PHASE IA ARCHAEOLOGICAL SURVEY

MILL POINT SOLAR PROJECT

MONTGOMERY COUNTY, NEW YORK

March 2021

Prepared For:

ConnectGen Montgomery County LLC
1001 McKinney, Suite 700
Houston, Texas 77002

Prepared By:

TRC
4425-B Forbes Boulevard
Lanham, MD 20706

PHASE IA ARCHAEOLOGICAL SURVEY
MILL POINT SOLAR PROJECT
TOWN OF GLEN, MONTGOMERY COUNTY, NEW YORK

Prepared for:

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1001 McKinney, Suite 700
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4425-B Forbes Boulevard
Lanham, Maryland 20706

Timothy R. Sara, M.A., RPA, Principal Investigator

Authored by:
Jasmine Gollup, M.A., RPA, Justin Warrenfeltz, B.A.,
Timothy R. Sara, M.A., RPA, and Robert D. Wall, Ph.D., RPA.

March 2021

OPRHP MANAGEMENT SUMMARY

SHPO Project Review Number: **21PR00133**

Involved State and Federal Agencies (DEC, CORPS, FHWA, etc): **Office of Renewable Energy Siting (ORES)**

Phase of Survey: **Phase IA**

Location: **North and west of the Town of Glen in central Montgomery County.**

Minor Civil Division: **Town of Glen**

County: **Montgomery County**

Survey Area Dimensions: **Irregular dimension (see below)**

Number of Acres Surveyed: **3,733 acres**

USGS 7.5 Minute Quadrangle Map: ***Tribes Hill*** **and** ***Randall*** **(2019)**

Number & Interval of Shovel Tests (STPs)**: N/A**

Number & Size of Units: **N/A**

Width of Plowed Strips: **N/A**

Surface Survey Transect Interval: **N/A**

Results of Archaeological Survey: **N/A**

Number & name of prehistoric sites identified: **N/A**

Number & name of historic sites identified: **N/A**

Number & name of sites recommended for Phase II/Avoidance: **N/A**

Results of Architectural Survey: **N/A**

Report Author(s): **Jasmine Gollup, Justin Warrenfeltz, Tim Sara, and Robert Wall.**

Date of Report: **March 2021**

MANAGEMENT SUMMARY

This report documents a Phase IA archaeological survey (literature search and sensitivity study) conducted for the Mill Point Solar Project (Project) in the Town of Glen, Montgomery County, New York, conducted on behalf of ConnectGen Montgomery County LLC, a subsidiary of ConnectGen LLC. The Phase IA archaeological survey was completed for the Project under Section 94-c of the New York State Law. The Project will obtain a siting permit from the Office of Renewable Energy Siting (ORES). The Project will obtain and adhere to all other applicable federal, state, and local permits not supplanted by 94-c, including a Section 404 permit from the United States Army Corps of Engineers (USACE) if Project activities will result in fill or dredge within jurisdictional wetlands and waters of the U.S. as well as a New York State Department of Environmental Conservation (NYSDEC) Article 24 permit if disturbance activities occur in NYSDEC state-protected wetlands or regulated adjacent areas. The Project will also be conducted in accordance with Section 106 of the National Historic Preservation Act (NHPA).

The Project will consist of the construction and operation of a 250+ megawatt (MW) solar energy center. The total Project Area is approximately 3,733 acres and will be located on land leased or purchased from owners of private property. Project components will include photovoltaic panels and associated racking systems, co-located inverters and medium voltage transformers, a Battery Energy Storage System (BESS), a new 345 kilovolt (kV) substation and switching station, underground and/or overhead alternating current (AC) collection, access roads, temporary laydown areas, and a potential operations and maintenance facility located within an approximate 3,733-acre site (Project Area). The final solar array specification, as well as locations of arrays, will be finalized as part of ongoing engineering efforts. Engineering drawings will be used to define the archaeological area of potential effects (APE) as they are developed and in consultation with the Office of Parks, Recreation, and Historic Preservation (OPRHP).

The Phase IA survey examined the archaeological site files and historic resource files of the OPRHP and the New York State Museum (NYSM). [redacted]

The Project Area consists of agricultural fields and wooded areas north and west of the Town of Glen in central Montgomery County. Based on the archaeological sensitivity assessment, [redacted] A Phase IB survey is recommended for areas of significant construction impacts, as defined in consultation with the OPRHP, within areas of high archaeological sensitivity.

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1. INTRODUCTION

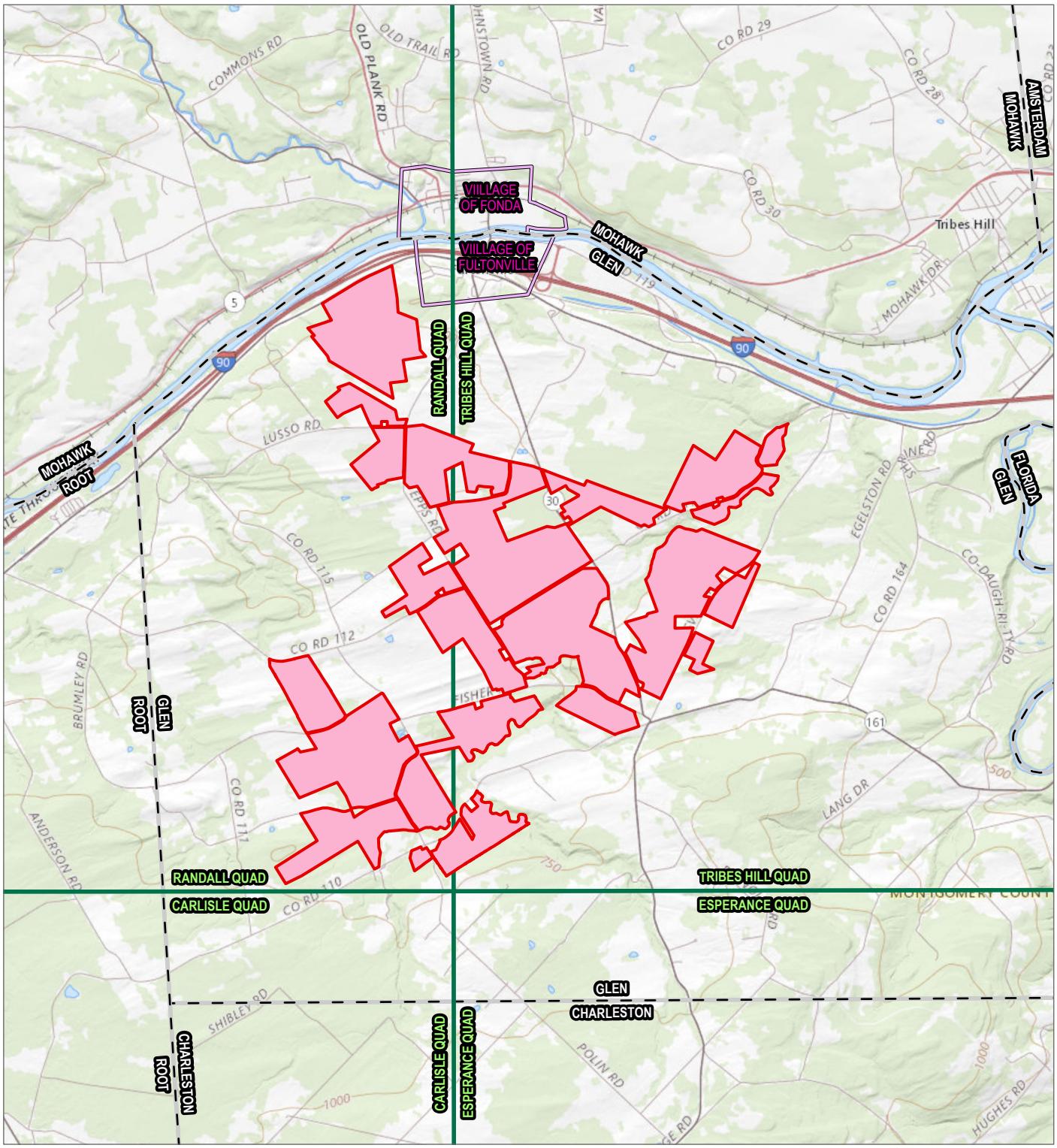
This report presents the results of a Phase IA archaeological survey (literature search and sensitivity study) conducted for the Mill Point Solar Project (Project) located in the Town of Glen, Montgomery County, New York (Figure 1-1). The Phase IA archaeological survey was completed for the Project in support of the Office of Renewable Energy Siting (ORES) Section 94-c permitting process, a Section 404 permit from the USACE (if Project activities will result in fill or dredge within jurisdictional wetlands and waters of the U.S.), a NYSDEC Article 24 permit if disturbance activities occur in NYSDEC state-protected wetlands or regulated adjacent areas, and in accordance with Section 106 of the National Historic Preservation Act (NHPA). The survey was conducted by TRC on behalf of ConnectGen Montgomery County LLC, a subsidiary of ConnectGen LLC, in order to identify areas of archaeological sensitivity within the proposed Project development areas and to provide recommendations to support the permitting for this Project.

The Project will consist of the construction and operation of a 250+ megawatt (MW) solar energy center. The total Project Area is approximately 3,733 acres. The Project will include photovoltaic panels and associated racking systems, co-located inverters and medium voltage transformers, a Battery Energy Storage System (BESS), a new 345 kV substation and switching station, underground and/or overhead AC collection, access roads, temporary laydown areas, and a potential operations and maintenance facility. The final solar array specification, as well as locations of arrays, will be determined during ongoing engineering efforts.

The overall purpose of the Phase IA survey is to use archival methods to determine the amount and type of cultural resources presently known in the Project Area environs and to develop a sensitivity assessment for the potential existence of properties eligible for inclusion in the National Register of Historic Places (NRHP) in the proposed Project development areas. This information will be used to guide subsequent field studies once the Project plans are finalized. The overall study was conducted in compliance with Section 106 of the NHPA and its implementing regulations at 36 CFR Part 800 and in accordance with the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation,* the New York Office of Parks, Recreation, and Historic Preservation (OPRHP) *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State* (NYAC 1994), and applicable portions of the OPRHP's *Phase I Archaeological Report Format Requirements* (OPRHP 2005).

The Phase IA background research was initiated the week of October 26, 2020, and included a review of county and town histories, historical and archaeological research reports, historical maps, cultural resource survey reports, archaeological site files, county soil maps, and aerial photographs. Research was conducted using OPRHP's online Cultural Resource Information System (CRIS). The Principal Investigator for this study was Timothy Sara, M.A., RPA. Jasmine Gollup, M.A., RPA, conducted background research, prepared report figures, and was the principal author of this report.

The report is organized as follows: Chapter 2 describes the physical environment of the Project Area. Chapter 3 presents an overview of the region's cultural chronology and describes previous archaeological research conducted within the immediate and surrounding region. Chapter 4 presents the sensitivity assessment and Chapter 5 provides study conclusions and recommendations for Phase IB field investigations. Appendix A contains TRC personnel qualifications.



PROJECT AREA
TOWN BOUNDARY
VILLAGE BOUNDARY
USGS 24K QUAD BOUNDARY

N

0 1,000 2,000
METERS
0 3,000 6,000
FEET
1:72,000 1" = 6,000' 1" = 1,829 meters

New York Overview

SITE LOCATION

BASE MAP: USGS NATIONAL MAP
DATA SOURCES: ESRI, NYS GIS, TRC

PROJECT:
CONNECTGEN - MILL POINT SOLAR PROJECT
TOWN OF GLEN
MONTGOMERY COUNTY, NY

TITLE:
PHASE 1A
PROJECT LOCATION MAP

DRAWN BY:	R. BARBER	PROJ. NO.:	411360
CHECKED BY:	R. JORDAN		
APPROVED BY:	T. KONDAK		**FIGURE 1-1**
DATE:	FEBRUARY 2021		

TRC
10 Maxwell Drive
Clifton Park, NY 12065
Phone: 518-348-1190

FILE: Mill_Point_Cultural

Coordinate System: NAD 1983 StatePlane New York East FIPS 3101 Feet. Map Rotation: 0
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2. ENVIRONMENTAL SETTING

PHYSIOGRAPHY AND GEOLOGY

The Project Area is located in the Glaciated Allegheny Plateau physiographic province (Figure 2-1). The Glaciated Allegheny Plateau lies to the north and west of the Unglaciated Plateau. This region forms an arc to the west in eastern Ohio, extending into a belt in southern New York State and the central Susquehanna River basin. The plateau is cross-cut by various stream and deep river valleys. Dominant rock formations of sandstones, siltstones, and shales all date to the Devonian age and formed generally from deltaic deposits (Davis and Landry 1978).

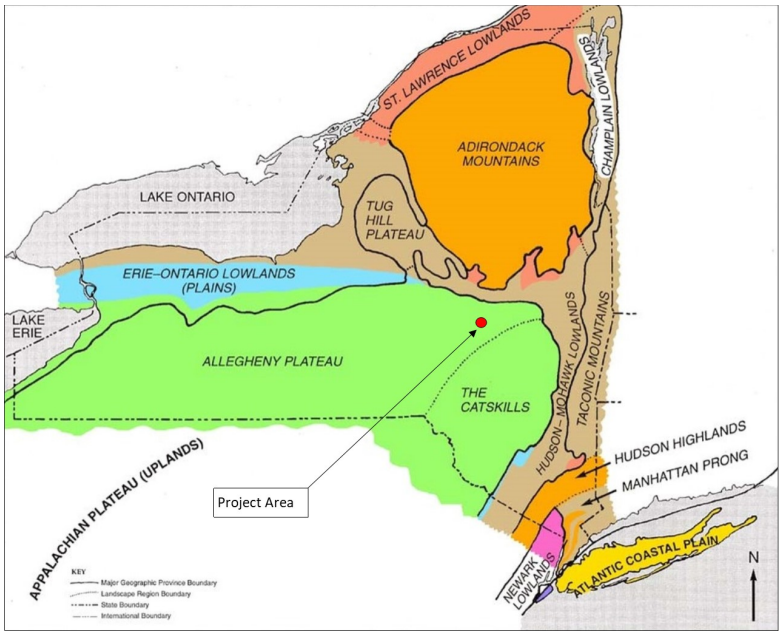


Figure 2-1. New York physiographic province map showing the location of the Project Area.

The county is underlain by sedimentary rocks that range from the Middle Ordovician to Upper Devonian periods in age and consist of sandstone, siltstone, limestone, and shale with the oldest rocks found in the northern part of the county. In the extreme northern part of the county, the low plateau is underlain by the Schenectady formation, characterized by brown sandstone and dark-gray shale (Davis and Landry 1978). During the Pleistocene, the Laurentian ice sheet covered the region during four different periods. The last of these, the Wisconsin glaciation, ended approximately 12,500 years ago (Dreimanis 1977; Miller 1914). This glacial advance and retreat continuously eroded and redeposited underlying material. Glacial deposits in the county include till, lacustrine sediments, and outwash material. More recent alluvial deposits formed following glacial retreat along river floodplains and along fans at the base of hill slopes. The availability of igneous and metamorphic rocks from these deposits, including gneiss, quartz, quartzite, and slate, along with naturally occurring cherts, was important for the manufacturing of stone tools by prehistoric populations in this region (Davis and Landry 1978).

