Figure 5. Construction drawing of the project area.
Figure 6. A section of the USGS 1984 Valley Mills quadrangle (7.5’ topographic map) showing the location of the project area and the APE.
The sedimentary bedrock of West Virginia is superimposed on a crystalline basement of Precambrian age rock of probably Grenville age (perhaps 900 million years old). This substrate is ca. 10,000 ft deep near the Ohio River and has been (as of 1968) reached only by three drilled wells. Most surface-visible Appalachian folds probably do not involve this basement, but certain individual structures such as the Burning Springs Anticline (located just east of the study area) and the Mann Mountain Anticline may be a reflection of the basement surface, trending, as they do, on a northwest-southeast axis (Cardwell et al. 1968).

The study area is located within the Dunkard Basin. Surficial exposures consist of the Permian-age or Pennsylvania-age Dunkard Group, composed of non-marine cyclic sequences of sandstone, siltstone, red and gray shale, limestone, and coal. The Dunkard Group contains the Greene, Washington, and Waynesburg Formations. It extends from the top of exposed surface bedrock to the top of the Waynesburg coal and includes Washington coals and limestone. Palynological evidence suggests that at least the lower portion of the group is of Pennsylvania age (Cardwell et al. 1968). At its maximum, the Dunkard Group is about 1,200 ft thick.

Within the study area, the Dunkard Group it is about 450 ft thick on the average, thinning out somewhat to the north and west in Washington County, Ohio. Outcrops are prominent along Interstate 77, United States Route 50, and other local highways (Rogers and Golden 1979). The floodplains of the larger river systems consist of Surficial Quaternary-age alluvial deposits of sand, gravel, silt, and clay. These deposits range from ca. 60 ft to 90 ft in depth along the Little Kanawha River at Parkersburg (Bain and Friel 1972).

The soil documented in the project area consists Senecaville silt loam (Se) [Figure 7]. This soil is situated on floodplains with the parent material consisting of fine loamy alluvium derived from sedimentary rock. This soil is moderately well drained (USDA 2003).

The study area is located within the greater drainage basin of the Ohio River; specifically, within the middle portion of the drainage, generally defined as that part of the drainage located between the Falls of the Ohio at St. Louis and New Martinsville, West Virginia, to the mouth of Fishing Creek. The Ohio River flows approximately 981 miles from its source, defined as the confluence of the Allegheny and Monongahela rivers at Pittsburgh, to its confluence with the Mississippi River at Cairo, Illinois.

Although the project area does not traverse any drainages, Pigeonroost Run is situated immediately to the south (Figure 3). Several ephemeral streams are located in the vicinity of the project area.

The climate is broadly characterized as Humid Continental. The area receives cold, dry air from the north and masses of moist air from the Gulf of Mexico. It is warmed in winter by warm air from the Ohio River, creating a significant difference in average temperature between study area and outlying areas more than 5 miles from the river. Large storms move northeastward up the Ohio River Valley, mostly during the coldest part of the year. Temperatures vary widely during the year, and changes from fair to stormy weather are frequent.
Figure 7. USDA (2003) soil map showing the location of the project area.
Freezing and thawing cycles are common in winter, which are generally moderate. In January, the average maximum temperature in the northern part of Wood County is 42 degrees F and the average minimum is 22 degrees F. In the summer, temperatures of 90 degrees F or higher normally occur on an average of 23 days per year. The average maximum temperature for July is between 80 and 90 degrees F, and the average minimum temperature ranges from 60 to 66 degrees F. In spring and fall the average temperature is about 50 degrees F (Ellyson et al. 1970).

Annual precipitation averages 44.2 inches. During the growing season, (May through September) rainfall averages 18.6 inches at Parkersburg. Annual snowfall averages about 25 inches, ranging from 4 inches to more than 55 inches. Due to temperature differentials, snowfall is generally slightly less in the Parkersburg area. Areas along the Little Kanawha and Ohio rivers are prone to flooding in winter and early spring, particularly if melting snow is accompanied by heavy rainfall. Heavy rains that occur in the late afternoon can produce flash floods along tributaries of the Little Kanawha and Ohio rivers. The average frost-free period is 188 days at Parkersburg. The average date of the last freezing temperature is April 16, and the average date of the first freezing temperature is October 21 (Ellyson et al. 1970).

The study area falls within Dice’s (1943) Carolinian Biotic Province, described as the “middle section of the great deciduous forest lying along the Atlantic Coast of North America” (Dice 1943:16). The study area is further located within the Cumberland and Allegheny Plateaus Section of Braun’s (1950) Mixed Mesophytic Forest Region, a part of the Eastern Deciduous Forest Biome. This forest region is generally coextensive with the Unglaciated portion of the Appalachian Plateaus physiographic province and includes all of the Cumberland Mountains, the southern part of the Allegheny Mountains, all but the northeast arm of the Unglaciated Allegheny Plateau, and all but the southern-most end of the Cumberland Plateau. The forest types that compose the Mixed Mesophytic Forest are separated on the basis of elevation and amounts of soil moisture. There is extensive overlap of species and forest types due to the gradual variation in soil type, soil moisture, and climate through the region.

The Mixed Mesophytic association characteristic of this region is the oldest and most complex association of the Deciduous Forest Formation. From it, or its progenitor, the Mixed Tertiary Forest, all other climaxs of the deciduous forest have arisen (Braun 1950). In its pristine form, dominant trees of the Mixed Mesophytic Forest climax included beech, tuliptree, basswood, sugar maple, chestnut, sweet buckeye, red oak, white oak, and hemlock. Other more-or-less abundant species include birch, black cherry, cucumber tree, white ash, and red maple. The Understory may consist of dogwoods, sassafras, sour gum, hornbeam, hop hornbeam, catalpa, cherries, hawthorns, and crab apple. Along broad river and stream flats, willow oak may occur, while willows, sycamore, sweet gum, and river birch line the banks of smaller streams (Braun 1950). The contemporary flora in the study area forms a mosaic of secondary woodland, former agricultural land, and residential yards containing domesticated vegetation.

Modern faunal communities within the study area are largely a pale reflection of the biomass available to the prehistoric and early historic period inhabitants of the region. Field sampling of mammals, reptiles, and amphibians has been conducted in the environmentally similar Paintsville Reservoir, Kentucky, situated southwest of the study area (Adovasio 1983).
Observed mammalian species include white-tailed deer, red and gray fox, skunks, raccoon, bats, shrews, moles, eastern cottontail, Virginia opossum, mice and rats, and squirrel. Common edible fish species include rock bass, channel catfish, bluegill, longear sunfish, smallmouth bass, spotted bass, large mouth bass, and white crappie (Adovasio 1983). Herpetofauna (both amphibians and reptiles) found within the Paintsville Study area included a wide variety of frogs, toads, salamanders, turtles, lizards, and snakes.

Ninety species of avifauna were identified in the Paintsville Study area, including ruffed grouse, wild turkey, bobwhite quail, American woodcock, and mourning dove. The passenger pigeon was reported in the millions throughout the region in the nineteenth century, but is now extinct (Adovasio 1983). Various species of waterfowl and raptors were also available for exploitation, as were freshwater mussels, as evidenced by the recovery of mussel shell from regional prehistoric sites (Broyles 1966; Hanson 1975).

In the vicinity of the study area, prehistoric use of available faunal resources is documented at the Neale’s Landing site (46WD39), an open-air, multicomponent prehistoric site complex with a substantial Fort Ancient component located on Blennerhasset Island (Hemmings 1977). The Neale’s Landing site faunal assemblage included: 23 mammal, 11 bird, five reptile, two amphibian, nine fish, and 24 molluscan species. Roughly 88 percent of the meat yield by weight was obtained from deer, bear, and elk, although beaver, turkey, fish, and mollusks were also substantially utilized.

Minority faunal remains included squirrel, raccoon, rice rat, domestic dog, gray fox, eastern cottontail, skunk, gray wolf, bobcat, fisher, woodchuck, eastern mole, opossum, muskrat, river otter, turkey, passenger pigeon, duck, Canada goose, red-tailed hawk, common loon, turtle, and fish (Clarke and DeWert 1977).

**CULTURAL BACKGROUND**

*Prehistoric Period (Pre 9500 B.C. to AD 1650)*

**Paleoindian Period**

The Paleoindian period in West Virginia is chiefly inferred from regionally-collected data, as intact Paleoindian sites are lacking from the state of West Virginia. Further, since artifact assemblages from this time period typically consist of one or two artifacts and are often very similar to Archaic period tool kits, it has been necessary to examine temporal limits, technology, and settlement patterns from a variety of sites in eastern North America. Synthesizing such data, Johnson (1995) has established a temporal range of 15,000 to 8,500 B.C. for the Paleoindian period in West Virginia.

Specifically for this region, Paleoindian occupation has been putatively established by collectors claiming recovery of Paleoindian projectile points/knives from Blennerhassett Island and the Washington Bottom, Wood County area, located just north and west of the project area (Hyde 1960). On Blennerhassett Island, the Paleoindian material was collected by Henry Stahl,
a Parkersburg teacher and antiquarian. The collection, currently on loan to the Blennerhassett Museum, contains archaeological materials that were reportedly recovered from the island’s vertical banks during periods of major flooding in the late nineteenth and early twentieth centuries. Unfortunately the specimens collected were not catalogued individually or by site. In the absence of detailed provenience data the temporal ascription of the fluted projectile points in the collection, are considered tenuous (Hemmings 1977).

**Archaic Period**

In the eastern United States, the Archaic period represents a long temporal period associated with important technological and socio-cultural changes that occurred following environmental changes characteristic of the end of the Pleistocene and Paleoindian period. Traditionally, the Archaic has been divided into Early, Middle, and Late sub-periods based on perceived changes in technological complexes and subsistence patterns related to the shift from megafauna to modern game animals. Following a review of the Early Archaic data prepared by Funk (1991) and temporal periods established from Modoc Rockshelter in Illinois by Fowler (1959), Johnson (1995) subdivides the Archaic as follows: Early Archaic, 8,500 to 6,000 B.C., Middle Archaic 6,000 to 4,000 B.C., and Late Archaic, 4,000 to 800 B.C.

