APPENDIX D: Archaeology Technical Report
Phase IA Archaeological Assessment

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Service Restoration Project
Proposed Station Sites and Maintenance Site,
Scranton, Lackawanna County and Coolbaugh Township,
Stroud Township, East Stroudsburg, and Smithfield Township,
Monroe County, Pennsylvania
Phase IA Archaeological Assessment

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Service Restoration Project
Proposed Station Sites and Maintenance Site,
Scranton, Lackawanna County and Coolbaugh Township, Stroud Township, East Stroudsburg, and Smithfield Township, Monroe County, Pennsylvania

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MANAGEMENT SUMMARY

NJ TRANSIT, the Pennsylvania Department Of Transportation (PennDOT), the Counties of Morris, Sussex and Warren in New Jersey and the Counties of Monroe and Lackawanna in Pennsylvania are considering the restoration of passenger rail service in Northwest New Jersey and Northeast Pennsylvania along a corridor commonly referred to as the Lackawanna Cut-Off. An Environmental Assessment (EA) of the New Jersey - Pennsylvania Lackawanna Cut-Off Passenger Rail Service Restoration Project (Lackawanna Cut-Off EA) is being prepared to document existing environmental conditions in the corridor and identify potential impacts and mitigation measures for a Preferred Alternative involving the restoration of passenger rail service.

The firm of Edwards and Kelcey is preparing the EA pursuant to the National Environmental Policy Act (NEPA) to document this action. As part of this project a Phase IA Archaeological Investigation is being conducted for those portions of the project area that will be affected by future subsurface impacts as part of the rail service restoration, namely six proposed station sites and one maintenance site. The proposed stations are the Scranton Station in Lackawanna County, and the Tobyhanna, Pocono Mountain, Analomink, East Stroudsburg, and Delaware Water Gap stations, all located in Monroe County. Additionally, a maintenance facility is planned in Scranton.

The Lackawanna Cut-Off Passenger Rail Service Restoration project will utilize the existing rail corridor right of way for the reintroduction of passenger service. In Pennsylvania, this corridor is part of the "Delaware, Lackawanna & Western Railroad Line" which has been evaluated as eligible for listing in the National Register of Historic Places (NRHP) by the PA SHPO (SHPO opinion December 9, 1996). Although not explicitly noted as contributing elements to this resource in the opinion, subsurface archaeological features associated with the railroad alignment may be eligible as contributing resources to portions of the alignment which are, or may in the future be determined eligible for the NRHP.

The naturally occurring landform within the right of way has been previously disturbed by construction of the railroad, much of which required grading and filling to create level surfaces. Since the original landform has already been altered, and reuse of the right of way should not involve any ground disturbance in areas not previously modified, no previously undocumented archaeological sites, outside of features related to the railroad itself, should be present within the APE. Thus, although the archaeological APE includes the entire railroad corridor, for the purposes of this study the focus is limited to areas where new ground disturbance will occur from construction of stations and their associated parking lots. Because construction plans are not final, the APE is considered to include the total land area of each proposed station or maintenance facility parcel.

Research conducted as part of this study indicated that with the exception of the proposed Analomink station site, which is extensively disturbed, all of the remaining proposed sites contain archaeological sensitivity, and Phase IB archaeological investigations are recommended. High precontact archaeological sensitivity was assigned to the proposed
Pocono Mountain and Delaware Water Gap Visitors' Center station sites, while high historic period archaeological sensitivity was assigned to the proposed Scranton, Tobyhanna, and Pocono Mountain station sites. However, at three of the proposed sites, the Scranton maintenance site, the Scranton station site, and the East Stroudsburg station site, precontact period archaeological sensitivity is dependent on the degree of disturbance the properties have sustained due to historic grading and filling. If soil borings are undertaken in the future in conjunction with proposed development, these should be reviewed by a qualified archaeological consultant to determine the amount of fill present on the properties and whether construction will require impacts below this layer. Only if no soil borings are planned and/or it is not possible to determine the depth of the historic fill and disturbance through other means, then Phase IB archaeological investigations of the properties are warranted.
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1. INTRODUCTION

NJ TRANSIT, the Pennsylvania Department Of Transportation (PennDOT), the Counties of Morris, Sussex and Warren in New Jersey and the Counties of Monroe and Lackawanna in Pennsylvania are considering the restoration of passenger rail service in Northwest New Jersey and Northeast Pennsylvania along a corridor commonly referred to as the Lackawanna Cut-Off. An Environmental Assessment (EA) of the New Jersey - Pennsylvania Lackawanna Cut-Off Passenger Rail Service Restoration Project (Lackawanna Cut-Off EA) is being prepared to document existing environmental conditions in the corridor and identify potential impacts and mitigation measures for a Preferred Alternative involving the restoration of passenger rail service.

The firm of Edwards and Kelcey is preparing the EA pursuant to the National Environmental Policy Act (NEPA) to document this action. As part of this project a Phase IA Archaeological Investigation is being conducted for those portions of the project area that will be affected by future subsurface impacts as part of the rail service restoration, namely six proposed station sites and one maintenance site, described below. Edwards and Kelcey contracted Historical Perspectives, Inc. (HPI), of Westport, Connecticut to conduct the Phase IA Archaeological Investigation for the proposed Lackawanna Cut-Off project. This report presents results of this investigation in Pennsylvania, and was conducted to satisfy the requirements of Section 106 of the National Historic Preservation Act and meet the standards of the Pennsylvania Bureau for Historic Preservation (SHPO) (1991). A separate Phase IA Archaeological Investigation report is being submitted to the New Jersey SHPO for the portion of the project area within New Jersey.

The Lackawanna Cut-Off travel corridor extends from Scranton (Lackawanna County, PA), into Monroe County, PA, and through the New Jersey Counties of Warren, Sussex and Morris to Port Morris, NJ (Figure 1). At Port Morris, the Lackawanna Cut-Off service would connect with NJ TRANSIT’s Morristown Line for service terminating in Hoboken, NJ. The Lackawanna travel corridor from Scranton to Hoboken is approximately 133 miles in length.

The Lackawanna Cut-Off EA is focused on the portion of the corridor in which new rail service will be introduced, from west of Port Morris, New Jersey to Scranton, Pennsylvania. The Port Morris Junction to Slateford, PA segment follows a 28-mile route over the former Delaware, Lackawanna and Western Railroad’s Cut-Off and across the Delaware River to Slateford Junction. This railroad right-of-way is owned by the State of New Jersey. It has not had regular passenger rail service in over 25 years and tracks have been removed, although the railbed remains intact. In Pennsylvania, the alignment from Slateford to Scranton is approximately 60 miles in length. The majority of the Pennsylvania alignment is an active railroad with both freight service and limited recreational passenger service.

New stations will be constructed as part of the Preferred Alternative. Stations will consist of a high level platform with a canopy and passenger waiting shelter. Parking
will be provided at the stations. Six stations are proposed for the section of the alignment in Pennsylvania: the Scranton Station in Lackawanna County, and the Tobyhanna, Pocono Mountain, Analomink, East Stroudsburg, and Delaware Water Gap stations, all located in Monroe County. Additionally, a maintenance facility is planned in Scranton. The proposed stations and maintenance facility are described below and illustrated on Figures 2-15.

**Scranton Maintenance Facility** – A yard facility would be built in Scranton, west of the proposed station site. The yard facility would be used for vehicle storage, light maintenance, fueling and cleaning. The yard would include storage tracks and an employee welfare facility. This former multiple-track right-of-way would permit the construction of two storage tracks and a tail track parallel to the existing freight track. Included adjacent to the yard tracks is a proposed employee welfare facility, a building which could provide space for offices, crew locker rooms for male and female employees, and storage for cleaning, inspection and light maintenance material. Employee parking would be provided at the site.

**Scranton Station** - The terminus of the line in the City of Scranton would be a regional station located in conjunction with a proposed Intermodal Transit Center (ITC) along Lackawanna Avenue, across the railroad tracks from Steamtown. Approximately 40 parking spaces for rail commuters would be provided at the intermodal center. The proposed station would be situated on Lackawanna Avenue along the northernmost track immediately east of Bridge 60 and to the east of the Cliff Street underpass. Access to this site would be from Lackawanna Avenue.

**Tobyhanna Station** - The Tobyhanna station site is located in Coolbaugh Township and is part of a site owned by the Lackawanna County Railroad Authority. The site is adjacent to the former rail station; the historic building is still in place and is in use as the local historical society rail museum. Parking at this location would be on the vacant side and rear portions of this site. Additional parking could be pursued on an adjacent privately owned vacant parcel. Access to this site would be from Church Street. Site can accommodate up to 220 spaces.

**Pocono Mountain Station** - The Pocono Mountain station site is located in Coolbaugh Township and is part of a currently vacant site owned by Monroe County. The site, which was formerly used as a camp, is proposed by the County as an industrial complex. The complex is proposed to be developed in phases; the portion to be used for station site is known as “Phase F”. Access to this site would be from PA Route 611.

