state college area
CONNECTOR

PennDOT.gov/SCAC

Archaeological Resources Technical Memorandum

for the

State College Area Connector

Planning and Environmental Linkage (PEL) Study

(REDACTED)

pennsylvania
DEPARTMENT OF TRANSPORTATION

MAY 21, 2021

U.S. Department of Transportation
Federal Highway Administration

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List of Acronyms

ACHP	Advisory Council on Historic Preservation
CRGIS	Cultural Resources Geographic Information System
GIS	Geographic Information System
I	Interstate
MTGIS	McCormick Taylor Geographic Information System
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
PA	Pennsylvania or Pennsylvania Route
PA-SHARE	Pennsylvania's State Historic and Archaeological Resource Exchange
PA SHPO	Pennsylvania State Historic Preservation Office
PEL	Planning and Environmental Linkage Study
PennDOT	Pennsylvania Department of Transportation
SCAC	State College Area Connector
SCCCTS	South Central Centre County Transportation Study
U.S.	United States or United States Route
USGS	United States Geological Service

1.0 Introduction

The Planning and Environmental Linkage Study (PEL) for the State College Area Connector (SCAC) study is intended to identify, evaluate, and recommend transportation improvements in the PEL Study Area for project delivery. The PEL process allows early planning-level decisions to be carried forward into future transportation projects so that National Environmental Policy Act (NEPA) requirements are connected and planning analyses and decisions are not revisited. To ensure that the PEL Study results can be used in future NEPA projects, the PEL investigations will meet standards established by NEPA regulations and guidance as well as use consistent NEPA terms (e.g., purpose and need, alternatives, affected environment, environmental consequences, etc.). The PEL Study Area is approximately 70 square miles (approximately 44,800 acres), extends through the southern portion of Centre County, and includes all or parts of six municipalities: Centre Hall Borough and Potter, Spring, Harris, College, and Benner Townships (see Figure 1, Study Location). The study area includes key transportation routes that provide access to regional destinations and beyond via major transportation routes such as United States Route (U.S.) 322, Pennsylvania Route (PA) 144, PA 45, and Interstate 99 (I-99) which, in turn, provide access to nearby Interstate 80 (I-80). The initial data collection area is also shaped by the topography of the area. In general, the study area encompasses the southwestern portion of Penns Valley that extends between Nittany Mountain to the north and the Seven Mountains area of the Tussey Mountain range to the south. The limits of the study area will be refined as the process advances.

Because the PEL Study and anticipated future projects are federally funded, it will be necessary to evaluate potential project effects on properties that are listed in or are eligible for listing in the National Register of Historic Places (NRHP). NRHP properties might include above-ground historic resources, archaeological sites, or both. Relevant laws and regulations for the work described herein include Section 106 of the National Historic Preservation Act of 1966 as amended (Title 54 of the U.S. Code); Section 4(f) of the Department of Transportation Act of 1966 as amended; the National Environmental Policy Act (NEPA) of 1969; the regulations of the Advisory Council on Historic Preservation (ACHP) (36 CFR 63 and 36 CFR 800); Commonwealth

of Pennsylvania acts 1970-120 and 1978-23; and the Pennsylvania History Code (37 Pa. Cons. Stat., Sect. 507 et seq.).

The purpose of this document is to identify archaeological resources within the PEL Study Area. Future transportation projects within the PEL Study Area have the potential to effect archaeological resources that may be eligible for listing in the NRHP. Examples of pre-contact period sites that could exist within the PEL Study Area include the remains of residential camps used by small groups of mobile hunters and gatherers, horticultural hamlets where gardens of domesticated plants were cultivated, briefly-occupied resource procurement/hunting/butchering camps, and quarry-related workshops where tool-stone was acquired for future use. Examples of historic-period sites include the remains of nineteenth- and early twentieth-century dwellings, stores, taverns, smitheries, grist and saw mills, textile factories, and perhaps industrial remains related to the region's once-prominent iron industry.

In January 2020, Project Initial Tribal Notification Forms were sent to eight tribes asking them to participate in the study. These tribes included:

- Absentee-Shawnee Tribe of Indians of Oklahoma
- Delaware Nation
- Delaware Tribe of Indians
- Eastern Shawnee Tribe of Oklahoma
- Oneida Nation
- Seneca Nation of Indians
- Seneca-Cayuga Nation
- Shawnee Tribe

Two of the Tribes, the Delaware Tribe of Indians and the Seneca Nation of Indians, accepted the invitation to be a Participating Agency for the SCAC Study (see Appendix B for accepted invitations).