During the Early Archaic, harsh environmental conditions and the megafauna associated with them gave way to a milder climate that saw the spread of deciduous forests and game animals such as the white-tailed deer. The Early Archaic period is characterized by an increase in both the number and size of sites as well as diagnostic artifact forms from those of the Paleoindian period (Wilkins 1977). Early Archaic traditions appear to be direct outgrowths of the Paleoindian period and are primarily delineated on the basis of transitional projectile point/knife forms, early side and corner-notched projectile points types such as Palmer, Charleston, and Kessell varieties and later bifurcate varieties such as St. Albans side-notched and LeCroy. The St. Albans site, located just down river from the project area, is noted for its Early and Late Archaic components. This site is situated on a high bluff overlooking the Kanawha River and is deeply stratified. Excavations from the 1960’s through the 1990’s identified numerous Archaic features and diagnostic tools (Freidin 1998).

A significant and sizable Archaic component was identified during deep testing excavations at the West Blennerhassett site (46Wd83-A), which is located on the western end of Blennerhassett Island and north of the project area. A sizable prehistoric feature (F275) (an activity floor) was identified during excavation of a deep trench. A high volume of charcoal fragments and inclusions of oxidized sediment characterized this activity floor. The thickness of the deposit ranged from ca. 7 to 17 cm (2.8 to 6.7 inches). Diagnostic artifacts included seven terminal Early Archaic period LeCroy Bifurcated stemmed projectile points. LeCroy projectile points are also associated with radiocarbon assays ranging from 6,470 to 6,300 B.C. in the Mid-south and Middle Atlantic regions. A single Kirk corner-notched (large variety) projectile point was also recovered from the Feature F275 floor. This variety of Kirk corner-notched projectile point is dated to the end of the early Early Archaic period at 6,900 to 6,850 B.C. at a deeply stratified site on the Kanawha River and probably represents a projectile point picked up elsewhere and left by a LeCroy flint knapper. Other artifacts recovered from the F275 deposit
included chert cores and fragments, several unifacial and bifacial tools, flake tools, flaked stone debitage, a hammerstone, and thermally altered rock (Grantz et al. 2004).

The Middle Archaic corresponds with the establishment of the modern climate regime in the eastern United States. Archaic populations became increasingly regionalized exploiting a wider range of local plant and animal resources. With this increased exploitation of natural resources Native American populations developed new artifact classes and technologies. These included wood working implements such as the adze and axe as well as groundstone tools manufactured through a pecking/grinding/polishing technology. Middle Archaic sites frequently exhibit well-developed middens and food preparation/processing features that often contain large quantities of thermally altered rock and carbonized nutshell.

In the Kanawha Valley diagnostic projectile points associated with the Middle Archaic are the Stanly Stemmed, Morrow Mountain, Guilford, Amos, and Hansford side-notched (Johnson 1995; Wilkins 1985). Johnson (Grantz et al. 2002) includes Kirk corner-notched projectile points as an early variety in the Middle Archaic toolkit. Both Stanly Stemmed and Kirk corner-notched varieties were recovered in association with fire pits from buried strata within the Kanawha floodplain.

Trends in regionalism and increasing exploitation of local biotic communities intensified during the Late Archaic period. Specialized task oriented groups developed to acquire resources. The archeological record reflects this complexity in a wider range of site types such as base camps or semi-sedentary residential bases established to allow seasonal exploitation of resources. Procurement and processing of resources is reflected in more ephemeral, specialized camps and stations.

Diagnostic projectile points and a wide range of accompanying artifacts are found great distances from major drainages as groups move to exploit upland environments. Steatite and sandstone vessels, the forerunners of ceramic vessels, are associated with this temporal period. Diagnostic artifacts include Susquehanna Broad, Savannah River Stemmed, Koen-Crispin, and Perkiomen projectile points.

An archeological survey conducted by the Ohio Historical Society in 1977 on the 445 ha (1,100 ac) Newbury Tract, located approximately 32 miles upstream of the project area on the northern bank of the Ohio River, documented nine archaeological sites dating from at least the Early Archaic period to the early historic period (Clarke and DeWert 1977). Sites were identified on both the floodplain and terrace landforms along the Ohio River from surface remains as well as buried soil horizons.

A more relative excavation by Cultural Resource Analysts in 1991 of the Corey Site (46Pu100) detailed the findings of a Late Archaic occupation dated 1430 ± 60 B.C. This site was situated on the north bank of the Kanawha River near the town of Eleanor on a river terrace landform (Hughes et al 1991).
Woodland Period

The Woodland Period is typically associated with the introduction of fired clay ceramics, a technology that revolutionized food preparation and storage. An early experimental ceramic technology appears to have diffused over the Appalachian Mountains from the Middle Potomac River drainage by at least 1,000 B.C. with documented evidence in the Upper Ohio River area at 1,115 B.C. (Johnson 1995). As with the Archaic period, the Woodland period is subdivided into generally agreed upon sub-periods defined by Johnson (1995) as: Early Woodland (800 to 100 B.C. /A.D. 1), Middle Woodland (100 B.C. /A.D. 1 to 400), and Late Woodland (A.D. 400 to 1,000).

The inception of the Early Woodland period is poorly defined in many regions including West Virginia. Although often debated, the Early Woodland is typically equated with the Adena culture, along with its associated burial mound construction and in turn subdivided into numerous cultural sub-phases (Johnson 1995). Diagnostic projectile points of the Early Woodland include Motley, associated with the Poverty Point culture named for the site located on the Mississippi floodplain in Louisiana, and the Middle Ohio River Valley Cogswell forms as well as Cresap, Adena Ovate Base, Adena Stemmed/Kramer, and Robbins types (Johnson 1995). Early Woodland ceramics are typically of thick construction with interior and/or exterior cord marking, examples include Fayette Thick and Half Moon cord-marked. Several Early Woodland mounds are recorded in the greater vicinity of the project area. Two mounds, the South Charleston and Institute Mounds are said to be associated with the Early Woodland temporal period. These mounds are situated within 30 miles from the project area.

Just as the Adena culture is associated with the Early Woodland period, the development of the Hopewell culture and its fluorescence is often associated with the Middle Woodland period. Middle Woodland sites, however, show considerable cultural and temporal diversity making it difficult to clearly define beginning and end dates for this cultural period; thus the identification of cultural affiliations is difficult. Diagnostic projectile points from the Middle Woodland in the project area region include corner notched forms and Snyder’s projectile points, while the Scioto and Havana Ceramic forms are heavily influenced by the Hopewellian culture and often exhibit stamped, decorated surfaces that include dentate, rocker, check, zone, and simple stamping.

Middle Woodland period occupations have been documented from nearby Wood County to the north and include the West Blennerhassett (46Wd83-A), Blennerhassett Mansion (46Wd1), and Dupont Wells (46Wd58) sites. In addition to the materials on Blennerhassett Island, the Godbey Field site (46Wd214) recovered from Stratum II consisted of Madison, Chesser Notched, Fairchance Notched, Manker Corner-Notched, Jack’s Reef Corner-Notched, Merom-Trimble, Bottleneck Stemmed, and Big Sandy II types projectile points (Bastianini et al. 2002). With the exception of the Merom-Trimble, Bottleneck Stemmed, and Big Sandy II projectile point fragment, the recovered projectile points date from the early Middle Woodland period or the later Late Woodland period. The majority of the projectile points are associated with the Middle Woodland period.
The Late Woodland Period is typically considered to begin with the decline of the Scioto tradition Hopewell culture although several distinct, small, and regionally diverse cultural components have been identified that seem to be incorporating trends typically associated with the Late Woodland period (Ahler 1988). In the Lower Kanawha River Valley, the Late Woodland is characterized by two distinct phases: Childers and Parkline (Johnson 1995). Diagnostic projectile points include Jack’s Reef corner-notched and Pentagonal, Raccoon Notched, and Chesser/Lowe types. North of the project area, on a hilltop overlooking the Ohio River near the juncture with the Little Kanawha River, Phase III data recovery excavations were performed at the Rapp site (46Wd204). The artifacts, which are under analysis, point to a terminal Late Woodland/initial Fort Ancient association (Bastianini et al. 2001).

Late Prehistoric Period

The beginning of the Late Prehistoric period is regionally distinguished by the emergence of the Fort Ancient culture. With the seeming sudden appearance of the Fort Ancient culture, at least in this part of the Middle Ohio River Valley, there is a dramatic change in local settlement and mortuary patterns as well as in ceramic manufacturing technology and ceramic vessel morphology and decorative modes. Changes in subsistence patterns were less dramatic but still significant.

Graybill (1981, 1984) assigned the Fort Ancient sites in the upper Middle Ohio River Valley, including those in the Parkersburg-Marietta area, to his Feurt-Clover tradition in southern Ohio. Graybill (1986) has also divided this sequence into four phases: Roseberry, Blennerhassett, Clover, and Orchard. Graybill (1981) identifies at least 15 Fort Ancient Feurt-Cover tradition sites in the general Point Pleasant-Marietta area. In the area of the confluence of the Kanawha and Ohio rivers, a small number of large Clover phase village sites have been investigated (Hanson 1975; McMichael 1963). During this late horizon, regional distinctions between the various local Fort Ancient traditions blur or disappear. The ceramics from the Roseberry and Blennerhassett phase sites are characterized by high frequencies of smooth surfaced ceramics (Graybill 1981). During the Clover phase regional ceramic assemblages are replaced by a distinctive Madisonville tradition or style, and new classes of artifacts are introduced including whelk shell gorgets (Graybill 1986) which are engraved in the “Citico” style or with the so-called “weeping-eye” or other Southeastern Ceremonial Cult motifs (Brashler and Moxley 1990). Late Clover phase sites are also characterized by the presence of European trade goods. The monolithic Madisonville ceramic stylistic horizon is replaced by a mixture of styles and traditions during the late Protohistoric or Orchard phase.