**Analomink Station** - The site for the Analomink station in Stroud Township is at the intersection of PA Route 191 and PA Route 447. This site is owned by PennDOT and is currently used for roadway maintenance materials storage. Access to this site would be from PA Routes 191/447. Approximately 125 parking spaces are needed, although the site can accommodate up to 800 spaces.
**East Stroudsburg Station** - The proposed location of this station in East Stroudsburg is south of the historic railroad station that has been restored and is reused as the Dansbury Depot restaurant. The site is bordered by the railroad tracks on the east and Crystal Street on the west. The parking areas would continue beneath Bridge Street to a vacant parcel. This station site is vacant and within the rail right of way currently owned by the Railroad Authority. Approximately 350 parking spaces are needed; the site can accommodate approximately 230 spaces with other parking in municipal lots. Access to this site would be from Crystal Street and Bridge Street.

**Delaware Water Gap Visitors Center Station** - The proposed location of this station in Smithfield Township is south of the right of way at River Road. The parking area would be located at the Delaware Water Gap Visitors Center owned by the Commonwealth of Pennsylvania, located south of Route 80. Improvements to the existing visitors’ center are currently being planned by Pennsylvania. This station assumes this project would modify those plans to include a 1,000 space parking deck at this location for rail passengers. Pedestrian access to the station platform to the site would be along River Street. This project would include improvements along River Street to permit pedestrian access. Access from Interstate 80 would be direct via River Street.

The Area of Potential Effect (APE) is defined in 36 CFR 800.16(d) as “the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effect is influenced by the scale and nature of the undertaking and may be different for different kinds of effects cause[d] by the undertaking.”

The Lackawanna Cut-Off Passenger Rail Service Restoration project will utilize the existing rail corridor right of way for the reintroduction of passenger service. In Pennsylvania, this corridor is part of the “Delaware, Lackawanna & Western Railroad Line” which has been evaluated as eligible for listing in the National Register of Historic Places (NRHP) by the PA SHPO (SHPO opinion December 9, 1996). Although not explicitly noted as contributing elements to this resource in the opinion, subsurface archaeological features associated with the railroad alignment may be eligible as contributing resources to portions of the alignment which are, or may in the future be determined eligible for the NRHP.

The naturally occurring landform within the right of way has been previously disturbed by construction of the railroad, much of which required grading and filling to create level surfaces. Since the original landform has already been altered, and reuse of the right of way should not involve any ground disturbance in areas not previously modified, no previously undocumented archaeological sites, outside of features related to the railroad itself, should be present within the APE. Thus, although the archaeological APE includes the entire railroad corridor, for the purposes of this study the focus is limited to areas where new ground disturbance will occur from construction of stations and their associated parking lots. Because construction plans are not final, the APE is considered to include the total land area of each proposed station or maintenance facility parcel.
The HPI project team consisted of Julie Abell Horn, M.A., R.P.A., who wrote this report; Christine Flaherty, M.A., who undertook portions of the research, conducted the site visits, and prepared the graphics; Richard Schaefer, Ph.D., who performed additional research; and Ccec Saunders, M.A., R.P.A. who managed the project and provided editorial and interpretive assistance.

II. RESEARCH DESIGN AND METHODS

This investigation employed several basic methods, described below.

A. Background Research

Preparation of this archaeological study involved using documentary, cartographic, and archival resources. Repositories visited (either in person or by using their on-line electronic resources) or contacted included the PA SHPO in Harrisburg, PA; the PennDOT offices in Allentown, PA, the New York Public Library; and the library at HPI. Edwards & Kelcey provided current site data and various maps. EDR provided the Sanborn maps.

Of note, the current project research builds upon data collected for an earlier archaeological study that utilized much of the same APE, entitled “Northwest New Jersey-Northeast Pennsylvania Major Investment Study/Environmental Assessment” and prepared by Hunter Research in 1999 for Edwards & Kelcey. The Hunter study primarily was concerned with documenting previously recorded archaeological sites within one mile in width on either side of the length of the project corridor, with an area of one half mile radius around each station site identified for more detailed research, and using these data to assess archaeological potential and make recommendations for further archaeological work along the railroad right of way and the proposed station sites.

B. Environmental Analyses

An understanding of environmental and geomorphological conditions is necessary to assess potential for recovery of cultural resources. Environmental factors considered in determining archaeological potential within the APE included topography, geology and soils, water availability and location, and historic period land use and development.

C. Field Reconnaissance

Christine Flaherty of HPI conducted the site visits on August 20, 2004. Ms. Flaherty made notes and took photographs of buildings, structures, and existing ground conditions. Figures 3, 5, 7, 9, 11, 13, and 15 depict the location and orientation of the field photographs.
III. PROJECT LOCATIONS AND GENERAL DESCRIPTIONS

A. Topography and Hydrology

1. Proposed Scranton Station Site and Maintenance Facility Site

The proposed Scranton station and the proposed Scranton maintenance facility are both located on a broad plateau on either side of the Lackawanna River, at approximately 750 feet above mean sea level. Each of the project sites is several hundred feet from the current Lackawanna River channel.

2. Proposed Tobyhanna Station Site

The proposed Tobyhanna station site is predominantly level, and is about 1920 feet above mean sea level. Tobyhanna Creek, which has been dammed north of the railroad tracks into a mill pond, is located approximately ¼ mile to the east, while Hummler Run, a stream that feeds into Tobyhanna Creek, is located approximately ½ mile to the west. Areas between the two drainages to the north and west of the proposed station property are marshy.

3. Proposed Pocono Mountain Station Site

The proposed Pocono Mountain station site is also generally level, and lies at about 1890 feet above mean sea level. It is situated immediately west of Lynchwood Lake, which is fed by Clear Run and Duckpuddle Run. South of Lynchwood Lake, a drainage called Hawkey Run flows southwest, into and through Hawkey Pond, which is located just south of the station site. Lynchwood Lake and Hawkey Pond are man-made impoundments, created during the late nineteenth century by damming the streams that feed them for the purpose of harvesting ice and watering trains, respectively.

4. Proposed Analomink Station Site

The proposed Analomink station site is located on the northeastern floodplain of Brodhead Creek, at about 500 feet above mean sea level. Brodhead Creek currently is situated immediately adjacent to the site, on the other side of the railroad tracks, although historically the channel of the creek was several hundred feet further west. Twentieth century rerouting of the creek has placed it in its present location paralleling the railroad tracks. Additionally, an unnamed stream flowing out of Blue Mountain Lake enters Brodhead Creek south of the Route 191 overpass bordering the southern end of the proposed station site.

5. Proposed East Stroudsburg Station Site

The proposed East Stroudsburg station area is relatively flat and situated at approximately 420 feet above mean sea level. It is located approximately 1/3 mile east of Brodhead
Creek and several hundred feet east of an unnamed drainage that feeds into Brodhead Creek.

6. Proposed Delaware Water Gap Visitors’ Center Station Site

The proposed Delaware Water Gap Visitors’ Center station area is located on a relatively flat area at approximately 320 feet above mean sea level. The area east of Interstate 80 currently contains a gravel parking lot used in conjunction with two soccer fields to the south, whereas the area west of the highway supports a visitors’ center, with parking lots and grassy areas. The roadways are slightly elevated above the adjacent land areas. The site is located on the floodplain of the confluence of Brodhead Creek and the Delaware River, which is only several hundred feet to the east. Cherry Creek empties into the Delaware River several hundred feet south of the project site.

B. Geology

Lackawanna County, Pennsylvania is located within two physiographic provinces. The middle portion of the county (the “Valley,” including the city of Scranton) is located within the Appalachian Mountain section of the Valley and Ridge Province. This Valley and Ridge section, known as the Anthracite Coal Region, averages approximately six miles in width and generally lies in the southwest-northeast direction. Underlying rocks in this area consist of sandstone, siltstone, conglomerate, and anthracite. The remainder of the county lies in the Appalachian Plateau Province, which is underlain by sandstone, siltstone, shale, and some conglomerate (Eckenrode 1982; Sevon 2000).

Monroe County, Pennsylvania also is located within two physiographic provinces. The lower third of the county is located within the Appalachian Mountain section of the Valley and Ridge Province. It is underlain by sandstone, siltstone, and shale, as well as some limestone and conglomerate. The remaining two-thirds of the county lie in the Pocono Plateau section and Glaciated Low Plateau section of the Appalachian Plateau Province, and are underlain by sandstone, siltstone, shale and some conglomerate (Lipscomb 1992; Sevon 2000).

Most bedrock underlying the Appalachian Plateau Province in Monroe and Lackawanna Counties consists predominantly of red to brownish shale and sandstone of the Catskill Formation, which is upper Devonian in age. Where the rail line passes through the Delaware Water Gap, the local geology consists of rock classified as the High Falls Formation and the Shawangunk Formation (conglomerate).

