Ridge Rd, Monroe County, Ohio, Northeast

Photo 2 (9272), Lucas Farmstead (TT-001), Residence, 52189 Sykes Ridge Rd, Monroe County, Ohio, East

Photo 3 (9273), Lucas Farmstead (TT-001), Workshop, 52189 Sykes Ridge Rd, Monroe County, Ohio, North

Photo 4 (9274), Lucas Farmstead (TT-001), Workshop, 52189 Sykes Ridge Rd, Monroe County, Ohio, Southwest

Photo 5 (9275), Lucas Farmstead (TT-001), Poultry House, 52189 Sykes Ridge Rd, Monroe County, Ohio, Southeast

Photo 6 (9276), Lucas Farmstead (TT-001), Poultry House, 52189 Sykes Ridge Rd, Monroe County, Ohio, Northwest

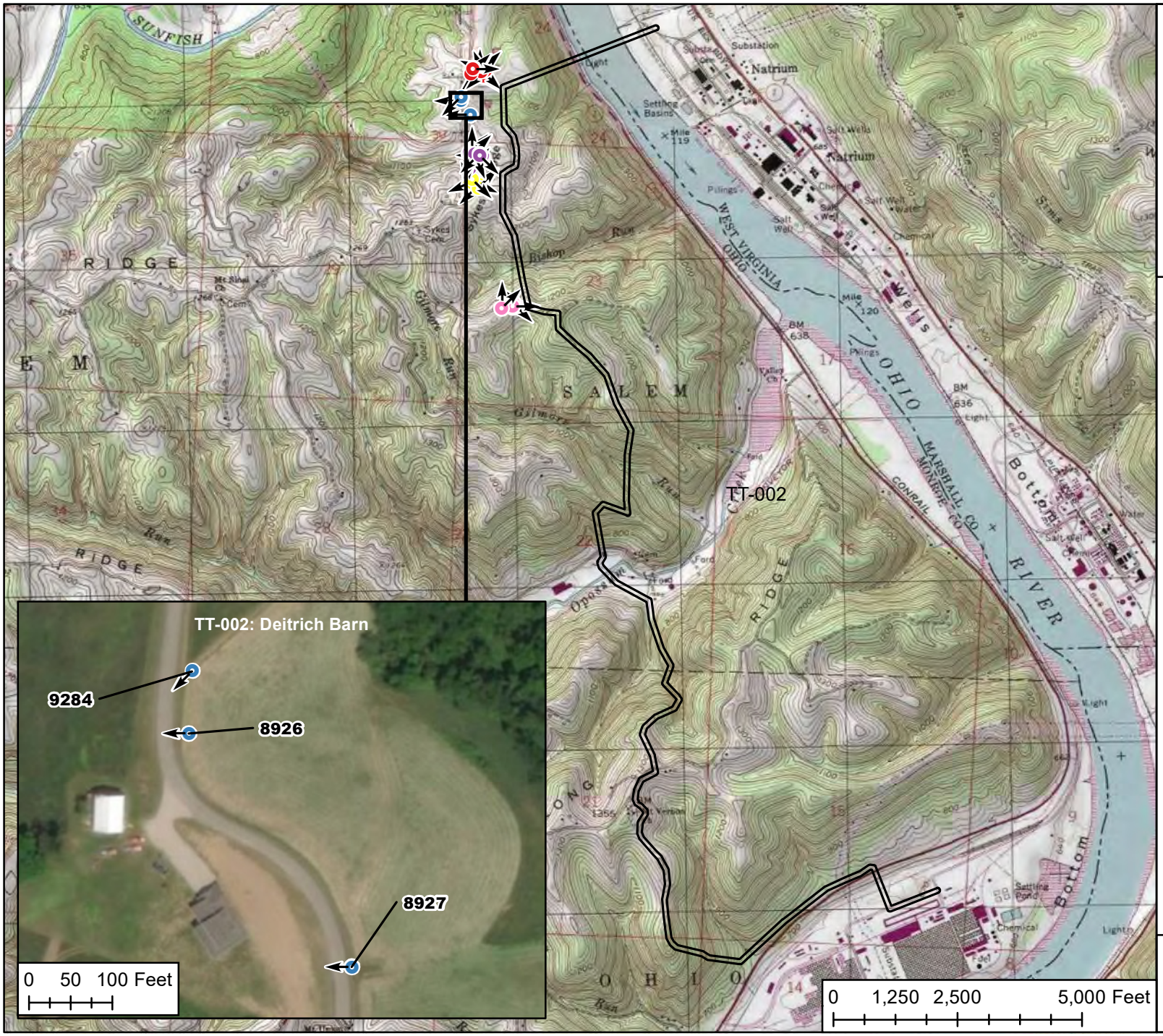
Photo 7 (9277), Lucas Farmstead (TT-001), Bank Barn, 52189 Sykes Ridge Rd, Monroe County, Ohio, Southeast

Photo 8 (9278), Lucas Farmstead (TT-001), Bank Barn, 52189 Sykes Ridge Rd, Monroe County, Ohio, Southwest

Photo 9 (9278), Lucas Farmstead (TT-001), Corn Crib, 52189 Sykes Ridge Rd, Monroe County, Ohio, Southwest

Photo 10 (9279), Lucas Farmstead (TT-001), Corn Crib, 52189 Sykes Ridge Rd, Monroe County, Ohio, West-Northwest

Photo 11 (9280), Lucas Farmstead (TT-001), Corn Crib, 52189 Sykes Ridge Rd, Monroe County, Ohio, West-Northeast



Natirum to Long Ridge Energy Terminal Pipeline and Transloading Facility
Monroe County, Ohio

Photo Location Map
for Aboveground Historic Resources

TT-002: Deitrich Barn

Date: 11/22/2019

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Photo Location by Resource ID

- TT-001
- TT-002
- TT-003
- TT-004
- TT-005
- Direct APE

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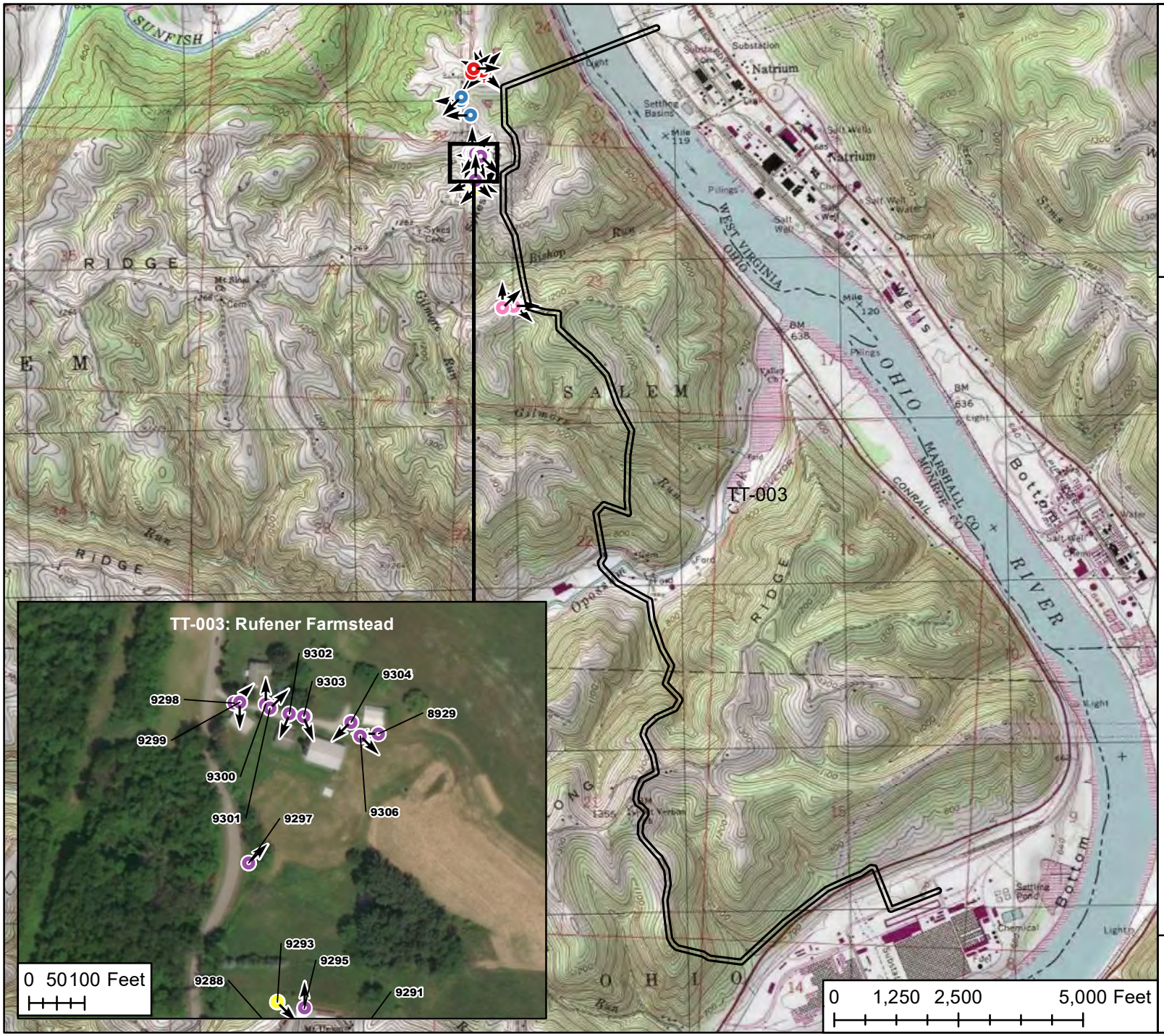
TETRA TECH