Historic Period (c. 1650-present)

In the late 1500s and early 1600s, it was noted by French missionaries that in what is present day West Virginia, the area along the Ohio River was inhabited by peoples of the Huron nation. However, during the Beaver Wars of the mid to late 17th century, the region became depopulated due to massive Iroquois attacks upon Native Americans between the Ohio River and the Great Lakes. These attacks began in the mid-1640s by an Iroquoian-speaking people (not of the Iroquois nation) on a stockaded Algonquian village in Michigan (White 1991). This period of intensive aggression has been attributed to the dwindling supply of the beaver pelts in the
Hudson Valley (Farrell 1991). As a result of the lack of pelts, the Iroquois mounted a series of expeditions (known as the Beaver Wars) into the Ohio Valley and Great Lakes region in order to control the lucrative trade that the Huron nation enjoyed with the French.

Keener’s (1998) research of the Beaver War, which consisted of examining the ethnohistoric records of the French, Iroquois, English, Dutch, and Algonquians, concluded that the Iroquois attacks/raids were primarily in response to the killing of either their peace representatives or their hunters. Keener (1998) notes that out of 332 reported battles, only four of these attacks occurred on groups that had fur trade items, and it appeared that the groups were not attacked because they were carrying fur trade goods. It was noted from the ethnohistoric records that three of these attacks were against large Ottawa trading parties who were coming back from Montreal; therefore, they would not have been carrying furs with them. The records of these three attacks indicate that only a few Ottawa were killed or captured, and no trade goods were reported to have been taken. The other attack occurred on a French trading party that was going to distribute arms and material to enemies of the Iroquois nations. Therefore, this attack was not to obtain furs, but rather to stop the distribution of goods (Keener 1998).

Taylor (2001) presents a view that reconciles these two viewpoints concerning the cause of the Beaver Wars. Taylor (2001) notes that the Iroquois wanted to destroy the Huron nation with the intent of controlling the fur trade, but this was only a secondary reason for the war. The primary reason for the war was that this was a mourning war, which meant that the Iroquois’ main objective was “to obtain captives for adoption into Iroquois families and villages [that were] reeling from their recent losses to disease and war” (Taylor 2001:112). According to Iroquois culture,

Any individual’s death diminished the collective power of his or her lineage, clan, village, and nation, provoking powerful and angry bursts of grief, especially by female relatives. Natives feared that their dead would linger about the village, inflicting disease and misfortune unless appeased with loud and expressive mourning. To draw the bereaved out of their agony and to encourage dead spirits to proceed to their afterlife, neighbors staged condolence rituals with feasts and presents. The best present of all was a war captive meant to replace the dead (Taylor 2001:102).

One of the reasons that the Huron were attacked, besides the fur trade, was that the Huron were from the Iroquoian linguistic group; therefore, they were easier to assimilate since they already knew the language. Another reason for the attacks on the Huron was because they had rejected invitations to join the Five Nations Confederacy. Therefore, the Huron were being punished for siding with the French and northern Algonquians instead of the Iroquois confederacy; this occurred with other Iroquoian speaking groups who had rejected invitations to join the Five Nations Confederacy (Taylor 2001).

Whatever the reason for the Beaver Wars, the Iroquois expeditions were wide ranging with documented attacks occurring in New England, the Chesapeake Bay and southern Appalachians, the headwaters of the Ottawa River in Canada, and near the Mississippi River
(Tanner 1987); however, the brunt and ferocity of these attacks occurred in the Great Lakes region and the Ohio valley.

As a result of these attacks, the native populations moved westward and eventually settled in an area that was triangular in shape, with the three points consisting of Starved Rock in Illinois, Sault Sainte Marie and Michilimackinac in Michigan, and Chequamegon, which is located in Wisconsin. Green Bay was the approximate center for this area (White 1991). Refugee camps were settled in this area, with constant tensions among the refugees. Also, as a result of these attacks, the region between the Great Lakes and the Ohio River was depopulated.

The refugees worked out their tensions and by the 1690s had allied themselves against the Five Nation Confederacy. With the help of the French and French firearms, the allies began attacking Iroquois villages in the Hudson Valley. Finally, in 1701, the Iroquois nation asked for peace with the French and the allied refugees. The treaty, known as the Grand Settlement of 1701, declared that the Iroquois would abandon all hunting grounds west of Detroit, would not arbitrate or become involved with conflicts among the Great Lakes tribes, and would remain neutral in all future Anglo-French wars (White 1991). With the signing of the Grand Settlement, the refugees left the camps and began to resettle in the Great Lakes-Ohio River region.

With the signing of the Grand Settlement and the repopulation of the Ohio River valley, by the eighteenth century is was noted that northern West Virginia was being used by groups from the Mingo and Delaware nations as a hunting and gathering area (North 1998). In 1744, with the signing of the Treaty of Lancaster, Virginia officials believed that they had purchased the Iroquois title of ownership of all of the land between Virginia and the Mississippi River. It would not be until the Treaty of Fort Stanwix in 1768 that ownership of these lands was finally recognized by the Iroquois nation.

Upon the signing of the Treaty of Lancaster, English/American colonists began to travel through and settle into the eastern and central regions of what is West Virginia. However, the encroachment of these new settlers into the region was not viewed favorably by either the Native American tribes that were either settled or heavily utilized the region, or by the French, who viewed the Ohio River valley as being part of New France. With the arrival of the English/Americans into this section of West Virginia, as well as the establishment of settlements in western Pennsylvania and the arrival of English traders into the Ohio River valley, the French realized that they needed to establish their rights to the Ohio River valley, which was done through the construction of a series of forts. In the case of West Virginia, the most prominent French fort was Fort Duquesne, which was established where the present day city of Pittsburgh is located.

The first documented Euro-American to explore what is now Wood County was Celoron de Blainville. He traversed through the county, via the Ohio River, in 1749, placing plates in the region. The plates claimed the area along the Ohio River Valley as being part of New France. While this was occurring, English traders were entering the Ohio River Valley in order to not only trade with the Native Americans, but to also claim the region for the English Crown (North 1998).
One of earliest Euro-American settlers in what would become Wood County was Harman Blennerhassett. In 1798, he built a settlement on what is today known as Blennerhassett Island; it was destroyed by a fire in 1811 (Cohen and Pauley 1985).

Wood County was formed in 1798 from the western section of Harrison County. Between 1831 and 1863 the county decreased in size due to the creation of Jackson, Roane, Ritchie, Wirt, and Pleasant counties. Originally, Wood County consisted of 1,233 square miles; however, after the creation of the surrounding counties, the size decreased to its present area of 377 square miles.

Wood County was named for James Wood, who was the Governor of Virginia during the county’s creation. He was born on January 28, 1741, in Winchester and his terms of office were from 1786 to 1799. He died on June 17, 1813.

Just prior to the creation of the county, and during the first part of the 19th century, several forts were constructed in the county in order to protect the early Euro-American settlers from Native American attacks/raids. These forts included Fort Backus, Fort Belleville, Fort Finn, and Fort Neal (McBride et al. 2003).

During the Civil War, very little if any military action occurred in the county. This was primarily due to the county’s location, which was not militarily significant in regards to retaining western Virginia with the Confederate States. The importance of the county, however, was noticed by the United States government; this was due to the Baltimore and Ohio Railroad traversing through the county.

The importance of the railroad to the Union was determined early in the war. On May 1, 1861, Union General George McClellan sent soldiers to Parkersburg, Benwood, and Wheeling in order to guard and protect the railroad. McClellan would arrive in Parkersburg on June 21.

In order to further protect the railroad, Fort Boreman was built at Parkersburg in 1863. The fort was named for West Virginia’s first governor, Arthur I. Boreman (Wood County Commission 2010).

The primary method that early Euro-American settlers arrived in the county was via the Ohio River. These early settlers would have taken keel boats and flat boats done the river from Pittsburgh; thus, the first major settlements were located along the river. During the mid-19th century, steam boats would replace the keel boats and flatboats.

The first major road constructed through the county was the Northwestern Turnpike (old United States Highway 50). The idea of the road was first suggested by George Washington in 1784. However, construction of the road would not begin until the beginning of the 19th century; the road was completed in 1838 (Doddridge County Historical Society [DCHS] 1979). It became a toll road used by people travelling to and from Parkersburg as well as moving livestock to market.
The Baltimore and Ohio Railroad (B & O) completed the section from Grafton to Parkersburg in 1857. As noted, the B&O was a major railroad during the Civil War that linked the eastern cities (especially Washington D.C.) with the Midwest. The railroad, during the war, allowed for major Union troop transfers from the Western Front to the Eastern Front (i.e., Virginia). After the war, the railroad was utilized as a major transporter of grain and livestock from the Midwest to the eastern seaboard. The B & O would become the one of the county’s largest employer from the mid-19th to the mid-20th centuries.

When the rail line was discontinued during the latter part of the 20th century, it was turned into the North Bend Rail Trail, which is utilized for recreational walking and biking paths. The trail runs from Parkersburg to Wolf Summit (approximately 72 miles) paralleling United States Highway 50. The trail contains 13 tunnels and 36 bridges and is part of the larger American Discovery Trail which runs from the east coast to the west coast.

In 1936 and 1937, United States Highway 50 was paved as part of the Public Works Administration. The highway would be expanded into four lanes in 1964, with the work completed in 1972. The highway is part of Corridor D in the Appalachian Development Highway System and spans from I-77 in Parkersburg to Bridgeport Hill (Kreiser 2013). On June 13, 2008, Corridor D was officially completed with the construction and opening of the bridge that connects Wood County with the State of Ohio.