C. Soils

1. Proposed Scranton Station Site and Maintenance Facility Site

Most of the soils mapped for downtown Scranton are designated “Urban Land,” including the areas proposed for the Scranton Station and Maintenance Facility. Urban Land is described as nearly level to moderately steep and occurring on broad upland
ridges of glacial till. The soils are obscured by buildings, road and other structures, making identification of natural soils impractical (Eckenrode 1982).

2. **Proposed Tobyhanna Station Site**

Soils on the proposed Tobyhanna station site are mapped as Volusia extremely stony loam, 0-8 percent slopes on the majority of the property, with small portions on the west mapped as Mucky peat, shallow, and Chippewa and Norwich extremely stony soils, 0-8 percent slopes. Volusia extremely stony loam is found on plateaus and broad ridges adjacent to drainages and depressions. It is somewhat poorly drained, and its use for farming or building is limited by its high water table. Chippewa and Norwich extremely stony soils are found in depressions and drainages on uplands. These soils are deep but poorly drained, also making them generally unsuitable for farming. Mucky peat is found in depressions and areas adjacent to major drainages, and is very poorly drained (Lipscomb 1992).

3. **Proposed Pocono Mountain Station Site**

The Pocono Mountain proposed station site is mapped as containing Volusia extremely stony loam, 0-8 percent slopes on its eastern side, described above. Soils on the western side of the site are mapped as Wurtsboro extremely stony loam, 0-8 percent slopes, described as well drained soil found on broad plateaus, mountains, and ridges. It, too, has a reasonably high water table, which limits its uses (Lipscomb 1992).

4. **Proposed Analomink Station Site**

The Analomink proposed station site is mapped as “Cut and Fill land,” described as land that has been cut and areas of variable fill material, with disturbed or altered soils from earth-moving equipment (Lipscomb 1992).

5. **Proposed East Stroudsburg Station Site**

The majority of the East Stroudsburg proposed station site is mapped as Wyoming gravelly sandy loam, 3-8 percent slopes, with small areas of Braceville gravelly loam, 0-3 percent slopes and Benson-Rock outcrop complex, 25-70 percent slopes on the southern end of the site. Wyoming gravelly sandy loam is described as somewhat excessively drained soil located on stream terraces, benches, and broad kames adjacent to streams, while Braceville gravelly loam is described as moderately well drained soil located on terraces adjacent to major streams and drainages. Benson-Rock outcrop complex is described as shallow, steep, and very steep, well drained soils and rock outcrops of solid bedrock on steep sides of slopes (Lipscomb 1992).

6. **Proposed Delaware Water Gap Visitors’ Center Station Site**

West of Interstate 80, the Delaware Water Gap proposed station site is mapped as “Cut and Fill land,” described above, while east of the interstate the site is mapped as Pope silt
loam, high bottom. Pope silt loam, high bottom is described as nearly level, well drained soil located on high bottoms and low terraces adjacent to major streams (Lipscomb 1992).

Of note, a recent program of soil testing, undertaken within the section of the proposed site west of Interstate 80 on the present visitors’ center property revealed that with the exception of one area disturbed from utility installation, natural soils were present throughout the portion of the property currently covered by parking lots and grassy areas. The natural soils were described as “brown and gray silty sand and gravel soils, with some cobbles, immediately beneath the surface of topsoil and pavement...In general, these coarse grained soils appear to be an alluvial deposit and extend to depths of 15 to 18 feet...” (CSA Group 2003:2). Thus, it appears that the soil survey, which mapped the area as “Cut and Fill land,” is erroneous, and naturally occurring soils still exist within this portion of the site.

IV. BACKGROUND RESEARCH

A. Precontact Period Overview

Archaeologists divide the precontact archaeological sequence for Pennsylvania into four periods of cultural history. The Paleo-Indian Period (ca. 12,000-8,000 B.C.) was the earliest known human occupation of the area. The Archaic Period (ca. 8,000-1,000 B.C.) was the period before the introduction of horticulture and pottery, and generally is broken down into Early, Middle, and Late periods. The Transitional Period is sometimes referred to as the period overlapping the Late Archaic period, from ca. 1,800 B.C.-1,000 B.C. The Woodland Period (ca. 1,000 B.C.-1,600 A.D.) represents the shift to farming and the introduction of pottery, and also is broken down into Early, Middle/Late, and Transitional periods. The Contact Period (ca. 1,600-1,750 A.D.) refers to the period during which Native Americans and European settlers, traders, and travelers interacted. These periods are summarized below.

1. The Paleo-Indian Period (ca. 12,000-8,000 B.C.)

The Paleo Indian Period includes the time from the final retreat of the Wisconsin glacier from the region to the development of modern Holocene environments. Following deglaciation, the landscape consisted of tundra-like vegetation including sedges, mosses, and lichens. This was succeeded by open parkland vegetation characterized by a mosaic of grasslands and coniferous forests. Initially, the climate was wet and cold, but gradual warming took place, resulting in the expansion of boreal forests. Faunal species such as mammoth, mastodon, caribou, giant beaver, elk, moose, peccary, bear, and horse were present in the region and potentially available for exploitation by early Paleo Indian hunters (Funk 1972; Eisenberg 1978). Many of these animals are now extinct and no longer native to the area.

The material culture remains of the Paleo Indians include their stone tools. Their tool kits are characterized by Clovis fluted points, a diagnostic Paleo Indian artifact, bifacial knives, drills, gravers, burins, scrapers, flake cores, and flake tools with no formal shape. These tools were
utilized in the procurement and processing of faunal species and were generally made from high quality lithic material. A number of isolated Paleo-Indian tools have been found within the Delaware River valley area (Mason 1959; Kinsey 1972), while the Shawnee-Minisink site, located only several hundred yards from the proposed Delaware Water Gap station site, is one of the best known Paleo-Indian sites in the area (McNutt 1985).

2. The Archaic Period (8,000-1,000 B.C.)

During the Archaic Period, a major shift occurred in the settlement and subsistence patterns of Native American groups. Hunting and gathering were still the basic ways of life during this period, but the emphasis in subsistence shifted from the large faunal species, which were rapidly becoming extinct, to smaller game and plants of the deciduous forest. The environment differed from the earlier period as the open grasslands disappeared and temperate habitats consisting of forests of oak and hemlock were established. The settlement pattern of the Archaic people indicates larger, relatively more permanent habitation sites. These people were more efficient in the exploitation of their environment, and plant food resources along with fish and shellfish played more important roles in their diet.

The tool kit of the Early Archaic people (ca. 8,000-6,000 B.C.) was basically the same as that of the Paleo Indians, with the exception of projectile points. Early Archaic projectile points are bifurcated or basally notched, and were generally made of high quality stone. The Middle Archaic covers the period between ca. 6,000 B.C. to 4,000 B.C. The archaeological record suggests that a population increase took place during this period. In addition to projectile points, the tool kits of these people included grinding stones, mortars, and pestles. Late Archaic people, from ca. 4,000 B.C. to ca. 1,000 B.C., were specialized hunter-gatherers who exploited a variety of upland and lowland settings in a well-defined and scheduled seasonal round. The projectile point types attributed to this period include the Lamoka, Brewerton, Normanskill, Lackawaxen, Bare Island, and Poplar Island (Ritchie 1971; Kinsey 1972). Milling equipment, stone axes, and adzes were also part of the tool kit of these peoples. During the Terminal Archaic Period, ca. 1,800 B.C. to 1,000 B.C., new and radically different broad bladed projectile point types were developed. These include the Susquehanna, Koens-Crispin, Perkiomyn, and Orient Fishstick types. The use of steatite or stone bowls is also a hallmark of this period (Raber 1985).

3. The Woodland Period (ca. 1000 B.C. to Contact)

The Woodland Period is distinguished from the Archaic Period by the introduction of ceramic vessels. In general, the hunting and gathering way of life persisted. However, horticulture began during this period and later became well established with the cultivation of corn, beans, and squash. Clay pottery vessels replaced the soapstone bowls, and tobacco pipes and smoking were adopted. Also, the bow and arrow replaced the spear and javelin during this period. The habitation sites of the Woodland Period Indians increased in size and permanence, and base camps were located on expansive floodplains.

The use of fired clay ceramic vessels began during the Early Woodland Period (ca. 1,000 B.C. to A.D. 1). Projectile points are also chronological indicators of this period and include the Meadowood type. Cordmarked vessels became common during the Middle Woodland Period.
(ca. A.D. 1 to 1000 A.D.). Jack’s Reef and Fox Creek type projectile points are diagnostic of the Middle Woodland. During the Late Woodland Period (ca. 1000 A.D. to 1600 A.D.) collared ceramic vessels, including many with incised decorations, make their appearance. Large triangular projectile points known as the Levanna type became common throughout this time, and smaller triangular forms known as Madison appeared near the end of this period. Woodland Period sites are numerous in the Delaware Valley, especially along the Delaware River (Kinsey 1972), and the Capouse Village site in Scranton (now obliterated by urban development) is an example of a Late Woodland site along the Lackawanna River. It was described as a large village site, with cordmarked pottery, stone pipes, mortars, pestles, a large broad scraper knife, a drilled amulet, and tools of chert, sandstone, and soapstone (Hollister 1869).