Photo 12 (8926), Deitrich Barn (TT-002), 52146 Sykes Ridge Rd, Monroe County, Ohio, West

Photo 13 (8297), Deitrich Barn (TT-002), Modern Residence, 52146 Sykes Ridge Rd, Monroe County, Ohio, West

Photo 14 (9284), Deitrich Barn (TT-002), 52146 Sykes Ridge Rd, Monroe County, Ohio, Southwest



Natirum to Long Ridge Energy Terminal Pipeline and Transloading Facility
Monroe County, Ohio

Photo Location Map
for Aboveground Historic Resources

TT-003: Rufener Farmstead

Page 3 of 5

Date: 11/22/2019

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Photo Location by Resource ID

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- TT-003
- TT-004
- TT-005
- Direct APE

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TETRA TECH

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Photo 15 (8929), Rufener Farmstead (TT-003), Basement Barn, 52067 Sykes Ridge Rd, Monroe County, Ohio, West

Photo 16 (9295), Rufener Farmstead (TT-003), Overview [(Left to Right) Modern Garage, Residence, Modern garage, Silo, Basement Barn, Pig Sty], 52067 Sykes Ridge Rd, Monroe County, Ohio, Northeast

Photo 17 (9297), Rufener Farmstead (TT-003), Concrete Stave Silo and Basement Barn, 52067 Sykes Ridge Rd, Monroe County, Ohio, Northeast

Photo 18 (9298), Rufener Farmstead (TT-003), Residence, 52067 Sykes Ridge Rd, Monroe County, Ohio, Northeast

Photo 19 (9299), Rufener Farmstead (TT-003), Modern Garage, 52067 Sykes Ridge Rd, Monroe County, Ohio, South

Photo 20 (9300), Rufener Farmstead (TT-003), Residence, 52067 Sykes Ridge Rd, Monroe County, Ohio, North

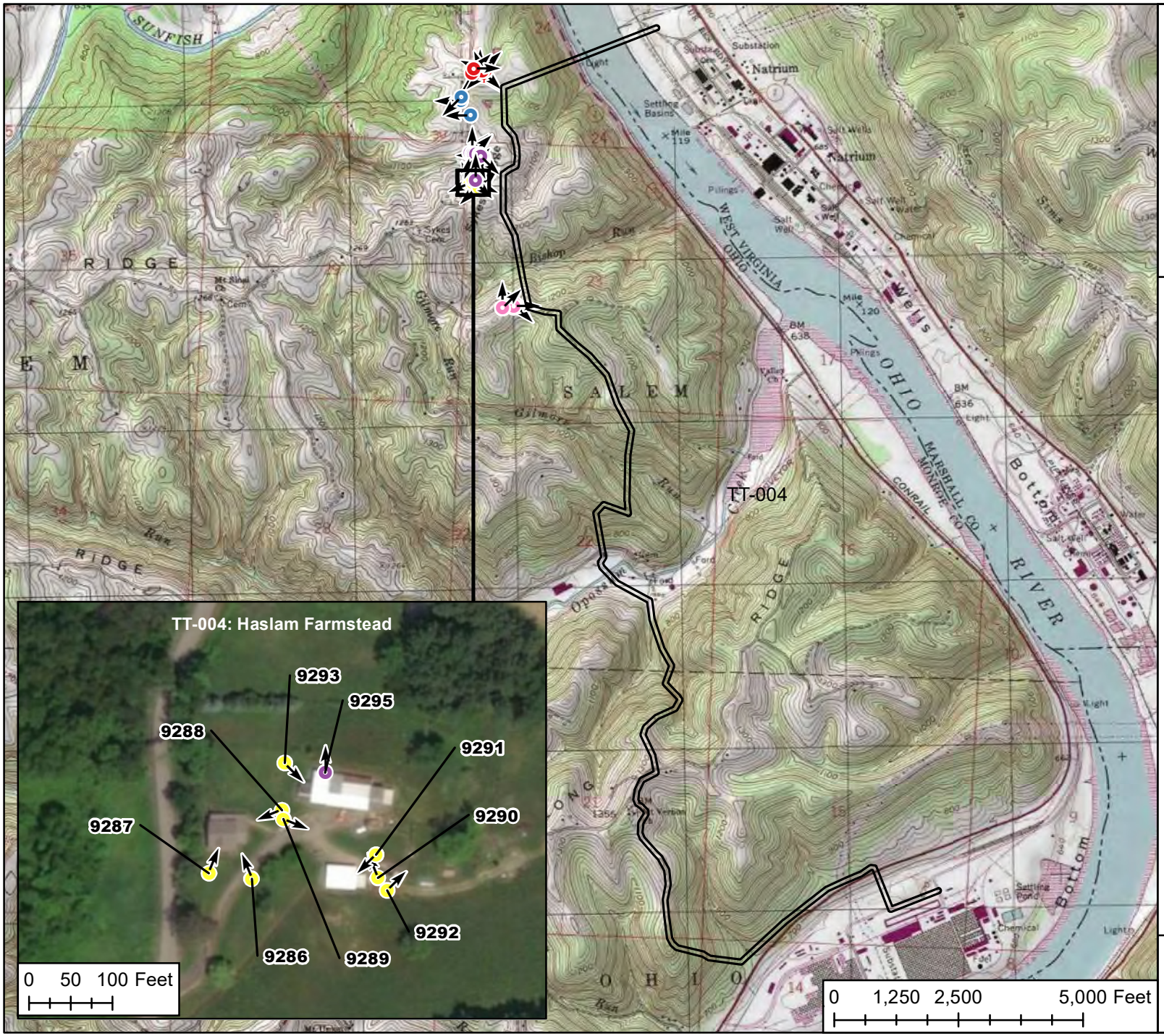
Photo 21 (9301), Rufener Farmstead (TT-003), Smoke House, 52067 Sykes Ridge Rd, Monroe County, Ohio, Northeast

Photo 22 (9302), Rufener Farmstead (TT-003), Modern Garage, 52067 Sykes Ridge Rd, Monroe County, Ohio, South-Southwest

Photo 23 (9303), Rufener Farmstead (TT-003), Milk House, Concrete Stave Silo, and Basement Barn, 52067 Sykes Ridge Rd, Monroe County, Ohio, Southeast

Photo 24 (9304), Rufener Farmstead (TT-003), Basement Barn, 52067 Sykes Ridge Rd, Monroe County, Ohio, Southwest

Photo 25 (9306), Rufener Farmstead (TT-003), Machine/Hay Shed, 52067 Sykes Ridge Rd, Monroe County, Ohio, Southeast



Natirum to Long Ridge Energy Terminal Pipeline and Transloading Facility
Monroe County, Ohio

Photo Location Map
for Aboveground Historic Resources

TT-004: Haslam Farmstead

Date: 11/22/2019

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Photo Location by Resource ID

- TT-001
- TT-002
- TT-003
- TT-004
- TT-005
- Direct APE

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TETRA TECH

Photo 26 (9286), Haslam Farmstead (TT-004), Residence, 52017 Sykes Ridge Rd, Monroe County, Ohio, North-Northwest

Photo 27 (9287), Haslam Farmstead (TT-004), Residence, 52017 Sykes Ridge Rd, Monroe County, Ohio, Northeast

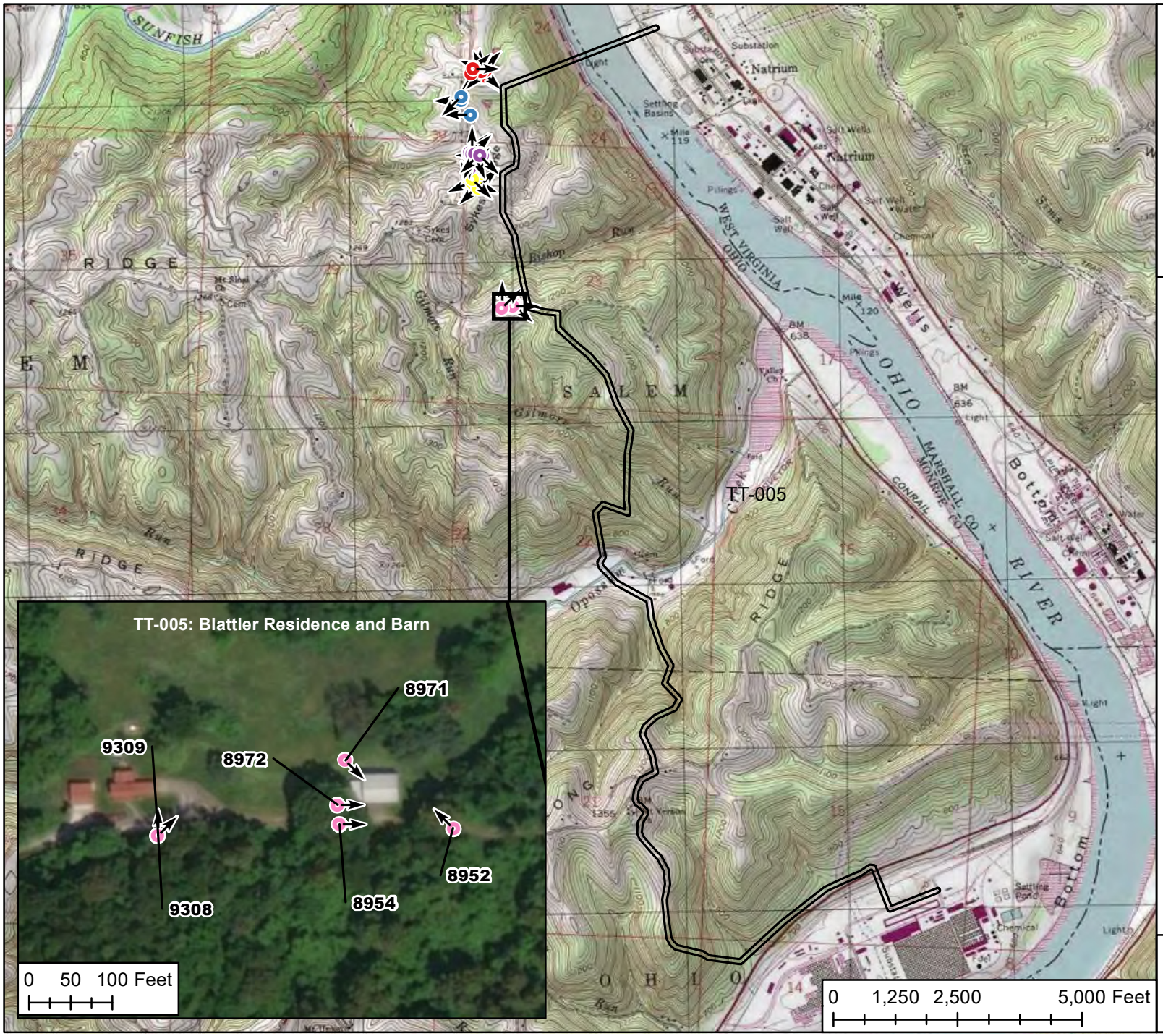
Photo 28 (9288), Haslam Farmstead (TT-004), Residence, 52017 Sykes Ridge Rd, Monroe County, Ohio, West-Southwest