In addition to the B & O, the county’s other major industry after the Civil War was the petroleum industry. The Volcanic Oil and Gas Company was established in 1864 and immediately bought 2,000 acres of land in the county; the town of Volcano was established by the company in that same year (Tanner 2010). Johnson N. Camden aided in the development of the town by bringing supplies via the Laurel Fork & Sand Hill Railroad, which was connected to the B & O. In 1875, Johnson N. Camden merged with John D. Rockefeller’s Standard Oil Trust. As part of the merger, Standard Oil would close all but one of Parkersburg’s refineries (Allen 2012).

The Camden Clark Medical Center was founded in 1898 by the city of Parkersburg. The hospital acquired its name from two of its major donors: Senator Johnson M. Camden and Dr. Andrew Clark. Senator Camden gave the city his house in 1920 in memory of his wife, while, Dr. Clark willed the city a sum of money with the proviso that it be utilized in the establishment of a hospital. The hospital was the first in West Virginia to support a nursing school, which is no longer in existence.

Currently, the major employers in the county are DuPont, retail stores (i.e., Walmart), the Wood County Board of Education, and the Camden Clark Medical Center.

RESULTS OF THE LITERATURE REVIEW

The online literature review was conducted by Brittany Vance on May 1, 2015 and consisted of an examination of the records maintained on the DCH online file database. These records include cultural resource management (CRM) reports, a map showing the location of
professionally investigated areas and archaeological sites, archaeological site forms, and cemetery records.

An examination of the previously surveyed areas and CRM reports indicated that no section of the project area or the study area (a 1 mile radius from the project area) has been professionally examined. It was ascertained that no sites have been recorded in either the project area or the study area. Because of this lack of data, it cannot be determined what types of sites would be expected or when-prehistorically-this area was primarily utilized.

A review of the NRHP files indicated that no NRHP properties or properties that are eligible for listing on the NRHP are located either in the project area or the APE. Because of this and in accordance with the Programmatic Agreement, no further work (i.e., field investigation) was conducted on any of the architectural resources that are currently present in the APE. Since no NRHP properties or historic properties eligible for inclusion on the NRHP are located in the APE, the proposed project will have no effect on any architectural resources that are eligible for the NRHP under Criteria A to C.

An examination of the cemetery records and maps indicated that no cemeteries have been reported in the project area.

In order to ascertain the potential for historic sites in the project, the USGS 1924 Marietta quadrangle (15’ topographic map) was inspected. From this examination it was determined that no buildings/structures have been recorded either in or immediately adjacent to the project area (Figure 8).

FIELD METHODS

Field methods utilized by Archaeological Consultants of the Midwest during this investigation consisted of the excavation of shovel probes and visual inspection. The following is a brief description of these methods:

Shovel Probes: This method was utilized in areas where ground surface visibility was less than 25 percent and the topography had a less than 15 percent slope. Shovel probes were 50 cm by 50 cm in size and were excavated at 15 m intervals. The fill from the shovel probes was screened through .25 inch hardware mesh cloth. Excavation terminated when either 10 cm of sterile subsoil had been excavated, or if subsoil was not encountered in the shovel probe, then at 50 cm. A record was kept for all of the shovel probes excavated. This record included soil profile, soil texture, soil color (Munsell), and the presence /absence of cultural materials.

Visual Inspection: All of the project area was visually inspected. This consisted of a walkover of the project area with the intention to locate disturbed areas, as well as potential structure remnants, dumps, etc. Visual inspection of areas with greater than 15 percent slope included ridge top slopes and ravines.
Figure 8. A section of the USGS 1924 Marietta quadrangle (15’ topographic map) showing the location of the project area.
RESULTS OF THE RECONNAISSANCE SURVEY

The fieldwork, which was supervised by Christopher Jackson, M.S., RPA, was conducted by Brittany Vance on May 8, 2015. The weather was sunny and warm with the temperature approximately 83 degrees F.

Visual inspection of the proposed access road/utility easement indicated that it will utilize an existing gravel road; a drainage ditch is situated east of the road and a steep slope to the west (Plates 1 and 2). Because of these disturbances, no further work (i.e., shovel probes) was undertaken in this section of the project area.

An examination of the compound area indicated that the vegetation consisted of grassy area on a terrace with 0 percent surface visibility (Plates 3 to 8). Due to the non-existent surface visibility, shovel probes were excavated.

A total of 8 shovel probes were excavated with all of them negative and no subsurface archaeological deposits encountered (Figure 9). Two soil profiles were documented in the compound area; Table 1 provides the stratigraphy recorded in each shovel probe.

The first soil profile consisted of a brown (7.5YR5/4) rocky sand that averaged 12 cm in depth. This was followed by eroded bedrock (Figure 10; Plate 9). The second profile entailed a light brown (7.5YR6/3) sandy loam that averaged 13 cm in depth. This was followed by a brown (7.5YR5/4) sandy loam stratum that was 4 cm in thickness. The third stratum consisted of a brown (10YR4/3) sandy clay loam that averaged 23 cm in thickness. Excavation of the shovel probes was terminated when eroded bedrock was encountered (Figure 10; Plate 10).

Because all of the shovel probes were negative, no sites were inventoried by this survey. Consequently, the proposed project will have no effect on any archaeological resources that are eligible for inclusion on the NRHP under Criterion D.

SUMMARY AND CONCLUSIONS

In May 2015, Martin Environmental Solutions contracted Archaeological Consultants of the Midwest to conduct a Phase I archaeological literature review and reconnaissance survey, as well as a viewshed study for the proposed Pigeonroost Run Telecommunications Tower site (Site Number PI3WV00005.A) in Wood County, West Virginia. The proposed site is located at Longitude 39° 21' 46.033" and Latitude 81° 26' 35.674". The project consists of a compound area, which is 9,250 sq. ft in area, and an access road/utility easement that measures approximately 40 ft in width and 290 ft in length. Thus, the project area encompasses approximately .5 acres. The tower will be a monopole that will be 195 ft in height.

This investigation is authorized under the Programmatic Agreement of 2004 between the Federal Communications Commission, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. Because a viewshed survey will be
Plate 1. Photograph of the proposed access road/utility easement, looking southeast.

Plate 2. Photograph of the access road/utility easement, looking north.
Plate 3. Photograph of a general view of the compound area, looking south.

Plate 4. Photograph of the compound area, looking east.
Plate 5. Photograph of the northern section of the compound area, looking north.

Plate 6. Photograph of the eastern section of the compound area, looking east.
Plate 7. Photograph of the southern section of the compound area, looking south.

Plate 8. Photograph of the western section of the compound area, looking west.
Figure 9. Aerial map showing the location of the project area and shovel probes
Table 1. Location and stratigraphy of the shovel probes excavated in the project area.

<table>
<thead>
<tr>
<th>Shovel Probe Number</th>
<th>UTM Coordinates</th>
<th>Stratigraphy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Northing</td>
<td>Easting</td>
</tr>
<tr>
<td>1</td>
<td>4357130</td>
<td>461813</td>
</tr>
<tr>
<td>2</td>
<td>4357131</td>
<td>461826</td>
</tr>
<tr>
<td>3</td>
<td>4357145</td>
<td>461816</td>
</tr>
<tr>
<td>4</td>
<td>4357143</td>
<td>461829</td>
</tr>
<tr>
<td>5</td>
<td>4357138</td>
<td>461840</td>
</tr>
<tr>
<td>6</td>
<td>4357138</td>
<td>461852</td>
</tr>
</tbody>
</table>
Table 1. Location and stratigraphy of the shovel probes excavated in the project area.

<table>
<thead>
<tr>
<th>Shovel Probe Number</th>
<th>UTM Coordinates</th>
<th>Stratigraphy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Northing</td>
<td>Easting</td>
</tr>
<tr>
<td>7</td>
<td>4357130</td>
<td>461852</td>
</tr>
<tr>
<td>8</td>
<td>4357130</td>
<td>461840</td>
</tr>
</tbody>
</table>
Figure 10. Typical soil profiles documented in the compound area.
Plate 9. Photograph of a typical soil profile (Shovel Probe 1) documented in the compound area, looking north.

Plate 10. Photograph of a typical soil profile (Shovel Probe 3) encountered in the compound area, looking north.
conducted as part of this investigation, according to the Programmatic Agreement, the APE is determined by the height of the proposed tower, which means that for this project the APE is a .5 mile radius from the proposed tower site.

The literature review indicated that no section of the project area has been professionally investigated; it was also ascertained that no sites have been recorded in the project area. A review of the historic cartographic sources indicated that no buildings/structures had been recorded in the project area.

According to the online historic property map, no NRHP properties or properties that are eligible for listing on the NRHP have been recorded either in the project area or the APE. Because of this, no fieldwork was undertaken on those architectural resources that are present in the APE. Thus, the proposed project will have no effect on any NRHP properties or historic properties that are eligible for the NRHP under Criteria A to D.

The fieldwork determined that the access road/utility easement will utilize an existing gravel road; thus, no further work (i.e., shovel probes) was undertaken in this section of the project area. The compound area is situated in a grassy area on a terrace with 0 percent surface visibility. As a result of the lack of surface visibility, shovel probes were excavated in the compound area, which were all negative.

Since all of the shovel probes were negative, no sites were documented by this investigation. Because of this, it can be determined that the proposed project will have no effect on any archaeological resources that are eligible for listing on the NRHP under Criterion D.

No further work is recommended in the proposed project area.
REFERENCES

Adovasio, J.M. (Compiler)
1983  Prehistory of the Paintsville Reservoir, Johnson and Morgan Counties, Kentucky.
University of Pittsburgh, Department of Anthropology, *Ethnology Monographs*, No. 6.

Ahler, Steven R.
1988  *Excavations at the Hansen Site in Northeastern Kentucky*. University of Kentucky,

Allen, Bernard L.

Bain, George L., and Eugene A. Friel
2, West Virginia Geological and Economic Survey, Morgantown, West Virginia.