4. The Contact Period (A.D. 1600-1750)

The settlement of Albany by the Dutch in the early 1600s initiated the Contact Period between the Indians of northeastern Pennsylvania and the Europeans, when explorers were sent south down the Delaware River. During this time, the Native Americans of northeastern Pennsylvania were part of the widespread Algonquin cultural and linguistic stock. Specifically, they were Munsee-speaking groups of the Delaware (Goddard 1978a, 1978b).

Following the settlement of New Amsterdam, a regular pattern of Indian/European trade developed and the Indians began to acquire European-made tools and ornaments. This trade increased and continued. Items of European origin should, presumably, occur with greater frequency at Indian sites. The upper Delaware River valley hosts a concentration of Contact Period sites.

B. Historic Period Overview

1. General Overview

The proposed Lackawanna Cut-Off station and maintenance sites are located in the counties of Lackawanna and Monroe, each of which was originally part of other neighboring counties. Monroe County was created in 1836 from parts of Northampton and Pike Counties, while Lackawanna County, the last county in the state to be formed, was created in 1878 from Luzerne County.

The earliest settlements in the area, during the 1700s, were primarily along the Delaware River and several creek valleys to the northwest in Monroe County. It was not until the early 1800s that migrants began settling the interior valleys carved by streams from the Pocono Plateau. These areas had rocky hillsides ill suited to farming due to the shorter growing season in the higher elevations. As a result, early uses of the landscape here consisted of sheep pasturing, lumbering (particularly in the Brodhead Creek Valley where the timber could be floated downstream to market), and milling along the numerous small creeks and streams in Barrett, Paradise, Price, Pocono, Smithfield, and Stroud Townships and in Stroudsburg and East Stroudsburg (Brodhead Watershed Association 2002). In what would later become Lackawanna County, the first settlers in the late 1700s built grist and saw mills along Roaring Brook and the Lackawanna River, as well as carding
and fulling mills to process the wool from the sheep they raised into cloth. The city of Scranton was formed out of a number of smaller settlements, namely Providence, Dunmore, Slocum Hollow, and Hyde Park. Scranton was laid out in 1841, incorporated as a borough in 1856, and as a city in 1866 (Merrifield 1896; Stephens 1912).

Scranton’s early growth and wealth was directly tied to its coal resources. As the use of anthracite coal for fuel increased during the nineteenth century, Scranton benefited from its ready supply in local mines. The Lackawanna Iron and Coal Company, located along Roaring Brook, formed in 1840, and eventually was acquired and expanded by the Scrantons, from whose name the city’s is derived. The Scrantons also were backers of the railroad, and saw to it that these companies purchased the coal properties and operated the mines so as to insure continued business shipping coal over the railroads (Craft 1891).

As a rule, transportation advances were the means by which the area grew and thrived, as settlers needed a way to travel between towns, and to get their goods to market. Early means of transportation included the Delaware and Hudson Canal, which opened in 1828, and the Gravity Railroad, running from Honesdale to Carbondale, which began service in 1829. With the opening of the Delaware, Lackawanna and Western Railroad in the 1850s from Scranton to the Delaware River, new industries began in Scranton, and areas along the route found a ready means to market their goods. In Monroe County, where coal was mined, nineteenth century commercial and industrial interests expanded to include lumbering, milling, tanning, quarrying, brickmaking, and ice harvesting (many of the ponds and lakes present in the county were created in the late nineteenth century for this purpose by damming local creeks). All of these products were shipped via the new railroad. The railroad also led to the creation and expansion of towns, such as East Stroudsburg, and provided the means for urban dwellers to travel to the Delaware Water Gap and the Pocono Mountains on vacation. Tourism became an industry in its own right as hotels and resorts were built in the towns along the railroad route and in the nearby scenic mountains.

With the advent of automobiles, railroad use declined in the mid-twentieth century. So, too, did the coal industry wane during this period, after a brief resurgence during World War II. Scranton’s prosperity, tied from the beginning to the railroads and the coal industry, suffered as a result, although the tourist trade in Monroe County benefited during this period as it established itself as a popular and easily accessible and affordable vacation destination.

2. History of the Delaware, Lackawanna and Western Railroad

The Delaware, Lackawanna and Western Railroad (DL&W) was formed in 1853 out of a network of smaller railroads located in Pennsylvania, New York, and New Jersey. Its purpose was to transport anthracite coal from Pennsylvania’s mining region to market locations in New Jersey and New York. The company’s southern division, a line from Scranton to the Delaware River, was the brainchild of Seldon and George Seranton, who wanted to connect their borough to the markets in New Jersey and thus bolster the
Scranton economic base. This route opened in 1856, and as a result benefited the Moosic and Pocono Mountains area through which it traveled. Formerly a relatively unsettled area, the region began to thrive as the railroad now provided a means to transport local resources and goods to market. The pristine woods fell as lumbering and tanning companies expanded into the area; once the trees were gone entrepreneurs turned to ice harvesting by damming local creeks to create lakes and ponds. With the advent of affordable refrigeration in the early twentieth century, ice harvesting was no longer profitable, and the region turned to railroad-fostered tourism.

Despite the growth that the DL&W promoted throughout the area, only Scranton and to some extent East Stroudsburg sustained large scale industrial or manufacturing interests. For this reason, the general region did not provide the DL&W with a large local transportation business. Stations along the route have been taken out of service over the course of the twentieth century, and today the line is mainly used for freight transport.

3. History of the Proposed Station Sites and Maintenance Site

a. Proposed Scranton Maintenance Facility Site

The proposed Scranton maintenance yard site has been used for railroad-related functions for over 150 years. In the early years of Scranton's development this area was called Hyde Park; it hosted a small community to the west of the present APE, along Main Street. A map made by E. Merrifield of Scranton prior to 1840 (Figure 16) illustrates that the property was undeveloped, and likely was used for farmland. By the 1850s, however, the Lackawanna and Bloomsburg Railroad had constructed tracks through the property, along the same north-south alignment that survives today. This railroad was incorporated in 1852 and chartered in 1853. The route ran from Scranton southwest to Northumberland and was 80 miles long (Hollister 1869). The tracks connected with the DL&W’s line into downtown Scranton via the triangular-shaped junction still present north of the APE. By the 1880s, the DL&W had acquired control of the Lackawanna and Bloomsburg Railroad and its route.

Nineteenth century maps illustrate that the railroad tracks laid down by the Lackawanna and Bloomsburg Railroad were in place by at least the early 1860s (Walling 1862) and remained under the control of that company through the 1870s (Beers 1873, Figure 17). It appears that the area surrounding the railroad tracks within the APE was probably only minimally developed during the 1850s-1870s; the Beers map does not illustrate any development within the project site. By issuance of the first Sanborn Fire Insurance Company maps for this area, however, what may have been the first improvements east of the railroad tracks within the APE had occurred. The 1884 Sanborn map shows that the area between the tracks, Seventh Street and Scranton Avenue supported a lumber yard and planing mill, two dwellings, and two oil warehouses. The specific footprint of the APE in this area falls within the section occupied by small lumber sheds and stacked and scattered lumber. The 1888 Sanborn map (Figure 18) shows that the APE now also contained a slate yard. The southern end of the present APE is not represented in these maps, suggesting that they were still undeveloped. The 1920 edition of the Sanborn map
(Figure 19) shows that the APE north of Scranton Avenue and east of the railroad tracks overlapped the rear yards and/or several dwellings and sheds, but otherwise was predominantly vacant. South Seventh Street contained more dwellings, although the area abutting the railroad tracks (and part of the APE) was generally undeveloped.

By the mid twentieth century, the northern end of the APE had become decidedly industrial in nature. The 1949 Sanborn map (Figure 20) shows that this part the project area contained a number of large warehouses and storage facilities, although the specific footprint of the APE was largely vacant. The southern end of the APE remained largely unchanged from the 1920 map. The 1966 Sanborn map (Figure 21) illustrates continued use of the northern part of the project area for warehouses and other storage facilities (although again the footprint of the APE itself remained essentially vacant), although along the southern end of the APE most of the houses along South Seventh Street had been demolished or abandoned. By publication of the 1979 Sanborn map, however, virtually all of the structures within the area bounded by Scranton Avenue, North Seventh Street, and the DL&W railroad tracks had been removed (except for one of the former oil warehouses at the northern end of the area) and all but one or two houses had been razed in the southern end of the APE vicinity. Although several newer warehouses have been built in the general area since 1979, for the most part this map reflects current conditions within the APE and vicinity.

b. Proposed Scranton Station Site

The proposed Scranton station site appears to have remained undeveloped until construction of the DL&W tracks along the southern side of the APE in the 1850s. Prior to that period, the site was woodland and, by the 1820s, farmland (Hollister 1869). The Merrifield map of Scranton prior to 1840 (Figure 22) shows that the area that would become the APE was still unimproved at that time.