Photo 29 (9289), Haslam Farmstead (TT-004), Outbuildings, 52017 Sykes Ridge Rd, Monroe County, Ohio, East-Southeast

Photo 30 (9290), Haslam Farmstead (TT-004), Outbuildings, 52017 Sykes Ridge Rd, Monroe County, Ohio, Northeast

Photo 31 (9291), Haslam Farmstead (TT-004), Machine/Wood Shed, 52017 Sykes Ridge Rd, Monroe County, Ohio, Southeast

Photo 32 (9293), Haslam Farmstead (TT-004), Outbuildings, 52017 Sykes Ridge Rd, Monroe County, Ohio Southeast



Natirum to Long Ridge Energy Terminal Pipeline and Transloading Facility
Monroe County, Ohio

Photo Location Map
for Aboveground Historic Resources

TT-005: Blattler Residence and Barn

Date: 11/22/2019

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Photo Location by Resource ID

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- TT-002
- TT-003
- TT-004
- TT-005
- Direct APE

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TETRA TECH

Photo 33 (8952), Blattler Residence and Barn (TT-005), Barn, 52246 Rouse Rd, Monroe County, Ohio, Northwest

Photo 34 (8954), Blattler Residence and Barn (TT-005), Barn, 52246 Rouse Rd, Monroe County, Ohio, East

Photo 35 (8971), Blattler Residence and Barn (TT-005), Barn, 52246 Rouse Rd, Monroe County, Ohio, Southeast

Photo 36 (8972), Blattler Residence and Barn (TT-005), Barn, 52246 Rouse Rd, Monroe County, Ohio, East

Photo 37 (9308), Blattler Residence and Barn (TT-005), Residence, 52246 Rouse Rd, Monroe County, Ohio, North

Photo 38 (9309), Blattler Residence and Barn (TT-005), Residence, 52246 Rouse Rd, Monroe County, Ohio, Northeast

APPENDIX C
Draft Ohio Historic Inventory Forms

Ohio Historic Preservation Office
800 E. 17th Avenue
Columbus, OH 43211
614/298-2000

OHIO HISTORIC INVENTORY

Draft Form - Not Reviewed by OHPO

Section 106/RPR Review: RPR Number:

1. No. MOE0055308 **NEW**

4. Present Name(s): **Lucas Farmstead, 52189 Sykes Ridge Road**

2. County: **Monroe**

5. Historic or Other Name(s):

6. Specific Address or Location:
52189 Sykes Ridge Road

6a. Lot, Section or VMD Number:

7. City or Village:
Clarington

9. U.T.M. Reference
Quadrangle Name: Powhatan Point (W. Va.)

Zone: 17 Easting: 510819 Northing: 4400386

10. Classification: Building

11. On National Register? NO

13. Part of Established Hist. Dist? NO

15. Other Designation (NR or Local)

16. Thematic Associations:

17. Date(s) or Period:
c1945

17b. Alteration Date(s):

18. Style Class and Design:
None — No academic style - Vernacular

18a. Style of Addition or Elements(s):

19. Architect or Engineer:
unknown

19a. Design Sources: unknown

20. Contractor or Builder: unknown

21. Building Type or Plan: Non-discernable House Type

22. Original Use, if apparent:
Single Dwelling

23. Present Use:
Single Dwelling

24. Ownership: Private

25. Owner's Name & Address, if known:
Mark E. and Lori A. Lucas
52189 Sykes Ridge Road
Clarington, OH 43915

26. Property Acreage: 31.56

27. Other Surveys:

28. No. of Stories: One story

29. Basement? Unknown

30. Foundation Material: Concrete block

31. Wall Construction:
Unknown
Unknown

32. Roof Type:
Gable
Roof Material:
Standing seam (metal)

33. No. of Bays: 3 Side Bays: 1

34. Exterior Wall Material(s):
Aluminum or vinyl siding
Unknown

35. Plan Shape: Rectangular

36. Changes associated with 17/17b Dates:
17. Original/Most significant construction
17b. Unknown

37. Window Type(s):
1 over 1

38. Building Dimensions: 35 x 30

39. Endangered? NO
By What?

40. Chimney Placement: Gable end, exterior

41. Distance from & Frontage on Road:
156ft

51. Condition of Property: Good/Fair

52. Historic Outbuildings & Dependencies
Structure Type(s):
Other Barn
Corncrib
Date(s):
c1945 c1945
Associated Activity:
Original/Most significant construction
Original/Most significant construction

53. Affiliated Inventory Number(s):
Historic (OHI):
Archaeological (OAI):

8. Site Plan (location map) with North Arrow

46. Prepared By: **Matthew Lackett**
47. Organization: **Tetra Tech, Inc.**
48. Date Recorded: **11/16/2019**
49. PIR Reviewer:
50. PIR Review Date:

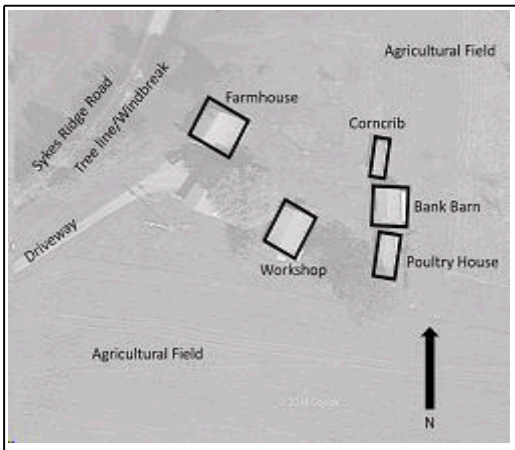
2. County: **Monroe**
4. Present or Historic Name(s): **Lucas Farmstead, 52189 Sykes Ridge Road**
6. Specific Address or Location: **52189 Sykes Ridge Road**

1. No. MOE0055308

4. Present Name(s): Lucas Farmstead, 52189 Sykes Ridge Road

2. County Monroe

5. Historic or Other Name(s):



Door Selection: Unknown
Door Position: Flush
Orientation: Gable end axis
Symmetry: Other

Report Associated With Project:

Primary Author	Secondary Author(s)	Year	Title
Matthew Lackett	William P. Barse, Hannah Dye, James T. Marine	2019	Phase I Cultural Resources Survey Natrium to Long Ridge Energy Terminal Pipeline and Transloading Facility Salem and Ohio Townships, Monroe County, Ohio

42. Further Description of Important Interior and Exterior Features

The c. 1945, 1-story wood frame vernacular-style dwelling features replacement vinyl siding, replacement 1/1 vinyl sash windows, and a side gable roof covered in standing seam metal. The building is constructed on a rectangular plan. The three-bay facade has a centered entrance door which is sheltered by a small overhang supported by square wood posts.

43. History and Significance

This c.1945, side gable dwelling is an example of a common mid-twentieth century vernacular form found throughout southeastern Ohio. The dwelling is part of a larger agricultural complex, of which a barn, workshop, poultry house and corncrib remain. The farmhouse and associated outbuildings convey their original function and purpose and demonstrate the spatial planning of small, mid-twentieth century farms in Monroe County. As such, the Lucas Farmstead is recommended potentially eligible for NRHP listing under Criterion A for agriculture. No evidence linking this property to any significant individuals in local history could be identified. As such, this resource is recommended not potentially eligible for NRHP listing under Criterion B. The Lucas Farmstead residence does not exemplify a remarkable or distinctive vernacular house form and has been altered with replacement siding and windows. The residence does not have sufficient architectural significance or integrity to warrant individual NRHP listing. However, coupled with the collection of relatively well-preserved outbuildings, the farmhouse provides architectural context for this mid-twentieth century Monroe County farm. The Lucas farmstead is recommended potentially eligible for NRHP listing under Criterion C; it serves as a relatively well-preserved collective representation of a mid-twentieth century farmstead in Monroe County.