Bastianini, Keith R., Edward J. Siemon, III, William C. Johnson, Kathryn M. Lombardi, Eric N.
Davis, and Christian E. Peterson
2001  *Phase I Archaeological Investigations in Sections 4 and 5 of the Appalachian Corridor
D Selected Alternative, Wood County, West Virginia: Management Summary Addendum.*
Michael Baker Jr. Submitted to West Virginia Department of Transportation, Division of
Highways, Charleston, West Virginia.

Bastianini, Keith R., Martin T. Fuess, Denise L. Grantz, Stephen J. Hinks, William C. Johnson,
J. Steven Kite, and Ryan Robinson with contributions by Carlos P. Cole
2002  *Phase III Data Recovery of the Godbey Field Site (46WD214) Section 6 Of the
Appalachian Corridor D Study Area Wood County, West Virginia: Interim Management
Summary*. Michael Baker Jr. Submitted to West Virginia Department of Transportation
Division of Highways, Charleston, West Virginia.

Brashler, Janet G., and Ronald W. Moxley
1990  Late Prehistoric Engraved Shell Gorgets of West Virginia. *West Virginia Archeologist*
42(1): 1-10.

Braun, E.L.

Broyles, B.J.
1966  Preliminary Report: The St. Albans Site (46KA27), Kanawha County, West Virginia.
*The West Virginia Archeologist* 19: 1-43
Cardwell, Dudley H., Robert B. Erwin, and Herbert P. Woodward

Clarke, Wesley S. and John B. DeWert
1977  *An Archaeological Survey of the Newbury Tract, Washington County, Ohio*. Submitted by Martha Potter Otto, Ohio Historical Society, Columbus, Ohio, to Columbus & Southern Ohio Electric Company, Columbus, Ohio.

Cohen, Stan B, and Michael J Pauley

Dice, Lee R.

Doddridge County Historical Society

Ellyson, W.J., R.F. Fonner, and W.M. Kunkle

Farrell, D.R.

Fenneman, N.M.

Freiden, N.

Grantz, Denise L., Stephen J. Hinks, and William C. Johnson
2002  *End-of-Fieldwork Summary Letter: Godbey Field Site (46WD214), Appalachian Corridor D Project*. Michael Baker Jr. Submitted to West Virginia Department of Transportation, Division of Highways, Charleston, West Virginia.

Grantz, Denise L., William C. Johnson, and Ryan W. Robinson
Graybill, Jeffrey R.


Hanson L.H., Jr.

Hemmings, Thomas

Hughes, M., Albert Pecora, and Johnathan Kerr

Hyde, E. W.
1960 *Mid-Ohio Valley Paleo-Indian and Suggested Sequence of the Fluted Point Cultures.* West Virginia Archeological Society, Publication Series 5.

Johnson, William C.

Keener, C.S.
1998 *An Ethnographic Perspective on Iroquois Warfare during the Second Half of the Seventeenth Century (A.D. 1649-1701).* Unpublished Ph.D. dissertation, Department of Anthropology, The Ohio State University, Columbus.
Kreiser, Christine M.

2003 Frontier Forts in West Virginia. West Virginia Division of Culture and History, Charleston, West Virginia.

McMichael, Edward J.

North, E. Lee

Rogers and Golden

Tanner, Borgon

Tanner, H. H.

Taylor, A.

USDA

White, R.

Wilkins, Gary R.


Wood County Commission
APPENDIX A

Vitae of Appropriate Staff
Curriculum Vitae
For
Brittany Vance

Current Position:
Archaeology Field Technician
Archaeological Consultants of the Midwest
535 Fulton Street
Wheeling, WV 26003

Academic Background:
2011
B.A. in Anthropology and French, Marshall University

2010
French Language Certificate, Catholic University of Lyon

Experience:
Experience in Historic Background research, Fieldwork, Deed
Research, and Artifact Processing in the lab. Experience in working
on a variety of Phase I surveys. Has worked in West Virginia and
Pennsylvania.

Employment History:
2012
Archaeology Field Technician I, Cultural Resource Analysts, Inc.

2013-Present
Archaeology Field Technician, Archaeological Consultants of the
Midwest

Brief Summary of Field Experience:
2010
Marshall University Archaeology Field School- Instructor: Dr.
Nicholas Freidin. Phases I & II in sections of General Jenkins’
plantation in Greenbottom, West Virginia.

2012
Phase III survey of a proposed site for a mining supply company.
Putnam County, West Virginia. (Cultural Resource Analysts, inc.)

2013
Phase I survey of a proposed pipeline for Consol Energy, Upshur
County, West Virginia. (Archaeological Consultants of the
Midwest).

Cultural Resource Management Reports:
2013
A National Register of Historic Places Evaluation of a Farmstead
for the North Central Resources’ Proposed Coal Refuse Facility
Number 1 Project in Barbour County, West Virginia. (co-authored
with Christopher Jackson). Archaeological Consultants of the
Midwest.
2013  

2013  

2013  
A Viewshed Survey for the Proposed CNX Gas Company, LLC, Normantown Compressor Station near the Community of Lockney, Gilmer County, West Virginia. (co-authored with James Vosvick and Christopher Jackson). Archaeological Consultants of the Midwest.

2013  
A Phase I Archaeological Literature Review and Reconnaissance Survey for the CONCOL Pennsylvania Coal Company-Bailey Deep Mine (Permit U200601-IBR 27) Proposed Utilities Corridor Project near the Communities of Clouston, Cameron, Loudenville, Glen Easton, Rosbys Rovk, and Graysville, Marshall County, West Virginia. (co-authored with Christopher Jackson and Jamie Vosvick). Archaeological Consultants of the Midwest.

Academic Grants/Honors

National SMART Grant, Spring 2010-Spring 2011
Dean’s List Fall, 2009- Spring 2011
Lambda Alpha (Anthropological Honors Society)

Presentations:

2011  
History of French Film: The Golden Age. Marshall University
Senior French Capstone, Marshall University College of Liberal Arts Research and Creativity Conference.

2011  
Kru Slave Shackles in Liberian Archaeology. Marshall University
Senior Anthropology Capstone, Marshall University College of Liberal Arts Research and Creativity Conference.
CURRICULUM VITAE
for
CHRISTOPHER JACKSON

CURRENT POSITION: President
Archaeological Consultants of the Midwest, Inc.
P.O. Box 39146
Indianapolis, Indiana 46239
(317) 862-2002

ACADEMIC BACKGROUND:
M.S. in History, Indiana State University, 1989.
B.A. in Anthropology and History, Indiana State University, 1987.

EXPERIENCE:
Areas of expertise include: Archaeological Field Methods and Archival and Historic Background Research. Assisted and directed Phase I, II, and III projects, as well as written numerous CRM reports. Other skills include historic research, archival research, deed and title research, and mapping. Worked in California, Indiana, Louisiana, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia.

SHPO CERTIFICATION:
2007-Present Principal Investigator (Archaeology, History, Architectural History), Indiana State Historic Preservation Office
2007-Present Principal Investigator (Archaeology), Pennsylvania State Historic Preservation Office

PROFESSIONAL CERTIFICATION:
1998-present Registered Professional Archaeologist (RPA).

EMPLOYMENT HISTORY:
2000-present President, Archaeological Consultants of the Midwest, Inc.
1993-2000 Field Director, ASC Group, Inc.
1993 Field Technician, Skelly and Loy, Inc.
1989-93 Field Technician/Assistant Historian, Gray and Pape, Inc.

ACADEMIC GRANTS/SCHOLARSHIPS/HONORS:
Bertha Baldwin Endowment Scholarship
Dean's List
Indiana State University Archaeological Scholarship
Indiana State University Graduate Fellowship
Indiana State University Summer Honors Talent Grant
**PRESENTATIONS:**

1985  

2008  
(with Christopher Koeppe). Preliminary Results of the Archaeological Investigations at the Ana Lynn Site (12Ws284). Presented at the 2008 National Center for Great Lakes Native American Culture Academic Conference, Portland, Indiana.

**CULTURAL RESOURCE MANAGEMENT REPORTS (sample):**

2008  
*An Investigation of a Historic Cemetery Situated within the White Oaks Phase II Development Located in the Clay District, Harrison County, West Virginia.* (co-authored with Jamie Vosvick). Archaeological Consultants of the Midwest, Inc. Submitted to Thrasher Engineering, Clarksburg, West Virginia.

2009  

2010  
*A National Register Evaluation of Four Historic Cemeteries (46Mg264, 46Mg270, 46Mg271 and the Liming Cemetery) for the Proposed New Hill West Surface Mine in Monongalia County, West Virginia.* (co-authored with Jamie Vosvick and Jennifer Carroll). Archaeological Consultants of the Midwest, Inc. Submitted to Patriot Mining, Morgantown, West Virginia.

2010  
*A Phase I Archaeological Literature Review and Reconnaissance Survey for the Proposed Quarry Modification Project (Permit Number Q200698) near the Community of Hillsboro, and the Phase II Investigation of Sites 46Ph763 and 46Ph764, Pocahontas County, West Virginia.* (co-authored with Jamie Vosvick and Jennifer Carroll). Archaeological Consultants of the Midwest, Inc. Submitted to Boxley Aggregates of West Virginia, Roanoke, Virginia.

2010  
*A Phase II Archaeological Assessment of Site 46Pu171 That Is To Be Impacted by the Proposed Athletic Field Complex near the City of Buffalo, Putnam County, West Virginia.* Archaeological Consultants of the Midwest, Inc. Submitted to Putnam County Board of Education, Winfield, West Virginia.

2011  

A Phase II Archaeological Assessment of the Milan Vosvick Jr. Site (46Hm113) for the Proposed Construction of a Railroad Spar and Development near the Town of Romney, Hampshire County, West Virginia. (co-authored with Jamie Vosvick and Sarah Posin). Archaeological Consultants of the Midwest, Inc. Submitted to Thrasher Engineering, Clarksburg, West Virginia.