2.0 Methods

The Route 322/144/45 Corridors Data Refresh Project data evaluation conducted in 2018 for archaeological resources resulted in the creation of three mapping layers, one with the state-wide

model of pre-contact period site locations (state-wide Pre-Contact Probability Model), a second with the South Central Centre County Transportation Study (SCCCTS) historic-period site location model, and a third showing known pre-contact and historic-period site locations as presented in the Pennsylvania State Historic Preservation Office's (PA SHPO) Cultural Resources Geographic Information System (CRGIS) at that time. These data were presented in a document termed the Archaeological Resource Data Collection Memo (Barry 2018). The present study reexamines the 2018 data to determine if it remains accurate and whether it can be used for the current PEL Study. (Note: as of April 2021, the CRGIS data was transferred to CRGIS's replacement platform, Pennsylvania's State Historic and Archaeological Resource Exchange [PA-SHARE])

Archaeological predictive models have been found to be time- and cost-efficient instruments for developing preliminary project alternatives that minimize potential effects to pre-contact and/or historic-period archaeological resources. In the spring of 2016, the PA SHPO and PennDOT developed the state-wide Pre-Contact Probability Model that was presented on the PA SHPO's online database, the CRGIS. PennDOT has decided that the state-wide Pre-Contact Probability Model will be used for the present PEL Study.

In 2004 a predictive model for historic-period archaeological site locations was created for the planned but never completed SCCCTS project (ER 2000-8003-027; Eiswert *et al.* 2004). Because the physical extent of the SCCCTS predictive model study area and the SCAC PEL Study Area are virtually identical, the historic-period archaeological site location model generated for the SCCCTS model was evaluated for use with the current PEL Study. To create the historic-period site location model the locations of buildings, industrial sites, and other cultural features depicted on nineteenth-and early twentieth-century maps and mid-twentieth-century aerial photographs of the region were transferred to mapping of the study area. Areas that occur within a 61-m (200-ft) radius of structures or other mapped features that were built fifty or more years ago, whether standing or no longer present, were defined as high probability areas for historic-period archaeological sites. The resources examined, as listed by Clouse and Richmond (2003), included Penn Pilot (1938 and 1957), Pomeroy and Company (1874), Walling (1861), and the United States Geological Survey (USGS 1908 and 1929).

Evaluating the accuracy and usefulness of the 2018 data refresh information entailed three tasks: 1) obtaining the latest digital data for the state-wide Pre-Contact Probability Model of pre-contact period site locations; 2) updating known pre-contact and historic-period site locations within the PEL Study Area; and 3) evaluating the usefulness of the 2004 historic-period archaeological site location model.

Digital data for the state-wide Pre-Contact Probability Model for the Centre County region was obtained from the PA SHPO on August 13, 2020 (Harvey 2020), and updated site location information was obtained from the PA SHPO's online CRGIS database in January 2021 (PA SHPO/PennDOT 2021). A review of nineteenth- and twentieth-century maps and aerial photographs was conducted to determine if sources exist that were not examined when the historic-period predictive model of site locations was created.

3.0 Results

As was done during the 2018 Data Refresh Study, three layers of mapping data were generated as a result of the current PEL Study. Two of these layers, the state-wide Pre-Contact Probability Model of pre-contact period site locations and the historic-period predictive model, are presented in Figure 2. This figure depicts areas likely to contain pre-contact period sites in red, areas of moderate pre-contact period site potential in orange, and areas of low potential for pre-contact period sites areas as unshaded. Areas likely to contain historic-period archaeological deposits are shown with blue circles.

Comparisons of the CRGIS data from 2018 and 2020 reveal that no changes have been made in the state-wide Pre-Contact Probability Model during the intervening time period. Similarly, a comparison of known pre-contact and historic-period archaeological site locations from 2017 and 2021 reveals that no new archaeological sites have been documented within the PEL Study Area since the 2018 data refresh study [redacted]. It is noted that six of the 158 documented archaeological sites within the PEL Study Area, all pre-contact-period sites, are listed in or are

eligible for listing in the NRHP. Five of these sites are associated with jasper tool-stone quarries in the Houserville region of College Township, while the other is associated with a Bellefonte chert tool-stone quarry near Linden Hall in Harris Township. The NRHP-eligibility of most of the remaining sites has not yet been determined.