By the 1850s, the DL&W had constructed its tracks through Scranton; the 1862 Walling map shows the route of these tracks, and illustrates that the east-west alignment passed along the southern edge of the APE, with a spur running northeast off these tracks to Mifflin Avenue. It appears, however, that the remainder of the project site was undeveloped at this point. The 1873 Beers map (Figure 23) shows that by the early 1870s, a long building (shown on later maps to be a series of connected multiple-story wholesalers' buildings) had been erected on the south side of Lackawanna Avenue, within the APE. Although not depicted on this map, historic accounts indicate that the railroad's freight depot, built in 1864, was located on the southern side of the APE, adjacent to the main railroad tracks (Hitchcock 1914:59).

Sanborn Fire Insurance Company maps provide the first detailed cartographic views of the APE, beginning in the 1880s. The 1884 Sanborn map illustrates the bank of three and four story high wholesalers' buildings on the northern side of the APE, as well as a building designated the DL&W freight house and offices within the southern part of the APE, bordering the railroad tracks. This is presumably the freight depot built in the 1860s. The railroad spur is also visible running through the APE from the freight house.
on the southwest to Mifflin Avenue on the northeast. The 1888 Sanborn map (Figure 24) shows no change to the APE except for additional railroad tracks illustrated along southern edge of APE. The 1898 Sanborn map (Figure 25) again shows no change to the buildings on the property, but indicates that the tracks along the southern side of the APE had been slightly reconfigured.

By the early twentieth century, the freight house within the APE had been vacated by the railroad (a new freight depot had been built several blocks away in 1907) and was now occupied by the Sanker and Williams Co. grocery warehouse in the main part of the building and the W.H. Chandler Co. produce warehouse in the smaller, eastern wing of the building, as shown on the 1919 Sanborn map (Figure 26). A platform had been added onto the north side of building. While the wholesalers’ stores were still present along Lackawanna Avenue, they were formally separated from the former freight house by newly laid out Bogart Place. The 1958 Sanborn map showed virtually no changes to the APE; only the tenancy of the former freight house had changed in that Sanker and Williams Co. occupied the entire building at this point. By issuance of the 1979 Sanborn map, all the buildings within the APE had been razed and the entire property was used as a surface parking lot, a function that it retains today.

c. Proposed Tobyhanna Station Site

The proposed Tobyhanna station site owes its history directly to the DL&W Railroad. When the railroad was being planned, few areas along the mountainous route were suitable to locate a railroad yard. The broad, flat plateau around the village of Tobyhanna, which had been incorporated in 1830, was an ideal location due to its midpoint along the line, and its proximity to other local resources, such as mills and lakes. The railroad company constructed a small yard, which initially included water tanks to provide water for the trains, and auxiliary tracks north and south of the main tracks to divert the trains through the yard. Branch lines were constructed to the nearby ponds so that ice harvested in the winter could be transported via the rails. The 1875 Beers atlas (Figure 27) illustrates the initial layout of the Tobyhanna depot and yard. Several structures are depicted within the proposed station site property: the original depot building (now replaced with the current 1908 building), and three “tank shop” buildings to the west of the depot. The southern bypass tracks also fall within the project site boundaries. South of the depot complex, the proposed station site property falls within an area shown on the map to contain several unidentified structures, presumably dwellings.

The railroad yard expanded in the early twentieth century. The current depot was built in 1908 and the concrete switch tower, with its manually thrown levers and linkages, in 1910. A wye was constructed north of the main tracks and off the project site (three tracks forming a triangle with switches that allowed locomotives to turn around without a turntable; portions of this are still extant). The 1921 USGS map illustrates the later configuration of the railroad yards (Figure 28). By the mid-twentieth century, railroad activity at Tobyhanna was in decline. The branch railroad tracks leading to the two ice ponds closed in the 1940s, and use of the switch tower was discontinued in 1958. The
proposed station site no longer contains the tank farm buildings, and the bypass tracks have been abandoned, although portions are still visible under the ground cover.

d. Proposed Pocono Mountain Station Site

The proposed Pocono Mountain station site appears to have remained unimproved through the majority of the nineteenth century. The 1875 Beers atlas (Figure 29) illustrates that the property was completely undeveloped at the time. By the early twentieth century, however, Lynchwood Lake and Hawkeye Pond had been created by damming the streams running through the area. Lynchwood Lake was used for ice harvesting, and a railroad spur was constructed from the DL&W line on the western border of the property to the lake, and various structures were built along the spur to accommodate the workers who harvested the ice. The 1921 USGS map (Figure 30) illustrates the railroad spur, the buildings adjacent to the spur, the lake and Hawkeye Pond, which had been created by the railroad as a source for watering steam trains. With the decline of the ice harvesting industry in the mid-twentieth century, the railroad spur was abandoned and the structures for the workers razed.

e. Proposed Analomink Station Site

Although the proposed Analomink station site is located near the town of Analomink, it does not share the developmental history of the town itself, being approximately one mile south of its center in a minimally developed area. Historically, the channel of Brodhead Creek was located further west than it is today; the 1875 Beers map (Figure 31) illustrates that development clustered along the both sides of the creek in the project site vicinity, yet the APE itself, being separated from the creek by the railroad tracks, remained undeveloped. It appears that the project site avoided development through the twentieth century as well; a 1943 USGS map (Figure 32) illustrates that the property was still vacant. After the flood of 1955, when Brodhead Creek overflowed its banks, the Army Corps of Engineers undertook a program of bulldozing and digging long stretches of the creek in an effort to prevent future flooding (Brodhead Watershed Association 2002:136). The creek, which formerly flowed several hundred feet southwest of the railroad tracks, was channelized into a line immediately adjacent to the tracks, with a man-made embankment separating the creek from the railroad above it. The soil survey for the area bordering this stretch of the railroad tracks (and including the project site) indicates a long corridor of cut and fill land, suggesting that soil was removed from the northeast side of the railroad tracks and used to create the berm adjacent to the now channelized creek.

f. Proposed East Stroudsburg Station Site

Like the Tobyhanna station site, the proposed East Stroudsburg station site owes its history to the DL&W Railroad. East Stroudsburg, then called Dansbury Manor, was one of the original station sites on the railroad line; the original depot, located a block north of the APE, opened for business in 1856, the same year as the railroad line began service. Replaced in 1864 and again in 1883, the last of the stations is still standing today and is
listed on the NRHP. East Stroudsburg literally grew up around the railroad, as the tracks run through the center of the town.

There is no indication that the East Stroudsburg APE contained any development prior to construction of the railroad in the 1850s, and although the railroad tracks were constructed on the site’s eastern border, there is no evidence that the APE contained any other structures or features associated with the railroad line during the nineteenth or twentieth centuries. The 1875 Beers map (Figure 33) shows several unidentified railroad buildings located immediately west of the APE, along the west side of Crystal Street in the vicinity of modern day Bridge Street, and the station complex north of the APE.

g. Proposed Delaware Water Gap Visitors’ Center Station Site

The proposed Delaware Water Gap station site is located north of the borough of Delaware Water Gap, which was settled in the late eighteenth century. However, except for the railroad tracks that border the property, and which were laid out in 1856, the proposed station site area appears to have remained undeveloped for most of its history. The 1875 Beers atlas (Figure 34) shows that despite concentrated settlement south of the property, the APE was unimproved. The 1893 and 1936 USGS maps of the area (Figures 35 and 36) reveal that not only was the project site undeveloped, it remained essentially unaltered topographically over time: both maps illustrate the APE as a flat terrace at 320 feet above mean sea level. The project site appears to have remained in its natural condition until construction of the current visitors’ center on the property in the second half of the twentieth century.

C. Previously Recorded Archaeological Sites and Surveys

1. Proposed Scranton Station Site and Maintenance Site

A records search at the PA SHPO indicated that two precontact period archaeological sites have been recorded within a one mile radius of the proposed Scranton station site and the proposed Scranton maintenance facility. These are the Weston Field Site (36-Lw-009), a historic Indian village site located approximately one mile north of the project sites and the Capoose Meadows Site (36-Lw-016), a large Late Woodland village site, which is now part of Memorial Stadium block.