A Phase I Archaeological Literature Review and Reconnaissance Survey for the Proposed Red Hawk Surface Mine (Amendment No. 1; SMA 4003-07) near the Communities of Berwind and Cucumber, McDowell County, West Virginia. (co-authored with Jamie Vosvick and Seth Cooper). Archaeological Consultants of the Midwest, Inc. Submitted to True Line, Thorpe, West Virginia.


A Phase II Investigation of the Jeep Site (46JA115) for the Proposed Verizon Wireless Goldtown Telecommunications Tower Site (Trileaf Number 606099) near the Community of Goldtown, Jackson County, West Virginia. Archaeological Consultants of the Midwest, Inc. Submitted to Trileaf Environmental & Property Consultants, St. Louis.

MEMBERSHIPS/AFFILIATIONS:
Society of American Archaeology
ATTACHMENT 9

APE FOR DIRECT EFFECTS
APE for Direct Effects

No historical resources were identified within the APE for direct effects. Please refer to the Cultural Resources Survey conducted by Archaeological Consultants of the Midwest, Inc. in Attachment 8.
ATTACHMENT 10

MAPS
ATTACHMENT 11

PHOTOGRAPHS
Photo 1 – Facing north-northeast overlooking panoramic view of *Subject Site*

Photo 2 – Facing northwest overlooking access road
MartinEnviro Site #: 2015-PRI-0001
Client #: P13WV00005.A
Site Name: Pigeonroost Run

Photo 3 – Facing north overlooking Subject Site

Photo 4 – Facing south overlooking Subject Site
MartinEnviro Site #: 2015-PRI-0001
Client#: PI3WV00005.A
Site Name: Pigeonroost Run

Photo 5 – Facing east overlooking Subject Site

Photo 6 – Facing west overlooking Subject Site
Photo 7 – Facing north from Subject Site

Photo 8 – Facing south from Subject Site
Photo 9 – Facing east from Subject Site

Photo 10 – Facing west from Subject Site
Photo 11 – Facing east overlooking creek approximately 100 feet west of Subject Site

Photo 12 – Facing north-northeast along State Route 31 from access entrance
Photo 13 – Facing south-southwest along State Route 31 from access entrance
APPENDIX I

SHPO CONCURRENCE LETTER
July 24, 2015

Ms. Lisa Heise
NEPA Specialist I
Martin Environmental Solutions, Inc.
8823 San Jose Boulevard, Suite 103
Jacksonville, FL 32217

RE: Form 620 Pigeonroost Run/PI3 WV00005-A Tower Site
    MartinEnviro Project Number: 2015-PRI-0001; TCNS Notification Number: 126390
FR#: 15-647-WD-2

Dear Ms. Heise:

We have reviewed the above referenced project to determine potential effects to cultural resources. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulation, 36 CFR 800: “Protection of Historic Properties,” we submit our comments.

According to submitted information, PI Telecom Infrastructure V, LLC proposes to construct a 190-foot wireless telecommunication monopole tower (195-foot with appurtenances) in a 274-foot by 34-foot irregularly shaped lease area located at 1935 Williamstown Pike in Wood County.

Architectural Resources:
We have reviewed the submitted information, and determined that no architectural properties which are eligible for or listed in the National Register of Historic Places will be affected by the proposed project. No further consultation is necessary regarding architectural resources; however, we ask that you contact our office if your project should change.

We appreciate the opportunity to be of service. If you have questions regarding our comments or the Section 106 process, please contact Jeffrey S. Smith, Structural Historian, at (304) 558-0240.

Sincerely,

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/JSS

cc: Mr. Christopher Jackson, Archaeological Consultants of the Midwest, Inc.
APPENDIX J

TCNS SUBMITTAL CONFIRMATION AND NOTICE OF ORGANIZATIONS
Dear Lisa Heise,

Thank you for submitting a notification regarding your proposed construction via the Tower Construction Notification System. Note that the system has assigned a unique Notification ID number for this proposed construction. You will need to reference this Notification ID number when you update your project's Status with us.

Below are the details you provided for the construction you have proposed:

Notification Received: 05/01/2015

Notification ID: 126390
Tower Owner Individual or Entity Name: Parallel Infrastructure
Consultant Name: Lisa Heise
Street Address: 8823 San Jose Blvd
Suite 103
City: Jacksonville
State: FLORIDA
Zip Code: 32217
Phone: 904-737-1034
Email: TCNS@martinenviro.com

Structure Type: MTOWER - Monopole
Latitude: 39 deg 21 min 46.0 sec N
Longitude: 81 deg 26 min 35.7 sec W
Location Description: 1835 Williamstown Pike
City: Williamstown
State: WEST VIRGINIA
County: WOOD
Detailed Description of Project: Construction of a 190-foot monopole (195 feet with appurtenances) within an irregularly-shaped lease area (9,250 square feet).
Ground Elevation: 194.9 meters
Support Structure: 57.9 meters above ground level
Overall Structure: 59.4 meters above ground level
Overall Height AMSL: 254.3 meters above mean sea level
Dear Sir or Madam:

Thank you for using the Federal Communications Commission's (FCC) Tower Construction Notification System (TCNS). The purpose of this electronic mail message is to inform you that the following authorized persons were sent the information you provided through TCNS, which relates to your proposed antenna structure. The information was forwarded by the FCC to authorized TCNS users by electronic mail and/or regular mail (letter).

Persons who have received the information that you provided include leaders or their designees of federally-recognized American Indian Tribes, including Alaska Native Villages (collectively "Tribal Nations"), Native Hawaiian Organizations (NHOs), and State Historic Preservation Officers (SHPOs). For your convenience in identifying the referenced Tribal Nations and NHOs and in making further contacts, the City and State of the Seat of Government for each Tribal Nation and NHO, as well as the designated contact person, is included in the listing below. We note that Tribal Nations may have Section 106 cultural interests in ancestral homelands or other locations that are far removed from their current Seat of Government. Pursuant to the Commission’s rules as set forth in the Nationwide Programmatic Agreement for Review of Effects on Historic Properties for Certain Undertakings Approved by the Federal Communications Commission (NPA), all Tribal Nations and NHOs listed below must be afforded a reasonable opportunity to respond to this notification, consistent with the procedures set forth below, unless the proposed construction falls within an exclusion designated by the Tribal Nation or NHO. (NPA, Section IV.F.4).

The information you provided was forwarded to the following Tribal Nations and NHOs. If a Tribal Nation or NHO does not respond within a reasonable time, you should make a reasonable effort at follow-up contact, unless the Tribal Nation or NHO has agreed to different procedures (NPA, Section IV.F.5). In the event a Tribal Nation or NHO does not respond to a follow-up inquiry, or if a substantive or procedural disagreement arises between you and a Tribal Nation or NHO, you must seek guidance from the Commission (NPA, Section IV.G). These procedures are further set forth in the FCC's Declaratory Ruling released on October 6, 2005 (FCC 05-176).

1. **Chief Leo R Henry - Tuscarora Nation** - Via: Lewiston, NY - regular mail

Details: If the Applicant/tower builder receives no response from the Tuscarora Nation within 30 days after notification through TCNS, the Tuscarora Nation has no interest in participating in pre-construction review for the site. The Applicant/tower builder, however, must IMMEDIATELY notify the Tuscarora Nation in the event archaeological properties or human remains are discovered during construction.
2. THPO/NAGPRA Technician Minogheezhig Sandman-Shelifoe - Keweenaw Bay Indian Community - Baraga, MI - electronic mail
Details: The KBIC THPO reviews all projects within historic homelands for the presence of cultural resources with significance to the Anishinaabe. Your request will go through a preliminary review by our THPO/NAGPRA Technician, the review consists of relevant studies submitted by the applicant regarding cultural resources documentation, in house literature search, database search and GIS search for further information. If any cultural resources are identified during this process, the file will be turned over to the Tribal Historic Preservation Officer in order to make a determination of effects.
Information required in order to complete this process are as follows:
Project Name
Project Location
Physical Address
Latitude and Longitude
State, County,Township, Range, Section quarters Brief Project Description Existing studies for archaeological sites, and cultural resources.

As of June 11, 2014 the KBIC THPO will be charging a fee of $500.00 per review/collation unless the review covers more than one section of land in which case the fee is $500.00 per section. Fees in this process cover the research and other activities required to provide you with a timely response so your project can stay on track. Please submit payment of $500.00 for each project application submitted, checks should be made payable to KBIC THPO, 16429 Beartown Road, Baraga, Michigan 49908. Any questions can be directed to: Minogheezhig Sandman-Shelifoe via email thpo@kbic-nsn.gov, minogheezhig@kbic-nsn.gov or by phone: 906-353-6623 ext. 4278. (Please note that Juliet Goyen is no longer a contact within the KBIC-THPO office)

If the applicant/tower builder receives no response from the Keweenaw Bay Indian Community within 30 days after notification through TCNS, the Keweenaw Bay Indian Community has no interest in participating in pre-construction review for the proposed site. The Applicant/tower builder, however,

r, must immediately notify the Keweenaw Bay Indian Community in the event archaeological properties or human remains are discovered during construction, consistent with Section IX of the Nationwide Programmatic Agreement and applicable law.

3. THPO/NAGPRA Rep. Paul Barton - Seneca-Cayuga Tribe of Oklahoma - Grove, OK - electronic mail and regular mail
Details: Thank you for contacting the Seneca-Cayuga Tribe of Oklahoma. The Seneca Cayuga Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.
Please note current changes in the Seneca Cayuga Cell Tower Consultation Procedures. As of March 1, 2013, the Seneca Cayuga Tribe will be increasing the Research & Review Fee to $350.00 for all proposed projects. With ground disturbing activities, projects such as Co-location sites which DO NOT require ground disturbance, will continue to be exempt from any fees and no written response will be processed or sent. Co-location projects only need to submit email of basic Project information (location and description) to Paul Barton, THPO (pbarton@scircle.com) to be filed within Seneca Cayuga Tribal Records. Please send a check or money order with Project Notice and TCNS Identification number, in the amount of $350, made payable to Seneca-Cayuga Tribe CHPP, to the following address:

Seneca-Cayuga NAGPRA Office  
c/o Paul Barton, THPO/NAGPRA Rep.  
23701 South 655 Road  
Grove, OK  74344

The Seneca-Cayuga Tribe of Oklahoma will provide written Responses within 30 days AFTER receipt of proper Project Notice and the $350.00 review fee. PROPER PROJECT NOTICE shall consist of Contact Information, Project Number (TCNS), Tower Information, SHPO Letter, Archaeological Survey report and Location Map, for detailed description of proper Project Notice information please refer to the Seneca Cayuga Cell Tower Consultation Procedures. For a copy of the Seneca Cayuga Cell Tower Consultation Procedures please send request to Paul Barton, THPO (pbarton@scircle.com).