44. Description of Environment and Outbuildings (See #52)

This resource is a farmstead located in a rural area with similar farmsteads and houses nearby. The house sits east of Sykes Ridge Road within a manicured yard with a few scattered mature trees scattered about. Outbuildings are located at the edge of the yard bordering agricultural fields and include a workshop, Bank Barn, poultry house, and corn crib that all appear to date to the mid-twentieth century. The side gable workshop is constructed of concrete block and features metal sliding windows. The workshop's gable roof is covered in asphalt shingles. The Bank Barn stands on a concrete block foundation. The barn's exterior is clad in vinyl or aluminum siding. The barn's side gable roof is covered in asphalt shingles. The barn features a large sliding door on the upper eaves side. The poultry house stands on a concrete block foundation; its exterior walls are clad in asphalt siding. The poultry house's front gable roof is covered in asphalt

shingles. Some of the poultry house's windows are no longer intact; the intact fenestration is comprised of 3/3 wood sash windows. The shed-roofed corn crib is constructed on wood piers. The corncrib's exterior is clad in vertical wood boards with spaces in between. The building's shed roof is covered in asphalt shingles.

45. Sources of Information

Caldwell, J.A.
1898 Caldwell's 1898 Atlas of Monroe Co., Ohio. Atlas Pub.: Mt. Vernon, Ohio.

Hardesty, H.H.
1882 History of Monroe County, Ohio - Illustrated - A Condensed HIstory of the County; Biographical Sketches; General Statistics; Miscellaneous Matters. H.H. Hardesty & Co.: Toledo.

Harrington, R.E.
2011 Making of Monroe County, Ohio. http:freepages.rootsweb.com/~harringtonfamilies/history/history2.htm. Accessed November 16, 2019.

Lewis, Thomas William
1928 History of Southeastern Ohio and the Muskingum Valley, 1788-1928. In Three Volumes. S.J. Clarke Publishing Co.: Chicago.

Ohio Historic Preservation Office
800 E. 17th Avenue
Columbus, OH 43211
614/298-2000

OHIO HISTORIC INVENTORY

Draft Form - Not Reviewed by OHPO

Section 106/RPR Review: RPR Number:

1. No. MOE0055408 **NEW**	4. Present Name(s): **Rufener Farmstead, 52067 Sykes Ridge Road**
2. County: **Monroe**	5. Historic or Other Name(s):

6. Specific Address or Location:
52067 Sykes Ridge Road

6a. Lot, Section or VMD Number:

7. City or Village:
Clarington

9. U.T.M. Reference
Quadrangle Name: Powhatan Point (W. Va.)

Zone: 17 Easting: 510794 Northing: 4399872

10. Classification: Building

11. On National Register? NO

13. Part of Established Hist. Dist? NO

15. Other Designation (NR or Local)

16. Thematic Associations:

17. Date(s) or Period:
c1910

17b. Alteration Date(s):

18. Style Class and Design:
None — No academic style - Vernacular

18a. Style of Addition or Elements(s):

19. Architect or Engineer:
unknown

19a. Design Sources: unknown

20. Contractor or Builder: unknown

21. Building Type or Plan: Classic I House

22. Original Use, if apparent:
Single Dwelling

23. Present Use:
Single Dwelling

24. Ownership: Private

25. Owner's Name & Address, if known:
Roger K. Rufener
52067 Sykes Ridge Road
Clarington, WV 43915

26. Property Acreage: 78.9

27. Other Surveys:

28. No. of Stories: Two story

29. Basement? Unknown

30. Foundation Material: Concrete block

31. Wall Construction:
Unknown
Unknown

32. Roof Type:
Gable
Roof Material:
Asphalt shingle

33. No. of Bays: 5 Side Bays: 1

34. Exterior Wall Material(s):
Aluminum or vinyl siding

35. Plan Shape: L-shaped

36. Changes associated with 17/17b Dates:
17. Original/Most significant construction
17b.

37. Window Type(s):
1 over 1

38. Building Dimensions: 38 x 23

39. Endangered? NO
By What?

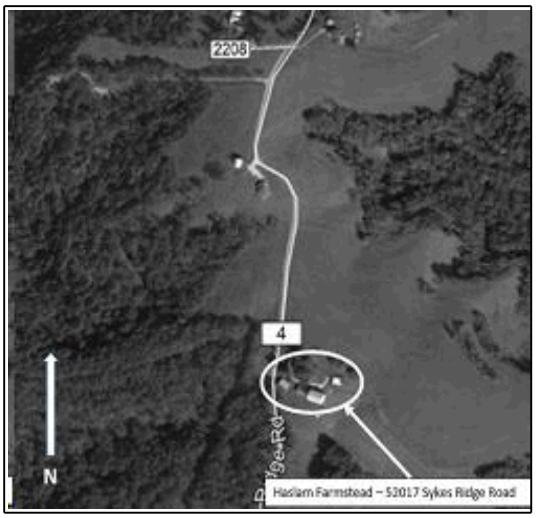
40. Chimney Placement: Double gable end, flush

41. Distance from & Frontage on Road:
53ft

51. Condition of Property: Good/Fair

52. Historic Outbuildings & Dependencies
Structure Type(s):
Raised Basement Barn
Other Outbuilding/Structure/Feature
Date(s):
c1915 c1930
Associated Activity:
Original/Most significant construction
Original/Most significant construction

53. Affiliated Inventory Number(s):
Historic (OHI):
Archaeological (OAI):



8. Site Plan (location map) with North Arrow

46. Prepared By: **Matthew Lackett**
47. Organization: **Tetra Tech, Inc.**
48. Date Recorded: **11/16/2019**
49. PIR Reviewer:
50. PIR Review Date:

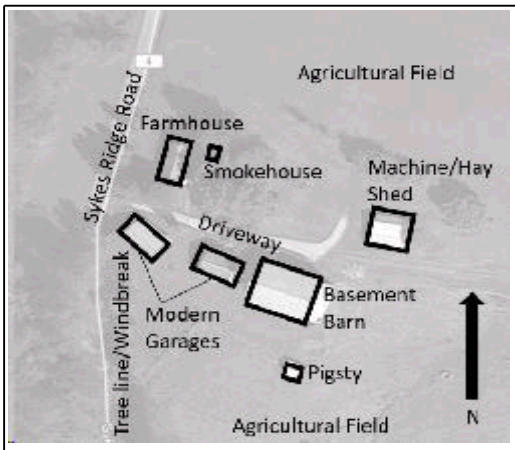
2. County: **Monroe**
4. Present or Historic Name(s): **Rufener Farmstead, 52067 Sykes Ridge Road**
6. Specific Address or Location: **52067 Sykes Ridge Road**

1. No. MOE0055408

4. Present Name(s): Rufener Farmstead, 52067 Sykes Ridge Road

2. County Monroe

5. Historic or Other Name(s):



Door Selection: Single centered
Door Position: Flush
Orientation: Gable end axis
Symmetry: Bilateral symmetry

Report Associated With Project:

Primary Author	Secondary Author(s)	Year	Title
Matthew Lackett	William P. Barse, Hannah Dye, James T. Marine	2019	Phase I Cultural Resources Survey Natrium to Long Ridge Energy Terminal Pipeline and Transloading Facility Salem and Ohio Townships, Monroe County, Ohio

42. Further Description of Important Interior and Exterior Features

The c.1915, 2-story, 5-bay I-house features aluminum siding, 1/1 windows (sash material unknown), and a side gable rood covered in asphalt shingles. The main block and rear ell form an L plan. The 5-bay facade has a centered entrance door which is sheltered by a small overhang supported by decorative steel columns.

43. History and Significance

This c.1915 I-house is an example of a common early-twentieth century vernacular form found throughout southeastern Ohio. The dwelling is part of a larger agricultural complex, of which a Basement Barn, milk house, silo, pigsty, smoke house, and machine/hay shed remain. The complex also includes two garages of recent construction. The farmhouse and associated outbuildings (with the exception of the modern garages) convey their original function and purpose and demonstrate the spatial planning of early-twentieth century dairy farms in Monroe County. As such, the Rufener Farmstead is recommended potentially eligible for NRHP listing under Criterion A for agriculture. No evidence linking this property to any significant individuals in local history could be identified. As such, this resource is recommended not potentially eligible for NRHP listing under Criterion B. The Rufener Farmstead residence does not exemplify a remarkable or distinctive vernacular house form and does not have sufficient architectural significance or integrity to warrant individual NRHP listing. However, coupled with the collection of well-preserved outbuildings, the farmhouse provide context for this early-twentieth century Monroe County dairy farm. The Rufener farmstead is recommended potentially eligible for NRHP listing under Criterion C for its ell-preserved collection of early twentieth-century domestic and agricultural buildings.

44. Description of Environment and Outbuildings (See #52)

This resource is a farmstead located in a rural area with similar farmsteads and houses nearby. The house sits east of Sykes Ridge Road within a manicured yard with a few scattered mature trees. OUtbuildings are located at the edge of the yard bordering agricultural fields and include a Basement Barn, milk house, silo, machine/hay shed, pigsty, and smoke house. Two modern garages are also located in close proximity to the house near the property's driveway. The exterior of the c.1915 Basement Barn is clad in a combination of vertical wood boards and aluminium or vinyl siding. The upper eaves side of the barn features large siding doors and simple wood brackets along the roof line. The barn's side gable roof is covered in corrugated metal. Located at the west gable end of the barn is a concrete stave silo. A c.1930 concrete block milkhouse with a pyramidal roof is located at the barn's northwest corner adjacent to the driveway. The milkhouse's pyramidal roof is covered in asphalt shingles. The c.1915, side gable, wood frame smoke house stands on

stone piers. The smoke house's exterior is clad in a combination of weatherboard and vertical wood boards. The smoke house features two human doors on the eaves side. A pigsty is located at the southeast corner of the barnyard and is constructed on a concrete block foundation. The pigsty's exterior is clad in an unknown material. The pigsty's side gable roof is covered in corrugated metal. The machine/ hay shed is comprised of a side gable structure with a completely enclosed shed-roofed addition. The side gable portion of the shed is clad in vertical wood boards; the rear addition is clad in standing seam metal. The two modern garages are side-gabled and are clad in standing seam metal.