No historic period archaeological sites have been recorded within a one mile radius of the Scranton properties, although the station site is immediately north of the “Steamtown National Historic Site.” This NRHP-listed site includes the area formerly used as the DL&W manufacturing yard south of the railroad tracks paralleling Lackawanna Avenue. While only the above ground resources are noted as part of the NRHP listing, any subsurface archaeological artifacts or features would also be considered contributing elements to the site (Clemenson 1989). The Lackawanna Historic District, comprising a number of late nineteenth and early twentieth century commercial buildings, is also listed on the NRHP, and is located on the north side of Lackawanna Avenue, one block east of
the station site (Bisignani and Doutrich 1983). Last, as noted previously, the railroad corridor itself has been determined eligible for the NRHP by the PA SHPO.

The proposed Scranton station site was included in the earlier EA for the railroad corridor, completed by Hunter Research, Inc. in 1999. That study recommended that historic research on the station location be undertaken to establish the sequence of earlier railroad structures on the site (Hunter Research 1999:4). To date, this research is still pending, although will be completed as part of the current EA. The proposed Scranton maintenance facility site has never been subjected to a prior archaeological investigation.

2. Proposed Tobyhanna Station Site

Records at the PA SHPO indicate that one historic period archaeological site has been documented within a one mile radius of the proposed Tobyhanna station site. This is the Sherman Farm Site (36-Mr-158), a farm residence dating to the last quarter of the nineteenth century and the first half of the twentieth century. It is currently part of the Tobyhanna Army Depot property.

No additional archaeological sites have been recorded within a one mile radius of the proposed station site and this proposed station site was not part of the earlier EA prepared by Hunter Research in 1999. It has never been subjected to a prior archaeological investigation. This section of the railroad corridor, however, has been determined eligible for the NRHP by the PA SHPO.

3. Proposed Pocono Mountain Station Site

Records at the PA SHPO indicate that no archaeological sites have been documented within a one mile radius of the proposed Pocono Mountain station site, although this section of the railroad corridor has been determined eligible for the NRHP by the PA SHPO. This proposed station site was not part of the earlier EA prepared by Hunter Research in 1999. It has never been subjected to a prior archaeological investigation.

4. Proposed Analomink Station Site

Records at the PA SHPO indicate that one precontact period archaeological site has been documented within a one mile radius of the proposed Analomink station site. This is the Sambo Creek Site (36-Mr-152), located near the eastern side of Brodhead Creek, downstream from the present project site, and dating to the Late Archaic Period (Vosburg Phase). This section of the railroad corridor also has been determined eligible for the NRHP by the PA SHPO.

The proposed Analomink station site was included in the earlier EA for the railroad corridor, completed by Hunter Research, Inc. in 1999. That report recommended that no further archaeological action was necessary for the property.
5. Proposed East Stroudsburg Station Site

Records at the PA SHPO indicate that no archaeological sites have been documented within a one mile radius of the proposed East Stroudsburg station site. However, this section of the railroad corridor has been determined eligible for the NRHP by the PA SHPO.

The proposed East Stroudsburg station site was included in the earlier EA for the railroad corridor, completed by Hunter Research, Inc. in 1999. That report recommended that no further archaeological action was necessary for the property.

6. Proposed Delaware Water Gap Visitors’ Center Station Site

The proposed Delaware Water Gap Visitors’ Center station is located in an area of high precontact site density. Some of these precontact sites, such as the Shawnee-Minisink Site, are very well known and have been extensively studied (McNatt 1985). Records at the PA SHPO indicate that twelve precontact sites and one historic period site are located within a one mile radius of the proposed station site, as listed in the table, below. Of particular note, two of the precontact sites were recorded immediately east of the railroad tracks bordering the proposed station site. These are the Price Site (36-Mr-16) and the Mosier Site (36-Mr-29). Both sites were initially documented by Kinsey (1967), and the Mosier Site appears to have been subjected to additional archaeological investigations in 1981 and 1983. Unfortunately, as of this writing these later reports are missing from the PA SHPO’s files, and so the nature of those investigations, as well as the boundaries or other characteristics of the two sites beyond what was initially recorded by Kinsey, is currently unknown. According to Archaeologist Steven McDougal at the PA SHPO, at a minimum the missing documents would have consisted of a Phase I study or its equivalent; since there is no record of a NRHP eligibility consideration, it seems unlikely that the site has been subjected to a Phase II evaluation (McDougal 2004a).

<table>
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<tr>
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<td>Price Site</td>
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<td>36-Mr-17</td>
<td>Big Brothers I Site</td>
<td>Archaic and Woodland, surface, hilltop</td>
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<td>Big Brothers II Site (Camp Wyomissing)</td>
<td>Terrace (bank erosion)</td>
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<td>36-Mr-21</td>
<td>Silverwater Eileenberger Landing Site</td>
<td>Woodland materials, workshop site</td>
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<td>Lenape Lake Rock Shelter/Borough Site</td>
<td>Rock ledge elev. ~580’</td>
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<td>36-Mr-24</td>
<td>Lake Lenape Site</td>
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<td>Zimmerman Flint Quarry</td>
<td>Paleo/Late Woodland</td>
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<td>36-Mr-58</td>
<td>DL&amp;W Brodhead Creek</td>
<td>Historic, late 19th, early 20th c. building foundation</td>
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</table>

The proposed Delaware Water Gap station site was not included in the earlier EA for the railroad corridor, completed by Hunter Research, Inc. in 1999 and as such the property has never been the subject of archaeological investigation. However, according to Archaeologist Steven McDougal at the PA SHPO, Phase IB testing will be required within the visitors’ center portion of the project site as part of the new welcome center construction slated for the property by the Pennsylvania Department of General Services (McDougal 2004b).

V. FIELD RESULTS

The following text describes the results of the site walkovers.

A. Proposed Scranton Maintenance Facility Site

The proposed Scranton maintenance yard area currently supports a single railroad track line, with a dirt road running along it on the east side (Photograph 1). The tracks predominantly are surrounded by vacant areas, which are covered with gravel, woods, or overgrown with low scrub or weeds (Photographs 2-3). A small, abandoned house (dating to the mid-twentieth century) is located near the northeastern end of the project site (Photograph 4). Various industrial buildings and their associated parking lots surround the project site. Ground surface visibility is generally low, and as such, no archaeological materials or features were observed at the time of the field investigation other than the railroad tracks, the alignment of which dates to the nineteenth century.

B. Proposed Scranton Station Site

The proposed Scranton station site is currently a surface parking lot, with a single at grade railroad track curving through the parking lot from southwest to northeast (Photograph 5). A fence separates the parking lot from the adjacent railroad tracks bordering its southern edge (Photographs 6 and 7). The elevation of the railroad tracks is several feet higher than the level of the parking lot (Photograph 8). The proposed station property is bordered by Lackawanna Avenue on the north, large modern buildings on the east, the railroad tracks on the south, and a vacant area on the west. An underpass running beneath the railroad tracks is located immediately west of the property. Since the proposed station site is covered in asphalt, there was no ground visibility. Thus, no evidence of archaeological artifacts or features was visible on the ground surface at the time of the pedestrian survey, other than the railroad track itself.
C. Proposed Tobyhanna Station Site

The proposed Tobyhanna station site presently supports a historic station house (now used as a museum, with a parking lot surrounding it; Photograph 9) to the west of Route 423, and a historic switch house to the east of Route 423 (Photograph 10). The open area west of the historic station house is used for storing railroad ties and other equipment; the ground surface here has been exposed (and at least shallowly disturbed) by a small backhoe used to move the railroad ties across the property (Photographs 11 and 12). An abandoned single railroad track also runs through this portion of the site (Photograph 13). This appears to be the former southern bypass track associated with the railroad yard and tank farm, as shown on the historic maps. A dirt path parallels the railroad tracks along the entirety of the site (Photograph 14). The area surrounding the switch house is overgrown with weeds and a few trees (Photograph 15). Ground surface visibility is low in areas of the site that are overgrown or paved, although high in the area where the backhoe has stripped off the topsoil. No archaeological materials or features were observed at the time of the field investigation other than the former bypass railroad track on the western side of the property and the current railroad track bordering the site on the north.

D. Proposed Pocono Mountain Station Site

The proposed Pocono Mountain station site was not accessible at the time of the field survey, however photographs and descriptive material provided by Edwards and Kelcey indicate that the property is wooded, and slopes down slightly from west to east (Photograph 16). A second, abandoned set of railroad tracks is located west of the active set of tracks (Photograph 17). According to Edwards and Kelcey, the majority of the proposed station site area appears not to have been disturbed by modern construction or other earthmoving activities. However, historic maps and modern aerial photographs indicate the presence of a railroad spur running through the property that was once associated with ice harvesting activities in the late nineteenth century. Several structures also related to the ice harvesting activities were located on either side of these tracks and may overlap the project site.