We do not wish to consult on collocations that do NOT involve ground disturbance, therefore no response will be made. Collocations that do NOT involve ground disturbance are exempt from any fees. We DO wish to consult on collocations that DO involve ground disturbance. Collocations that do involve ground disturbance will require the $350 processing fee.

4. **THPO Dr. Andrea A Hunter - Osage Nation** - Pawhuska, OK - electronic mail and regular mail  
Details: The Osage Nation Tribal Historic Preservation Office requires the following information and fee regarding all antenna or tower notifications:

1) Specific legal description of site location using USPLSS and UTM designations only.  
2) Maps locating project area, within region and within local area (aerial and USGS topo maps)  
3) Project site plan maps, do not submit hand drawn or hand annotated maps  
4) Site photographs (include images with exact location of construction site by taking shot with cell tower/base/compound location indicated or marked by stakes or flagging)  
5) Include map locating shovel tests and provide shovel test log.  
6) Professional cultural/archaeological survey report (Secretary of Interior's standards and guidelines for reports can be found at the National Park Service website (www.nps.gov).  
7) Reference all documentation with TCNS #.  
8) Submit a $500.00 per-tower fee for administration, data processing, and handling. For expedited projects the administration fee is $700.00. Make the check payable to the Osage Nation. On the memo line write all TCNS numbers.  
9) A CELL TOWER CONSULTATION PROCEDURES DOCUMENT (Revised October 2014) is available by email and is recommended for guidance, send an email request to Dr. Andrea A. Hunter at: ahunter@osagenation-nsn.gov.
5. THPO Robin Dushane - Eastern Shawnee Tribe of Oklahoma - Wyandotte, OK - regular mail
Details: NOTE: CHANGE IN CONSULTATION PROCEDURES AND FEE

The Cultural Preservation Office of the Eastern Shawnee Tribe of Oklahoma requires the following information and fees regarding all proposed FFC projects.

Please do not email documentation; it will be deleted without being opened. Mail one printed color copy of all documentation accompanied with a CD version.

Please submit by US postal mail or other parcel carrier all of the following information for all FCC projects:

1. A 1-page cover letter with the following information:
   a) TCNS number
   b) Company name
   c) Project name, city, county, state
   d) Project type
   e) UTM coordinates using WGS84 (G115G0)
   f) Total area surveyed in acres
   g) Contact information.

2. Professional cultural/archaeological resource survey report.

3. Aerial and color USGS topographic maps locating project area within the state, county, and local area.

4. Aerial, color USGS topographic, or planimetric maps locating tower site, APE, access road, utility easement, guy wire locations surveyed, surveyed staging areas, and known archaeological/historic sites.

5. Project site plan map depicting labeled shovel test locations.


7. Site photographs.

8. A copy of the review letter or TCNS e-response from the State Historic Preservation Office and all other state-mandated review offices.

9. Submit a $550.00 per/tower fee for administration, data processing, handling, research, and review. Collocations, PTC poles, and projects in previously disturbed locations require a $100.00 fee. Make the check payable to the Eastern Shawnee Tribe of Oklahoma. On the memo line write all TCNS numbers.
NOTE: Effective November 1, 2014, for TCNS #119606 and forward, regarding collocations, PTC poles, and projects in previously disturbed locations; the administration, data processing, handling, research and review fee will decrease to $100.00.

10. THE EASTERN SHAWNEE TRIBE’S NEW CONSULTATION PROCEDURES DOCUMENT is available by email and is highly recommended for guidance. Send an email to Dee Gardner at: celltower@estoo.net.

If the applicant/tower builder receives no response from the Eastern Shawnee Tribe of Oklahoma within 30 days after notification through TCNS, the Eastern Shawnee Tribe of Oklahoma has no interest in participating in pre-construction review for the proposed site. The Applicant/tower builder, however, must immediately notify the Eastern Shawnee Tribe of Oklahoma in the event archaeological properties or human remains are discovered during construction, consistent with Section IX of the Nationwide Programmatic Agreement and applicable law.

6. THPO Sherri Clemons – Wyandotte Nation - Wyandotte, OK - electronic mail
Details: Greetings from Wyandotte Nation.

PLEASE BE ADVISED THAT AS OF TCNS NO. 126800, ALL COLOCATIONS AND PREVIOUSLY DISTURBED TOWER LOCATIONS WILL BE $200.

ALL RAW LAND NEW BUILD SITES REMAIN AT $600.

EACH PTC POLE IS STILL $100 (PER NON-EXEMPT POLE, NOT PER TCNS).

The following information is provided automatically via the TCNS web site. Additional information may be provided in a second email that we send for each tower that is logged into TCNS. However, as we have been unable to use the TCNS website reliably to send our second response email since early April 2014, this very likely will be the ONLY email that you receive until the technical issue preventing us from using that feature has been addressed.

NEW INFORMATION- From this point forward, please send the required information for our review by email ONLY. Send the fee and a cover letter by hard copy to the Tribe, but DO NOT send review information by hard copy. Doing so will delay the review.

We are interested in consulting on this tower or broadband project, just as we are interested in being consulted regarding all federal undertakings in our homelands. This consultation is one of the activities required by the National Historic Preservation Act (NHPA) for such federal undertakings.

Please follow our archaeology procedures (9-9-13) and our general NHPA procedures for consultation (6-1-13), both available by e-mailing the cell tower program archaeologist, Rebecca Hawkins, at algonquin@meok.com. These procedures supersede all earlier versions of
our procedures. All further correspondence regarding this tower should also be directed to that email address. With questions, you may call Mr. Lamont Laird at 918-533-2212.

AS STATED IN OUR GUIDELINES, AN ARCHAEOLOGIST MUST PERFORM THE FIELD WORK AND RELATED ANALYSES. The Wyandotte Nation will object to any tower where field work/analysis was performed after 9-9-13 and where a trained, experienced archaeologist did NOT conduct the field work. The National Park Service defines Essential Competencies for the field of archaeology at http://www.nps.gov/training/npsonly/RSC/archeolo.htm. Minimally, a "trained, experienced archaeologist" has at least a BA in Anthropology with a focus in archaeology and two solid years of field experience in the region where the field work is being performed.

The fee for all collocations and towers built in previously disturbed areas is $100. The fee for all other towers is $600.

Please make sure to provide your archaeologists with a copy of our procedures PRIOR TO the time that they do field work. If archaeology reports do not provide the information requested on the last 2 pages of our archaeology procedures, which you may use as a checklist, the report will be rejected. Please do not send reports that you know are deficient, as doing only delays the response process for your tower and those of other applicants as well.

Tizame (thank you),

Sherri Clemens, THPO
Wyandotte Nation

7. THPO Kim Jumper - Shawnee Tribe - Miami, OK - regular mail
Details: THIS IS YOUR OFFICIAL NOTICE THAT THE SHAWNEE TRIBE IS INTERESTED IN CONSULTING ON ALL PROJECTS BUILT IN OUR AREAS OF GEOGRAPHIC INTEREST.

ATTENTION, NEW INFORMATION: Our procedures were updated on 14 January 2008. Please call Kim Jumper, THPO, at 918-542-2441, so that she can send you a copy.

If your tower is a co-location, please fax us this information to let us know. We cannot always tell from the TCNS web site that a tower is a co-location. We require a written response from you to let us know that it is a co-location. If a co-location project includes some new ground disturbance (such as from an expanded compound or access road, or construction of an ancillary structure), the Shawnee Tribe treats such a project the same as any other non co-location project.

Our correct mailing/physical address is: 29 South Highway 69A. Our correct phone number is (918-542-2441) and our historic preservation fax line is (918-542-9915). THPO Kim Jumper manages all cell tower consultation.
As of 26 June 2006, all of the faxed responses of our final comments on a tower site will contain an original Shawnee Tribe signature. Each final comment fax is signed individually. Copies may be compared, for authentication, against the original in our files. If a final comment fax does not contain a signature, it is not valid. ALL FINAL COMMENTS FROM THE SHAWNEE TRIBE ARE WRITTEN; FINAL COMMENTS ARE NEVER PROVIDED VERBALLY. IF THE SHAWNEE TRIBE IS CREDITED WITH HAVING GIVEN A VERBAL RESPONSE, THAT RESPONSE IS NOT VALID.

If you receive notification through the TCNS listing the Shawnee Tribe, that is an indication that the Shawnee Tribe is interested in consulting on the tower for which that notification was received. Please consider that our official indication of interest to you. The Shawnee Tribe considers the Tower Construction Notification System's weekly e-mail to be the first notification that we receive that a tower will be constructed in an area of our concern. We do not view the TCNS notification as completion of 106 consultation obligations.

The Shawnee Tribe has developed streamlined consultation procedures for cell tower developers and their subcontractors. If you do not have a copy of the procedures - most recently updated on 14 January 2008 - please contact us, as you must follow these procedures to consult with us on cell tower projects. Call us at 918-542-2441 or fax us at 918-542-9915. It is the tower builder's responsibility to make sure that you have our most recent consultation procedures.

PLEASE DO NOT SEND US INFORMATION, QUERIES, OR COMMENTS ELECTRONICALLY. SINCE 1 DECEMBER 2005, WE HAVE NOT HANDLED ANY CELL TOWER CONSULTATION, INQUIRIES, OR CORRESPONDENCE VIA E-MAIL.