45. Sources of Information

Caldwell, J.A.
1898 Caldwell's Atlas of Monroe Co., Ohio. Atlas Pub.: Mt. Vernon, Ohio.

Hardesty, H.H
1882 History of Monroe County, Ohio - Illustrated - A Condensed History of the County; Biographical Sketches; General Statistics; Miscellaneous Matters. H.H. Hardesty & Co.: Toledo.

Harrington, R.E.
2011 Making of Monroe County, Ohio. http:/freepages.rootsweb.com/~harringtonfamilies/history/history2.htm. Accessed November 16, 2019.

Lewis, Thomas William
1928 History of Southeastern Ohio and the Muskingham Valley, 1788-1928. In Three Volumes. S.J. Clark Publishing Co.: Chicago.

APPENDIX D
Archaeological Survey Photos

LIST OF PHOTOGRAPHS

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Photo 8937. Facing South-Southeast Showing Slope along Centerline. 2
Photo 8942. Facing South-Southeast Showing Slope along Centerline. 2
Photo 8950. Facing North-Northwest Showing Centerline at edge of Ridgeline above Sloped Hillside. .. 3
Photo 9010. Facing North-Northwest Showing Slope Along Centerline. 3
Photo 9018. Facing South-Southeast Showing Slope along Centerline. 4
Photo 9039. Facing Southeast Showing Slope within Direct APE. 4
Photo 9066. Facing East-Northeast Showing Tested Area at Northern end of Direct APE. 5
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Photo 9091. Facing East-Northeast Showing Slope Along Centerline. 6
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Photo 9114. Facing Southeast Showing Slope within Direct APE. 8
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Photo 9141. Facing South Showing Overview of Tested Area within Direct APE. 9
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Photo 9185. Facing Northeast Showing Direct APE co-located with Existing Disturbance and Slope. .. 12
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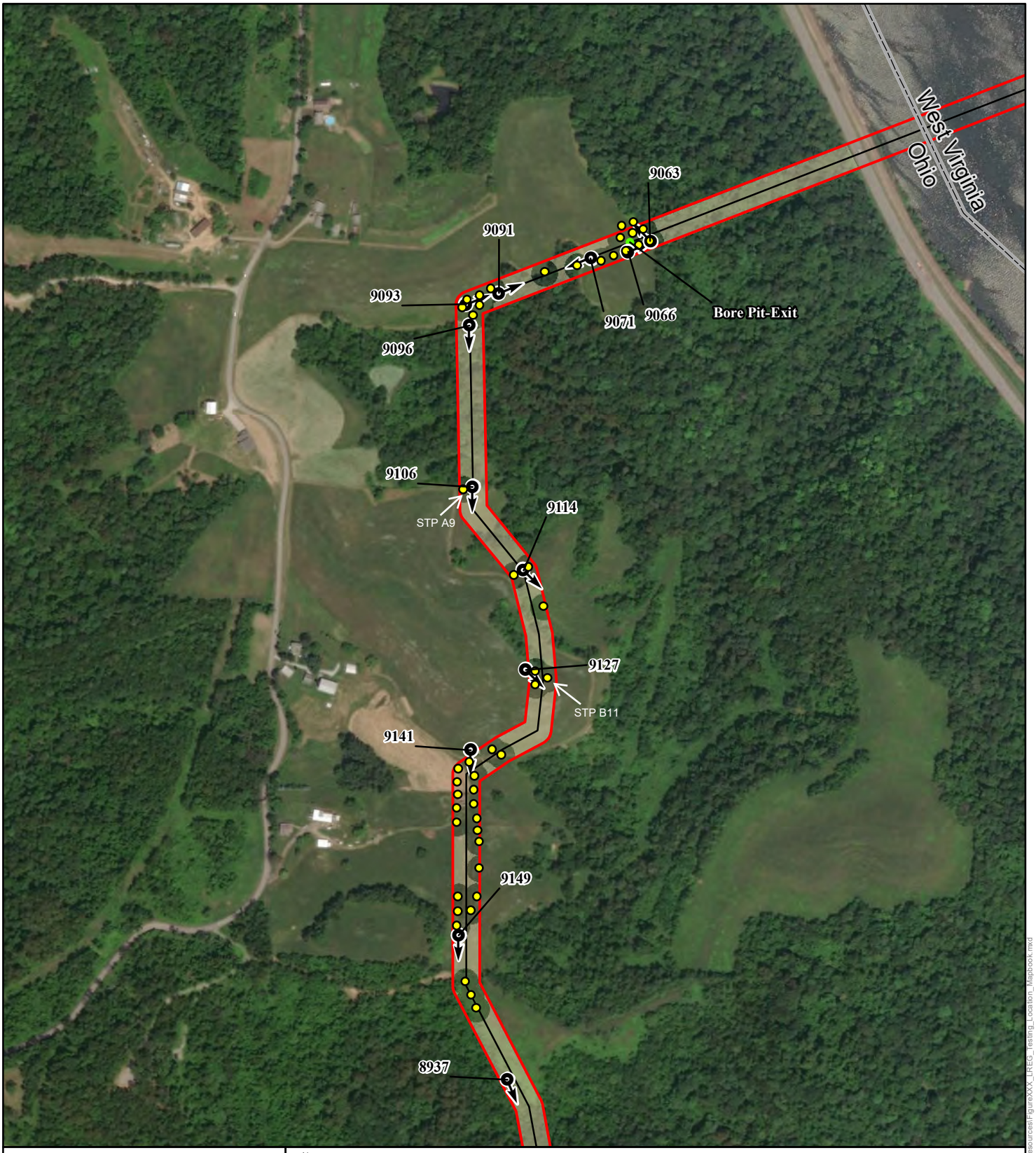
Photo 9263. Facing Northwest Showing Slope within Direct APE. 15
Photo 9264. Facing Southeast Showing Slope within Direct APE. 15
Photo 9267. Facing Northwest Showing Narrow Ridge Spine Bounded by Steep Slopes. 16
Photo 9335. Facing West Northwest Showing Slope within Direct APE. 16



TETRA TECH

Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 1 of 6

Date: 12/5/2019

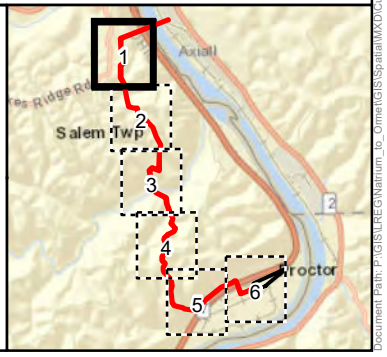
Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 250 500 1,000 Feet

Legend

- Negative Shovel Test
- Photo_Location
- Bore Pit-Exit
- Centerline
- State Boundary
- Pedestrian Survey
- Pipeline LOD



NOT FOR CONSTRUCTION

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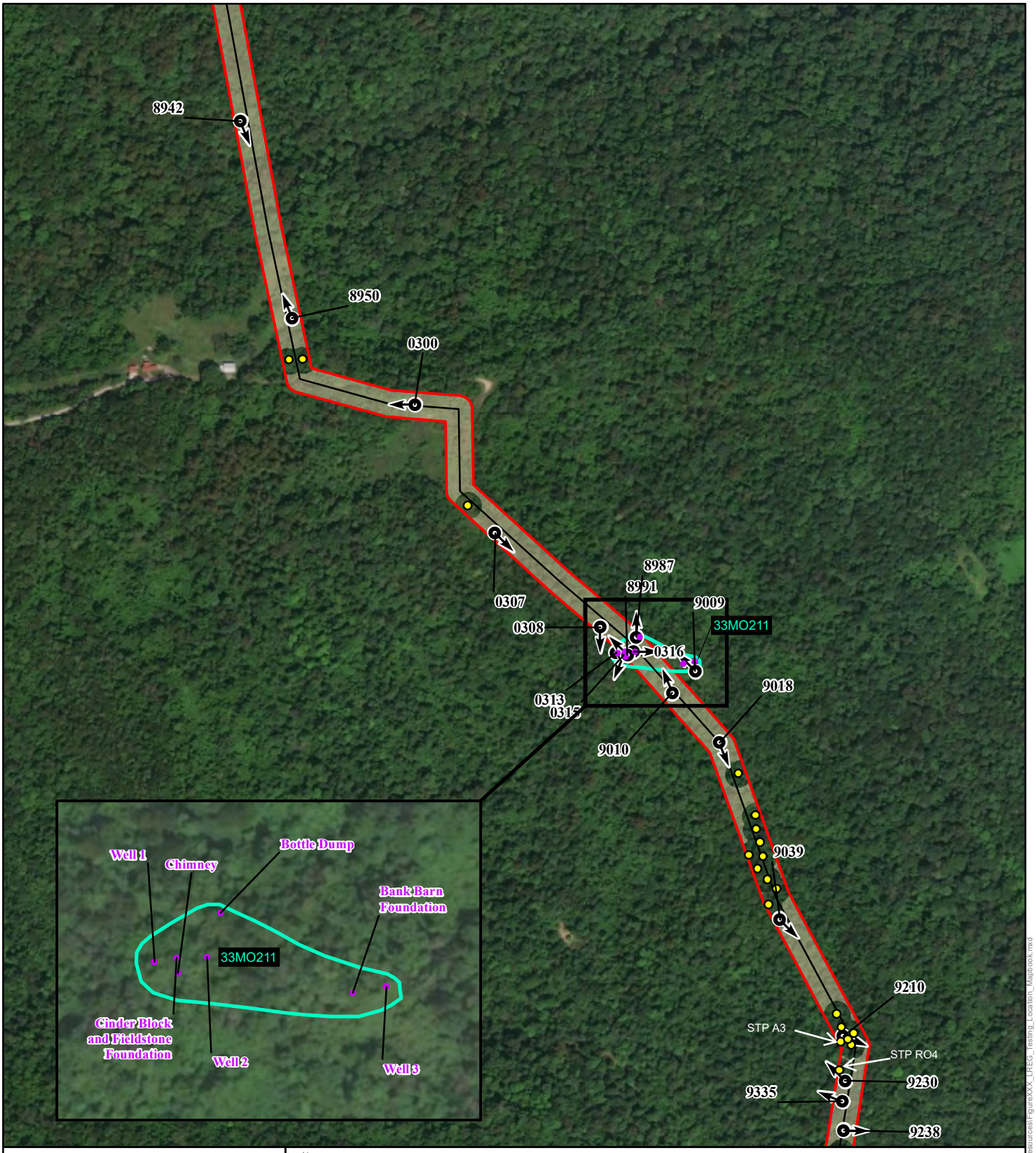