E. Proposed Analomink Station Site

The proposed Analomink station site currently is used by PennDOT, with storage sheds and road repair vehicles on the southeastern part of the property (this area is surrounded by a chain link fence), and a recycling center on the northwestern part of the site (Photographs 18-21). The majority of the property is paved, with some gravelled areas, making ground surface visibility virtually nonexistent. Much of the property appears to have been graded and/or leveled off; there is a high concrete retaining wall adjacent to the boundary of the property with Route 191, with the road continuing upslope. As described above, the soil survey for this property confirms that the area has been cut and filled. Thus, it appears that little of the original landform on this property has survived. No archaeological materials or features were observed at the time of the field investigation other than the railroad tracks.
F. Proposed East Stroudsburg Station Site

The proposed East Stroudsburg station site currently is vacant. The northern end of the property (to the line of Federal Street) contains a surface parking lot covered in gravel with a concrete sidewalk between the parking lot and the railroad tracks (Photograph 22). A low concrete retaining wall separates the parking lot from Crystal Street, which is several feet lower in elevation than the site property (Photograph 23). From the line of Federal Street to the Bridge Street overpass, the property contains a gravel road paralleling the railroad tracks, and areas of grass or low brush. Below Bridge Street, the property contains more graveled and overgrown areas (Photographs 24 and 25). Ground surface visibility is generally low throughout the property, due to gravel or vegetation cover. No archaeological materials or features were observed at the time of the field investigation other than the railroad tracks. Of note, the footprint of the former railroad-related structures shown on the 1875 Beers map is located just west of (and not within) the APE, under an area now covered by pavement on Crystal Street north and south of its intersection with Bridge Street.

G. Proposed Delaware Water Gap Visitors’ Center Station Site

The proposed Delaware Water Gap Visitors’ Center station site contains two areas, separated by Interstate 80, which bisects the property. To the west of the interstate, the site supports the Delaware Welcome Center, maintained by Pennsylvania’s Department of General Services and PennDOT. The present welcome center is a small one-story structure at the southwestern corner of the property, and is surrounded by parking areas and grassy areas (Photographs 26-28). Embankments, which appear to consist of imported fill, separate the welcome center from the interstate on the east and Tinkerton Road on the north. A new welcome center presently is being designed for this property, although construction has not yet begun as of this writing. East of the interstate the proposed station site consists of a gravel parking lot used in conjunction with two soccer fields immediately to the south (Photographs 29 and 30). Embankments in this area (which also appear to be comprised of imported fill) border the railroad tracks on the east and Interstate 80 on the west. Tinkerton Road is at the same elevation as the parking lot. Ground surface visibility was low throughout both sides of the property, due to pavement, gravel, or thick grass cover, and as such no archaeological materials or features were observed at the time of the field investigation other than the railroad tracks. However, the general area does not appear to be significantly graded or disturbed from its original condition, as the natural landscape was a flat terrace above the Delaware River, and modern construction (excepting the footprint of Interstate 80) seems to have only minimally affected the original topography.
VI. CONCLUSIONS AND RECOMMENDATIONS

A. Proposed Scranton Maintenance Facility

The proposed Scranton maintenance facility appears to have been undeveloped prior to its use by the Lackawanna and Bloomsburg Railroad and later the DL&W for railroad tracks. The alignment has remained in place since the 1850s, although tracks themselves have been upgraded over time. Areas adjacent to the tracks and within the APE were likely vacant through the early 1870s, but by the 1880s contained lumber yards and a slate yard on the northern end of the APE. The southern end of the APE may have been undeveloped and/or overlapping rear yards of houses and sheds in the late nineteenth and twentieth centuries. By 1979, nearly all the structures within the APE had been demolished.

Considering that the project site was seemingly not developed until the late nineteenth century (other than the railroad tracks), and that the footprint of the proposed maintenance site development falls within areas that supported lumber yards, a slate yard, and rear yards and/or late nineteenth century dwellings and sheds, the APE does not appear to possess a high historic period archaeological sensitivity. Being generally limited to above ground features, lumber and slate yards usually do not create substantial subsurface deposits and as such have very limited archaeological value (Hartgen Archaeological Associates and Historical Perspectives 1992). The houses in this area were supplied with piped water and therefore would not have relied on shaft features such as wells, privies, or cisterns that often contain archaeological deposits. For these reasons, no further archaeological investigations of the proposed maintenance site are recommended for the recovery of historic period resources.

The site may retain some precontact period archaeological sensitivity, though. The property is only several hundred feet from the Lackawanna River, and prior to historic development would have provided a suitable location for native settlement. However, because the site is mapped as “urban land” and the extent of historic fill and/or disturbance on the property is not presently known, the likelihood of recovering precontact period archaeological resources cannot be predicted. If soil borings are undertaken in the future in conjunction with the proposed maintenance yard development, these should be reviewed by a qualified archaeological consultant to determine the amount of fill present on the property and whether construction of the maintenance yard will require impacts below this layer. If no soil borings are planned and/or it is not possible to determine the depth of the historic fill and disturbance through other means, a Phase IB investigation of the property may be warranted to ascertain the presence or absence of precontact period resources.

B. Proposed Scranton Station Site

The proposed Scranton station site was developed initially in the 1850s, when railroad tracks were laid by the DL&W along the property’s southern edge. A spur was also built from these tracks northeast through the property to the line of Mifflin Avenue. In 1864, a
freight depot was built adjacent to the main DL&W tracks within the property; it was used by the railroad company through 1907, and through the 1950s by for a grocery warehouse. The original depot building was only minimally altered in the twentieth century by the grocery company. Along the northern section of the project site, a series of wholesaler shops were in place at least by 1873; they, too, endured at least through the 1950s before being razed.

This property is located between two NRHP listed districts. Steamtown National Historic Site, situated immediately south of the project site on the other side of the railroad tracks, is the location of the former DL&W railroad yard, which was created initially in 1851 and expanded and upgraded at various points in the nineteenth and twentieth centuries. The majority of the resources still extant on the property date to the 1899-1939 era (Clemenson 1989). The Lackawanna Avenue Commercial Historic District is located on the north side of Lackawanna Avenue, east of Franklin Street. Comprised chiefly of commercial buildings, its period of significance is 1860-1920 (Bisignani and Doutrich 1983).

Although not within the boundaries of either historic district, the proposed Scranton station site has the ability to contribute to the body of knowledge associated with both areas. The DL&W freight depot formerly located within the APE is directly associated with the early history of the railroad in Scranton and could be considered a contributing resource to the Steamtown site. As the NRHP form for Steamtown states:

Considering the changes which have occurred on the Delaware, Lackawanna and Western Railroad yard and Dickson Site, the foundations and other below ground remains of the numerous structures are undoubtedly present. These remnants of nineteenth and twentieth century buildings are considered to be part of the history of the yard and to be as contributing to its story as extant structures. Further archeological investigation is needed to identify what remains exist (Clemenson 1989:7-9).

Similarly, the former block of wholesaler markets on the Lackawanna Avenue portion of the APE could be considered a contributing resource to the Lackawanna Avenue Commercial Historic District.

This project site was included in the earlier EA completed by Hunter Research in 1999. That study recommended that additional historic research be conducted to establish the sequence of earlier railroad structures on the site. This work is being completed as part of the current EA. Assuming the results of that study concur with the history of the APE outlined in this report, a Phase IB/II archaeological investigation for these historic period resources is recommended for the property.

Like the proposed Scranton maintenance facility site, the proposed Scranton station site may retain some precontact period archaeological sensitivity, due to its proximity to the Lackawanna River. It, too, is mapped as “urban land” with the extent of historic fill.
and/or disturbance on the property not presently known, so the likelihood of recovering precontact period archaeological resources cannot be predicted. If soil borings are undertaken in the future in conjunction with the proposed station development, these should be reviewed by a qualified archaeological consultant to determine the amount of fill present on the property and whether construction of the station will require impacts below this layer. If no soil borings are planned and/or it is not possible to determine the depth of the historic fill and disturbance through other means, a Phase IB investigation of the property may be warranted to ascertain the presence or absence of precontact period resources.

C. Proposed Tobyhanna Station Site

The proposed Tobyhanna station site was historically part of a DL&W railroad yard, constructed at the time the railroad opened in the mid-1850s, which within the APE included the original depot building (now replaced with the current 1908 building), three “tank shop” buildings to the west of the depot, and a set of bypass tracks. The APE also includes a historic switch tower, built in 1910. Although the tank farm structures have been razed, the depot and the switch tower are still standing, and the now abandoned bypass railroad tracks are still visible on the ground surface on the western side of the property.

The standing structures that make up the Tobyhanna station complex are being recommended as potentially eligible for the NRHP as part of the historic structures component of the present EA. The site walkover suggests that in addition to the standing structures, there is likely an archaeological component to this complex, consisting of possible remains from the original depot building, the former tank farm buildings, and the bypass railroad tracks. If future construction on this property will impact any subsurface deposits, a Phase IB/II archaeological study and evaluation is recommended.