Drainage from the Project Area is into Auries Creek, which lies within the Project Area, and ultimately into the Mohawk River. The Mohawk River is a tributary of the Hudson River, which eventually drains into the Atlantic Ocean.

SOILS OF THE PROJECT AREA

United States Department of Agriculture (USDA) soils series in the Project Area are described in Table 2-1 and shown in Figures 2-2 through 2-7.

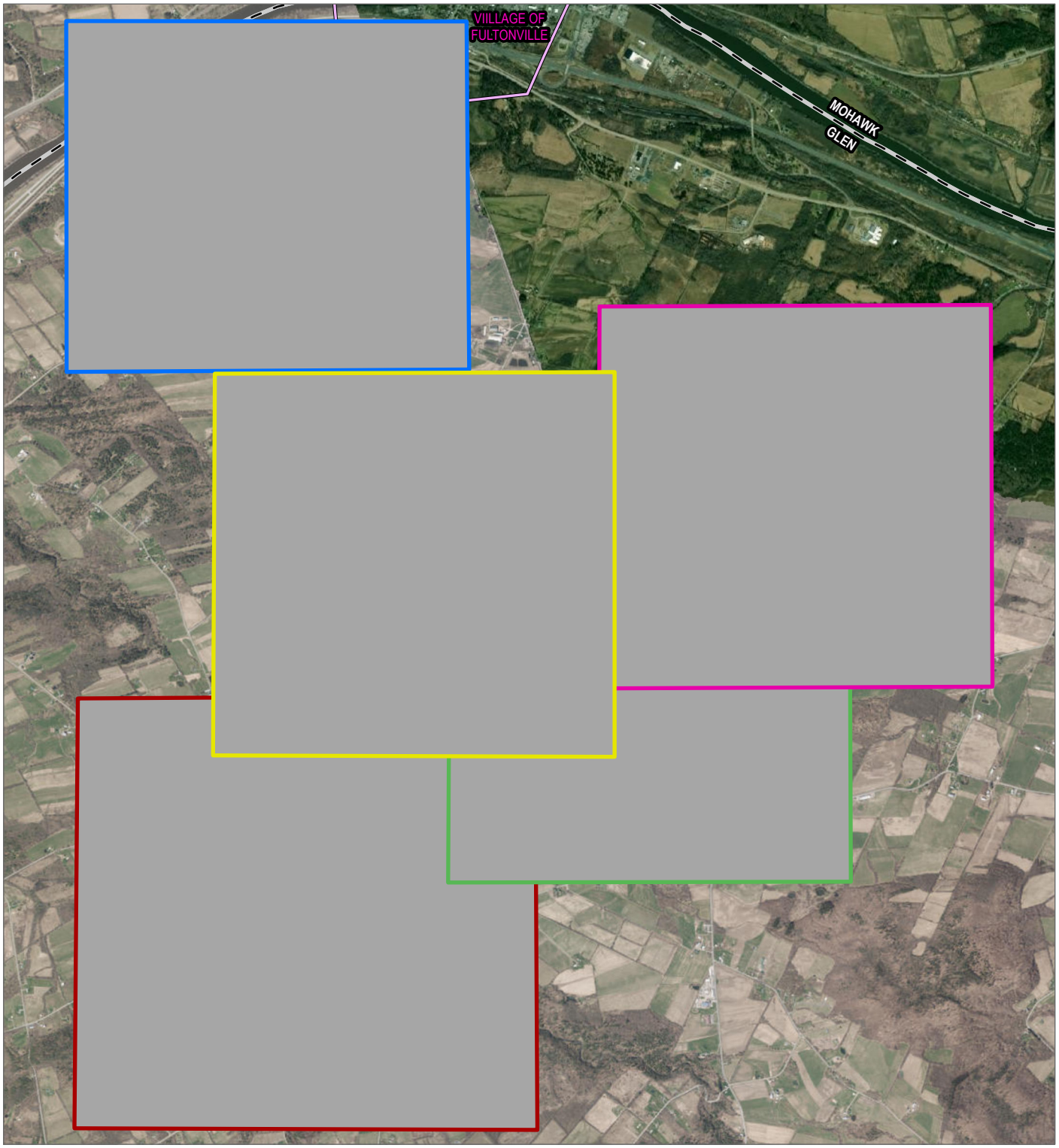
Table 2-1. Soils of the Project Area

USDA Mapping Symbol	USDA Name	Slope %	Drainage	Landform	Parent Material
AnB	Angola silt loam	3-8	Somewhat poorly drained	Till plains, benches, and ridges	Loamy till derived mainly from shale and siltstone
ApA	Appleton silt loam	0-3	Somewhat poorly drained	Till plains, drumlins, and ridges	Calcareous loamy lodgment till derived from limestone, sandstone, and shale.
ApB		3-8			
AtC	Arnot channery silt loam, rocky	8-15	Well drained	Ridges, hills, and benches	Loamy till derived mainly from acid sandstone, siltstone, and shale
AtD		15-25			
AZF	Arnot-Rock outcrop associated, very steep	35-60			
CFL	Cut and fill land	0-15	Somewhat excessively drained	n/a	n/a
ChA	Churchville silty clay loam	0-3	Somewhat poorly drained	Lake plains and till plains	Clayey glaciolacustrine deposits over loamy till
ChB		3-8			
DaB	Darien silt loam	3-8	Somewhat poorly drained	Till plains, drumlinoid ridges, and hills	Loamy till derived predominately from calcareous gray shale
DaC		8-15			
FL	Fluvaquents, loamy	0-2	Poorly drained	Flood plains	Alluvium with highly variable texture
Fo	Fonda mucky silty clay loam	0-3	Very poorly drained	Depressions	Clayey glaciolacustrine deposits
GP	Gravel pits	n/a	n/a	n/a	n/a
Gr	Granby loamy fine sand	0-3	Poorly drained	Depressions	Sandy glaciofluvial deposits or sandy glaciolacustrine deposits
Ha	Hamlin silt loam	0-3	Well drained	Flood plains	Silty alluvium mainly from areas of siltstone, shale, and limestone
HoB	Hornell silt loam	3-8	Somewhat poorly drained	Till plains, benches, and ridges	Clayey till, or till and residuum, derived from acid shale and siltstone
HrB		3-8	Well drained		

USDA Mapping Symbol	USDA Name	Slope %	Drainage	Landform	Parent Material
HrC	Howard gravelly silt loam	8-15		Terraces and valley trains	Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone
HuB	Hudson silty clay loam	3-8	Moderately well drained	Lake plains	Clayey and silty glaciolacustrine deposits
IlA	Ilion silt loam	0-3	Poorly drained	Depressions	Loamy till derived from calcareous dark shale
IlB		3-8			
LaB	Lansing silt loam	3-8	Well drained	Till plains, drumlins, and hills	Calcareous loamy lodgment till derived from limestone, sandstone, and shale
LaC		8-15			
LaD		15-25			
LMF	Lansing and Mohawk soils	25-60	Well drained	Hills, till plains, and drumlins	Calcareous loamy lodgment till derived from limestone, sandstone, and shale
Ma	Madalin silty clay loam	0-3	Poorly drained	Depressions	Brown clayey glaciolacustrine deposits derived from calcareous shale
Md	Madalin silty clay loam, moderately shallow variant	0-3	Poorly drained	Depressions	Clayey and silty glaciolacustrine deposits
MmB	Manheim silt loam	3-8	Somewhat poorly drained	Drumlinoid ridges, hills, and till plains	Loamy till dominated by black or dark gray shale that is neutral or calcareous
MsB	Mohawk silt loam	3-8	Well drained	Till plains, drumlinoid ridges, and hills	Loamy till that is generally calcareous, derived mainly from black soft shale
MsC		8-15			
MsD		15-25			
PaB	Palatine silt loam	3-8	Well drained	Till plains, benches, and ridges	Channery loamy till dominated by calcareous dark shale
PaC		8-15			
PaD		15-25			
PmC	Palmyra gravelly silt loam	8-15	Well drained	Outwash plains, terraces, and deltas	Loamy over sandy and gravely glaciofluvial deposits, derives mainly from limestone and other sedimentary rocks

USDA Mapping Symbol	USDA Name	Slope %	Drainage	Landform	Parent Material
PpB	Phelps gravelly loam	3-8	Moderately well drained	Terraces and valley trains	Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone
Pr	Phelps gravelly loam, fan	0-8	Moderately well drained	Alluvial fans	Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone
PsB	Plainfield loamy sand	3-10	Excessively drained	Outwash plains, terraces, and deltas	Sandy glaciofluvial or deltaic deposits
RhA	Rhinebeck silty clay loam	0-3	Somewhat poorly drained	Lake plains	Clayey and silty glaciolacustrine deposits
RhB		3-8			
Te	Teel silt loam	0-3	Moderately well drained	Flood plains	Silty alluvium
W	Water	n/a	n/a	n/a	n/a

Source: USDA National Cooperative Soil Survey, accessed December 2020.



NORTHERN SECTION
CENTRAL SECTION
EASTERN SECTION
SOUTHEASTERN SECTION
WESTERN SECTION
PROJECT AREA
SOIL MAPPING UNIT
TOWN BOUNDARY
VILLAGE BOUNDARY

BASE MAP: ESRI WORLD IMAGERY
DATA SOURCES: ESRI, NYS GIS, NRCS, TRC

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METERS
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FEET
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New York Overview

SITE LOCATION

PROJECT:
CONNECTGEN - MILL POINT SOLAR PROJECT
TOWN OF GLEN
MONTGOMERY COUNTY, NY

TITLE:
PHASE 1A
PROJECT SOILS OVERVIEW MAP

DRAWN BY:	R. BARBER	PROJ. NO.:	411360
CHECKED BY:	R. JORDAN		
APPROVED BY:	T. KONDAK		
DATE:	FEBRUARY 2021		

FIGURE 2-2

TRC
10 Maxwell Drive
Clifton Park, NY 12065
Phone: 518-348-1190

FILE: Mill_Point_Cultural

Coordinate System: NAD 1983 StatePlane New York East FIPS 3101 Feet. Map Rotation: 0
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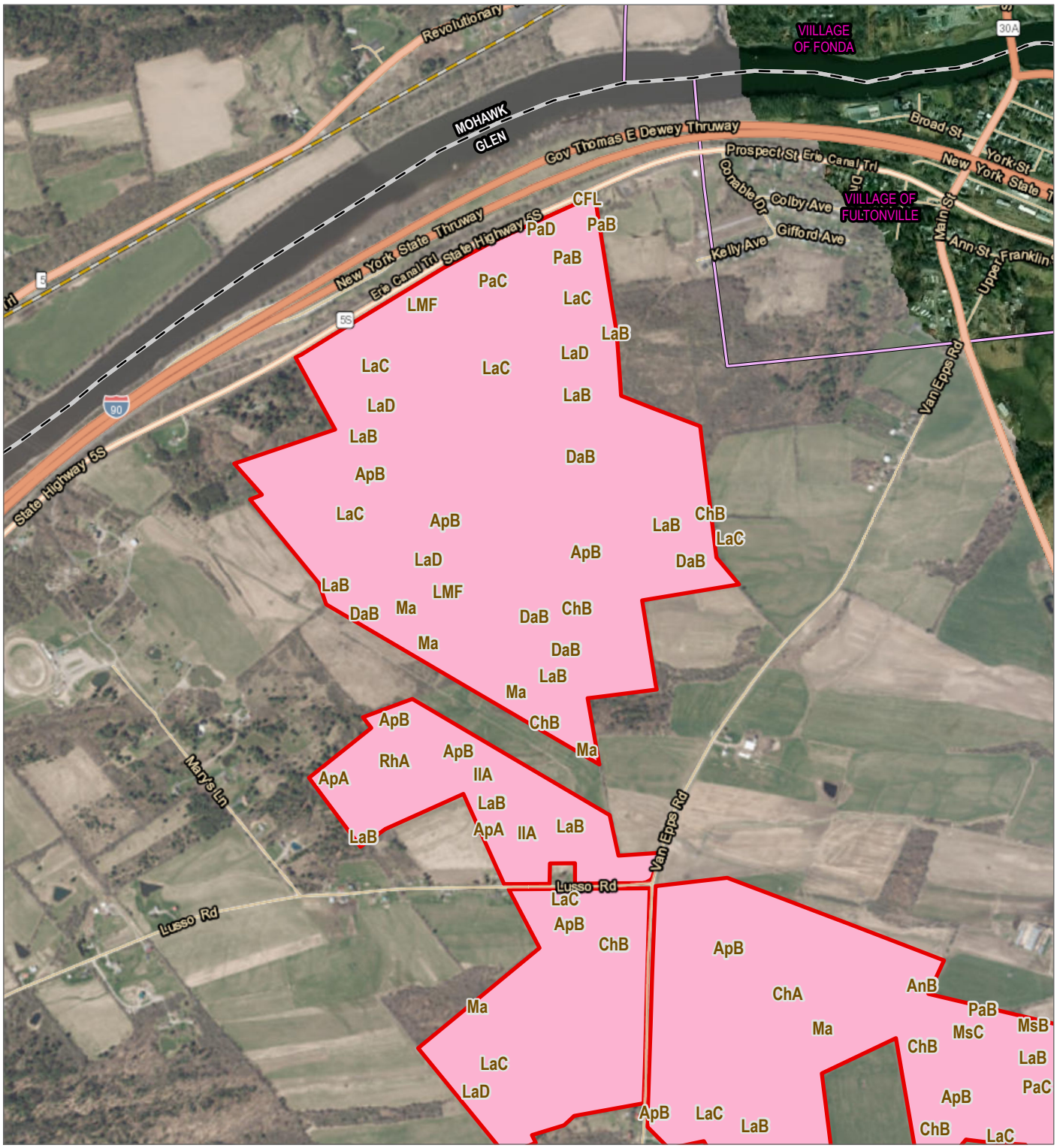

PROJECT AREA
SOIL MAPPING UNIT
TOWN BOUNDARY
VILLAGE BOUNDARY

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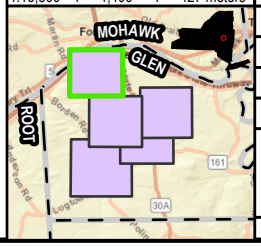
1:16,800 1" = 1,400' 1" = 427 meters



BASE MAP: ESRI WORLD IMAGERY
DATA SOURCES: ESRI, NYS GIS, NRCS, TRC

CTGEN - MILL PO

TOWN OF
MONTGOMERY COUNTY, NY

PHASE 1A SECTION SOILS MAP

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C	N		
A	KONDAK		FIGURE 2-3
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TRC
10 Maxwell Drive
Clifton Park, NY 12065
Phone: 518-348-1190