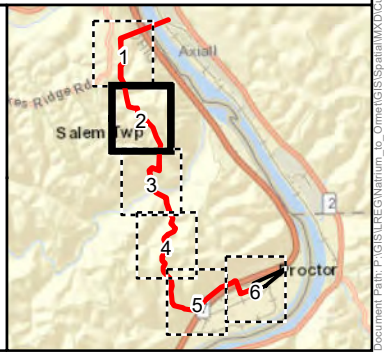
TETRA TECH

N

0 250 500 1,000 Feet

Legend

- Negative Shovel Test
- Historic Cultural Feature
- Photo_Location
- Centerline
- Site 33MO211
- Pedestrian Survey
- Pipeline LOD



Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 2 of 6

Date: 12/5/2019

Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

NOT FOR CONSTRUCTION

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TETRA TECH

Long Ridge Energy Terminal
Transloading Facility and NGL Pipeline
Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 3 of 6

Date: 12/5/2019

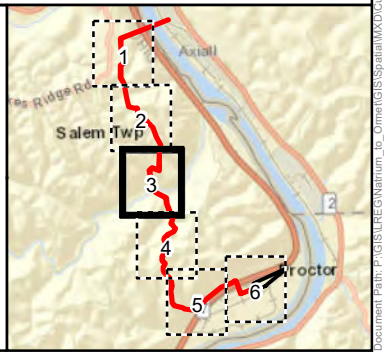
Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 250 500 1,000 Feet

Legend

- Negative Shovel Test
- Photo_Location
- Centerline
- Pedestrian Survey
- Pipeline LOD



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TETRA TECH

Long Ridge Energy Terminal
Transloading Facility and NGL Pipeline
Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 4 of 6

Date: 12/5/2019

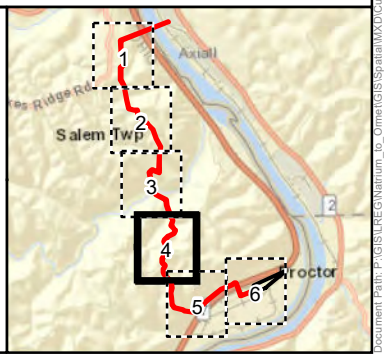
Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 250 500 1,000 Feet

Legend

- Photo_Location
- Centerline
- Pedestrian Survey
- Pipeline LOD



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TETRA TECH

Long Ridge Energy Terminal Transloading Facility and NGL Pipeline Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 5 of 6

Date: 12/5/2019

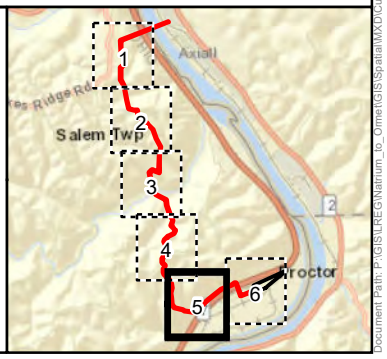
Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 250 500 1,000 Feet

Legend

- Photo_Location
- Centerline
- Pedestrian Survey
- Pipeline LOD



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TETRA TECH

Long Ridge Energy Terminal
Transloading Facility and NGL Pipeline
Monroe County, Ohio

Figure 5.3-1
Testing Location
Mapbook
Page 6 of 6

Date: 12/5/2019

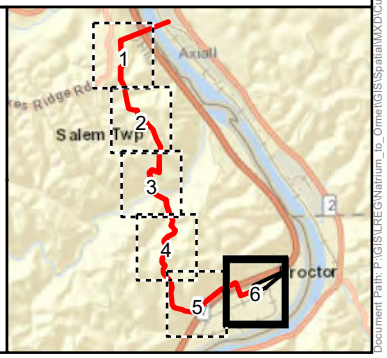
Data SourcesEsri, DigitalGlobe, GeoEye, i-cubed,USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

0 250 500 1,000 Feet

Legend

- Centerline
- State Boundary
- Pedestrian Survey
- Pipeline LOD
- Transloading Facility Footprint



NOT FOR CONSTRUCTION

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Photo 300. Facing West Showing Existing Road within Direct APE.

Photo 307. Facing Southeast Showing Slope within Direct APE.

Photo 8937. Facing South-Southeast Showing Slope along Centerline.

Photo 8942. Facing South-Southeast Showing Slope along Centerline.

Photo 8950. Facing North-Northwest Showing Centerline at edge of Ridgeline above Sloped Hillside.

Photo 9010. Facing North-Northwest Showing Slope Along Centerline.

Photo 9018. Facing South-Southeast Showing Slope along Centerline.

Photo 9039. Facing Southeast Showing Slope within Direct APE.

Photo 9066. Facing East-Northeast Showing Tested Area at Northern end of Direct APE.

Photo 9071. Facing West-Southwest Showing Slope along Centerline.

Photo 9091. Facing East-Northeast Showing Slope Along Centerline.

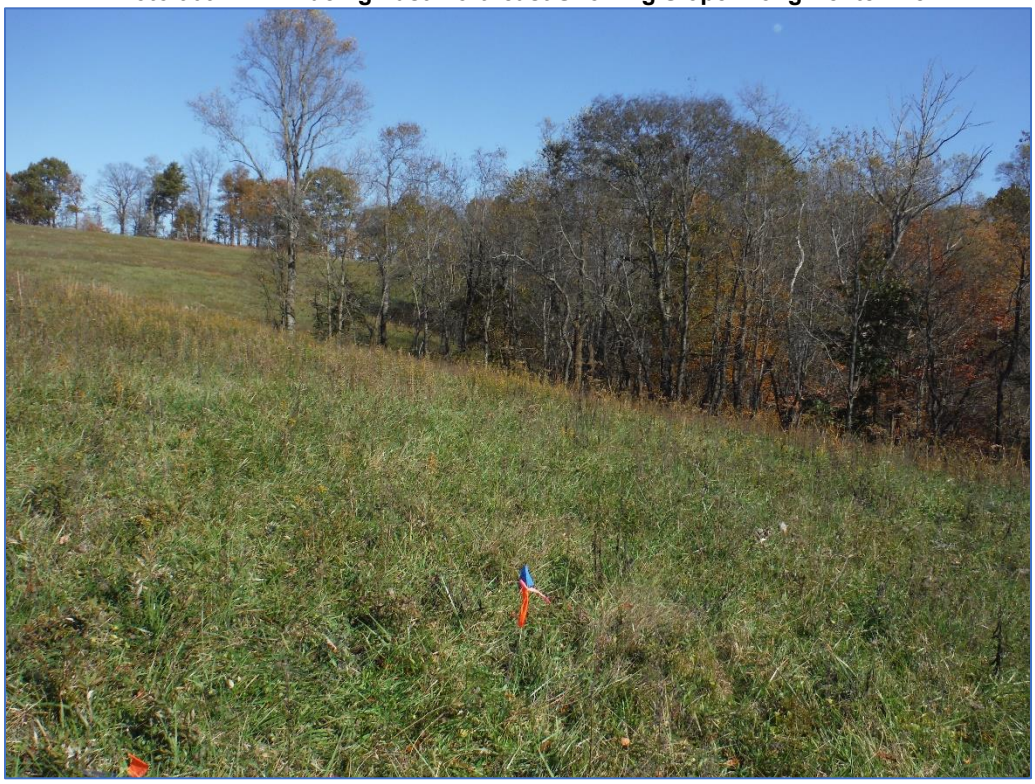

Photo 9093. Facing East-Northeast Showing Overview of Direct APE.

Photo 9096. Facing South Showing Slope down Centerline.

Photo 9106. Facing South Showing Slope within Direct APE.

Photo 9114. Facing Southeast Showing Slope within Direct APE.

Photo 9127. Facing Southeast Showing Testing in Progress along Narrow Ridgeline.

Photo 9141. Facing South Showing Overview of Tested Area within Direct APE.

Photo 9149. Facing South Showing Slope within Direct APE.

Photo 9167. Facing Southeast Showing Overview of Direct APE.

Photo 9173. Facing West-Northwest Along Direct APE co-located with Existing ROW.

Photo 9176. Facing Northeast Along Direct APE co-located with Existing ROW.

Photo 9180. Facing East-Northeast Showing Sloped Hillside.

Photo 9185. Facing Northeast Showing Direct APE co-located with Existing Disturbance and Slope.

Photo 9196. Facing North Showing Sloped Area within Mine Reclamation.

Photo 9202. Facing South-Southeast Showing Slope within Direct APE.

Photo 9206. Facing South-Southwest Showing Existing Pipeline Marker within Direct APE.

Photo 9238. Facing East Showing Steep Slope within Direct APE.

Photo 9247. Facing West Showing Steep Slope within Direct APE.

Photo 9263. Facing Northwest Showing Slope within Direct APE.

Photo 9264. Facing Southeast Showing Slope within Direct APE.

Photo 9267. Facing Northwest Showing Narrow Ridge Spine Bounded by Steep Slopes.