D. Proposed Pocono Mountain Station Site

The proposed Pocono Mountain station site is located immediately adjacent to Lynchwood Lake, a man-made impoundment created by damming a naturally occurring stream. The proximity to fresh water, combined with soils in the wooded section of the property that are well drained, suggests a high precontact archaeological sensitivity. Additionally, remains of the railroad spur and buildings associated with late nineteenth century ice harvesting likely remain on and adjacent to the property, as there appears to have been minimal disturbance to the area from later construction. Archaeological investigations of nineteenth century ice harvesting operations have been undertaken at other lake and river locations in New York (Stott 1979; Harris and Fickman 2000). If extant, archaeological resources associated with this activity at the proposed Pocono Mountain station site would provide useful comparative data. For these reasons, a Phase IB archaeological investigation is recommended for this project site.
E. Proposed Analomink Station Site

The proposed Analomink appears to have remained undeveloped through the mid-twentieth century. However, after the flood of 1955 when nearby Brodhead Creek overflowed its banks, soil along much of the undeveloped areas adjacent to the railroad alignment was removed by the Army Corps of Engineers to create embankments aimed at flood control along the now rechanneled creek bed. The county soil survey indicates the Analomink property has been subjected to cutting and filling, and during the site walkover it was very obvious that the original landform on the property had been disturbed from grading activities. Because the property does not appear to retain its natural landform, its archaeological sensitivity is considered low and no further investigations are recommended.

F. Proposed East Stroudsburg Station Site

The proposed East Stroudsburg station site appears to have been undeveloped until construction of the DL&W railroad in the 1850s, when tracks were laid along its eastern border. Although railroad-related structures were built in the vicinity of the APE (including the historic station to the north and several unidentified small railroad buildings to the west), the property itself seems not to have been impacted by historic construction and therefore has a low historic period archaeological sensitivity.

This property was included in the 1999 EA completed by Hunter Research, in which they recommended no additional archaeological investigations were warranted. However, we feel that the site may retain some precontact period archaeological sensitivity. The property is only several hundred feet from an unnamed drainage that empties into Brodhead Creek, contains well drained soils, and prior to historic development would have provided a suitable location for native settlement. However, there may be some historic fill and/or disturbance on the property due to construction of the railroad and nearby streets. If soil borings are undertaken in the future in conjunction with the proposed station development, these should be reviewed by a qualified archaeological consultant to determine the amount of fill present on the property and whether construction of the station will require impacts below this layer. If no soil borings are planned and/or it is not possible to determine the depth of the historic fill and disturbance through other means, a Phase IB investigation of the property may be warranted to ascertain the presence or absence of precontact period resources.

G. Proposed Delaware Water Gap Visitors’ Center Station Site

The proposed Delaware Water Gap Visitors’ Center station site is located in an area of high precontact sensitivity; twelve precontact archaeological sites, including one (the Shawnee-Minisink Site) that is nationally known, are located within a one mile radius. Two precontact sites are located immediately adjacent to the northeastern side of the proposed station site, on the other side of the railroad tracks. There is a high likelihood that precontact period resources could also exist on the proposed station site, perhaps as an extension of the two recorded sites to the northeast. The property is on a floodplain.
terrace several hundred feet from the confluence of Brodhead Creek and the Delaware River, which is an optimal characteristic for the location of a precontact site. Additionally, the area may retain much of its original landform; historic topographic maps show little change in site elevation over time, and the site walkover suggests that with the exception of the Interstate 80 footprint and some areas of the current visitors' center property, the majority of the changes to the original landform have consisted of filling (or creating embankments) rather than cutting. The area was historically undeveloped until construction of the current visitors' center. Soil borings conducted as part of future welcome center construction on the property suggest that the area still contains natural soils, and that the designation of cut and fill soils recorded in the county soil survey may not be completely accurate. For all of the reasons outlined above a Phase IB/II archaeological investigation is recommended.
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FIGURES
FIGURE 2
Proposed Scranton Yard Site.  
*Scranton Quadrangle, Pennsylvania.*  

New Jersey-Pennsylvania Lackawanna Cut-Off  
Passenger Rail Restoration Project.
FIGURE 3
Proposed Scranton Yard Layout.

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.
Figure 4
Proposed Scranton Station Site.

Scranton Quadrangle, Pennsylvania.

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.
FIGURE 5
Proposed Scranton Station Site Layout.

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.
FIGURE 6
Proposed Tobyhanna Station Site.  
Tobyhanna Quadrangle, Pennsylvania.  

New Jersey-Pennsylvania Lackawanna Cut-Off  
Passenger Rail Restoration Project.
New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.

Proposed Tobyhanna Station Plan
**Figure 8**  
Proposed Pocono Mountain Station Site.  
*Tobyhanna Quadrangle, Pennsylvania.*  

New Jersey-Pennsylvania Lackawanna Cut-Off  
Passenger Rail Restoration Project.
FIGURE 9
Proposed Pocono Mountain Station Site Layout.

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.
**Figure 10**

Proposed Analomink Station Site.

*East Stroudsburg Quadrangle, Pennsylvania.*


New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
**Figure 11**
Proposed Analomink Station Site Layout.

*Proposed Analomink Station Plan.*

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.
FIGURE 12
Proposed East Stroudsburg Station Site.  

Stroudsburg Quadrangle, Pennsylvania.  

New Jersey-Pennsylvania Lackawanna Cut-Off 
Passenger Rail Restoration Project.
Figure 13
Proposed East Stroudsburg Station Site Layout.

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.

Proposed East Stroudsburg Station Plan.
**Figure 14**

Proposed Delaware Water Gap Visitors’ Center Station Site.

*Stroudsburg Quadrangle, Pennsylvania.*


New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
FIGURE 15
Proposed Delaware Water Gap Station Site Layout.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
Figure 16
Proposed Scranton Yard Site.

City of Scranton Prior to Sept. 1840.
Merrifield, 1896.

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.
FIGURE 17
Proposed Scranton Yard Site.

Beers, 1873.

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.
**Figure 18**

Proposed Scranton Yard Site.

Scranton, Pennsylvania.
Sanborn Insurance Maps, 1888.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
FIGURE 19
Proposed Scranton Yard Site.

Scranton, Pennsylvania.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
**Figure 20**
Proposed Scranton Yard Site.

Scranton, Pennsylvania.

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.
FIGURE 21
Proposed Scranton Yard Site.

Scranton, Pennsylvania.

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.
**FIGURE 22**
Proposed Scranton Station Site.

*City of Scranton Prior to Sept. 1840.*
Merrifield, 1896.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
**FIGURE 23**  
Proposed Scranton Station Site.

*Atlas of Luzerne County, Pennsylvania.*  
Beers, 1873.

New Jersey-Pennsylvania Lackawanna Cut-Off  
Passenger Rail Restoration Project.
FIGURE 24
Proposed Scranton Station Site.

Scrapton, Pennsylvania.
Sanborn Insurance Maps, 1888.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
FIGURE 25
Proposed Scranton Station Site.

Scranton, Pennsylvania.
Sanborn Insurance Maps, 1898.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
Figure 26
Proposed Scranton Station Site.

Scranton, Pennsylvania.
Sanborn Insurance Maps, 1919.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
**Figure 27**
Proposed Tobyhanna Station Site.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.

*County Atlas of Monroe, Pennsylvania.*
*Beers, 1875.*
**Figure 28**  
Proposed Tobyhanna Station Site.  

*Pocono Quadrangle, Pennsylvania.*  
United States Geological Survey, 1921.

New Jersey-Pennsylvania Lackawanna Cut-Off  
Passenger Rail Restoration Project.
FIGURE 29
Proposed Pocono Mountain Station Site.

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.
FIGURE 30
Proposed Pocono Mountain Station Site.

Pocono Quadrangle, Pennsylvania.
United States Geological Survey, 1921.

New Jersey-Pennsylvania Lackawanna Cut-Off
Passenger Rail Restoration Project.
FIGURE 31
Proposed Analomink Station Site.

County Atlas of Monroe, Pennsylvania.
Beers, 1875.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
FIGURE 32
Proposed Analomink Station Site.

Bushkill Quadrangle, Pennsylvania.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
**Figure 33**
Proposed East Stroudsburg Station Site.

*County Atlas of Monroe, Pennsylvania.*
Beers, 1875.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
**Figure 34**

Proposed Delaware Water Gap Visitors' Center Station Site.

*County Atlas of Monroe, Pennsylvania.*

Beers, 1875.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
**Figure 35**

Proposed Delaware Water Gap Visitors’ Center Station Site.

*Delaware Water Gap Quadrangle, Pennsylvania.*

United States Geological Survey, 1893.

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.
**FIGURE 36**

Proposed Delaware Water Gap Visitors' Center Station Site.

*Delaware Water Gap Quadrangle, Pennsylvania.*

New Jersey-Pennsylvania Lackawanna Cut-Off Passenger Rail Restoration Project.