The information you provided was also forwarded to the following SHPOs in the State in which you propose to construct and neighboring States. The information was provided to these SHPOs as a courtesy for their information and planning. You need make no effort at this time to follow up with any SHPO that does not respond to this notification. Prior to construction, you must provide the SHPO of the State in which you propose to construct (or the Tribal Historic Preservation Officer, if the project will be located on certain Tribal lands), with a Submission Packet pursuant to Section VII.A of the NPA.

8. Department Head Mark J Epstein - Ohio Historic Preservation Office - Columbus, OH - electronic mail and regular mail

9. Deputy SHPO Franco Ruffini - Ohio Historic Preservation Office - Columbus, OH - electronic mail

10. SHPO Ann Safley - Pennsylvania Historical & Museum Commission Bureau for Historic Preservation - Harrisburg, PA - electronic mail

11. Deputy SHPO Susan M Pierce - West Virginia Division of Culture & History, Historic Preservation Office - Charleston, WV - electronic mail and regular mail
12. Deputy SHPO Susan Pierce - West Virginia Division of Culture & History, Historic Preservation Office - Charleston, WV - electronic mail

13. Department Head, Res. Protect. & Rev. Mark Epstein - Ohio Historic Preservation Office - Columbus, OH - electronic mail and regular mail

"Exclusions" above set forth language provided by the Tribal Nation or SHPO. These exclusions may indicate types of PTC wayside pole notifications that the Tribal Nation or SHPO does not wish to review. TCNS automatically forwards all notifications to all Tribal Nations and SHPOs that have an expressed interest in the geographic area of a proposal. However, if a proposal falls within a designated exclusion, you need not expect any response and need not pursue any additional process with that Tribal Nation or SHPO. Exclusions may also set forth policies or procedures of a particular Tribal Nation or SHPO (for example, types of information that a Tribal Nation routinely requests, or a policy that no response within 30 days indicates no interest in participating in pre-construction review).

Please be advised that the FCC cannot guarantee that the contact(s) listed above opened and reviewed an electronic or regular mail notification. The following information relating to the proposed tower was forwarded to the person(s) listed above:

Notification Received: 05/01/2015
Notification ID: 126390
Tower Owner Individual or Entity Name: Parallel Infrastructure
Consultant Name: Lisa Heise
Street Address: 8823 San Jose Blvd
              Suite 103
City: Jacksonville
State: FLORIDA
Zip Code: 32217
Phone: 904-737-1034
Email: TCNS@martinenviro.com

Structure Type: MTOWER - Monopole
Latitude: 39 deg 21 min 46.0 sec N
Longitude: 81 deg 26 min 35.7 sec W
Location Description: 1835 Williamstown Pike
City: Williamstown
State: WEST VIRGINIA
County: WOOD
Detailed Description of Project: Construction of a 190-foot monopole (195 feet with appurtenances) within an irregularly-shaped lease area (9,250 square feet).
Ground Elevation: 194.9 meters
Support Structure: 57.9 meters above ground level
Overall Structure: 59.4 meters above ground level
Overall Height AMSL: 254.3 meters above mean sea level
If you have any questions or comments regarding this notice, please contact the FCC using the electronic mail form located on the FCC's website at:


You may also call the FCC Support Center at (877) 480-3201 (TTY 717-338-2824). Hours are from 8 a.m. to 7:00 p.m. Eastern Time, Monday through Friday (except Federal holidays). To provide quality service and ensure security, all telephone calls are recorded.

Thank you,
Federal Communications Commission
APPENDIX K

FLOODPLAIN MAP
APPENDIX L

ZONING APPROVAL
July 27, 2015

Tim Starks
Wireless Resources, Inc.
258 Village Drive
Canonsburg, PA 15317

Dear Mr. Starks:

This letter is to hereby notify you that the Wood County Planning Commission has approved a tower located at 16 Plum Road, Williamstown, West Virginia. A building permit from Wood County will be required for this installation.

If you have any questions please feel free to call.

Sincerely,

Marty Seuffer, Director
Wood County Planning Commission
APPENDIX M

WETLAND MAP
APPENDIX N

STATEMENT OF QUALIFICATIONS
**Sherrie Leman**  
Project Manager / Senior Vice President

**Fields of Specialization**
Ms. Leman has over 25 years of diversified experience in the environmental field, including, but not limited to, Phase I and Phase II Environmental Site Assessments, National Environmental Policy Act (NEPA) reviews, subsurface investigations, regulatory compliance and permitting (air quality, wetlands, generators, and tanks), hazardous waste management, environmental microbiology studies, bio-remediation studies and implementation plans, environmental health risk assessment and management, indoor air quality studies, industrial hygiene, radon studies, lead-based paint studies, asbestos identification and remediation/abatement, quality assurance/quality control procedures, and sample collection and analysis of water, wastewater, soils, and air. She also has provided testimony as an expert witness in environmental contamination cases. Ms. Leman specializes in telecommunications facilities at this time.

**Experience**
Prior to joining the firm, Ms. Leman was responsible for regulatory compliance with applicable environmental regulations for a national company within the telecommunications industry. She has significant experience in conducting and managing Phase I and Phase II Environmental Site Assessments and NEPA projects for national companies, as well as the implementation of SARA Tier I and Tier II reporting, hazardous waste management, and hazardous substance storage programs. Ms. Leman also has expertise in the development and implementation of various environmental and health and safety policy, procedure, and training programs for national firms, embracing applicable environmental and OSHA regulations. She has significant experience in conducting and managing environmental and health and safety audits in commercial and industrial settings, as well as root cause analysis and corrective action studies.

**Certifications and Affiliations**
- ASTM Committee E50 on Environmental Assessment, Risk Management and Correction Action

**Education**
- B.S. Microbiology / Public Health Science with emphasis in Chemistry  
  South Dakota State University
- Graduate studies in Environmental Public Health with emphasis in Environmental Engineering  
  University of South Florida
THADDEUS NICHOLLS  
Field Scientist, NEPA Specialist

Fields of Specialization

Mr. Nicholls has over 10 years experience in the field of environmental consulting, including performing biological surveys, field data collection and analysis, and wildlife monitoring. His specific skills are within the realm of coastal and coral reef ecology, and Living Shoreline habitat restoration and enhancement practices.

Experience

Mr. Nicholls has significant experience monitoring various endangered and protected wildlife species such as bald eagles, golden eagles, Swainson’s hawk, red-tailed hawk, osprey, and live-trapping/handling of the endangered species the Preble's meadow jumping mouse. He has a great deal of experience collecting field data, including underwater data collection using SCUBA and underwater photography. Mr. Nicholls' skills also include performing various parametric and non-parametric statistical analyses on collected field data. His Living Shoreline work involved habitat restoration and enhancement of eastern oyster (*Crassotrea virginica*) and *Spartina alterniflora* tidal grass habitats.

In addition to performing field work, Mr. Nicholls also writes and prepares materials required for SHPO submissions and NEPA reports, and performs numerous Phase I and Phase II Environmental Site Assessments.

Certifications and Affiliations

- NPDES Sediment and Erosion Control Certification
- Asbestos Building Inspector Certification
- Lead-Based Paint Inspector Certification
- HAZWOPER Certification (40-hour)
- ACOE Wetland Delineation Training Program
- Member, International Society for Reef Studies

Education

B.Sc. Environmental Science with emphasis in Ecology  
Wheaton College (IL)

M.Sc. Geology with emphasis in Coral Reef Ecology  
Utah State University
LISA HEISE  
NEPA Specialist

Fields of Specialization
Ms. Heise currently specializes in the preparation of National Environmental Policy Act (NEPA) documentation. She has prepared numerous informal biological assessments and completed consultations with Indian Tribes, State Historic Preservation Offices (SHPOs), and wildlife offices throughout the United States and the U.S. Virgin Islands. Ms. Heise concentrates on telecommunications facility projects at this time.

Experience
Ms. Heise has gained significant experience conducting consultations with over 200 Federally-recognized Indian Tribes through the Tower Construction Notification System (TCNS). Through her working relationships with these Tribes, Ms. Heise acts as a liaison between clients, Tribes, and the Federal Communications Commission (FCC) ensuring that the best interests of all parties are protected. Ms. Heise has managed consultations with numerous Federal, State, and County Wildlife Offices, including the preparation of informal biological assessments and threatened and endangered species assessments. Additionally, Ms. Heise conducts consultations with SHPOs. As part of these consultations, she solicits comments from local historic preservation societies, governments, and citizens.

Ms. Heise has conducted numerous nest observations for Osprey (Pandion haliaetus) to determine the status of the nests. Additionally, she has performed Osprey monitoring during construction activities to ensure the Osprey are not distressed by the construction.

Ms. Heise has experience in biological sample collection and processing, water filtration, GPS navigation, bird mapping, and DNA analysis of bivalves. In addition, some of her field work includes collecting plankton samples for examining microzooplankton grazing rates.

Education
B.S. Biology
James Madison University
DAVID HART
NEPA Specialist I

Fields of Specialization
Mr. Hart has many years experience in the field of environmental consulting, including performing biological surveys, field data collection and analysis, wetland delineation, wetland permitting, arboriculture, and wildlife monitoring.

Experience
Mr. Hart has numerous years of experience as an environmental consultant and participating in natural resources studies. For many years he has worked in consulting businesses and developers to pursue their projects while complying with environmental laws that may affect their projects. He has been involved in public research projects including fish reproduction, migration, population studies, and habitat studies, as well as bird nesting studies. He has served as a Biology and Chemistry teacher at a college preparatory school.

Certifications and Affiliations
- International Society of Arboriculture Certified Arborist (FL-6059A)
- Licensed Florida Real Estate Broker Associate
- Holds Biology, Chemistry, and Earth-Space Science Florida Teacher Certification

Education
B.Sc. Biology
University of Cincinnati

M.Sc. Fisheries Science
University of Georgia