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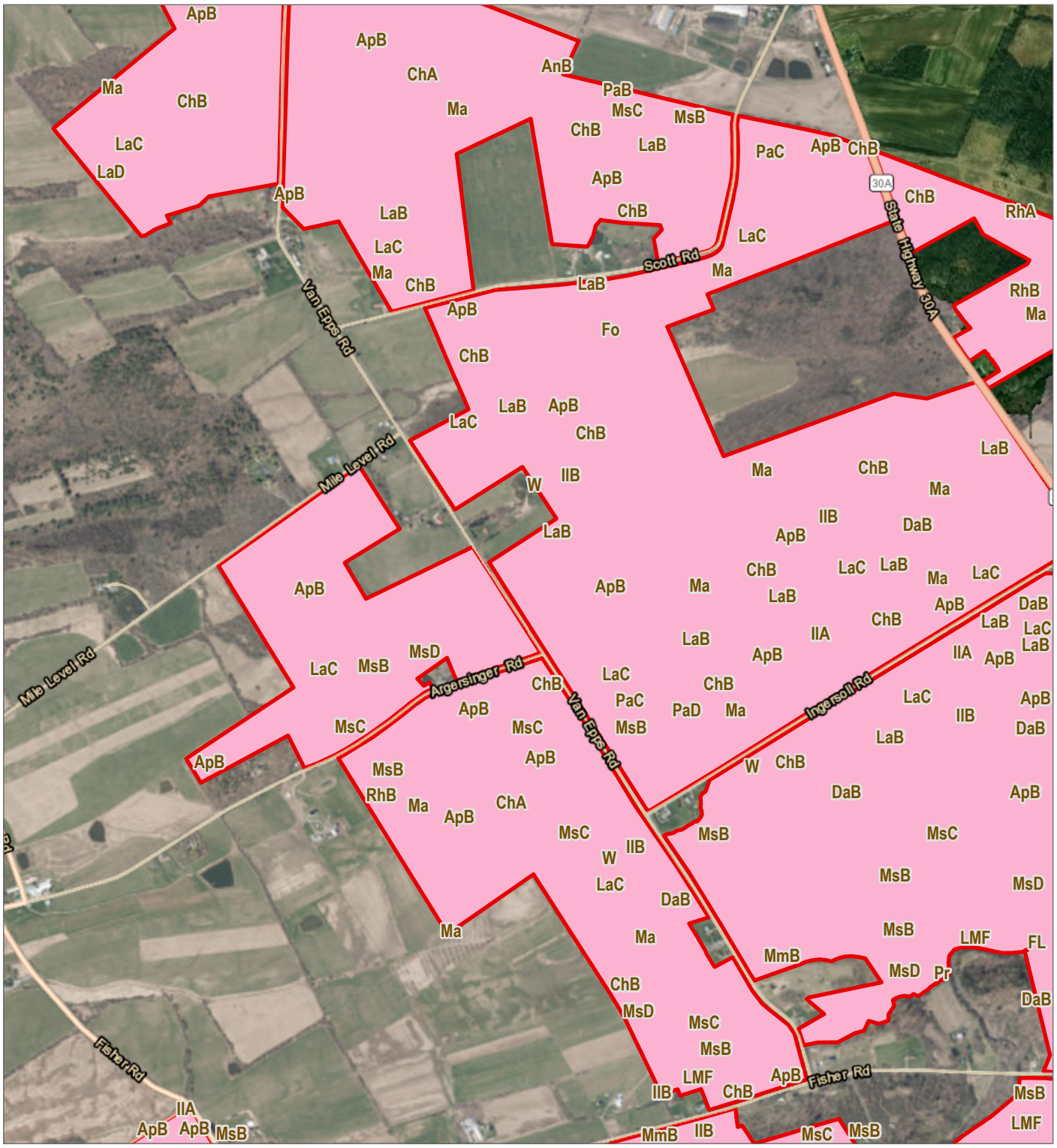

PROJECT AREA
SOIL MAPPING UNIT
TOWN BOUNDARY

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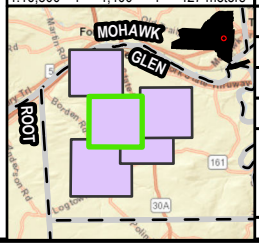


BASE MAP: ESRI WORLD IMAGERY
DATA SOURCES: ESRI, NYS GIS, NRCS, TRC

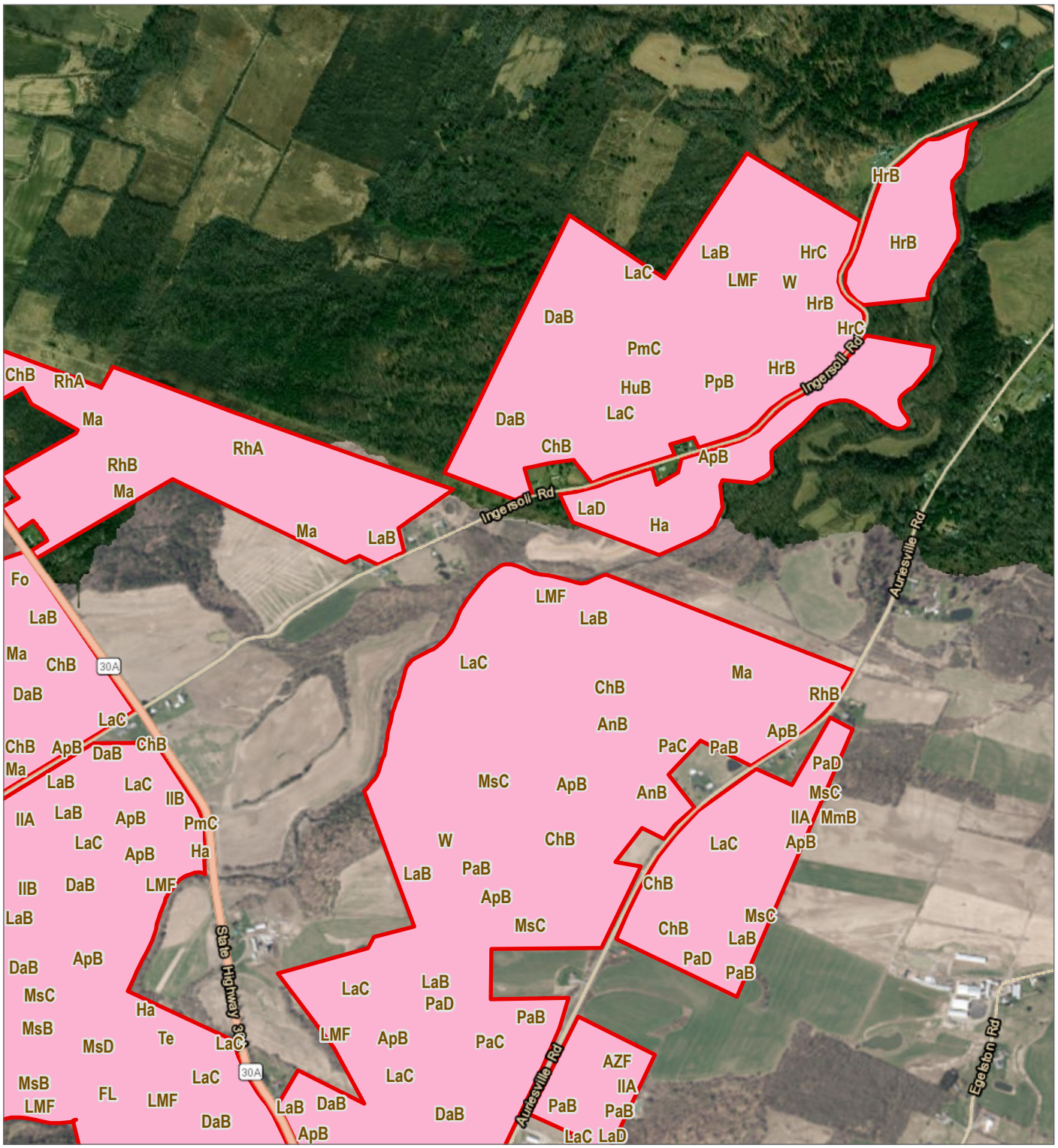
PROJECT:
CONN CTGEN - MILL POINT SOLAR PROJECT
TOWN OF GLEN
MONTGOMERY COUNTY, NY

TITLE:
PHASE 1A
CENTRAL SECTION SOILS MAP

DRAWN :	R. BARBER	PROJ. NO.:	411360
CHECKED B	R. JORDAN		
A	T. KONDAK		**FIGURE 2-4**
	FEBRUARY 2021		

TRC
10 Maxwell Drive
Clifton Park, NY 12065
Phone: 518-348-1190

Mill_Point_Cultural



PROJECT AREA
SOIL MAPPING UNIT
TOWN BOUNDARY

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METERS
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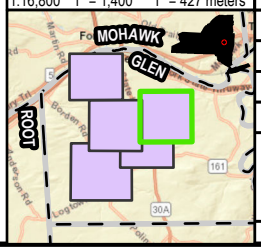
1:16,800 1" = 1,400' 1" = 427 meters



BASE MAP: ESRI WORLD IMAGERY
DATA SOURCES: ESRI, NYS GIS, NRCS, TRC

PROJECT:
CONNECTGEN - MILL POINT SOLAR PROJECT
TOWN OF GLEN
MONTGOMERY COUNTY, NY

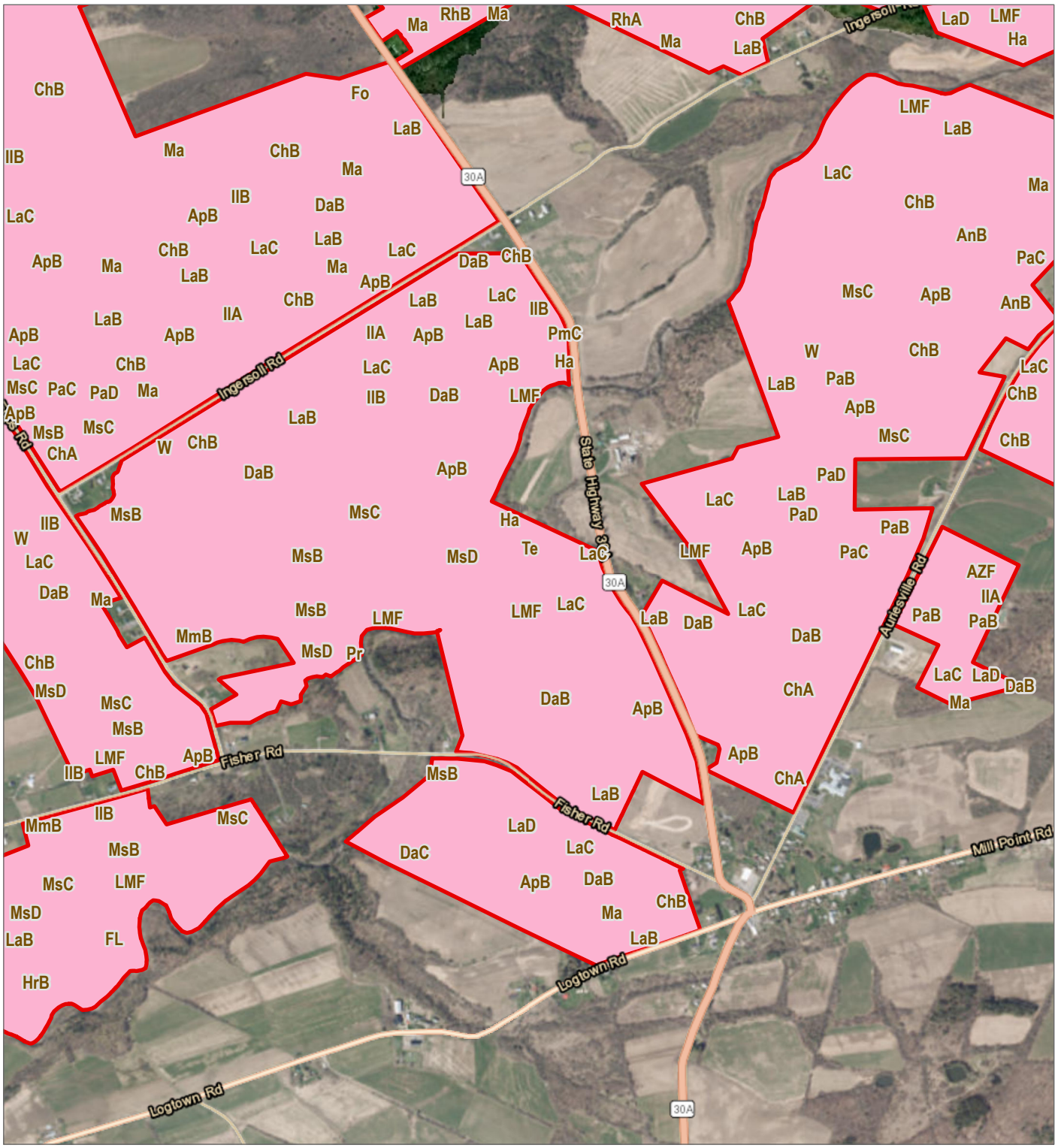
TITLE:
PHASE 1A
EASTERN SECTION SOILS MAP

DRAWN BY:	R. BARBER	PROJ. NO.:	411360
CHECKED BY:	R. JORDAN		
APPROVED BY:	T. KONDAK		**FIGURE 2-5**
DATE:	FEBRUARY 2021		

TRC
10 Maxwell Drive
Clifton Park, NY 12065
Phone: 518-348-1190

FILE: Mill_Point_Cultural

Coordinate Syste -- Saved By: RB D 1983 StatePlane New York East FIPS 3101 Feet; Map Rotation R on 2/1/2021, 12:53:11 PM; File Path: T:\1-P_OJECTS\Connect r12-APRX\Mill_Point_Cultural.aprx; Layout Nam Phase1A_Fig4_Soils_8



PROJECT AREA
SOIL MAPPING UNIT
TOWN BOUNDARY

BASE MAP: ESRI WORLD IMAGERY
DATA SOURCES: ESRI, NYS GIS, NRCS, TRC

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METERS
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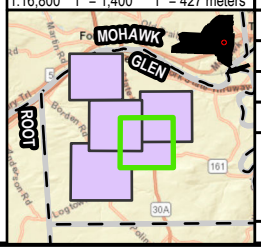