A review of available maps and aerial photographs identified no data sources that had not been examined during the creation of the historic-period predictive model of site locations in 2004. Thus, it is concluded that the predictive model of historic-period archaeological site locations remains accurate and useful for the SCAC studies.

The predictive models [redacted] presented in the attached figures will allow planners to visually assess the potential effects to archaeologically sensitive areas for each of the alternatives that are under consideration for the SCAC project.

4.0 Summary

The archaeological predictive models [redacted] presented in this document will allow planners to visually assess the potential effects to archaeologically sensitive areas for each of the alternatives that are under consideration for the SCAC PEL Study. This information will serve as the basis for defining and recommending future detailed archaeological investigations that will be carried forward for the NEPA phase of any project(s) that develop from the PEL Study.

5.0 Preparers

Nathan D. Baldwin, GIS Technician, Skelly and Loy, Inc., *A Terracon Company*
Gary F. Coppock, MA, RPA, Senior Scientist, Skelly and Loy, Inc., *A Terracon Company*
Doug T. Meneeley, GIS Analyst, Skelly and Loy, Inc., *A Terracon Company*
Bradley S. Reese, Senior GIS Analyst, Skelly and Loy, Inc., *A Terracon Company*

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BELLEFONTE

WALKER TWP

SPRING TWP

GREGG TWP

PATTON TWP

BENNER TWP

CENTRE HALL

COLLEGE TWP

STATE COLLEGE

POTTER TWP

HARRIS TWP

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LEGEND

PEL Study Area

Municipal Boundaries

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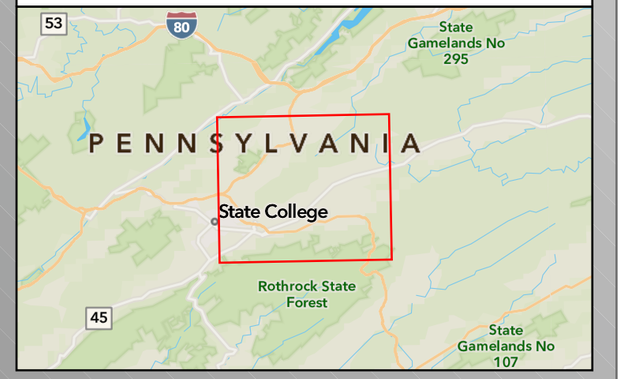
INDEX MAP



May 2021

State College Area Connector PEL Study

STUDY LOCATION

CENTRE HALL BOROUGH, BENNER, COLLEGE, HARRIS, POTTER, AND SPRING TOWNSHIPS
CENTRE COUNTY, PENNSYLVANIA

Figure 1	1 Inch = 6,000 Feet

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BELLEFONTE

WALKER TWP

SPRING TWP

GREGG TWP

PATTON TWP

BENNER TWP

CENTRE HALL

COLLEGE TWP

STATE COLLEGE

POTTER TWP

HARRIS TWP

0 3,000 6,000 9,000 Feet

LEGEND

- PEL Study Area
- Municipal Boundaries
- Historic Period Archaeological Sensitivity (2004)

Statewide Prehistoric/Pre-Contact Model (2018/2019)

- Medium Probability
- High Probability

May 2021

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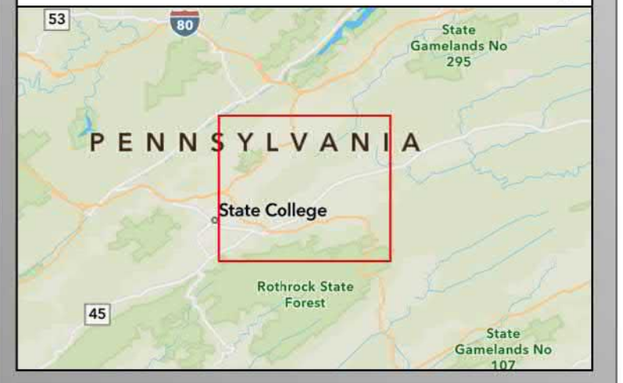
DEPARTMENT OF TRANSPORTATION UNITED STATES OF AMERICA

INDEX MAP



May 2021

State College Area Connector PEL Study

ARCHAEOLOGICAL CONSTRAINTS

CENTRE HALL BOROUGH, BENNER, COLLEGE, HARRIS, POTTER, AND SPRING TOWNSHIPS
CENTRE COUNTY, PENNSYLVANIA

Figure 2	1 Inch = 6,000 Feet

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Service Layer Credits: NAIP: Esri, USDA Farm Service Agency, Community: Centre County Government, data.pa.gov, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

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Service Layer Credits: NAIP: Esri, USDA Farm Service Agency, Community: Centre County Government, data.pa.gov, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

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APPENDIX A: REFERENCES

Appendix A: REFERENCES

Barry, S.