Photo 9335. Facing West Northwest Showing Slope within Direct APE.

APPENDIX E
Draft Ohio Archaeological Inventory Form

Ohio Historic Preservation Office
800 E. 17th Avenue.
Columbus, OH 43211
614/298-2000

3. Site No. 33- **MO0211**

OHIO ARCHAEOLOGICAL INVENTORY (Draft Form)

A. Identification

1. Type of Form: **New Form**
2. County: **Monroe**
4. Site Name: **Rouch Site**
5. Project Number: **Phase I Cultural Resources SurveyLong Ridge Energy**

B. Location

1. UTM Zone: **17** Easting: **511493** Northing: **4398615**

3. Township: **23** Range: **3** Section: **2** 1/4 Section: **SW** Not Applicable

Township Name: **Salem**

4. Quadrangle Name: **New Martinsville (W.** 5. Quadrangle Date: **1994** 6. Confident of Site Location: **Yes**

C. Ownership

1. Name:
Address:
City, State, Zip:
Phone:

2. Tenant (if any):
Address:
City, State, Zip:
Phone:

3. Ownership Status:

D. Temporal Affiliations

1. Affiliations Present: **Historic**

Prehistoric

2. Prehistoric Temporal Period(s) represented:

Unassigned Prehistoric Paleoindian

Archaic:	Unassigned	Early	Middle	Late
Woodland:	Unassigned	Early	Middle	Late
	Late Prehistoric	Protohistoric		Other:

3. Minimum Number of Prehistoric Temporal Periods Represented:

4. Basis for Assignment of Prehistoric Temporal Period(s):

Diagnostic Artifacts Diagnostic Features Radiometric

Unrecorded Other:

5 & 6. List Prehistoric Cultural Components Identified and describe how determined (list diagnostic artifacts and/or features and include type names).

- **0 Diagnostic material(s) recorded. See Continuation sheet for details.**

7 & 8. Specific Prehistoric Cultural Materials Observed or Collected (list diagnostic artifacts and/or features and include type names).

- **0 Prehistoric cultural material(s) recorded. See Continuation sheet for details.**

Site No. 33- MO0211
Plotted:

Historic

9. Affiliation Present: **Non-Aboriginal**

10. Historic Temporal Period(s) Represented:

	Pre-1795	1796-1829	1830-1849
	1850-1879	1880-1899	1900-1929
	1930-1949	1950-1974	1975-2000
	Historic	18th Century	19th Century
X	20th Century	Historic Aboriginal	21st Century

11. Minimum Number of Historic Temporal Periods Represented: **1**

12. Basis for Assignment of Historic Temporal Period(s):

X	Diagnostic Artifacts	Diagnostic Architectural Remains	Diagnostic Features
X	Documentary Evidence	Oral Tradition	Other:

13. Describe how Historic Temporal Period(s) were determined (list any diagnostic architectural remains, diagnostic artifacts and/or features and include type names). When listing artifacts and/or features correlate to letters used for Temporal Periods in D.10

A review of available cartographic resources of the region identified land records for this property extending as far back as 1853. Monroe County Tax & Plat Maps from 1853 (Monroe County) and 1859 (Monroe County) indicate the land was once owned by Daniel Steenrod. By 1869, David Potts is depicted as the owner of the property, but no evidence of a structure is yet depicted at the site of the remnant structures (Noll 1869). A structure is represented at the location of the remnant structures in 1898 when the property is owned by W.A. Rouch (Caldwell). This structure continues to be exhibited on the New Martinsville USGS quadrangles throughout the twentieth century (USGS 1906, 1924, 1960, 1976, 1994). Township Maps through the period show the property continues to be held by members of the Rouch family until the 1960s (Monroe County 2019). By the 1960's the property changes hands numerous times in short sucession before being sold to the Quarto Mining Company by 1980. The Quarto Mining Company held the property until 2018 when it was sold to CNX Land, LLC.

14 & 15. Functional Categories of Historic Materials Present at Site and Specific Cultural Materials Collected:

- **0 historic material(s) recorded. See Continuation sheet for details.**

General

16. Describe Prehistoric and/or Historic Cultural Materials observed but not collected. State reason(s) for not collecting.

17. Affiliated Ohio Historic Inventory Site Number and Name:

E. Physical Description

1. Archaeological Setting: **Open**

2. Prehistoric Site Type:

Habitation:	Camp	Village	Hamlet	Unspecified Habitation
Extractive:	Quarry	Workshop		
Ceremonial:	Unknown Mound	Earth Mound	Stone Mound	
	Effigy Mound	Mound Group	Hilltop Enclosure	
	Geometrical Earthwork	Cemetery	Isolated Burial(s)	
	Petroglyph/Pictograph	Unknown	Other:	

3. Historic Site Type:

X	Residential	Commercial	Social	Government
	Religious	Educational	Mortuary	Recreation
X	Subsistence	Industrial	Health Care	Military
	Transportation	Unknown	Other:	

4. State the basls on which site type assignment(s) were made.
Based on presenece of domestic and architectural materials and bank barn foundation

5. Site Condition: **Unknown**

6. Dominant Agent(s) of Disturbance:

X	None Apparent	Agriculture	Water	Historic Construction
	Transportation	Mining	Vandalism	Archaeological Excavation
	Unrecorded	Other:		

7. Nature of Disturbance/Destruction

8. Current Dominant Land Use:
Deciduous Forest

9. Land Use History:

10. Site Elevation: **388** Meters A.M.S.L.

11. Physiographic Setting of Site: **Unglaciated Plateau**

12. Glacial Geomorphology: **Not Applicable**

13. Regional Geomorphological Setting: **Hill or Ridge Top**

14. Local Environmental Setting: **Hill or Ridge Top**

15. Soils
Soil Association: **Gilpin-Upshur, Upshur,**

Soil Series-Phase/Complex: **Gilpin-Upshur, Upshur,**

16. Down Slope Direction: **Flat**

17. Slope Gradient (percent): **0** % Unrecorded:

18. Drainage System:

Major Drainage: **Ohio River**

Minor Drainage: **OHIO RIVER**

19. Closest Water Source Name **Gilmore Run**

Water Source Type: **Permanent Stream**

20. Horizontal Distance to Closest Water Source: **445** *(m from UTM point)*

21. Elevation Above Closest Water Source: **380** *(m A.M.S.L. from UTM point)*

Site No. 33- MO0211

F. Reporting Information

1. Investigation Type:

Reported	Examination of Collection	Surface Collection
Auger/Soil Corer	Shovel Test(s)	Test Pit(s)
Deep Test(s)	PZ or Humus Removal	Test Trench(es)
Aerial Photograph	Mitigation/Block Excavation	Testing/Excav. (strategy unknown)
Chemical Analysis:		Other:
Remote Sensing:		

2. Surface Collection Strategy:

X	Not Applicable	Grab Sample	Diagnostics	Unrecorded
	Controlled-Unknown	Controlled-Total	Controlled-Sample	Other

3. If surface collection strategy is Controlled-Total, Controlled-Sample, or Other, describe methodology and percentage.
Artifacts Observed, Not Collected

4. Surface Visibility: **0-10%**

5. Describe surface conditions. **Vegetated, Forest Litter**

6. Site Area (square meters): sq. m **2586**

7. Basis for Site Area Estimate: **Paced** Other:

8. Confident of site boundaries? **NO**

9. Estimated Percentage of Site Excavated: **0** %

10. Name of Form Preparer: **Matthew Lackett**

11. Institution: **Tetra Tech, Inc.**

12. Date of Form: **11/20/2019**

13. Field Date: **10/30/2019**

14. Time Spent at Site: **1 day**

15. Weather Conditions: **Overcast**

16. Name(s), Address(es), Phone Number(s) of Local Informants

17. Artifact Repository(ies): **Not Applicable**

18. Name(s), Address(es), Phone Number(s), of Owners of Collections from Site (attach inventories of private collections).

21. National Register Status:

24. Special Status (select only one, as appropriate): **None**

G. References - List Primary Documentary References

Primary Author	Secondary Author	Year	Title
Matthew Lackett	William P. Barse, Hannah Dye, James T. Marine	2019	Phase I Cultural Resources Survey Long Ridge Energy Terminal Transloading Facility and Pipeline Salem and Ohio Townships, Monroe County, Ohio

23. Discuss the potential significance of the site.

Documentary research and artifact analysis indicate the site is the former farm associated with the Roush Family who occupied the site in the early to mid-twentieth century. While the Rous family are noted in the local history of the area, they are not described as historically significant members of the local community. Cartographic research indicates a structure was present as early as 1898 and continued to be represented on USGS maps until the 1990s. Given the death in 1963 of the last member of the Roush family to be associated with the property and the subsequent sale of the property to the Quarto Mining Company, occupation of the site likely did not extend past the 1960s. Given the narrow range of occupation, additional investigation into the site are unlikely to yield significant information regarding long term trends in agriculture, labor, or domestic life of rural Ohio. In addition, the mix of modern and historic material strewn about the surface of the site indicate discrete archaeological deposits relating to the period of occupation at the site are unlikely to remain intact. Given these reasons, the site is not recommended eligible for listing in the National Register of Historic Places.

I. Description of Site

1. State physical description of the site and its setting, including dimensions, features (with Measurements), nature and location of artifacts and concentrations, extent, and location of disturbances, etc.

Site 33MO211 consists of the structural remains of a historic farmstead. The remains consisted of a fieldstone and cinder block foundation, likely a residential structure, an adjacent cement pad, a fieldstone bank barn foundation, three fieldstone and ceramic lined wells, remnant electrical or telephone and fence poles, and a scatter of mid-twentieth century to modern glass and ceramic fragments. The bank barn foundation is located outside of the direct APE. The site is located at the end of Township Road 2124 which extends south along a narrow ridge spine approximately 500 m (1,640 ft) south of Rouse Road/County Road 388.