PROJECT:
CONNECTGEN - MILL POINT SOLAR PROJECT
TOWN OF GLEN
MONTGOMERY COUNTY, NY

TITLE:
PHASE 1A
SOUTHEASTERN SECTION SOILS MAP

DRAWN BY:	R. BARBER	PROJ. NO.:	411360
CHECKED BY:	R. JORDAN		
APPROVED BY:	T. KONDAK		**FIGURE 2-6**
DATE:	FEBRUARY 2021		

TRC
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Phone: 518-348-1190

FILE: Mill_Point_Cultural

Coordinate System: NAD 1983 StatePlane New York East FIPS 3101 Feet. Map Rotation: 0
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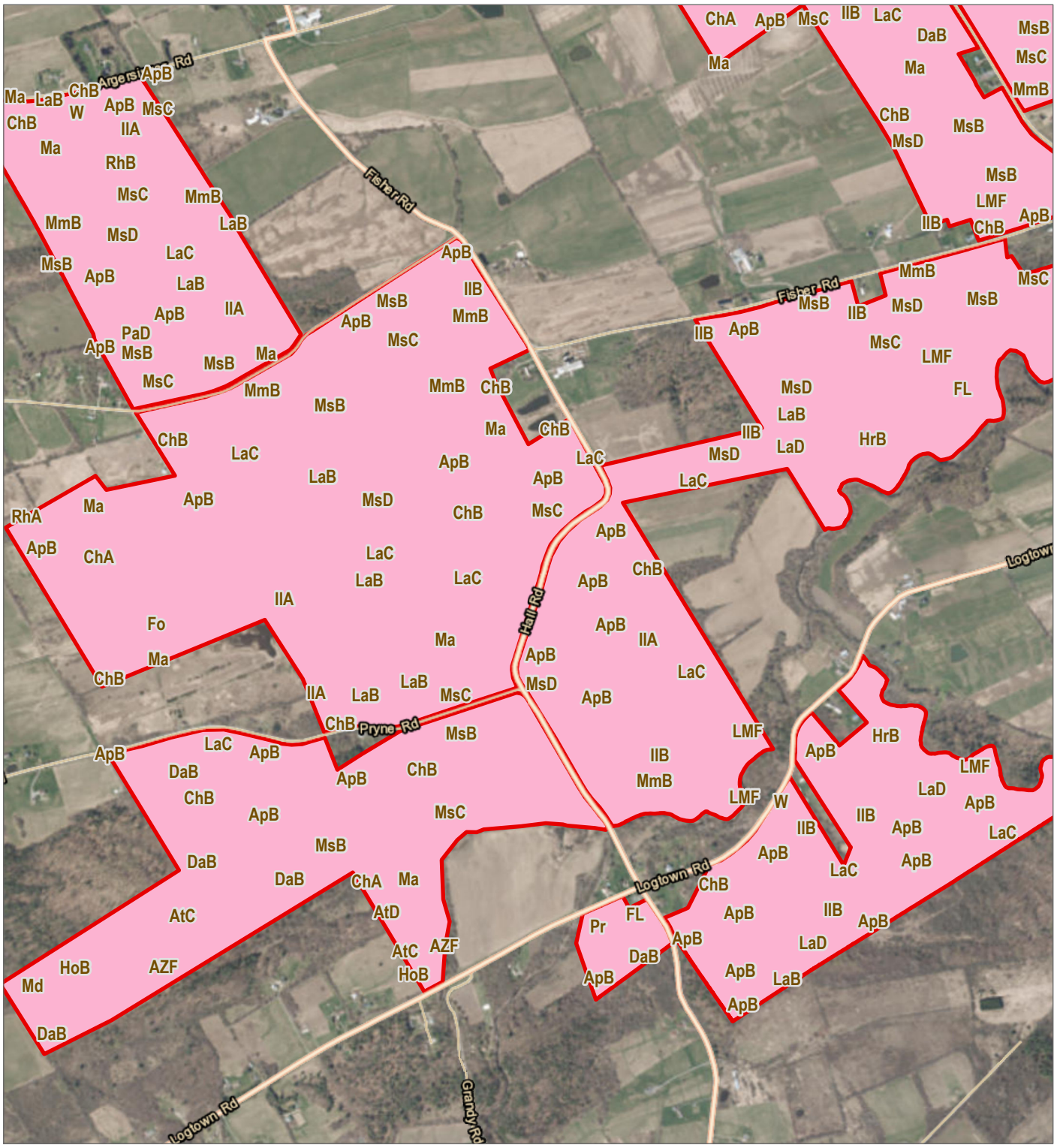
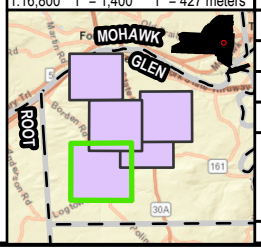


PROJECT AREA
SOIL MAPPING UNIT
TOWN BOUNDARY

0 200 400
METERS
0 700 1,400
FEET
1:16,800 1" = 1,400' 1" = 427 meters



BASE MAP: ESRI WORLD IMAGERY
DATA SOURCES: ESRI, NYS GIS, NRCS, TRC

PROJECT:
CONNECTGEN - MILL POINT SOLAR PROJECT
TOWN OF GLEN
MONTGOMERY COUNTY, NY

TITLE:
PHASE 1A
WESTERN SECTION SOILS MAP

DRAWN BY:	R. BARBER	PROJ. NO.:	411360
CHECKED BY:	R. JORDAN		
APPROVED BY:	T. KONDAK		**FIGURE 2-7**
DATE:	FEBRUARY 2021		

TRC
10 Maxwell Drive
Clifton Park, NY 12065
Phone: 518-348-1190

FILE: Mill_Point_Cultural

FLORA AND FAUNA

The ecological profile of Montgomery County consists of northern hardwood, deciduous forest. Historically, the Project region was covered primarily with hardwoods, such as beech and sugar maple, and conifers, including spruce, pine, and hemlock (McIntosh 1972).

Native Americans did not substantially occupy the Catskills, which limited forest disturbance (McIntosh 1972). European settlement began in the early 17th century in the adjacent Hudson River Valley and grew toward the Catskill Mountains in the 1800s (McIntosh 1972). At the time of European settlement, most of the Project region was covered with large forested tracts of conifers and hardwoods, such as oak, beech, and maple. White pine was the first species of tree to be harvested by Euro-American lumbermen. Various nut- and acorn-producing hardwood species would have been of special importance to the prehistoric peoples of central and southern New York. The acorns of the white oak species (includes chestnut oak) and red oak species, such as northern red oak and pin oak, are good sources of protein and carbohydrates, but some species require processing to remove high levels of bitter tannin (Petruso and Wickens 1984). Black walnut and chestnut are other tree species that were important to subsistence during the prehistoric period but require various levels of effort in separating nutmeat from shells (Talalay et al. 1984).

The region was classified as Hemlock-White Pine-Northern Hardwoods Region in the mid-20th century due to the presence of red spruce (McIntosh 1972). Today, wooded areas in the Project region are mostly forests of maple-beech-birch, oak, and hemlock cover types (McNab et al. 2005; Widmann et al. 2015). Chestnut, formerly an important and widely distributed species, has practically disappeared due to blight (McIntosh 1972).

During the late Pleistocene, a rich diversity of fauna existed in this region. Although many species did not survive into the Holocene, the region still supports a rich diversity of wildlife. Wildlife in the Project region includes bats, American black bear, white-tailed deer, cottontail rabbit, raccoon, chipmunk, fox, squirrel, and several others (Stegemann & Gawalt 2003). Among avian fauna are various species of hawks, pheasant, grouse, wild turkey, and woodpeckers (McNab et al. 2005). Some of these species would have been important subsistence items during the prehistoric period. Avian fauna of the Catskill region also supports a distinctive sub-alpine bird breeding community, including species of thrushes, warblers, sparrows, and fly-catchers (National Audubon Society n.d.).

PALEOENVIRONMENT

The more than 11,000 years of human occupation in this region is divided into two broad climatic periods: the Pleistocene and the Holocene. The Holocene corresponds to the post-glacial period after 11,000 B.C. At the end of the Pleistocene, a mosaic pattern of vegetation emerged, i.e. a species-diverse, patchy arrangement of plant and animal communities that have no modern analogs. Human occupation of this region likely began during the fully-glacial climatic episode that occurred near the end of the Pleistocene and which effectively ended in the Northeast by 10,750 B.C. (Dreimanis 1977; Muller 1977).

Although Pleistocene conditions ended around this time, near ice-age conditions reappeared in the Northeast due to the wasting of the Laurentian ice sheet (Delcourt and Delcourt 1983; Fitting 1974). The grandest of these cold episodes followed 9,000 B.C. when runoff from the melting glacier suddenly shifted from the Mississippi River to the St. Lawrence River (Broecker and Denton 1988). The rush of cold water from the St. Lawrence River disrupted the Gulf Stream's warm northward current, returning the north Atlantic basin to ice age-like conditions for about 700 years. During the Holocene, the glacier retreated and finally disappeared; warmer and drier climatic conditions than currently exist in the Northeast may have occurred between *ca*. 7,000 and 3,000 B.C. This period was followed by modern conditions, punctuated by relatively short temperature and humidity fluctuations.

A number of temperate forest species were present at the opening of the Holocene, and the range of these trees soon expanded northward. The earliest Holocene forests included oak, elm, ash, birch, ironwood, and sugar maple. Davis (1983) has described the pollen assemblage for the early Holocene as resembling modern assemblages from the northern Great Lakes region. Significantly, ironwood was present in higher percentages than at any later time. Its presence "suggests a forest with a diffuse canopy and well-lighted forest floor" (Davis 1983). These early forests, however, lacked chestnut, hickory, and red maple, which became dominant in late Holocene forests. With their importance as a food source to contemporaneous populations in other areas, particularly the Southeast, the slow migration of nut-bearing trees into the region is perhaps one of the most significant factors effecting both human and animal populations.

The modern vegetation patterns in the Northeast include a pine-dominant conifer/hardwoods region in the northern sections, and oak-dominant, deciduous forests in the southern portions. The modern ecotone extends from southern Maine west along the Massachusetts/Vermont border, then southwest across southern New York, and then west across northern Pennsylvania to Lake Erie. All of Long Island is included in the deciduous zone, and the pollen records indicate that the ecotone between the two major zones was established as early as 7,000 B.P. Bernabo and Webb (1977) caution that, although the ecotone was stable from that period, the species composition of the forest has continued to change for several millennia.

MODERN CLIMATE

Montgomery County has a humid continental climate similar to other areas of the northeastern United States that feature warm, humid summers and cool, wet winters. Variations in topography, including differences in elevation and in slope, affect the climate. Average temperatures are 80 degrees Fahrenheit in the summer months and 35 degrees Fahrenheit in the winter months. The average annual precipitation is 35 to 38 inches. Minimum precipitation occurs in the winter season, with an average monthly accumulation averaging from 2.3 to 2.9 inches. Summer precipitation ranges from 2.7 to 3.8 inches (Davis and Landry 1978).

3. CULTURAL OVERVIEW AND PREVIOUS RESEARCH

This chapter presents an overview of the prehistory and history of the Project region and provides a review of the previous archaeological investigations that have been conducted in the Project Area vicinity. Following the prehistoric overview, a review of the regional history, from the colonial period through the twentieth century is included. Archaeological site and survey reports from the immediate region are also reviewed to provide a context for interpreting the archaeological resources of the local Project Area.

PREHISTORIC OVERVIEW

The prehistory of this region of New York is conventionally divided into the Paleoindian, Archaic, Woodland, and Protohistoric/Contact cultural periods. These periods are further divided into sub-periods, traditions, and phases based upon distinguishing cultural, technological, or economic changes (Table 3-1). These time frames are summarized below.

Table 3-1. Prehistoric Cultural Chronology of the Northeast

Cultural Period	Approximate Dates
Paleoindian Period	10,500 – 8000 B.C.
Archaic Period	8000 – 1000 B.C.
Early Archaic sub-period	8000 – 6000 B.C.
Middle Archaic sub-period	6000 – 4000 B.C.
Late Archaic sub-period	4000 – 1000 B.C.
(Terminal Archaic)	(1700 – 700 B.C.)
Woodland Period	1000 B.C.– A.D. 1600
Early Woodland sub-period	1000 B.C. – 300 B.C.
Middle Woodland sub-period	300 B.C. – A.D. 1000
Late Woodland sub-period	A.D 1000 – 1600
Protohistoric/Contact Period	A.D. 1600 – 1660

Paleoindian Period (10,500 – 8,000 B.C.)

The Paleoindian period represents the earliest human occupation in the northeastern United States. This occupation began in the Late Pleistocene, soon after the continental ice sheet began to recede northward. The new landscape was dotted by postglacial lakes that changed size and shape as the surface of the land adjusted to the loss of pressure from the ice sheet (Isachsen et al. 1991). By 10,500 B.C., the Holocene environment in the Project region consisted of tundra or park-tundra represented by spruce, pine, birch, and a predominance of non-arboreal pollen that, between about 9000 and 8000 B.C., developed into a mosaic of open spruce parkland and pine forests (Funk 1976 and 1977; Funk et al. 1970).

Paleoindian peoples were highly mobile hunter-gatherers who specialized in hunting large game such as caribou, musk ox, and the now-extinct mastodon (Funk 1976) as well as a variety of smaller game, fishing, and the exploitation of available plant foods (McNett 1985; Nicholas 1983 and 1987). Distinctive fluted projectile points, typically manufactured from high-quality cryptocrystalline stone materials such as jasper, Normanskill chert, and chalcedony, were the principal hunting tool used by Paleoindian peoples. The

locations of Paleoindian sites suggest a preference for high, well-drained ground near streams or wetlands offering vantage points for observing game, and rockshelters near lithic source areas (Custer 1986; Gardner 1974, 1977, and 1983; Nicholas 1987).

Paleoindian populations occupied the Hudson River and Mohawk River valleys at the end of the Pleistocene following the retreat of the Laurentian ice sheet and the expansion of Glacial Lake Albany. The lake covered much of the area east of Montgomery County with delta deposits present on its western shore where the Mohawk River drained (Lothrop and Bradley 2012). In the Hudson Valley region, a very low frequency of known Paleoindian sites is considered to reflect low population densities.

In the region west of Albany, the Sundler site contained possible mid-Paleoindian points originally described by Ritchie (1957) (Lothrop and Bradley 2012). The site also contained unifacial tools, some made from jasper. Others are made from the commonly occurring Coxsackie chert. Another site, Putnam, is located near Saratoga Lake in a ridge top setting (Lothrop and Bradley 2012). This site, along with most of the others in the area, are simply collections of fluted points with surface finds of unifacial tools.

Many Paleoindian sites in the broader region have been classified as either camps or quarry workshops, although many "sites" consist merely of isolated fluted point finds (Ritchie and Funk 1973). Known Paleoindian sites within the region include Dutchess Quarry Caves No. 1 and No. 8 in the Town of Goshen, West Athens Hill in Athens, Kings Road in Coxsackie, King's Road, Zappavigna, and Twin Fields in Dwaarkill (Funk 1976; Salwen 1975).

The West Athens Hill and Flint Mill Hill sites are quarry-related sites (Brumbach and Weinstein 1999) which have been quarried since Paleoindian times based on finds of fluted points (Funk 2004). Both of these sites contain outcrop exposures of high quality chert associated with the Mount Merino Formation (formerly known as Normanskill). The chert is primarily grey to green in color with some variants of red and black (Funk 2004; Brumbach and Weinstein 1999).

West Athens Hill was excavated primarily in the late 1960s. Several fluted points were recovered from the site that were made from both local and exotic (Onondaga) cherts and jasper. A number of late-stage bifaces that were likely used as preforms for fluted points were also recovered (Funk 2004). Some of these were made from Pennsylvania jasper, but most were local chert. Other Paleoindian tools recovered from the West Athens Hill site include scrapers, bifacial knives, gravers, wedges, and flake tools.

The Dutchess Quarry Cave site (A07106.00002) has been radiocarbon dated, in association with a Cumberland fluted point, to 10,580 B.C. (Funk 1976) though this date has been more recently questioned as too early for the association with Cumberland fluted points (Funk and Steadman 1994). The site also contained caribou (*Rangifer tarandus*) bone in the same basal stratum as the Paleoindian point find, one of the few faunal elements not also present in historic period assemblages in the region (Guilday 1969). The context of the original caribou bone finds have been questioned (Funk and Steadman 1994), however, there is sufficient evidence from other Paleoindian sites in the broader region to conclude that caribou were being hunted by Paleoindians in the northeast.

Archaic Period (8000 – 1000 B.C.)

The term "Archaic" is used in North American archaeology to describe a culture in the New York region that had not developed ceramic container technology and was dependent on hunting, gathering, and fishing (Ritchie 1932 and 1980; Ritchie and Funk 1973). Environmental changes associated with the end of the Pleistocene included climatic warming, a shift to a more closed forest with a greater abundance of northern hardwoods and coniferous species, the extinction of Pleistocene animal species and extirpation of other species, and a rise in sea levels (Sirkin 1977). The subsistence and technology changes that occurred in response to these environmental shifts are reflected in new technologies and tool types that define the Archaic period. The period is generally divided into Early, Middle, and Late sub-periods, and a Terminal Archaic (or Transitional sub-period) occurs at the end of the Late Archaic.

Generally, Early Archaic (8000–6000 B.C.) cultures represented an adjustment to changing post-Pleistocene conditions, although settlement patterns appear to represent the same preferences for site location as the preceding Paleoindian period. With the exception of diagnostic projectile points, the Early Archaic tool kit is similar to that of the Paleoindian, exhibiting an orientation toward hunting and gathering activities. Early Archaic projectile points are typically corner- and side-notched. The Palmer, Kirk, and LeCroy projectile point types are usually assigned to the Early Archaic in New York (Broyles 1971; Coe 1964).

Evidence for new technologies and tools during the Early Archaic includes sporadic occurrence of netsinkers, chipped-stone axes/celts, and flat, pitted stones, possibly representing milling equipment (Bebrich 1967; Dumont and Dumont 1979; Kraft 1975; McMillan 1977). This suggests subtle shifts in subsistence strategies and related technology. Some usage of shellfish resources in the lower Hudson Valley may have occurred at this time, ca. 7000 B.C. (Brennan 1974), but stable estuarine systems did not likely become established until much later. The Dogan Point site (Claassen 1995) has the earliest dated shell midden deposit in the region at 6950 $\pm$ 100 B.P. (L-1381). The paucity of Early Archaic sites has been attributed to ecological explanations such as the low carrying capacity of early Holocene, post-glacial, conifer-dominated forests for game animals and human populations. Many sites may have been inundated by post-Pleistocene rising sea levels. Deep burial of Early Archaic sites in floodplain alluvium may also explain their rarity.

The Middle Archaic sub-period (6000–4000 B.C.) is viewed as a time of dramatic change in the subsistence strategies employed by hunter-gatherers. Bifurcate-based, serrated projectile points illustrate the transition from Early to Middle Archaic, followed by the introduction of stemmed and notched forms. Woodworking, milling, and ground stone tools found on sites dated to this period suggest reliance on a wider variety of resources and technological changes in tools (Dincauze 1976; Funk 1991; Snow 1980; Stewart and Cavallo 1991). Changes in technology are viewed as a response to environmental shifts into what were essentially modern-day conditions. The most extensive studies of Middle Archaic sites are from the southern New York region, particularly from stratified sites in the Upper Delaware River valley (Dumont and Dumont 1979).

During the Late Archaic sub-period (4000–1000 B.C.), regional complexity developed as populations rapidly increased and developed elaborate settlement systems utilizing broader ranges of habitats, both upland and lowland. In general, the subsistence and settlement system of the Late Archaic was marked by

a dramatic increase in both the number of sites and the diversity of seasonally focused activities that occurred at different site types.

New tool technologies were developed to maximize the exploitation of resources found in northeastern deciduous forest regions, a process that ultimately increased food supplies dramatically (Kinsey 1977; Kraft and Mounier 1982). This includes milling equipment, ground stone axes, and adzes. Milling stones were used to process wild foods. Ground stone tools were significant improvements to chipped stone technology when applied to heavy-duty woodworking tasks. Projectile points commonly found in Late Archaic contexts consist of narrow-stemmed, broad-stemmed, and side-notched types, such as Lamoka, Normanskill, Lackawaxen, Bare Island, Poplar Island, and Archaic triangles. Some of these point types may represent distinct regional populations or broader adaptive patterns.

The Terminal or Transitional Archaic, which some researchers date from 1700–700 B.C., was a transitional period in which subsistence and settlement systems became more focused around semi-sedentary base camps and specialized procurement sites were established in support of these camps. The Susquehanna tradition, marked by broad-stemmed projectile points and their associated assemblages, characterizes the early Terminal Archaic. Projectile points include a number of regional varieties, including the Genesee, Perkiomen, Snook Kill, and Susquehanna Broadspear types. Characteristics of the Susquehanna tradition include a marked preference for a riverine adaptation and a predilection for the fine-grained lithic resources of the Piedmont province, including rhyolite, felsite, argillite, and slate (Dincauze 1975; Turnbaugh 1975). The shift in settlements from inland wetlands to riverine zones coincides with an inferred economic shift from a diffuse adaptation in the interior uplands to a focal adaptation in the floodplain locales.

The latter half of the Terminal Archaic period is marked by the appearance of narrow, tapered Orient Fishtail projectile points. Named for the original type locations at Orient Point on eastern Long Island, Orient Fishtail Points tend to be found on Long Island, the Hudson Valley, and in southern New England. Another hallmark of the Terminal Archaic period is steatite cooking vessels, which occur towards the end of the Susquehanna Tradition and throughout the Orient Tradition. The existence of these large steatite vessels suggests that the "people who made, traded, and used them had reached a point in the evolution of their settlement and subsistence systems where the use of heavy cooking vessels was advantageous" (Snow 1980:240), implying that the people lived in more sedentary settlements and utilized foodstuffs that required long processing with heat.

Woodland Period (1000 B.C. – A.D. 1600)

The Woodland period is divided into three subperiods: the Early, Middle, and Late Woodland. In general, the Early Woodland sub-period is signaled by the appearance of new cultural traits, namely the widespread use of ceramics, and the intensification of mortuary ceremonialism (Ritchie 1980; Ritchie and Funk 1973). Although the beginning of the Early Woodland sub-period is generally marked at 1000 B.C., there is considerable overlap with the Terminal Archaic, including similar projectile point forms such as Orient Fishtail, Rossville, and Lagoon (Ritchie 1944 and 1980).

The Early Woodland period is technologically defined by the first significant use of pottery (Ritchie 1980). Building on the use of steatite containers in the Terminal Archaic, steatite temper was used in some of the earliest ceramics such as Marcey Creek. These containers are thick, flat bottomed, and morphologically

similar to the earlier stone bowl forms. The introduction of Vinette I ceramic wares signals a major technological innovation for this period and this new type of container technology spreads quickly throughout the eastern woodlands.

Based on habitation and burial traits, Ritchie (1980) defined a Meadowood phase that represents the earliest and most prominent Early Woodland cultural complex in New York (1000–500 B.C.). It is better represented in western New York but is present in the Hudson drainage at Nahrwold No. 2 in the Schoharie Creek drainage where Vinette ceramics are associated with Meadowood projectile points (usually made from non-local Onondaga chert) and dated to 760 B.C. (Y-1651) (Funk 1976). Adena points, in contrast, are usually made from local raw materials and have been associated with bundle burials and copper beads near Catskill (Funk 1976). The eastern New York Early Woodland period culture known as Adena-Middlesex, lasting from 800 to 300 B.C., is represented at several sites in the Hudson drainage. Adena-Middlesex people had a rich material culture consisting of pipes, gorgets, pendants, boat stones, Cresap stemmed points, Adena Beavertail points, and copper beads. Examples of ordinary Early Woodland period habitation and specialized procurement sites include both rock shelter sites in the uplands and shell middens and large sites in riverine and large tributary creek settings (Claassen 1995).

Ritchie (1944 and 1980) defined the Middle Woodland sub-period by the introduction of the classic Woodland rocker or dentate-stamped styles (Vinette II), which may have originated in the Great Lakes region. Relationships with the Hopewell culture of Ohio have also been noted in New York (Ritchie 1980) and eastern Massachusetts (Dincauze 1974) with the occurrence of platform smoking pipes. Site distribution during the Middle Woodland period exhibits a significant rise in frequency and occupation area, with particular increase in coastal/riverine locations and a corresponding decrease in upland base camps (Lavin 1988a; McBride 1984; McBride and Dewar 1981). McBride's research suggests that, by the end of the Middle Woodland period, major subsistence and settlement changes were taking place as people began to aggregate along major rivers for the entire year (Juli and McBride 1984). Subsistence during the Middle Woodland period of the Northeast consisted primarily of hunting, fishing, and collecting, with shellfish comprising a significant part of the diet for the inhabitants of coastal sites (Ritchie 1969).

During the latter part of the Middle Woodland period in New York, experimentation with cultivation of domesticated plants began and horticulture played a minor subsistence role within the broader context of a hunting and gathering subsistence economy (Funk 1976; Ritchie 1980). An important Middle Woodland phase in eastern New York is the Fox Creek phase identified on sites in both the Susquehanna and Hudson Valleys (Ritchie and Funk 1973). Artifact types typically assigned to the Middle Woodland period include the Fox Creek stemmed and Fox Creek lanceolate points; the Greene point, first named in the Hudson Valley (Ritchie and Funk 1973); and the Jack's Reef corner-notched and Jack's Reef pentagonal points in central New York. Utilitarian tools include drills, scrapers, Petalas (convex base bifaces), flake knives, and polished adzes. Most of the sites described for this phase (e.g., Fredenburg, Westheimer and Ford) are small, seasonal occupations with no storage features (Funk 1976). Other Middle Woodland phases include the Fourmile Phase, Kipp Island, Hunter's Home, and Burnt Hill phase. Some alterations to this sequence have been made since Funk's (1976) original summary.

During the Late Woodland period (A.D. 1000–1600) the antecedents of the historically recognized Native groups became recognizable. North, central, and western New York and the Mohawk Valley were occupied by groups of Iroquoian speakers living in large, nucleated, semi-permanent sedentary villages (Ritchie

1980; Ritchie and Funk 1973). A major alteration in settlement patterns during the Late Woodland occurred with the formation of large villages, which, during the latter part of the period, were fortified, indicating hostility between neighboring groups (Ritchie 1980). The adoption of horticulture played an integral part in population growth and subsistence and settlement systems as well as in the establishment of large villages in mostly riverine settings.

Late Woodland–period characteristics include increased villages sizes, sedentism, more established trade networks, and the utilization of cultigens such as maize, squash, and beans as well as eastern agricultural complex plants. Distinguishing trademarks of this period include Levanna and Madison projectile points and an increased use of non-local lithic material. Other characteristics include a highly variable ceramic assemblage that includes plain, cord-marked, fabric-impressed, brushed, stamped, and incised surface treatment and decoration.

The overall increase in site frequency, size, and length of occupation for sites in the Late Woodland period continued, with the largest sites located in coastal and estuarine settings (Lavin 1988b; McBride 1984). Settlement patterns were characterized by semi-sedentary villages or base camps located on floodplains or terraces immediately adjacent to major drainages, with temporary and task-specific camps located in the uplands (McBride 1984; McBride and Dewar 1981). The subsistence system of the Late Woodland period included hunting terrestrial animals and migratory fowl, fishing, shellfish collecting, and gathering wild plants (McBride 1984). In addition, cultivated foods such as maize, beans, and squash became a part of the subsistence regime. The earliest radiocarbon dates in the Northeast for the presence of cultigens are ca. A.D. 1100 (Mulholland 1988), and evidence for the exploitation of these cultigens is not abundant before the Final Woodland period, ca. A.D. 1500 (McBride and Dewar 1987). In addition, the earliest dates are generally associated with inland sites.

Funk (1976) divides the Late Woodland into the Late Woodland I and Late Woodland II phases, corresponding to the Owasco (A.D. 1000–1300) and Iroquois (A.D. 1300–1600) traditions. Owasco sites are poorly represented in the Hudson Valley though Owasco components exist at the Bronck House rockshelter and the Zimmermann rockshelter in Coxsackie Township, Greene County and at the Dennis site in the village of Manands, Albany County, New York (Funk 1976:300). At the Dennis site, there is a sharp distinction between the presence of cultigens (maize) in the Owasco component and the strictly wild foods found in the earlier Middle Woodland features. Woodland II cultures, include the Oak Hill, Chance, and Garoga horizons which relate to tribal affiliations of the Onondaga, Oneida, and Mohawk. The cultural changes of the period A.D. 1300 to 1600 suggest a possible movement of Munsee populations into the lower Hudson Valley (Funk 1976; Snow 1980). Historic period native populations include the Hackensack, Haverstraw, Tappan, Esopus, and Warside tribes along the west side of the Hudson River (Kraft 1991).

The Haudenosaunee and the Iroquois Confederacy

The dominant tribes in New York by the Late Woodland period were of the Iroquoian culture. Two theories of Iroquoian development have been proposed. The first theory focuses on migration and claims that the Iroquoian people forced the native Algonquian people from the area (Parker 1920). The second theory, known as the *in situ* theory, was originally proposed by Griffin (1944) and further explored by Ritchie and MacNeish (1949). This theory claims that the Iroquoian tribes formed through natural development and

adaptation from local tribes. Supporters of this theory point to similarities between the Owasco culture and the Iroquoian culture.

The term 'Iroquois' was a label given to the tribes living in the upstate New York region at the time of European contact. The tribes used the autonym Haudenosaunee, meaning 'people who build a house' to distinguish themselves (NMAI 2009). The five Iroquoian tribes that made up the Haudenosaunee include, in geographical order from east to west, the Mohawk, Oneida, Onondaga, Cayuga, and Seneca. These five groups shared a similar culture and language. Societies were organized by extended family groups called clans that were both matrilineal and matrilocal. Families lived in long, rectangular houses called Longhouses that averaged between 80 to 100 feet in length and 20 feet in width and would hold about 60 people. A typical village in the seventeenth century consisted of 200 to 3,000 people. Located in clearings near forested areas and waterways, the villages were often surrounded by tall wooden palisades. Communities moved every 20-30 years as resources were depleted (NMAI 2009).

The Iroquois League, or Iroquois Confederacy, was a loosely-bound association of the five Iroquoian-speaking tribes that occupied the upstate New York region. According to Beauchamp (1900), the League formed in ca. A.D. 1600, while Tooker (1978a) provides a broader range of A.D. 1400 to 1600. The Peacemaker story describes the formation of the Iroquois Confederacy and the Great Law of Peace, a code that guides Haudenosaunee life (NMAI 2009). According to the story, a Peacemaker, identified by some as Dekanawidah (Huron) (Encyclopedia Britannica 2020), was said to have persuaded Hayo'wetha, an Onondaga leader, to advance "peace, civil authority, righteousness, and the great law" (Encyclopedia Britannica 2020). The five Iroquoian tribes united in a common council composed of clan and village chiefs and embraced all civil affairs at the intertribal level following the principles set forth in the Great Law of Peace (NMAI 2009; Encyclopedia Britannica 2020). The Great Law of Peace is one of the earliest examples of a formal democratic governance structure and has been compared to the United States Constitution. The Grand Council, still in operation in the twenty-first century, is the oldest governmental institution in its original form in North America (NMAI 2009).

The Iroquois League served as a "non-aggression pact" among its members, focused on curtailing inter-tribe violence (Beauchamp 1900). By preventing or discouraging intra-League violence, the Iroquoian nations focused outward, quickly dominating neighboring tribes (Encyclopedia Britannica 2020). Powerful both politically and economically, the Iroquois tribes hunted and traded throughout the northeast and played a significant role in colonial affairs and commerce from Virginia to New York with the English, French, Dutch, and Swedish colonies (Tooker 1978a).

Originally known by the British as the Five Nations, the Tuscarora, who originally occupied land in what is now North Carolina, were invited to join the Iroquois Confederacy in 1722, known since then as the Six Nations. The Six Nations or the Iroquois Confederacy maintain a powerful political and economic presence in New York State today.

Contact Period (A.D. 1600–1660)

The Iroquoian Mohawk tribe inhabited the area that would become Montgomery County at the time of European contact. The Mohawk were a member of the Iroquois League and formed the eastern boundary of the League territory. The Iroquois League, or Iroquois Confederacy, was a loosely-bound association of Iroquoian-speaking tribes that occupied the region between the Mohawk and Genesee rivers. According to Beauchamp (1900), the League formed in ca. AD 1600, although a much earlier date of AD 1459 was suggested by Lewis Henry Morgan (1962). The five original Members of the League, in geographical order from east to west, included the Mohawk, Oneida, Onondaga, Cayuga, and Seneca. The League served as a "non-aggression pact" among its members, focused on curtailing inter-tribe violence rather than serving as a military alliance. Powerful both politically and economically, the Iroquois tribes hunted and traded throughout the mid-Atlantic colonies and played a significant role in colonial affairs and commerce from Virginia to New York with the English, French, Dutch, and Swedish colonies.

The Mohawk played a large role in the early trade with European colonies, a role they had previously filled with other regional tribes. When Europeans arrived, the area was bisected by a series of trails or paths created and utilized for generations by the local Indian tribes. Contact-period archaeological sites are identified by the presence of European objects such as axes, knives, and hoes, found in association with Native American artifacts. Thus, a major change in Iroquois lifestyle during the contact period was the replacement of tools and other materials manufactured by Native American technologies to those manufactured by Europeans (brass kettles, iron knives, glass beads, etc.). These sites are difficult to locate and often cannot be clearly distinguished as a result of scant material remains.

Several contact period village sites have been excavated in central New York and have yielded European trade items in association with burials dated from the early sixteenth century (Trubowitz 1983; Wray 1973). There are a number of Mohawk-affiliated sites, including Contact period sites, along the Mohawk River just upstream from the Project Area, some in similar settings (Funk and Kuhn 2003; Snow 1995). The original territory of the Mohawks extended from Schoharie Creek (just east of the Project Area) west to East Canada Creek (Fenton and Tooker 1978).

The Mohawk village of Caughnawaga is located north of the Project Area on the other side of the Mohawk River (Funk and Kuhn 2003). Caughnawaga was one of four palisaded villages located along the Mohawk River. In the sixteenth century, nearly 8,000 Mohawk resided in these four villages. French Jesuits operated a mission in Caughnawaga from 1668 to 1679. The village of Caughnawaga was abandoned in 1693. The Mohawk allied with the British during the Revolutionary War and were thus forced out of the Mohawk Valley after the American victory. In the 1780s, English settlers established a new town, called Caughnawaga, near the site of the former Mohawk village. The original site of the Mohawk village Caughnawaga was discovered in 1950 and has since been completely excavated. The village is known to contain evidence of 12 longhouses and a defensive stockade (Hoxie 1996; Funk and Kuhn 2003).

HISTORIC OVERVIEW

The following describes the general historic context of the region in which the Project is located. This information is provided to assist in interpreting the historic archaeological record of the general Project area.

Early Settlement

The area that would become Montgomery County remained populated by the Mohawk tribe throughout the mid-seventeenth century. Originally part of the Dutch colony of New Amsterdam, the region was not settled by Europeans until the eighteenth century. In 1664, Dutch Governor Stuyvesant surrendered New Amsterdam to English Colonel Richard Nicolls. The colony was renamed New York, after the Duke of York (New Netherland Institute 2018). In 1683, Albany County was created. A large county, Albany was divided multiple times throughout the eighteenth century. In 1772, Tyron County was formed from a western portion of Albany County.

In 1711, the English built Fort Hunter in what would become Montgomery County, sending Anglican missionaries, traders, and settlers to the area. The fort was built at the request of the Mohawk, allies to the British, to prevent French Catholic missionaries from gaining influence in the area. In exchange, German Palatines were permitted to settle in the area. The first European settlers in the area include Palatine Germans in the 1720s and 1730s and Scots-Irish immigrants in the mid-eighteenth century (Roscoe 1882). European settlers utilized the American Indian trails that bisected the area to further settlement, trade, and violence during the French and Indian and Revolutionary wars (Sullivan 1927). The economy of the area was primarily subsistence agriculture, with nascent agricultural related industries emerging (Noyes 1964).

Revolutionary Period

As social and political tensions rose, many of the Loyalists in the region fled to Canada. The Hudson and Mohawk Rivers were of great importance to both the British and American armies and the area surrounding the two rivers saw increased military activity as the two armies jostled for dominance. Located to the south and west, the project area saw hostilities primarily in the form of small skirmishes and raids by British-allied American Indians. The area also provided much needed agricultural products to support the war effort (Mohawk Valley History 2020). By the end of the War, much of the area was depopulated and farms were left abandoned as residents fled. The Tyron County militia, formed 1772, fought and won a battle against the British at the Battle of Oriskany in August 1777 (Montgomery County Tourism 2020).

Post-War and Nineteenth Century

After the Revolutionary War, Tyron County was renamed Montgomery County to honor General Richard Montgomery, who died trying to capture the city of Quebec during the Revolutionary War. The Mohawk River Valley continued to function as a crucial trade route between the Atlantic Ocean and the interior of North America via the Great Lakes. As the only natural gap in the Appalachian Mountains was found in Montgomery County at Canajoharie, the county was at the forefront of transportation and westward advancement. Transportation improvements, including roads, railroads, and canals, helped to further population and economic advancement.

As early as the mid-eighteenth century, the idea of connecting the Atlantic Ocean and Great Lakes via canal was explored. In 1808, the New York Legislature funded a survey that would eventually lead to the construction of the Erie Canal, begun in 1817. Mockingly known as "Clinton's Big Ditch", named for New York Governor Dewitt Clinton, the Erie Canal was completed in 1825. An engineering marvel, the canal helped moved products and people through the area and spurred industrialization and immigration in the Mohawk Valley (Montgomery County Tourism 2020; Finch 1925; Roberts 2017).

Railroads were constructed in the area in the mid-nineteenth century. The New York Central Railroad was constructed through the Mohawk Valley, further increasing the industrial allure of the region. While agriculture remained common in the countryside, the area surrounding the Mohawk River saw increasing industrialization throughout the nineteenth century. Fort Hunter was dismantled in 1820 during construction of the Erie Canal. The city of Amsterdam gained notoriety for its production of carpets and brooms. Factories for shoes, clothing, cooking oil, paper, iron, clothes wringers, soap, springs, coffins, wagon hubs, and buttons were also found throughout Montgomery County. The factories of Amsterdam were particularly appealing, drawing thousands of immigrants, primarily from Eastern Europe. The population of Amsterdam increased from 5,135 in 1865 to 33,524 in 1920 (Montgomery County Tourism 2020).

Twentieth Century to Present

Agriculture remains an important part of the economy of Montgomery County. Farms, orchards, and dairies operate throughout the county, supporting a bourgeoning agri-tourism industry. Other important industries include construction, manufacturing, health care, and education (Sullivan 1928).

In 1918, the Erie Canal was replaced by the larger New York State Barge Canal. The new canal replaced much of the original route, leaving abandoned sections, and focused on canalizing certain rivers, including the Mohawk River. The Canal continues to operate, with an increasing focus on historic tourism and recreational use (Montgomery County Tourism 2020; Roberts 2017). The Project Area is near the Erie Canal National Heritage Corridor. As of the 2010 census, Montgomery County was home to 50,219 residents (U.S. Census Bureau 2010).

History of the Town of Glen

The Town of Glen is a rural, agricultural town in central Montgomery County. The Town was established in 1823, named after Jacob Glen, an early landowner. The town has a total area of 40 sq mi and contains the hamlets of Auriesville, Glen, and Stone Ridge and the Village of Fultonville. The town is home to a large Amish community (Montgomery County Tourism 2020; Town of Glen 2018). As of the 2010 Census, the population of Glen was approximately 2,507 (U.S. Census Bureau 2010).

HISTORICAL ARCHAEOLOGICAL STUDIES

In his *Aboriginal Occupation of New York*, Beauchamp (1900) reports a total of 36 sites in Montgomery County, the majority of which are clustered along the Mohawk River (Figure 3-1). No sites are noted within the Project Area; however, several are located in the general area.

Figure 3-1. Sites reported by Beauchamp (1900) in Montgomery County.

Parker's 1920 *Archaeological History of New York* supplemented Beauchamp's (1900) earlier work and synthesized archaeological "localities" throughout the state based on his own investigation with the NYSM and work by others. Parker reported a total of 61 such localities in Montgomery County, including Beauchamp's original 36 (Figure 3-2). The majority of the sites remain clustered around the Mohawk River. No sites are noted within the Project Area; however, several are located in the general area.

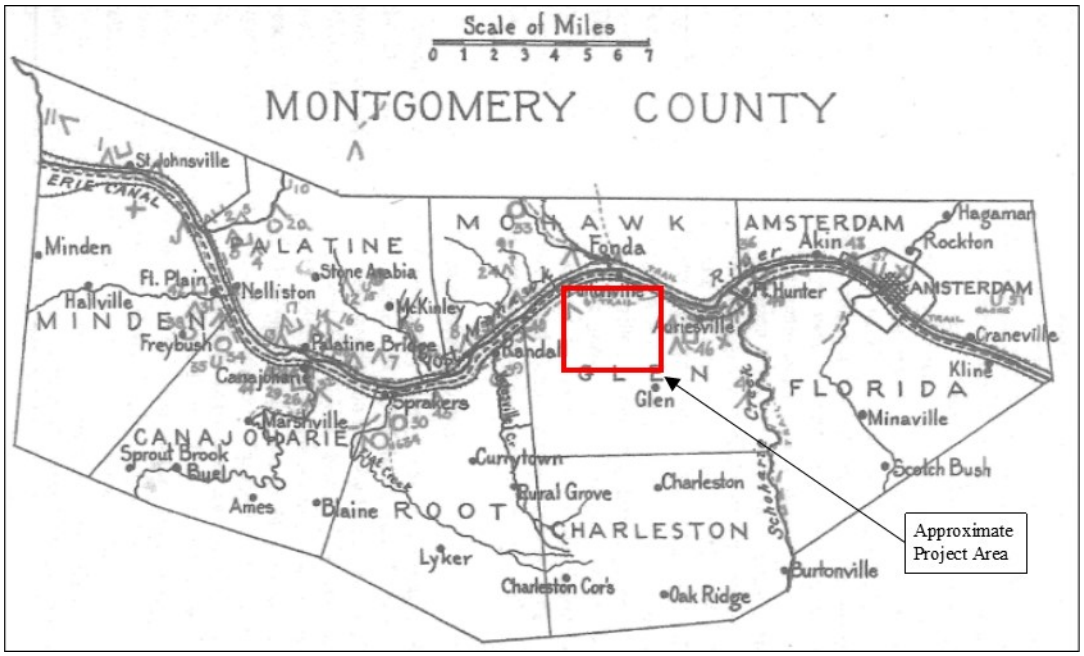


Figure 3-2. Sites reported by Parker (1920) in Montgomery County.

PREVIOUS ARCHAEOLOGICAL STUDIES

A site file search conducted on the OPHRP web-based CRIS system revealed that 14 archaeological surveys and 30 consultation projects have been previously conducted within a one-mile radius of the Project Area. One of the surveys and one consultation project are located within the Project Area.

In 2011, Birchwood Archaeological Services conducted a Phase I cultural resources survey for the proposed R and R Farms CPEP project in the Town of Glen. Systematic shovel test excavation was conducted. No cultural materials or features were identified, and no further work was recommended (Cole and Moyer 2011).

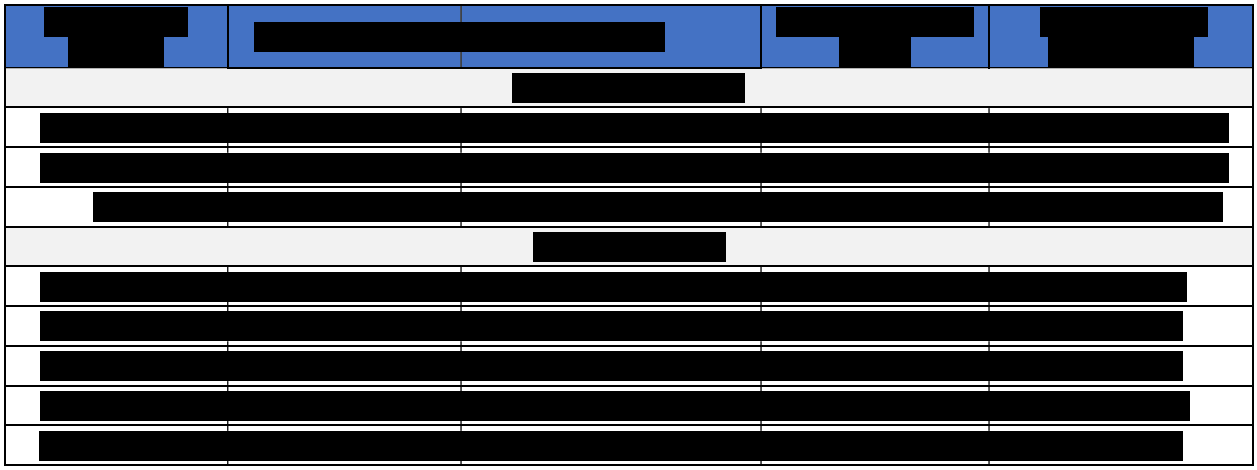
PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES

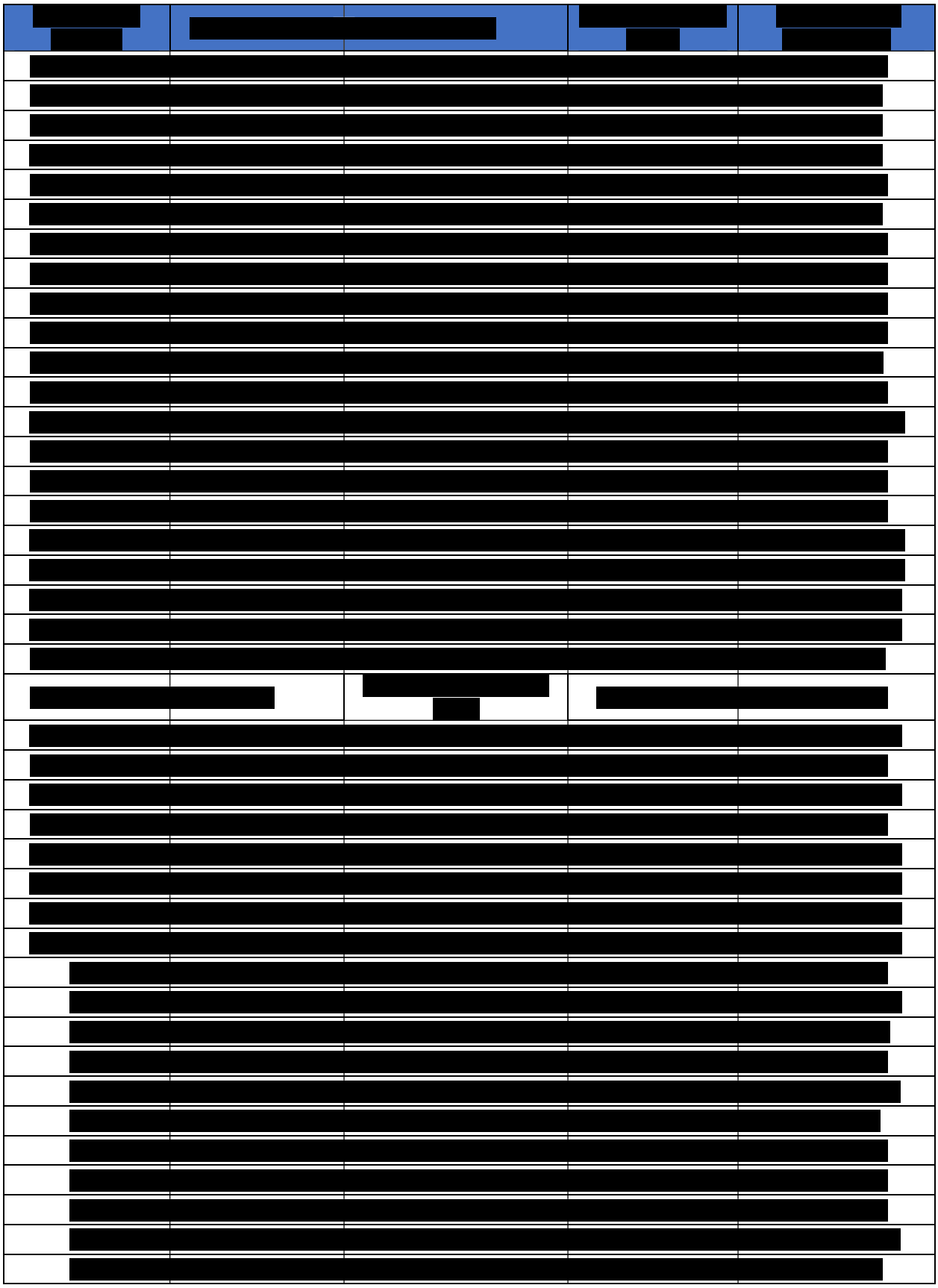
Based on review of the Project Area on the Cultural Resources Information System (CRIS), [redacted] archaeologically sensitive. There are [redacted] (Table 3-2). These [redacted] include [redacted]

Of these [redacted]

[redacted] also have OPRHP site numbers.

[redacted]





[redacted]					
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[redacted]

4. ARCHAEOLOGICAL SENSITIVITY ASSESSMENT

SENSITIVITY ASSESSMENT MODEL

The purpose of the archaeological sensitivity assessment is to provide an initial assessment of the overall archaeological sensitivity of a project area for the presence of archaeological sites and a guide for subsequent field investigations. OPRHP denotes areas where archaeological sites are most likely to be identified as having high archaeological sensitivity. In their updated guidelines for Phase IA/IB archaeological survey (2020), OPRHP identifies areas of high sensitivity as those:

All other areas, including areas of previous ground disturbance, are considered to have low archaeological sensitivity and are not recommended for Phase IB testing. The archaeological sensitivity assessment was developed following review of the online OPRHP CRIS database, historical documentation, prehistoric background information, historic maps, aerial photographs, and soils data. Figure 4-9 depicts the archaeological sensitivity for the Project Area, including known disturbances and the approximate location of historic structures as depicted on historic maps.

SENSITIVITY ASSESSMENT ANALYSIS

Permanent water sources and hydric soils are present throughout the Project Area. Auries Creek and its associated tributaries provide drainage in the eastern and central portions of the Project Area near the Town of Glen. Small, unnamed waterways are noted in the northwestern portion of the Project Area. All waterways drain into the Mohawk River, located immediately north of the Project Area. Hydric soils are also noted throughout the Project Area, primarily in the central and southwestern portions. (see Figure 4-9).

Slope within the Project Area ranges from 0 to 60 percent. Areas of steep slope are primarily found in the northern, western, and eastern edges of the Project Area. The central portion is primarily flat. (see Figure 4-9).

As indicated in Chapter 3, archaeologically sensitive on the OPRHP CRIS webviewer. There are (see Table 3-2).

[redacted] (see Figure 4-9).

Historic Map Analysis

Documentary research was used to determine [redacted] Evidence on historic maps included the addition of town names over time, the location of transportation routes, residential structures, and other cultural features. The following historic maps show the gradual change in occupation in Montgomery County, New York.

The 1817 *Map of the State of New York* by Lay depicts the major political, geographic, and transportation features of the area (Figure 4-1). Several towns are noted within Montgomery County, including the town of Amsterdam to the northwest of the Project Area. The Town of Caghnawaga [sic], is located to the immediate north of the Project Area, near the modern-day Town of Fonda. Caughnawaga was established by English settlers in the 1780s and named after the Mohawk Village that had originally occupied the area and which was abandoned after the Revolutionary War. Settlements are located primarily near major waterways, with the majority of the county residents clustered along the Mohawk River. A military fort, Fort Hunter, is depicted on the southern bank of the Mohawk River, near the Schoharie River.

Several roads or trails are noted bisecting the County, particularly to the north of the Mohawk River, with one road is noted running east-west along the southern bank of the Mohawk River to the north of the Project Area. The Erie Canal is noted along the southern bank of the Mohawk River, north of the Project Area. The Project Area is located within an area called “Mohawk Flats”. No settlements are depicted in the vicinity of the Project Area.

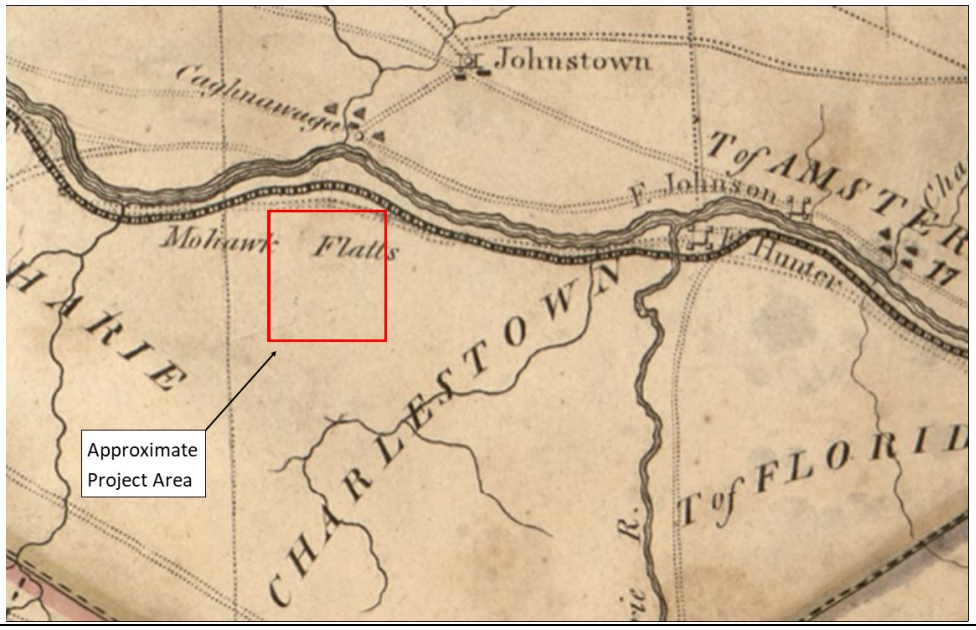


Figure 4-1. 1817 *Map of the State of New York* by Lay showing approximate Project Area.

The 1829 *Map of the County of Montgomery (New York)* by Burr depicts the major political and transportation features of the area (Figure 4-2). Since 1817, the population of the area has greatly increased, with towns and villages noted throughout the area. Town boundaries are noted by color. The Project Area is located in the Town of Glen. Property boundaries are noted, with lots identified numerically. The Towns of Fulton, Auriesville, and Voorheesville are noted in the general proximity of the Project Area. The Town of Caughnawaga is noted to the north across the Mohawk River. Airies [sic] Kill, now Auries Creek, is noted bisecting the eastern portion of the Project Area.

The Erie Canal continues to operate along the southern bank of the Mohawk River. Several roads are noted throughout the area, including one immediately south of the Erie Canal and northeast of the Project Area, and roads bisecting the Project Area. The Project Area is within the property boundaries of several Lots and landowners Visger, Scott, Delaney, and TenEyele.

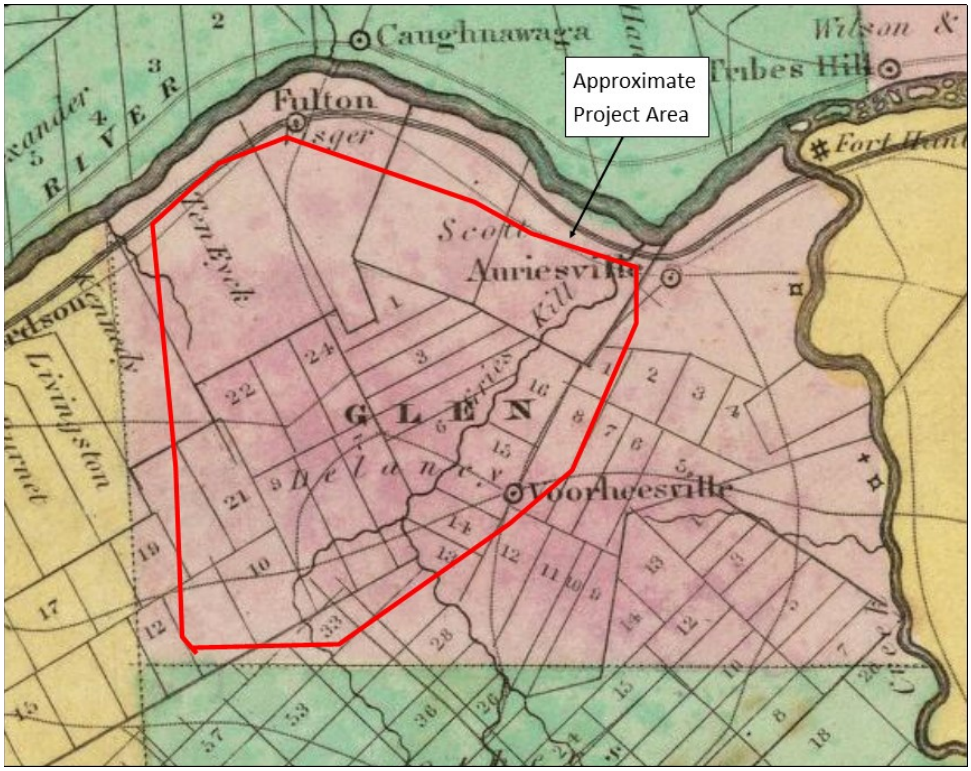


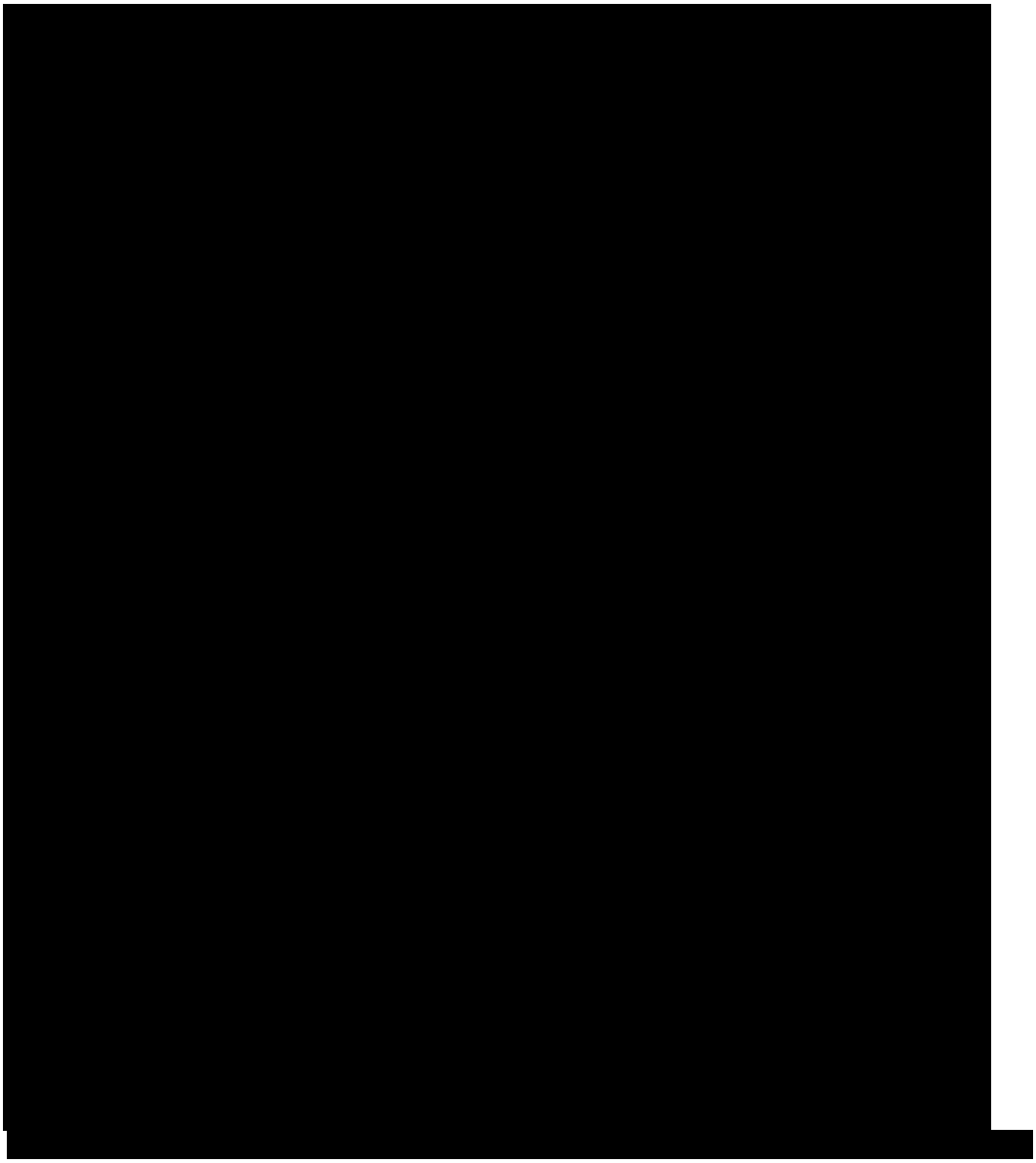
Figure 4-2. 1829 *Map of the County of Montgomery* by Burr showing approximate Project Area.

The 1868 *Glen, Auriesville: Montgomery and Fulton Counties, NY* map by Stranahan and Nichols depicts the political and transportation features of the area plus structural and landowner details (Figure 4-3). The population of the general area has grown with increased settlement, particularly throughout the rural countryside. The Towns of Auriesville, Glen, and Fultonville are noted within or in the vicinity of the Project Area. The creek that bisects the Project Area is identified by name (Auries Creek). Additional roads are noted throughout the area, including several within the Project Area. The Erie Canal continues to operate to the north of the Project Area. [redacted]

[redacted]

The 1902 United States Geological Survey (USGS) *Fonda* 15-minute topographic quadrangle map provides detail on the political, topographic, and transportation features of Montgomery County (Figure 4-4). Located within the Town of Glen, the Project Area remains relatively rural. Small roads bisect the area, [redacted] The closest towns are Fultonville, located to the north, Auriesville, located to the northeast, and Fonda, located to the north across the Mohawk River. The Erie Canal remains in operation, now paralleled on both banks by railroads, the New York Central and Hudson River Railroad on the northern bank, and the West Shore Railroad on the southern bank. [redacted]

The 1944 USGS *Randall* and *Tribes Hill* 7.5-Minute quadrangle maps provide details on political, topographic, and transportation features of Montgomery County (Figure 4-5). The area remains rural, with scattered structures [redacted] Several additional roads bisect the area, falling within the Project Area. The Towns of Fonda and Fultonville have expanded. The West Shore Railroad (now a branch of the New York Central) and the New York Central (now the F & G branch) continue to operate on the southern and northern banks, respectively. The Erie Canal remains in operation, though a section near the Project Area is noted as abandoned. [redacted]



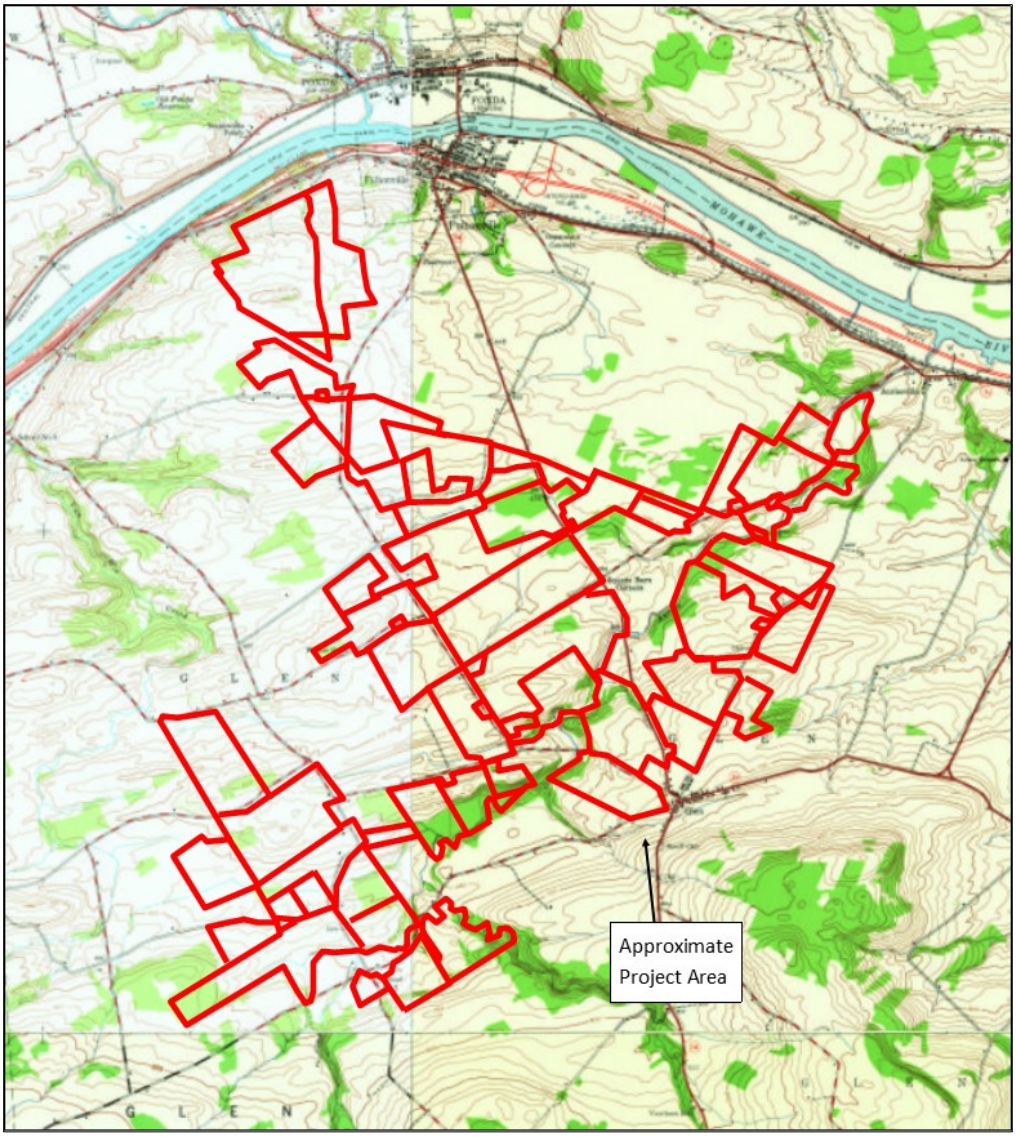


Figure 4-5. USGS 1944 *Randall* and *Tribes Hill* 7.5-Minute topographic quadrangle maps showing the Project Area.

Historic map analysis and historic research demonstrates that the area has been occupied by Euro-Americans since the late eighteenth century. Structural detail is provided on the 1868, 1902, and 1944 historic maps. [redacted] (see Figure 4-9). [redacted] Aerial photographs show that the area has remained agricultural since 1952, with many of the currently extant structures shown on the 1952 photograph. [redacted]

INITIAL FIELD INSPECTION

Site visits were conducted by TRC in October 2020 to document current conditions of the Project Area (Figures 4-6 through 4-8). The central portion of the Project Area is primarily flat, with sloped areas present to the west, east, and south. The Project Area contains agricultural land and forested areas, with the forested areas found in areas of steep slope or low-lying wetland areas. Minimal disturbance, primarily in the form of domestic residences or farmsteads, is noted throughout the Project Area. A transmission corridor crosses the Project Area. This information was used in combination with the environmental and historical background research described above to inform the archaeological sensitivity assessment for the Project Area (see Figure 4-9).

Figure 4-6. View from agricultural field with transmission line, northeastern portion of the Project Area, facing southwest.

Figure 4-7. View from Auries Creek, eastern portion of the Project Area, facing southwest.

Figure 4-8. View from wooded area, southwestern portion of the Project Area, facing northwest.

[redacted]

0 500 1,000
METERS
0 1,750 3,500
FEET
:42,000 1" = 3,500' 1" = 1,067 meters

New York Overview

SITE LOCATION

PROJECT:
CONNECTGEN - MILL POINT SOLAR PROJECT
TOWN OF GLEN
MONTGOMERY COUNTY, NY

TITLE:
PHASE 1A
ARCHAEOLOGICAL SENSITIVITY MAP

DRAWN BY:	R. BARBER	PROJ. NO.:	411360
CHECKED BY:	R. JORDAN		
APPROVED BY:	T. KONDAK		**FIGURE 4-9**
DATE:	MARCH 2021		

TRC
10 Maxwell Drive
Clifton Park, NY 12065
Phone: 518-348-1190

FILE: Mill_Point_Cultural

5. CONCLUSIONS AND RECOMMENDATIONS

The Phase IA archaeological survey completed for the Mill Point Solar Project under Section 94-c of the New York State Law. The Project will obtain a siting permit from ORES. The Project will obtain and adhere to all other applicable federal, state, and local permits not supplanted by 94-c, including a Section 404 permit from the USACE if Project activities will result in fill or dredge within jurisdictional wetlands and waters of the U.S. as well as an NYSDEC Article 24 permit if disturbance activities occur in NYSDEC state-protected wetlands or regulated adjacent areas. The Project will also be conducted in accordance with Section 106 of the NHPA.

The Project will consist of the construction and operation of a 250+ megawatt (MW) solar energy center. The total Project Area is approximately 3,733 acres and will be located on land leased or purchased from owners of private property. Project components will include photovoltaic panels and associated racking systems, co-located inverters and medium voltage transformers, a Battery Energy Storage System (BESS), a new 345 kV substation and switching station, underground and/or overhead AC collection, access roads, temporary laydown areas, and a potential operations and maintenance facility located within an approximate 3,733-acre site. The final solar array specification, as well as locations of arrays, will be finalized as part of ongoing engineering efforts. Engineering drawings will be used to define the archaeological APE as they are developed and in consultation with the OPRHP.

SUMMARY OF BACKGROUND RESEARCH

The Phase IA background research included a review of archaeological site files, cultural resources survey reports, archaeological research reports, county and town histories, historical maps, county soil maps, and aerial photographs. Research on previously recorded archaeological sites and previous cultural resources surveys was conducted using OPRHP's web-based CRIS system. As part of this review, data was gathered on other known and potential archaeological resources in the Project vicinity including information on possible historic-period archaeological sites as indicated on historic maps and in other data sources.

[redacted]

ARCHAEOLOGICAL SENSITIVITY

Areas considered to have high sensitivity, as defined by OPRHP, [redacted]

(Figure 4-9). Based on the archaeological sensitivity assessment, [redacted] (Table 5-1).

[redacted]

RECOMMENDATIONS FOR PHASE IB ARCHAEOLOGICAL SURVEY

In their updated guidelines for Phase IA/IB archaeological survey (2020), OPRHP recommends Phase IB survey for areas of substantial proposed ground disturbance that fall within areas of high archaeological sensitivity. As defined by the OPRHP in their updated Phase IA/IB guidelines (2020), substantial proposed ground disturbance includes:

> *(1) grading and excavation more than six inches deep;*
>
> *(2) grubbing, tree and stump removal; and*
>
> *(3) trenches more than three feet wide.*

Phase IB archaeological testing is not recommended for panel arrays; perimeter fencing and utility poles (if their associated posts are driven or drilled into the ground and no grubbing or grading is involved); or for excavations and grading less than six inches in depth. It is noted that areas identified as previously disturbed would not be subject to archaeological survey.

In accordance with New York State guidelines (NYAC 1994), the Phase IB archaeological field survey would consist of systematic excavation of shovel tests at 15-m (50-ft) intervals in all proposed significant construction impact areas identified as having high archaeological sensitivity. Additional shovel tests (radials) would be excavated around positive tests in a radial pattern in order to define isolated finds. Plowed or planted agricultural fields with greater than 70% ground visibility will be subjected to systematic surface survey using 3- or 5-meter transect spacing, dependent on field conditions and archaeological sensitivity. It is assumed the Phase IB survey would be conducted following final engineering design of the facility identifying the locations of all build features that would require survey.

Per *OPRHP Guidelines*, all shovel tests will measure 30-50 cm in diameter, and will be excavated to sterile subsoil. All excavated soil will be screened through ¼-inch hardware cloth over tarps or plastic sheeting. Soil strata within each shovel test will be recorded on standardized forms describing Munsell color and USDA soil types. All recovered artifacts will be bagged, labeled, and sent to the TRC laboratory in Lanham, Maryland for processing and analysis. All shovel tests will be backfilled after completion. All positive shovel tests will be recorded using a *Trimble* GPS unit and plotted on aerial photographs and Project maps.

The Phase IB archaeological field survey will follow the *Standard for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State* (NYAC 1994) guidelines and will be conducted in consultation with the OPRHP Regional Archaeologist. Project design plans showing the proposed locations for these areas will be submitted to OPRHP for review once advanced.

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APPENDIX A: TRC PERSONNEL QUALIFICATIONS

Tim Sara, M.A., RPA **(Principal Investigator)** Mr. Sara has 34 years of experience in cultural resources management. He has designed and directed surveys and excavations of historic and prehistoric archaeological resources in the Northeast, Mid-Atlantic, Southeast, Midwest, Southwest, and Caribbean. He has obtained a thorough knowledge of Section 110 and Section 106 and of the National Historic Preservation Act as amended (NHPA) and applying the National Register of Historic Places (NRHP) eligibility criteria to cultural resources. Mr. Sara has received honors and awards for academic and professional studies and is a member of the New York Archaeological Council. He has been a contributing author more than 40 Environmental Assessments (EAs) and/or Environmental Impact Statements (EIS) and principal or contributing author to more than 150 cultural resources management reports.

Robert Wall, Ph.D., RPA (**Senior Archaeologist**) has more than 40 years of experience in archaeological field investigations in the Middle Atlantic region, with a particular focus on the Susquehanna, Potomac, Delaware, and Upper Ohio drainages. He is qualified under the Secretary of the Interior's Professional Qualifications (Archeology) (36 CFR 61) and is certified by RPA. Dr. Wall has expertise in Archival Research/Land Use Studies; Archeological Inventory Surveys; Archeological Site Assessments and National Register Testing; Archeological Site Mitigation and Data Recovery; Cemetery Delineation, Archeology Laboratory Processing, Analysis, Curation, Research and Report Writing. Dr. Wall has also authored numerous publications on the archaeology of Maryland, Pennsylvania, and West Virginia.

Jasmine Gollup, M.A., RPA **(Archaeologist/Laboratory Director)** Ms. Gollup has ten (10) years of experience performing archaeological investigations throughout the Mid-Atlantic and Northeast regions. She has worked on over 50 Phase I, II, and III projects and is experienced with both historic and prehistoric material culture and faunal analysis. She is qualified under the Secretary of the Interior's Professional Qualifications (Archeology) (36 CFR 61) and is certified by RPA. Ms. Gollup has been the principal author of more than 30 cultural resources management reports, including over a dozen solar or wind facility projects in New York.

Justin Warrenfeltz, B.A. **(Archaeologist)** has nine (9) years of experience in archaeological field investigations in the Middle Atlantic and Northeast regions. He has extensive experience with CRM Projects throughout the Northeast, including numerous Phase I, II, and III investigations and historic and prehistoric artifact analysis. His experience working in New York includes more than a dozen Phase IA and Phase IB projects in support of solar and wind energy projects in Steuben, Orange, Greene, Sullivan, Ulster, Dutchess, Montgomery, Schoharie, Oneida, Suffolk, Seneca, Schuyler, and other Counties.