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Clouse, J.A., and C.A. Richmond

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Harvey, H.C.

2020 Email response and digital data for the Statewide Prehistoric/Pre-Contact-Period Model requested by G.F. Coppock, Skelly and Loy, Inc., on August 12, 2021. Pennsylvania State Historic Preservation Office, Harrisburg. August 13, 2020.

McCormick Taylor, Inc., Geographic Information System (MTGIS)

2004 *Historic-Period Archaeological Sensitivity Map*. McCormick Taylor, Harrisburg.

2017 *Archaeological Sites*. Digital data obtained from the PA SHPO, Harrisburg by McCormick Taylor, Harrisburg.

2018/2019 *Statewide Prehistoric/Pre-Contact-Period Model.* Digital data obtained from the PA SHPO, Harrisburg, by McCormick Taylor, Harrisburg.

Miller, P.E., and D. Dinsmore

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Penn Pilot

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1957 *Aerial Photograph of a Portion of Centre County, Pennsylvania, Dated May 25, 1957.* Historical Aerial Viewer. https://www.pennpilot.psu.edu/.

Pennsylvania Department of Transportation (PennDOT)

2018 *Route 322/145/45 Corridors Data Refresh Project Update*. https://www.crcog.net/vertical/Sites/%7B6AD7E2DC-ECE4-41CD-B8E1-BAC6A6336348%7D/uploads/SCCCTS_Refresh_Summary_Report_MPO_4-23-19.pdf.

Pennsylvania State Historic Preservation Office and the Pennsylvania Department of Transportation (PA SHPO/PennDOT)

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Pomeroy, A., and Company (publisher)

1874 *Atlas of Centre County, Pennsylvania*. A. Pomeroy and Company, Philadelphia.

United States Geological Survey (USGS)

1908 *Bellefonte, Pennsylvania*. 15-minute series quadrangle. United States Geological Survey, Washington, DC.

1929 *Centre Hall, Pennsylvania*. 15-minute series quadrangle. United States Geological Survey, Washington, DC.

Walling, H.F.

1861 *Topographical Map of Centre County, Pennsylvania*. S.D. Tilden, New York.

GIS DATA SOURCES

Layer Name	Figure	Source	Date
Historic-Period Archaeological Sensitivity	Figure 2: Archaeological Constraints [redacted]	MTGIS	2004
Statewide Prehistoric/ Pre-Contact Model	[redacted]	MTGIS Harvey	2018/2019 2020
Archaeological Sites	[redacted]	MTGIS PA SHPO/PennDOT	2017 2021

APPENDIX B: PARTICIPATING AGENCY INVITATION RESPONSES

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State College Area Connector Study

Participating Agency Invitation Response

Agency/Municipality Name Delaware Tribe of Indians

☑ Elect to accept the invitation to be a Participating Agency.

Please provide your representative contact information below:

Name: _____

Email: _____

Phone Number: _____

Mailing Address: _____

☐ Elect to decline the invitation to be a Participating Agency and engage through the traditional public involvement activities. Please provide rationale.

Please return this form via email to:

Federal Highway Administration - Camille Otto – CamilleOtto@dot.gov
Pennsylvania Department of Transportation – Robert Weed – RWeed@pa.gov
Design Team Project Manager – Kevin James at c-KevJames@pa.gov
Study Team Planner – Lori Cole – LCole@jmt.com

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State College Area Connector Study

Participating Agency Invitation Response

Agency/Municipality Name Seneca Nation of Indians

☑ Elect to accept the invitation to be a Participating Agency.

Please provide your representative contact information below:

Name: Dr. Joe Stahlman

Email: joe.stahlman@sni.org

Phone Number: 716-277-5580

Mailing Address: 82 W. Hetzel St., Salamanca, NY 14779

☐ Elect to decline the invitation to be a Participating Agency and engage through the traditional public involvement activities. Please provide rationale.

Please return this form via email to:

Federal Highway Administration - Camille Otto – CamilleOtto@dot.gov
Pennsylvania Department of Transportation – Robert Weed – RWeed@pa.gov
Design Team Project Manager – Kevin James at c-KevJames@pa.gov
Study Team Planner – Lori Cole – LCole@jmt.com