The foundation is oriented roughly 11.2 m (36.75 ft) north to south and 7.2 m (23.6 ft) east to west. The unimproved extension of Township Road 2124 is situated roughly 5 m (16.4 ft) to the northeast of the foundation. The approximate northern half of the foundation is composed of dry laid fieldstone cut into the hillside to a depth of 0.92 m (3.01 ft). The southern half of the foundation transitions to cinder block at the point where the foundation is no longer cut into the hillside. The cinder block reaches a maximum height of 1.12 m (3.67 ft) along the southern wall. A terra cotta line cinder block chimney is situated along the southern façade of the foundation and an approximately 2.5-x-2 m (8.2-x-6.4 ft) concrete pad was located directly north of the foundation.

Two stone lined wells were noted on either side of the foundation. Well 1 was located approximately 1.5 m (4.9 ft) west of the foundation and consists of a stone lined, bell shaped well with a surface radius of 1.1 m (3.6 ft) and reached a maximum depth of 1.2 m (3.9 ft) below surface. Well 2 was located approximately 9 m (29.5 ft) southeast of the foundation. This well consisted of a 9.2 m (30.2 ft) deep stone lined shaft capped with a ceramic ring. Two metal pipes extended out from the side of the ceramic ring and would have drained into the well. The ceramic ring measured approximately 70 cm (27.6 in) in circumference and extended 1.84 m (6 ft) in depth before resting on the stone lined portion of the well.

Approximately 22 m (72.2 ft) northeast of the foundation was a small bottle dump situated in a small depression along the east side of the unimproved road. The bottles were composed of a mix of modern to mid-twentieth century container and non-diagnostic glass.

Approximately 60 m (197 ft) southeast of the house foundation, opposite the unimproved road, was a bank barn foundation. The eastern wall of the foundation was composed of dry laid fieldstone measuring approximately 1.6 m (5.25 ft) high and 7.9 m (26 ft) wide. The remaining three sides of the bank barn were nearly flush to the ground. A third circular, stone lined structure, possible a third well or a trough was noted was noted southeast of the barn foundation.

A light scatter of historic period architectural materials such as brick and degrading sheet metal were strewn about the site. Adjacent to the north side of the foundation was a small, disarticulated pile of bricks stamped with the word “ALAMO”. This style of brick was produced between from 1935 to the early 1960’s by the Harbison-Walker Refractories Co. in Vandalia and Fulton, Missouri (Gurcke 1987). Outside of the bottle dump, limited evidence of domestic kitchen or personal items were noted at the site. Photographs of a representative sample of artifacts were taken but were otherwise left *in situ* at the site.

2. Discuss the relationship between the site and other known sites in the area in terms of location, physical characteristics, size, etc.

Only on archaeological resource, 33MO0155, is located within one mile of site 33MO211. Site 33MO0155 consists of a historic artifact scatter associated with known historic structures along a ridgeline east of County Road 386. This site was professionally recorded but the survey information is not present within the Online Mapping System. The site form associated with the site does not recommend it as eligible for listing in the NRHP, but it is unknown if the OHPO concurred with the recommendation. No relationship between these two resources is presently known. Site 33MO211 is one of many early twentieth century farmsteads located throughout the region.

D. 5 & 6 Diagnostic Artifact List

Diagnostic Artifact	*Cultural Component*	*Description*	*Count*
No Records	..	..	..

D. 7 & 8 Preshistoric Artifact List

Material	*Category*	*Other*	*Count*
No Records	..	..	..

D. 14 & 15 Historic Artifact List

Material	*Category*	*Other*	*Count*
Bricks	Architectural		
Cinderblock	Architectural		0
Fieldstone Wells	Architectural		
Historic to Modern Bottle Dump	Kitchen		
Sheet Metal	Architectural		

H. Radiometric Date List

Material Dated	*Date (uncorrected C14 years)*	Laboratory	*Sample #*
No Records	..	..	..

K. Sketch Map or Copy of Project Map of Site.

Include north arrow and scale of the appropriate U.S.G.S. quadrangle. Outline total area surveyed and include locations of all identified sites.

APPENDIX F
Resume of Principal Investigator

TETRA TECH

James T. Marine
Principal Investigator / Geomorphologist

EXPERIENCE SUMMARY

Mr. Marine is a Registered Professional Archaeologist and accredited geomorphologist with 27 years of experience in the Middle-Atlantic and Southeast regions. Mr. Marine received his MS in Geology from the University of Pittsburgh in 1997 where he specialized in geoarchaeology, geomorphology and sedimentology.

Mr. Marine started the Cultural Resources group at Tetra Tech's Pittsburgh location in 2009. In 2015 the Cultural Resources group expanded to include an office in Fairmont, West Virginia that Mr. Marine manages and that houses Tetra Tech's archaeological laboratory. The Tetra Tech Cultural Resources Group specializes in archaeological, geomorphological and historic structures surveys in support of NHPA / NEPA compliance for clients such as the United States Army Corps of Engineers, the United States Navy, the United States Coast Guard, the United States Environmental Protection Agency, the United States Army Department of Energy, state DOT's, and several private Oil and Gas clients.

Mr. Marine helped to develop an interdisciplinary team at Tetra Tech that focused on providing integrated permitting and environmental compliance solutions to our clients in the Middle-Atlantic and Southeast regions.

SELECTED EXPERIENCE

Task Manager/Principal Investigator/Geomorphologist: Phase I, II and III archaeological investigations for the FERC regulated 300-mile Mountain Valley Pipeline. The alignment traverses 11 counties in West Virginia, including Wetzel, Harrison, Doddridge, Lewis, Braxton, Nicholas, Webster, Greenbrier, Fayette, Summers and Monroe, Equitrans Partners LLP, 2014-2018.

Principal Investigator/ Geomorphologist: Phase I and II archaeological Investigation for the Guernsey Power Station (Facility), a new 1,650-MW natural gas-fired combined cycle 118-acre generating facility in Valley Township, Guernsey County, Ohio. Guernsey Power LLC, 2017.

Principal Investigator/ Geomorphologist: Phase I, II and III archaeological investigations at site 46MR190, for expansion of the MarkWest Liberty Midstream & Resources LLC's natural gas processing facility at Majorsville, Marshall County, West Virginia**,** 2012-2015**.**

Geomorphologist: Geomorphological Evaluation of the Yellow Creek Floodplain in conjunction with the FERC Regulated Rover Pipeline 00002A-10. Jefferson County, Ohio. Spectra Energy Transmission 2015**.**

Principal Investigator/Geomorphologist: Phase I and II archaeological investigations for the Moose Property Natural Gas Processing Plant and Wetland Mitigation site Doddridge County, WV, MarkWest Liberty Midstream & Resources LLC, 2013-2014.

Principal Investigator/ Geomorphologist: Phase I and II archaeological investigations for the proposed Sherwood Natural Gas processing facility Doddridge County, WV, MarkWest Liberty Midstream & Resources LLC. 2012.

Principal Investigator: Phase I archaeological survey of the Majorsville to Hopedale Natural Gas Pipeline, Marshall, Brook and Ohio Counties, West Virginia; Harrison, and Jefferson Counties OH, MarkWest Liberty Midstream & Resources LLC, 2013.

EDUCATION

MS / Geology
University of Pittsburgh 1997

BS / Business Management
University of Pittsburgh
1988

AREA OF EXPERTISE

Archaeological Investigations

Geomorphological Evaluations

TRAINING/ CERTIFICATIONS

30 Hour OSHA General Construction

40 Hour OSHA Hazwoper

OSHSA Excavation Safety

Confined Space Entry

REGISTRATIONS/ AFFILIATIONS

Registered Professional Archaeologist # 15794

Pennsylvania Archaeological Council

YEARS OF EXPERIENCE

27

APPENDIX D-2
SHPO RESPONSE LETTERS

OHIO HISTORY CONNECTION

April 16, 2020

In reply, please refer to:
2020-MOE-47889

Katherine Zeringue, Federal Preservation Officer
Office of Railroad Policy and Development
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Ms. Zeringue:

Re: Long Ridge Energy Terminal, Natural Gas Liquids Pipeline & Transloading Facility
Monroe County, OH

This letter is in response to your correspondence regarding the above-listed project and a Phase I Cultural Resources Survey prepared by Tetra Tech Inc., received on March 17, 2020. Our office has the responsibility to respond to findings made by federal agencies pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated regulations at 36 CFR Part 800.

The "Phase I Cultural Resources Survey, Long Ridge Energy Terminal and Natural Gas Liquids Pipeline, Salem and Ohio Townships, Monroe County, Ohio" report identified five new and two previously surveyed building, along with one archaeological site. We agree that the two previously surveyed buildings (MOE0031812 & MOE0031912), the archaeological site (33MO211) and the buildings identified in the survey as TT-002, TT-005 and TT-005 are not eligible for the National Register of Historic Places.

We agree with your determination that the two remaining farmsteads which were surveyed as MOE0055308 and MOE0055408 are eligible for the National Register of Historic Places under Criterion A and Criterion C. We also agree that it is unlikely these properties will experience adverse effects from the minimal tree clearing that will be the only project activity that will be visible long term from the primary building groups.

Therefore, we concur with your finding that the proposed project will have no adverse effect on historic properties in Ohio. We also request that your office provide us with a copy of the comments from the West Virginia SHPO to complete our project file when it is available.

If you have any questions about this letter, please contact me at ladkins@ohiohistory.org. Our office is currently closed due to COVID-19, so our office phones are currently not the best way to reach us.

Sincerely,

Lisa Adkins, Architecture Reviews Mgr.
Dept. of Resource Protection and Review

RPR Serial No. 1083509

"Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs."