State Historic Preservation Office
Department of Economic and Community Development

CONNECTICUT

July 11, 2025

David George
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830 Berlin Turnpike
Berlin, CT 06037
(sent only via email to dgeorge@heritage-consultants.com)

Subject: Archaeological Reconnaissance Survey
Artillery Road Solar
Woodbury, Connecticut

Dear David George,

The State Historic Preservation Office (SHPO) has reviewed the technical report titled *Phase IB Cultural Resources Reconnaissance Survey of a Proposed Solar Center Along Artillery Road in Woodbury, Connecticut* prepared by Heritage Consultants, LLC (Heritage), dated January 2025. The submitted technical report meets the standards set forth in the *Environmental Review Primer for Connecticut's Archaeological Resources*. SHPO understands that the proposed project entails the construction of two solar arrays with associated infrastructure within agricultural fields along the north side of Artillery Road. The project will require a stormwater discharge permit issued by the Connecticut Department of Energy and Environmental Protection through the authority of the Environmental Protection Agency; therefore, it is subject to review by this office pursuant to Section 106 of the National Historic Preservation Act.

A cultural resources reconnaissance survey of the Area of Potential Effect (APE) for the project was completed by Heritage in December of 2024. The investigation included comprehensive background research that examined historic maps and aerial imagery as well as previously identified cultural resources located in proximity to the APE. The review failed to identify any previously recorded archaeological sites or properties listed on the National Register of Historic Places (NRHP) within a mile of the APE. During survey, 148 planned shovel tests were excavated at 25-meter intervals along transects placed 25 meters apart throughout the APE. The effort resulted in the identification of two Precontact Period archaeological sites (Site 1 and Site 2) and a Postcontact Period archaeological site (Site 3). Site 1 contained a single quartz flake, a quartz scraper, and a quartz utilized flake recovered from the plowzone within three shovel tests. The survey of Site 2 resulted in the identification of a quartz preform, two quartz flakes, and a chert flake recovered from the plowzone within two shovel tests. Site 3 was recorded as a Post-European Contact Period farmstead containing a barn foundation, a silo foundation, stonewalls, outbuilding foundations, and a cellar hole. No subsurface testing was completed within the identified limits of Site 3.

Heritage determined that all three sites were potentially eligible for listing on the NRHP. However, the report notes that all three sites will be located outside the limits of proposed ground disturbance. As a result, they will not be impacted by the proposed actions and no further examination was recommended prior to construction. Finally, 12 Postcontact Period artifacts were recovered from five shovel tests and included an amber bottle glass shard, a window glass shard, an aqua bottle glass shard, five brick fragments, a hand-painted vessel sherd, and three whiteware sherds. Heritage determined that the Postcontact Period archaeological deposits were representative of typical field scatter and were not eligible for listing on the NRHP. Based on the information submitted to this office, it is the opinion of

SHPO that there will be no adverse effect to historic properties by the proposed solar facility conditional upon the avoidance of ground disturbance within the identified NRHP eligible archaeological sites. If project plans change to include ground disturbances within any of the three identified site areas, SHPO requests additional consultation prior to construction to discuss the need for further survey. Comments are conditional upon the submittal of two copies of the final report for permanent archiving and public accessibility.

This office appreciates the opportunity to review and comment upon this project. Do not hesitate to contact Cory Atkinson, Staff Archaeologist and Environmental Reviewer, for additional information at (860) 500-2458 or cory.atkinson@ct.gov.

Sincerely,

Jonathan Kinney
State Historic Preservation Officer

August 2024

Phase IA Cultural Resources Assessment Survey of a Proposed Solar Center Along Artillery Road in Woodbury, Connecticut

Prepared For:

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Prepared By:

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ABSTRACT

This report presents the results of a Phase IA Cultural Resources Assessment survey for a proposed solar facility along Artillery Road in Woodbury, Connecticut. The project will include the construction of solar arrays across two separate areas (Northern and Southern Areas) situated on a larger 48.48 acre parcel of land. The Northern Area encompasses 3.51 acres and the Southern Area encompasses 10.61 acres of land. Heritage Consultants, LLC completed the Phase IA cultural resources assessment survey of the project area on behalf of Vanasse Hangen Brustlin, Inc., in July of 2024. The investigation consisted of: 1) preparation of an overview of the region's precontact era, post-European Contact period, and natural settings; 2) a literature search to identify and discuss previously recorded cultural resources in the region; 3) a review of readily available maps and aerial imagery depicting the development areas to identify potential cultural resources and/or areas of past disturbance; and 4) a pedestrian survey and photo-documentation of the development areas and the surrounding parcel to determine archaeological sensitivity. The Phase IA survey revealed that 14.16 acres of the parcel, of which 0.24 acres will be impacted by construction, is characterized by wetlands and steep sloping topography. These areas retain a no/low archaeological sensitivity and no further archaeological examination of them is recommended. The remaining 34.32 acres of land, of which 13.88 acres will be impacted by construction, were characterized by gently sloping topography, well drained soils, and close proximity to the freshwater sources. These areas were designated as retaining the potential to yield intact archaeological deposits. It is recommended that the 13.88 acres of moderate/high archaeological sensitivity located within the facility areas be subjected to Phase IB cultural reconnaissance survey prior to construction.

Pedestrian survey also led to the identification of an early-twentieth century barn foundation, a dry-laid stonewall, and a single brick fragment with a partial makers mark. The foundation is situated in the southern portion of the Southern Area and consists of aggregate concrete and cinder block. It is recommended that the foundation be examined and recorded as part of the proposed Phase IB survey. The stonewall, which was designated as Stonewall SW-1, is located along the northern boundary of the parcel and will not be impacted by development. No further examination of the stonewall is recommended prior to development.

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CHAPTER I
INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey of a proposed solar facility (the Facility) along Artillery Road in Woodbury, Connecticut. The Facility contains two areas (Northern and Southern Areas) that encompass approximately 14.12 acres of a larger 48.48 acre parcel of land (Figure 1). The Northern Area measures 3.51 acres and the Southern Area encompasses 10.61 acres of land. Vanasse Hangen Brustlin, Inc. (VHB), requested that Heritage Consultants, LLC (Heritage) complete the Phase IA assessment survey as part of the planning process for the proposed Facility. Heritage completed this investigation in July of 2024. All work associated with this project was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987) promulgated by the Connecticut State Historic Preservation Office (CT-SHPO).

Project Description and Methods Overview

The proposed Facility will consist of two solar arrays and associated infrastructure (Figure 2). The project parcel is situated at elevations ranging between 146 to 184 meters (479 to 604 feet) NGVD. It is located on the eastern side of Quassapaug Road and the southern side of Route 6 in Woodbury, Connecticut. It is bounded by forested land and agricultural fields on all sides, with a small amount of residential development to the north. The Phase IA cultural resources assessment survey of the Facility consisted of the completion of the following tasks: 1) a contextual overview of the region's precontact era, post-European Contact period, and natural settings (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously recorded cultural resources in the region encompassing the Facility; 3) a review of readily available maps and aerial imagery depicting the project parcel in order to identify potential post-European Contact period resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the larger project parcel and the Facility in order to assess their archaeological sensitivity.

Project Results and Management Recommendations Overview

The review of maps and aerial images depicting the project parcel and the Facility, as well as files maintained by the CT-SHPO, did not result in the identification of previously identified archaeological sites or National/State Register of Historic Places properties/districts within 0.8 kilometers (0.5 miles) of the Facility. However, the area's gently to moderately sloping topography and proximity to fresh water sources indicate that the portions of the Facility could have been the location of precontact era and/or post-European Contact period settlement and use. Heritage staff considered this information during pedestrian survey of the Northern and Southern Areas and the surrounding parcel, which resulted in the stratification of the parcel into zones of no/low and moderate/high archaeological sensitivity.

The pedestrian survey of the Facility areas and surrounding parcel was completed in July of 2024. It revealed that 14.16 acres of the parcel, of which 0.24 acres will be impacted by construction, is characterized by wetlands and steep sloping topography. No additional archaeological investigation of these areas is recommended prior to Facility construction. The remaining 34.32 acres of land, of which 13.88 acres will be impacted by construction, were characterized by gently sloping topography, well drained soils, and close proximity to the freshwater sources. These areas were designated as retaining the potential to yield intact archaeological deposits. It is recommended that the 13.88 acres of moderate/high archaeological sensitivity located within the Facility areas be subjected to Phase IB cultural reconnaissance survey prior to construction.

Pedestrian survey of the area also led to the identification of a single fragment brick with a partial makers mark. The makers mark is likely attributed to the I.L. Stiles and Son Brick Company, which was located in North Haven, Connecticut and produced bricks from 1892 through 1957. In addition, pedestrian survey resulted in the identification of an early-twentieth century foundation. It is located in the southern tip of the Facility within Southern Area and consists of aggregate concrete and cinder blocks. This indicates that the foundation dates from post-1930s and pre-1950s, which is suggested by the presence of farm buildings in the Southern Area on a 1934 aerial image. It is recommended that the foundations be examined and recorded as part of the proposed Phase IB survey. Finally, a dry-laid stonewall was identified during the pedestrian survey. The stonewall, which was designated as Stonewall SW-1, is located along the northern boundary of the parcel and will not be impacted by development. No further examination of the stonewall is recommended prior to development.

Project Personnel

Key personnel who worked on this project included David R. George, M.A., RPA, (Principal Investigator); Linda Seminario, M.A. (Project Archaeologist); William Yerxa, M.A., (Report Writer); Melissa Wales, B.A. (Field Director); Nita Vitaliano, M.A. (Historian); and Morgan Tirrell, B.A. (GIS Specialist).

CHAPTER II
NATURAL SETTING

Introduction

This chapter provides a brief overview of the natural setting of the region containing the proposed Facility in Woodbury, Connecticut. Previous archaeological research has documented that specific environmental factors can be associated with both precontact era and post-European Contact period site selection. These include general ecological conditions, as well as types of fresh water sources present, degree of slopes, and soils situated within a given study area. The remainder of this chapter provides a brief overview of the ecology, hydrological resources, and soils present within the project parcel and Facility areas and the larger region in general.

Ecoregions of Connecticut

Throughout the Pleistocene and Holocene Periods, Connecticut has undergone numerous environmental changes. Variations in climate, geology, and physiography have led to the "regionalization" of Connecticut's modern environment. It is clear, for example, that the northwestern portion of the state has different natural characteristics than the coastline. Recognizing this fact, Dowhan and Craig (1976), as part of their study of the distribution of rare and endangered species in Connecticut, subdivided the state into various ecoregions. Dowhan and Craig (1976:27) defined an ecoregion as:

> "An area characterized by a distinctive pattern of landscapes and regional climate as expressed by the vegetation composition and pattern, and the presence or absence of certain indicator species and species groups. Each ecoregion has a similar interrelationship between landforms, local climate, soil profiles, and plant and animal communities. Furthermore, the pattern of development of plant communities (chronosequences and toposequences) and of soil profile is similar in similar physiographic sites. Ecoregions are thus natural divisions of land, climate, and biota."

Dowhan and Craig defined nine major ecoregions for the State of Connecticut. They are based on regional diversity in plant and animal indicator species (Dowhan and Craig 1976). Only the Northeast Hills Ecoregion is germane to the current investigation. A summary of this ecoregion is presented below. It is followed by a discussion of the hydrology and soils found within and adjacent to the Facility area.

Northeast Hills Ecoregion

The Northeast Hills ecoregion consists of a hilly upland terrain located between approximately 40.2 and 88.5 km (25 and 55 mi) to the north of Long Island Sound (Dowhan and Craig 1976). It is characterized by streamlined hills bordered on either side by local ridge systems, as well as broad lowland areas situated near large rivers and tributaries. Physiography in this region is composed of a series of north-trending ridge systems, the western-most of which is referred to as the Bolton Range and the eastern-most as the Mohegan Range (Bell 1985:45). Elevations in the Northeast Hills range from 121.9 to 243.8 m (400 to 800 ft) above sea level, reaching a maximum of nearly 304.8 m (1,000 ft) above sea level near the Massachusetts border (Bell 1985). The bedrock of the region is composed of Schist and gneiss created during the Paleozoic as well as gneiss and granite created during the Precambrian period (Bell 1985). Soils in uplands areas have been deposited on top of glacial till and in the valley they consist of stratified deposits of sand, gravel, and silt (Dowhan and Craig 1976).

Hydrology of the Study Region

The Facility is located within close proximity of several streams, ponds and wetlands. The major fresh water sources in this area include Frank Atwood Brook, which runs through the center of the parcel, as

well as Lewis Atwood Brook and Sawmill Brook which are in the vicinity. Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were focal points for precontact era occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources. These water sources also provided the impetus for the construction of water powered mill facilities during the eighteenth and nineteenth centuries.

Soils Comprising the Project Parcel and Facility Area

Soil formation is the direct result of the interaction of several variables, including climate, vegetation, parent material, time, and organisms present (Gerrard 1981). Once archaeological deposits are buried within the soil, they are subject to many diagenic processes. Different classes of artifacts may be preferentially protected, or unaffected by these processes, whereas others may deteriorate rapidly. Cyclical wetting and drying, freezing, and thawing, and compression can accelerate chemically and mechanically the decay processes for animal bones, shells, lithics, ceramics, and plant remains. Lithic and ceramic artifacts are largely unaffected by soil pH, whereas animal bones and shells decay more quickly in acidic soils such as those that are present within the Project area. In contrast, acidic soils enhance the preservation of charred plant remains.

A total of 12 soil types were identified within the project parcel and the Facility areas (Figure 3). The most ubiquitous of these soils was Paxton and Montauk soils, which dominate the southern half of the parcel; in addition, Woodbridge soils were common in the remainder of the parcel. These soil types fall into two categories of well-to-excessively drained and poorly drained soil types. When well drained soils such as Woodbridge, Hinckley, Paxton, Montauk, Canton, Charlton, and Gloucester soils remain undisturbed and on less than eight percent slope, they are generally well correlated with precontact era and post-European Contact period site locations and are considered to have higher archaeological sensitivity. In contrast, Scarboro, Ridgebury, Leicester, and Whitman soils are characterized as poorly drained soils and are not likely to contain archaeological deposits. Below is a summary of each specific soil type identified within the Project parcel.

<u>Woodbridge Soils</u>

The Woodbridge series consists of moderately well drained loamy soils formed in lodgment till. They are very deep to bedrock and moderately deep to a densic contact. They are nearly level to moderately steep soils on hills, drumlins, till plains, and ground moraines. Slope ranges from 0 to 25 percent. A typical profile associated with Woodbridge soils is as follows: **Ap**--0 to 18 cm; very dark grayish brown (10YR 3/2) fine sandy loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many fine and medium roots; few very dark brown (10YR 2/2) earthworm casts; 5 percent gravel; moderately acid; abrupt wavy boundary; **Bw1**--18 to 46 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; few very dark brown (10YR 2/2) earthworm casts; 10 percent gravel; moderately acid; gradual wavy boundary; **Bw2**--46 to 66 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; few very dark brown (10YR 2/2) earthworm casts; 10 percent gravel; few medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately acid; gradual wavy boundary; **Bw3**--66 to 76 cm; light olive brown (2.5Y 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent gravel; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately acid; clear wavy boundary; **Cd1**--76 to 109 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; weak thick plates of geogenic origin; very firm, brittle; 20 percent gravel; many medium prominent strong brown (7.5YR 5/8) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately

acid; gradual wavy boundary; and **Cd2**--109 to 165 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; weak thick plates of geogenic origin; very firm, brittle; few fine prominent very dark brown (10YR 2/2) coatings on plates; 25 percent gravel; common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation; moderately acid.

Hinckley Soils

Hinckley series consists of very deep, excessively drained soils formed in glaciofluvial materials. They are nearly level through very steep soils on outwash terraces, outwash plains, outwash deltas, kames, kame terraces, and eskers. Saturated hydraulic conductivity is high or very high. Slope ranges from 0 to 60 percent. A typical profile associated with Hinckley soils is as follows: **Oe** -- 0 to 3 cm; moderately decomposed plant material derived from red pine needles and twigs; **Ap** -- 3 to 20 cm; very dark grayish brown (10YR 3/2) loamy sand; weak fine and medium granular structure; very friable; many fine and medium roots; 5 percent fine gravel; very strongly acid; abrupt smooth boundary; **Bw1** -- 20 to 28 cm; strong brown (7.5YR 5/6) gravelly loamy sand; weak fine and medium granular structure; very friable; common fine and medium roots; 20 percent gravel; very strongly acid; clear smooth boundary; **Bw2** -- 28 to 41 cm; yellowish brown (10YR 5/4) gravelly loamy sand; weak fine and medium granular structure; very friable; common fine and medium roots; 25 percent gravel; very strongly acid; clear irregular boundary; **BC** -- 41 to 48 cm; yellowish brown (10YR 5/4) very gravelly sand; single grain; loose; common fine and medium roots; 40 percent gravel; strongly acid; clear smooth boundary; and **C** -- 48 to 165 cm; light olive brown (2.5Y 5/4) extremely gravelly sand consisting of stratified sand, gravel and cobbles; single grain; loose; common fine and medium roots in the upper 20 cm and very few below; 60 percent gravel and cobbles; moderately acid.

Paxton and Montauk Soils

The Paxton series consists of well drained loamy soils formed in lodgment till. The soils are very deep to bedrock and moderately deep to a densic contact. They are found on nearly level to steep soils on hills, drumlins, till plains, and ground moraines. Slope associated with these soils range from 0 to 45 percent. A typical profile associated with Paxton soils is as follows: **Ap**--0 to 20 cm; dark brown (10YR 3/3) fine sandy loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots; 5 percent gravel; strongly acid; abrupt smooth boundary; **Bw1**--20 to 38 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; 5 percent gravel; few earthworm casts; strongly acid; gradual wavy boundary; **Bw2**--38 to 66 cm; olive brown (2.5Y 4/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent gravel; strongly acid; clear wavy boundary; and **Cd**--66 to 165 cm; olive (5Y 5/3) gravelly fine sandy loam; medium plate-like divisions; massive; very firm, brittle; 25 percent gravel; many dark coatings on plates; strongly acid.

The Montauk series consists of well drained soils formed in lodgment or flow till derived primarily from granitic materials with lesser amounts of gneiss and schist. The soils are very deep to bedrock and moderately deep to a densic contact. These soils are on upland hills and moraines. Slopes associated with these soils ranges from 0 to 35 percent. A typical profile associated with Montauk soils is as follows: **Ap**--0 to 10 cm; very dark gray (10YR 3/1) loam; moderate fine granular structure; very friable; many very fine, fine, medium, and coarse roots; 2 percent gravel, 1 percent cobbles, and 1 percent stones; extremely acid (pH 4.1); clear smooth boundary; **BA**--10 to 34 cm; brown (10YR 4/3) loam; moderate medium and coarse subangular blocky structure; friable; many fine, medium, and coarse roots; many fine and medium pores; 4 percent gravel, 1 percent cobbles, and 1 percent stones; extremely acid (pH 4.3); clear wavy boundary; **Bw1**--34 to 65 cm; dark yellowish brown (10YR 4/6) loam; moderate coarse subangular blocky structure; friable; many fine, medium, and coarse roots; many fine and medium

pores; 6 percent gravel, 1 percent cobbles, and 1 percent stones; extremely acid (pH 4.3); clear wavy boundary; **Bw2**--65 to 87 cm; yellowish brown (10YR 5/6) sandy loam; moderate medium and coarse subangular blocky structure; friable; many very fine, fine, and coarse roots; many fine and medium pores; 5 percent gravel and 1 percent cobbles; extremely acid (pH 4.3); clear smooth boundary; **2Cd1**--87 to 101 cm; strong brown (7.5YR 5/6) gravelly loamy sand; moderate medium plates; firm; few fine roots; many fine pores; 10 percent gravel, 5 percent cobbles, and 1 percent stones; very strongly acid (pH 4.7); clear wavy boundary; and **2Cd2**--101 to 184 cm; dark yellowish brown (10YR 4/6) gravelly loamy sand; moderate medium plates; firm; many fine pores; 10 percent gravel, 5 percent cobbles, and 1 percent stones; strongly acid (pH 5.1).

Canton Charlton Soils

The Canton series consists of very deep, well drained soils formed in a loamy mantle underlain by sandy till. They are on nearly level to very steep moraines, hills, and ridges. Slope ranges from 0 to 45 percent. A typical profile associated with Canton soils is as follows: **Oi**--0 to 5 cm; slightly decomposed plant material; **A**--5 to 13 cm; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; friable; common fine roots; 5 percent gravel; very strongly acid (pH 4.6); abrupt smooth boundary; **Bw1**--13 to 30 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 5 percent gravel; very strongly acid (pH 4.6); clear smooth boundary; **Bw2**--30 to 41 cm; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 5 percent gravel; strongly acid (pH 5.1); clear smooth boundary; **Bw3**--41 to 56 cm; yellowish brown (10YR 5/4) gravelly fine sandy loam; weak medium subangular blocky; friable; common fine and medium roots; 15 percent gravel; strongly acid (pH 5.1); abrupt smooth boundary; and **2C**--56 to 170 cm; grayish brown (2.5Y 5/2) gravelly loamy sand; massive; friable; 25 percent gravel; moderately acid (pH 5.6).

The Charlton series consists of very deep, well drained soils formed in loamy melt-out till. They are nearly level to very steep soils on moraines, hills, and ridges. Slope ranges from 0 to 60 percent. A typical profile associated with Charlton soils is as follows: **Oe**--0 to 4 cm; black (10YR 2/1) moderately decomposed forest plant material; **A**--4 to 10 cm; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; 5 percent gravel; very strongly acid; abrupt smooth boundary; **Bw1**--10 to 18 cm; brown (7.5YR 4/4) fine sandy loam; weak coarse granular structure; very friable; many fine and medium roots; 5 percent gravel; very strongly acid; clear wavy boundary; **Bw2**--18 to 48 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; common fine and medium roots; 10 percent gravel and cobbles; very strongly acid; clear wavy boundary; **Bw3**--48 to 69 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; massive; very friable; few medium roots; 15 percent gravel and cobbles; very strongly acid; abrupt wavy boundary; and **C**--69 to 165 cm; grayish brown (2.5Y 5/2) gravelly fine sandy loam with thin lenses of loamy sand; massive; friable, some lenses firm; few medium roots; 25 percent gravel and cobbles; strongly acid.

Scarboro Series

The Scarboro series consists of very deep, very poorly drained soils in sandy glaciofluvial deposits on outwash plains, deltas, and terraces. They are nearly level soils in depressions. Slope ranges from 0 through 3 percent. Saturated hydraulic conductivity is high or very high. A typical soil profile is as follows: **Oi**-- 0 to 1 inch (0 to 3 centimeters); slightly decomposed maple leaves and other plant material; **Oa**-- 1 to 8 inches (3 to 20 centimeters); dark brown (10YR3/3) mucky peat; thin platy structure; friable; common fine roots; very strongly acid; abrupt wavy boundary; **A**-- 8 to 14 inches (20 to 36 centimeters); black (N 2/0) mucky fine sandy loam; weak medium granular structure; friable; common fine roots; very strongly acid; abrupt smooth boundary; **Cg1**-- 14 to 19 inches (36 to 48 centimeters); grayish brown

(2.5Y 5/2) loamy sand; massive; friable; many fine roots; very strongly acid; abrupt irregular boundary; **Cg2**-- 19 to 22 inches (48 to 56 centimeters); grayish brown (2.5Y 5/2) sand; massive; friable; few fine roots; 10 percent rock fragments; common medium prominent dark brown (7.5YR 3/2) areas of iron depletion and common medium prominent yellowish red (5YR 4/6) masses of iron; very strongly acid; clear wavy boundary; **Cg3**-- 22 to 65 inches (56 to 165 centimeters); grayish brown (2.5Y 5/2) gravelly sand; single grain; loose; 15 percent rock fragments; strongly acid.

Ridgebury, Leicester, and Whitman Series

The Ridgebury series consists of very deep, somewhat poorly drained soils formed in lodgment till derived mainly from granite, gneiss and/or schist. They are commonly shallow to a densic contact. They are nearly level to gently sloping soils in depressions in uplands. They also occur in drainageways in uplands, in toeslope positions of hills, drumlins, and ground moraines, and in till plains. Slope ranges from 0 to 15 percent. A typical profile associated with Ridgebury soils is as follows: **A**--0 to 13 cm; black (N 2/0) fine sandy loam; weak medium and coarse granular structure; friable; many very fine, fine and medium tree roots; 5 percent gravel and 5 percent cobbles; very strongly acid; abrupt smooth boundary; **Bw**--13 to 23 cm; brown (10YR 4/3) sandy loam; weak medium subangular blocky structure; friable; few fine tree roots; 5 percent gravel and 5 percent cobbles; very strongly acid; abrupt wavy boundary; **Bg**--23 to 46 cm; dark gray (10YR 4/1) gravelly sandy loam; massive; friable; 10 percent gravel and 5 percent cobbles; common fine prominent yellowish brown (10YR 5/6) and common medium distinct reddish brown (5YR 4/4) masses of iron accumulation; very strongly acid; gradual wavy boundary; and **Cd**--46 to 165 cm; gray (5Y 5/1) gravelly sandy loam; massive; firm; 10 percent gravel and 5 percent cobbles; common fine prominent reddish yellow (7.5YR 6/8) masses of iron accumulation; very strongly acid.

The Leicester series consists of very deep, poorly drained soils formed in coarse-loamy till. They are nearly level or gently sloping soils in drainageways and low-lying positions on hills. Slope ranges from 0 to 8 percent. A typical profile associated with Leicester soils is as follows: **Oe**--0 to 3 cm; black (10YR 2/1) moderately decomposed plant material; **A**--3 to 18 cm; black (10YR 2/1) fine sandy loam; moderate medium granular structure; friable; common fine and medium roots; 10 percent gravel and cobbles; strongly acid; clear wavy boundary; **Bg1**--18 to 25 cm; grayish brown (2.5Y 5/2) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 10 percent gravel and cobbles; common medium prominent yellowish red (5YR 5/6) masses of iron accumulation; strongly acid; gradual wavy boundary; **Bg2**--25 to 46 cm; light brownish gray (2.5Y 6/2) fine sandy loam; weak medium subangular blocky structure; friable; few fine and medium roots; 10 percent gravel and cobbles; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; gradual wavy boundary; **BC**--46 to 61 cm; pale brown (10YR 6/3) fine sandy loam; massive; friable; few fine roots; 10 percent gravel and cobbles; many medium distinct yellowish brown (10YR 5/6) and yellowish red (5YR 4/6) masses of iron accumulation; strongly acid; clear wavy boundary. **C1**--61 to 84 cm; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; massive; friable; 15 percent gravel and cobbles; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation and prominent pinkish gray (7.5YR 6/2) iron depletions; strongly acid; gradual wavy boundary; **C2**--84 to 155 cm; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; massive; friable; 15 percent gravel and cobbles; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid.

The Whitman series consists of very deep, very poorly drained soils formed in lodgment till derived mainly from granite, gneiss, and schist. They are shallow to a densic contact. These soils are nearly level or gently sloping soils in depressions and drainageways on uplands. A typical profile associated with Whitman soils is as follows: **Ap**--0 to 25 cm; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak medium granular structure; friable; 10 percent rock fragments; common medium distinct red (2.5YR

4/8) masses of iron accumulation lining pores; moderately acid; abrupt wavy boundary; **Bg**--25 to 46 cm; gray (5Y 5/1) fine sandy loam; massive; friable; 10 percent rock fragments, few medium distinct pale olive (5Y 6/4) and light olive brown (2.5Y 5/4) masses of iron accumulation; strongly acid; abrupt wavy boundary; **Cdg**--46 to 79 cm; gray (5Y 6/1) fine sandy loam; moderate medium plates; firm; 10 percent rock fragments; many medium distinct light olive brown (2.5Y 5/4) masses of iron accumulation; moderately acid; clear wavy boundary; **Cd1**--79 to 122 cm; olive (5Y 4/3) fine sandy loam; massive; firm; 10 percent rock fragments; few medium prominent dark reddish brown (2.5YR 3/4) masses of iron accumulation; moderately acid; gradual wavy boundary; and **Cd2**--122 to 165 cm; olive (5Y 5/3) fine sandy loam; massive; firm; 10 percent rock fragments; moderately acid.

Gloucester Series

The Gloucester series consists of very deep, somewhat excessively drained soils formed in sandy till. They are nearly level through very steep soils on ground moraine uplands and moraines. Slope ranges from 0 through 50 percent; **Oa** -- 0 to 2 inch (0 to 5 centimeters); black (N 2/) highly decomposed plant material; many fine roots; very strongly acid; **A** -- 2 to 6 inches (5 to 15 centimeters); very dark grayish brown (10YR 3/2) sandy loam; weak fine and medium granular structure; very friable; many fine, medium and coarse roots; 10 percent gravel; very strongly acid; abrupt wavy boundary; **Bw1** -- 6 to 15 inches (15 to 38 centimeters); strong brown (7.5YR 5/6) gravelly sandy loam; weak fine and medium granular structure; very friable; many fine, medium and coarse roots; 30 percent cobbles and gravel; strongly acid; clear wavy boundary; **Bw2** -- 15 to 29 inches (38 to 74 centimeters); yellowish brown (10YR 5/6) very gravelly loamy coarse sand; very weak fine and medium granular structure; very friable; common fine and medium roots; 40 percent cobbles and gravel; strongly acid; clear wavy boundary.; and **C** -- 29 to 65 inches (74 to 165 centimeters); light yellowish brown (2.5Y 6/4) very gravelly loamy coarse sand; massive; very friable; few fine and medium roots; 40 percent cobbles and gravel; strongly acid.

Summary

A review of mapping, geological data, ecological conditions, soils, slopes, and proximity to freshwater suggests that portions of the Project area appear to be amenable to both precontact era and post-European Contact period occupations. This includes areas of low to moderate slopes with well-drained soil located near freshwater sources. The types of precontact sites that may be contained in these areas include task specific, temporary, or seasonal base camps, which may include areas of lithic tool manufacturing, hearths, post-molds, and storage pits.

CHAPTER III
PRECONTACT ERA SETTING

Introduction

Prior to the late 1970s and early 1980s, very few systematic archaeological surveys of large portions of the State of Connecticut had been undertaken. Rather, the precontact period of the region was studied at the site level. Sites chosen for excavation were highly visible and they were in such areas as the coastal zone, e.g., shell middens, and Connecticut River Valley. As a result, a skewed interpretation of the precontact period of Connecticut was developed. It was suggested that the upland portions of the state, i.e., the northeastern and northwestern hills ecoregions, were little used and rarely occupied by precontact Native Americans, while the coastal zone, i.e., the eastern and western coastal and the southeastern and southwestern hills ecoregions, were the focus of settlements and exploitation in the precontact era. This interpretation remained unchallenged until the 1970s and 1980s when several town-wide and regional archaeological studies were completed. These investigations led to the creation of several archaeological phases that subsequently were applied to understand the precontact period of Connecticut. The remainder of this chapter provides an overview of the precontact setting of the region encompassing the project parcel.

Paleo-Indian Period (12,000 to 10,000 Before Present [B.P.])

The earliest inhabitants of the area encompassing the State of Connecticut, who have been referred to as Paleo-Indians, arrived in the area by ca., 13,000 B.P. (Gramly and Funk 1990; Snow 1980). Due to the presence of large Pleistocene mammals at that time and the ubiquity of large fluted projectile points in archaeological deposits of this age, Paleo-Indians often have been described as big-game hunters (Ritchie and Funk 1973; Snow 1980); however, as discussed below, it is more likely that they hunted a broad spectrum of animals. While there have been over 50 surface finds of Paleo-Indian projectile points throughout the State of Connecticut (Bellantoni 1995), only three sites, the Templeton Site (6-LF-21) in Washington, Connecticut, the Hidden Creek Site (72-163) in Ledyard, Connecticut, and the Brian D. Jones Site (4-10B) in Avon, Connecticut have been studied in detail and dated using the radiocarbon method (Jones 1997; Moeller 1980; Singer 2017a; Leslie et al. 2020).

The Templeton Site (6-LF-21) is in Washington, Connecticut and was occupied between 10,490 and 9,890 years ago (Moeller 1980). In addition to a single large and two small, fluted points, the Templeton Site produced a stone tool assemblage consisting of gravers, drills, core fragments, scrapers, and channel flakes, which indicates that the full range of stone tool production and maintenance took place at the site (Moeller 1980). Moreover, the use of both local and non-local raw materials was documented in the recovered tool assemblage, suggesting that not only did the site's occupants spend some time in the area, but they also had access to distant stone sources, the use of which likely occurred during movement from region to region. More recently, the site has undergone re-investigation by Singer (2017a and 2017b), who has determined that most tools and debitage are exotic and were quarried directly from the Hudson River Valley. Recent research has focused on task-specific loci at the Templeton Site, particularly the production of numerous Michaud-Neponset projectile points, as identified through remnant channel flakes.

The Hidden Creek Site (72-163) is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut (Jones 1997). While excavation of the Hidden Creek Site produced evidence of Terminal Archaic and Woodland Period components (see below) in the upper soil horizons, the lower levels of the site yielded artifacts dating from the Paleo-Indian era.

Recovered Paleo-Indian artifacts included broken bifaces, side-scrapers, a fluted preform, gravers, and end-scrapers. Based on the types and number of tools present, Jones (1997:77) has hypothesized that the Hidden Creek Site represented a short-term occupation, and that separate stone tool reduction and rejuvenation areas were present.

The Brian D. Jones Site (4-10B) was identified in a Pleistocene levee on the Farmington River in Avon, Connecticut; it was buried under 1.5 m (3.3 ft) of alluvium (Leslie et al. 2020). The Brian D. Jones Site was identified by Archaeological and Historical Services, Inc., in 2019 during a survey for the Connecticut Department of Transportation preceding a proposed bridge construction project. It is now the oldest known archaeological site in Connecticut at +12,500 years old. The site also provides a rare example of a Paleo-Indian site on a river rather than the more common upland areas or on the edges of wetlands. Ground-penetrating radar survey revealed overbank flooding and sedimentation that resulted in the creating of a stable ancient river levee with gentle, low-energy floods. Archaeological deposits on the levee were therefore protected.

Excavations at the Brian D. Jones Site revealed 44 soil anomalies, 27 of which were characterized as cultural features used as hearths and post holes, among other uses. One hearth has been dated thus far (10,520 ± 30 14C yr BP; charred Pinus; 2-sigma 12,568 to 12,410 CAL BP) (Leslie et al. 2020:4). Further radiocarbon testing will be completed in the future. Artifact concentrations surrounded these features and were separated in two stratigraphic layers represented at least two temporally discrete Paleo-Indian occupations. The recovered lithic artifacts are fashioned from Normanskill chert, Hardyston jasper, Jefferson/Mount Jasper rhyolite, chalcedony, siltstone, and quartz (Leslie 2023). They include examples of a fluted point base, preforms, channel flakes, pièces esquillées, end scrapers, side scrapers, grinding stones, bifaces, utilized flakes, gravers, and a drilled stone pendant fragment. Lithic tools numbered over 100, while toolmaking debris was in the thousands. The channel flakes represent the production of spear points used in hunting. Scrapers, perforators, and grinding stones indicate animal butchering, plant food grinding, the production of wood and bone tools, and the processing of animal skins for clothing and tents. Other collected cultural materials included charred botanicals and calcined bone. Botanicals recovered in hearth features included burned remains of cattail, pin cherry, strawberry, acorn, sumac, water lily, and dogwood (Leslie 2023). Approximately 15,000 artifacts were collected from the site.

The scarcity of identified Paleo-Indian sites suggests a low population density during this period. The small size of most Paleo-Indian sites, their likely inundation by rising sea levels, and the high degree of landscape disturbance over the past 10,000 years likely contribute to poor site visibility, although the presence of two deeply alluvially buried Paleo-Indian sites in Connecticut suggests that other sites may be located along stable rivers (Leslie et al. 2021).

Archaic Period (10,000 to 2,700 B.P.)

The Archaic Period, which succeeded the Paleo-Indian Period, began by ca., 10,000 B.P. (Ritchie and Funk 1973; Snow 1980), and it has been divided into three subperiods: Early Archaic (10,000 to 8,000 B.P.), Middle Archaic (8,000 to 6,000 B.P.), and Late Archaic (6,000 to 3,400 B.P.). These periods were devised to describe all non-farming, non-ceramic producing populations in the area. Regional archeologists recently have recognized a final “transitional” Archaic Period, the Terminal Archaic Period (3,400-2,700 B.P.), which was meant to describe those groups that existed just prior to the onset of the Woodland Period and the widespread adoption of ceramics into the toolkit (Snow 1980; McBride 1984; Pfeiffer 1984, 1990; Witthoft 1949, 1953).

Early Archaic Period (10,000 to 8,000 B.P.)

To date, very few Early Archaic sites have been identified in southern New England. As a result, researchers such as Fitting (1968) and Ritchie (1969), have suggested a lack of these sites likely is tied to cultural discontinuity between the Early Archaic and preceding Paleo-Indian Period, as well as a population decrease from earlier times; however, with continued identification of Early Archaic sites in the region, and the recognition of the problems of preservation, it is difficult to maintain the discontinuity hypothesis (Curran and Dincauze 1977; Snow 1980).

Like their Paleo-Indian predecessors, Early Archaic sites tend to be very small and produce few artifacts, most of which are not temporally diagnostic. While Early Archaic sites in other portions of the United States are represented by projectile points of the Kirk series (Ritchie and Funk 1973) and by Kanawha types (Coe 1964), sites of this age in southern New England are identified on the basis of a series of ill-defined bifurcate-based projectile points. These projectile points are identified by the presence of their characteristic bifurcated base, and they generally are made from high quality raw materials. Moreover, the recovery of these projectile points has rarely been in stratified contexts. Rather, they occur commonly either as surface expressions or intermixed with artifacts representative of later periods. Early Archaic occupations, such as the Dill Farm Site and Sites 6LF64 and 6LF70 in Litchfield County, are represented by camps that were relocated periodically to take advantage of seasonally available resources (McBride 1984; Pfeiffer 1986). In this sense, a foraging type of settlement pattern was employed during the Early Archaic Period.

Another localized cultural tradition, the Gulf of Maine Archaic, which lasted from ca. 9,500 to 6,000 14C BP, is beginning to be recognized in Southern New England (Petersen and Putnam 1992). It is distinguished by its microlithic industry, which may be associated with the production of compound tools (Robinson and Peterson 1993). Assemblages from Maine (Petersen et al. 1986; Petersen 1991; Sanger et al. 1992), Massachusetts (Strauss 2017; Leslie et al. 2022), and Connecticut (Forrest 1999) reflect the selection of local, coarse-grained stones. Large choppers and hoe-like forms from southeastern Connecticut's Sandy Hill Site likely functioned as digging implements. Woodworking tools, including adzes, celts, and gull-channeled gouges recovered at the Brigham and Sharrow sites in Maine (Robinson and Petersen 1993:68) may have been used for dugout canoe manufacture. The deeply stratified Sandy Hill (Forrest 1999; Jones and Forrest 2003) and Sharrow sites (Petersen 1991), with their overlapping lenses of "black sand" floor deposits, suggest intensive site re-occupations according to an adaptation that relied, in part, on seasonally available wetland resources. Thus far, sites from this tradition have only been identified within coastal and near-coastal territories along the Gulf of Maine, in southeastern Connecticut, and in Massachusetts.

Middle Archaic Period (8,000 to 6,000 B.P.)

By the onset of the Middle Archaic Period modern deciduous forests had developed in the region (Davis 1969). Increased numbers and types of sites associated with this period are noted in Connecticut (McBride 1984). The most well-known Middle Archaic site in New England is the Neville Site in Manchester, New Hampshire studied by Dincauze (1976). Careful analysis of the Neville Site indicated that the Middle Archaic occupation dated from between 7,700 and 6,000 years ago. In fact, Dincauze obtained several radiocarbon dates from the Middle Archaic component of the Neville Site associated with the then-newly named Neville type projectile point, ranging from 7,740±280 and 7,015±160 B.P. (Dincauze 1976).

In addition to Neville points, Dincauze (1976) described two other projectile points styles that are attributed to the Middle Archaic Period: Stark and Merrimac projectile points. While no absolute dates

were recovered from deposits that yielded Stark points, the Merrimac type dated from 5,910±180 B.P. Dincauze argued that both the Neville and later Merrimac and Stark occupations were established to take advantage of the excellent fishing that the falls situated adjacent to the site area would have afforded Native American groups. Thus, based on the available archaeological evidence, the Middle Archaic Period is characterized by continued increases in diversification of tool types and resources exploited, as well as by sophisticated changes in the settlement pattern to include different site types, including both base camps and task-specific sites (McBride 1984:96).

Late Archaic Period (6,000 to 3,700 B.P.)

The Late Archaic Period in southern New England is divided into two major cultural traditions that appear to have coexisted. They include the Laurentian and Narrow-Stemmed Traditions (Funk 1976; McBride 1984; Ritchie 1969a and b). Artifacts assigned to the Laurentian Tradition include ground stone axes, adzes, gouges, ulus (semi-lunar knives), pestles, atlatl weights, and scrapers. The diagnostic projectile point forms of this time period in southern New England include the Brewerton Eared-Notched, Brewerton Eared and Brewerton Side-Notched varieties (McBride 1984; Ritchie 1969a; Thompson 1969). In general, the stone tool assemblage of the Laurentian Tradition is characterized by flint, felsite, rhyolite, and quartzite, while quartz was largely avoided for stone tool production.

In terms of settlement and subsistence patterns, archaeological evidence in southern New England suggests that Laurentian Tradition populations consisted of groups of mobile hunter-gatherers. While a few large Laurentian Tradition occupations have been studied, sites of this age generally encompass less than 500 m^2 (5,383 ft^2). These base camps reflect frequent movements by small groups of people in search of seasonally abundant resources. The overall settlement pattern of the Laurentian Tradition was dispersed in nature, with base camps located in a wide range of microenvironments, including riverine as well as upland zones (McBride 1978, 1984:252). Finally, subsistence strategies of Laurentian Tradition focused on hunting and gathering of wild plants and animals from multiple ecozones.

The second Late Archaic tradition, known as the Narrow-Stemmed Tradition, is unlike the Laurentian Tradition, and it likely represents a different cultural adaptation. The Narrow-Stemmed Tradition is recognized by the presence of quartz and quartzite narrow stemmed projectile points, triangular quartz Squibnocket projectile points, and a bipolar lithic reduction strategy (McBride 1984). Other tools found in Narrow-Stemmed Tradition artifact assemblages include choppers, adzes, pestles, antler and bone projectile points, harpoons, awls, and notched atlatl weights. Many of these tools, notably the projectile points and pestles, indicate a subsistence pattern dominated by hunting and fishing, as well the collection of a wide range of plant foods (McBride 1984; Snow 1980:228).

The Narrow-Stemmed Tradition also marks one of the most prevalent manifestations of the archaeological record in southern New England, narrow-stemmed projectile points, often untyped, or typed as Lamoka, Wading River, or Squibnocket Stemmed forms. These are generally attributed to a form of projectile technology, but some (Boudreau 2008), have suggested that these tool forms might not be related to projectile technology, and may instead relate to graver or drill functions. Boudreau (2008) also drew important connections to the forms of these narrow-stemmed points with later Woodland era forms, such as Rossville points, which are nearly identical. Others (Lavin 2013; Zoto 2019) have similarly suggested a continuation of the Narrow-Stemmed Tradition into the Woodland era, with most of this evidence originating at coastal sites in southern New England. The vast majority of Narrow-Stemmed projectile points that are associated with cultural features suitable for radiocarbon dating, particularly Lamoka style projectile points, are associated with Late Archaic date ranges (Lavin 2013).

The Terminal Archaic Period (3,700 to 2,700 B.P.)

The Terminal Archaic, which lasted from ca., 3,700 to 2,700 BP, is perhaps the most interesting, yet confusing of the Archaic Periods in southern New England precontact periods. Originally termed the "Transitional Archaic" by Witthoft (1953) and recognized by the introduction of technological innovations, e.g., broadspear projectile points and soapstone bowls, the Terminal Archaic has long posed problems for regional archaeologists. While the Narrow-Stemmed Tradition persisted through the Terminal Archaic and into the Early Woodland Period, the Terminal Archaic is coeval with what appears to be a different technological adaptation, the Susquehanna Tradition (McBride 1984; Ritchie 1969b). The Susquehanna Tradition is recognized in southern New England by the presence of a new stone tool industry that was based on the use of high-quality raw materials for stone tool production and a settlement pattern different from the "coeval" Narrow-Stemmed Tradition.

The Susquehanna Tradition is based on the classification of several Broadspear projectile point types and associated artifacts. There are several local sequences within the tradition, and they are based on projectile point type chronology. Temporally diagnostic projectile points of these sequences include the Snook Kill, Susquehanna Broadspear, Mansion Inn, and Orient Fishtail types (Lavin 1984; McBride 1984; Pfeiffer 1984). The initial portion of the Terminal Archaic Period (ca., 3,700-3,200 BP) is characterized by the presence of Snook Kill and Susquehanna Broadspear projectile points while the latter Terminal Archaic (3,200-2,700 BP) is distinguished by Orient Fishtail projectile points (McBride 1984:119; Ritchie 1971).

In addition, it was during the late Terminal Archaic that interior cord marked, grit tempered, thick-walled ceramics with conoidal (pointed) bases made their initial appearance in the Native American toolkit. These are the first ceramics in the region, and they are named Vinette I (Ritchie 1969a; Snow 1980:242); this type of ceramic vessel appears with much more frequency during the ensuing Early Woodland Period. In addition, the adoption and widespread use of soapstone bowls, as well as the implementation of subterranean storage, suggests that Terminal Archaic groups were characterized by reduced mobility and longer-term use of established occupation sites (Snow 1980:250).

Finally, while settlement patterns appeared to have changed, Terminal Archaic subsistence patterns were analogous to earlier patterns. The subsistence pattern was still diffuse in nature, and it was scheduled carefully. Typical food remains recovered from sites of this period consist of fragments of white-tailed deer, beaver, turtle, fish, and various small mammals. Botanical remains recovered from the site area consisted of *Chenopodium* sp., hickory, butternut, and walnut (Pagoulatos 1988:81). Such diversity in food remains suggests at least minimal use of a wide range of microenvironments for subsistence purposes.

Woodland Period (2,700 to 350 B.P.)

Traditionally, the advent of the Woodland Period in southern New England has been associated with the introduction of pottery; however, as mentioned above, early dates associated with pottery now suggest the presence of Vinette I ceramics appeared toward the end of the preceding Terminal Archaic Period (Ritchie 1969a; McBride 1984). Like the Archaic Period, the Woodland Period has been divided into three subperiods: Early, Middle, and Late Woodland. The various subperiods are discussed below.

Early Woodland Period (ca., 2,700 to 2,000 B.P.)

The Early Woodland Period of the northeastern United States dates from ca., 2,700 to 2,000 B.P., and was thought to have been characterized by the advent of farming, the initial use of ceramic vessels, and increasingly complex burial ceremonialism (Griffin 1967; Ritchie 1969a and 1969b; Snow 1980). In the

Northeast, the earliest ceramics of the Early Woodland Period are thick walled, cord marked on both the interior and exterior, and possess grit temper. Archaeological investigations of Early Woodland sites in southern New England resulted in the recovery of narrow stemmed projectile points in association with ceramic sherds and subsistence remains, including specimens of white-tailed deer, soft and hard-shell clams, and oyster shells (Lavin and Salwen: 1983; McBride 1984:296-297; Pope 1952). McBride (1984) has argued that the combination of the subsistence remains and the recognition of multiple superimposed cultural features at various sites indicate that Early Woodland Period settlement patterns were characterized by multiple re-use of the same sites on a seasonal basis by small co-residential groups.

Middle Woodland Period (2,000 to 1,200 B.P.)

The Middle Woodland Period is marked by an increase in the number of ceramic types and forms utilized (Lizee 1994a), as well as an increase in the amount of exotic lithic raw material used in stone tool manufacture (McBride 1984). The latter suggests that regional exchange networks were established, and that they were used to supply local populations with necessary raw materials (McBride 1984; Snow 1980). The Middle Woodland Period is represented archaeologically by narrow stemmed and Jack's Reef projectile points; increased amounts of exotic raw materials in recovered lithic assemblages, including chert, argillite, jasper, and hornfels; and conoidal ceramic vessels decorated with dentate stamping. Ceramic types that are indicative of the Middle Woodland Period include Linear Dentate, Rocker Dentate, Windsor Cord Marked, Windsor Brushed, Windsor Plain, and Hollister Stamped (Lizee 1994a:200).

In terms of settlement patterns, the Middle Woodland Period is characterized by the occupation of village sites by large co-residential groups that utilized native plant and animal species for food and raw materials in tool making (George 1997). These sites were the principal place of occupation, and they were positioned close to major river valleys, tidal marshes, estuaries, and the coastline, all of which would have supplied an abundance of plant and animal resources (McBride 1984:309). In addition to villages, numerous temporary and task-specific sites were utilized in the surrounding upland areas, as well as in closer ecozones such as wetlands, estuaries, and floodplains. The use of temporary and task-specific sites to support large village populations indicates that the Middle Woodland Period was characterized by a resource acquisition strategy that can best be termed as logistical collection (McBride 1984:310).

Late Woodland Period (ca., 1,200 to 350 B.P.)

The Late Woodland Period in southern New England dates from ca., 1,200 to 350 B.P., and it is characterized by the earliest evidence for the use of corn in the lower Connecticut River Valley (Bendremer 1993; Bendremer and Dewar 1993; Bendremer et al. 1991; George 1997; McBride 1984); an increase in the frequency of exchange of non-local lithics (Feder 1984; George and Tryon 1996; McBride 1984; Lavin 1984); increased variability in ceramic form, function, surface treatment, and decoration (Lavin 1980, 1986, 1987; Lizee 1994a, 1994b); and a continuation of a trend towards larger, more permanent settlements in riverine, estuarine, and coastal ecozones (Dincauze 1974; McBride 1984; Snow 1980).

Stone tool assemblages associated with Late Woodland occupations, especially village-sized sites, are functionally variable and they reflect plant and animal resource processing and consumption on a large scale. Finished stone tools recovered from Late Woodland sites include Levanna and Madison projectile points; drills; side-, end-, and thumbnail scrapers; mortars and pestles; nutting stones; netsinkers; and celts, adzes, axes, and digging tools. These tools were used in activities ranging from hide preparation to

plant processing to the manufacture of canoes, bowls, and utensils, as well as other settlement and subsistence-related items (McBride 1984; Snow 1980). Finally, ceramic assemblages recovered from Late Woodland sites are as variable as the lithic assemblages. Ceramic types identified include Windsor Fabric Impressed, Windsor Brushed, Windsor Cord Marked, Windsor Plain, Clearview Stamped, Sebonac Stamped, Selden Island, Hollister Plain, Hollister Stamped, and Shantok Cove Incised (Lavin 1980, 1988a, 1988b; Lizee 1994a; Pope 1953; Rouse 1947; Salwen and Ottesen 1972; Smith 1947). These types are more stylistically diverse than their predecessors with incision, shell stamping, punctation, single point, linear dentate, rocker dentate stamping, and stamp and drag impressions common (Lizee 1994a:216).

Summary of Connecticut Precontact Period

The precontact period of Connecticut spans from ca. 13,000 to 350 B.P., and it is characterized by numerous changes in tool types, subsistence patterns, and land use strategies. Much of this era is characterized by local Native American groups who practiced a subsistence pattern based on a mixed economy of hunting and gathering plant and animal resources. It is not until the Late Woodland Period that incontrovertible evidence for the use of domesticated species is available. Further, settlement patterns throughout the precontact period shifted from seasonal occupations of small co-residential groups to large aggregations of people in riverine, estuarine, and coastal ecozones. In terms of the region that includes the proposed project parcel, a variety of precontact site types may be expected, ranging from seasonal camps utilized by Paleo-Indian and Archaic populations to temporary and task-specific sites of the Woodland era.

CHAPTER IV
POST-EUROPEAN CONTACT PERIOD OVERVIEW

Introduction

The Facility is located along Artillery Road in the Town of Woodbury, which is located in Litchfield County, Connecticut. Settled in 1673, Woodbury originally encompassed a large territory and included the modern towns of Southbury, Roxbury, and Bethlehem, as well as parts of Washington and Middlebury. While agriculture dominated Woodbury for most of its history, the town eventually became a residential suburb. This chapter presents a brief overview history of Litchfield County and the town of Woodbury, as well as data specific to the proposed project parcel and Facility areas.

Litchfield County

Litchfield County was founded in 1751 with land drawn from Fairfield, New Haven, and Hartford Counties (Hoadly 1877). Located in the northwest corner of Connecticut, it is bounded to the south by New Haven and Fairfield Counties, to the east by Hartford County, to the north by Berkshire and Hampden Counties, Massachusetts, and to the west by Dutchess County, New York. Litchfield County is the largest county in Connecticut by total area. Its landscape includes rocky hills adjacent to the Berkshire Mountains, including Bear Mountain, the highest peak in Connecticut, interspersed with flat lands and watersheds. Important bodies of water associated with Litchfield County include the Housatonic River, Naugatuck River, Candlewood Lake, Barkhamsted Reservoir, Lake Waramaug, in addition to smaller un-named streams and ponds. Torrington is the only city in Litchfield County and the most populous location in the county (Connecticut 2023).

Woodland Period to the Seventeenth Century

During the Woodland Period of northeastern North American history (ca., 3,000 to 500 years ago), the Indigenous peoples who resided along the shoreline in central Connecticut were part of the greater Algonquian culture of northeastern North America (Lavin 2013). They spoke local variations of Southern New England Algonquian (SNEA) languages and lived in extended kinship groups on lands they maintained for a variety of horticultural and resource extraction purposes (Goddard 1978). Indigenous people in the region practiced subsistence activities including hunting, fowling, and fishing, along with the cultivation of various crops, the most important of which were maize, squash, and beans. They supplemented these foods seasonally by collecting shellfish, fruits, and plants during warmer periods, and gathering nuts, roots, and tubers during colder times. In addition, these communities came together in large groups to hunt deer in the fall and winter. Indigenous peoples lived with their immediate or extended families in large settlements, often concentrated along rivers and/or wetlands. Some villages were fortified by wooden palisades. Their habitation, known as a weetu or wigwam, was usually constructed of a tree-sapling frame and covered in reed matting during warm months and tree bark throughout the winter. These varied in size from a small, individual dwelling, to an expansive “long house,” which could accommodate several families. Native communities commonly traded among their immediate neighbors and often maintained long-distance networks (Lavin 2013). Southwestern Connecticut was the territory of the Pootatuck and Paugussett tribes. The domain of these groups ran from the coast of Long Island Sound to as far northward as present-day Waterbury and Woodbury.

In 1633, the Pequot allowed the Dutch to build a fortified trading post on the Connecticut River at the site of present-day Hartford to further cement both parties’ domination over the flow of wampum, fur, and trade goods. To break from the Pequot, several Connecticut River sachems invited the English to

settle in the Connecticut River Valley (Van Dusen 1961). Increased European interaction resulted in exposure to diseases and epidemics Indigenous people had never encountered and to which they had no natural immunity. Illnesses such as smallpox, measles, tuberculosis, and cholera devastated Indigenous communities (Lavin 2013). In 1633, an epidemic spread through the region impacting the Pequot and may have spread among the Quinnipiac as well. Additionally, tensions between Native and European groups laying claim to the Connecticut River resulted in the death of several colonial traders between 1634 and 1636, which the Pequot were assumed responsible. In retaliation, English forces from Massachusetts Bay destroyed Pequot and Nehantic villages on the Pequot (Thames) River in August 1636 which began the Pequot War. The Pequot laid siege to Saybrook Fort at the mouth of the Connecticut River during the winter of 1636-1637 and attacked Wethersfield in April 1637 further upriver. Connecticut Colony declared war on the Pequot and were joined by Native warriors from the Connecticut River and Mohegans under the Sachem Uncas (Oberg 2006). In May 1637, English allied forces destroyed the fortified Pequot village at Mistick which proved to be the turning point of the war. Pequot refugees fled west with their Sachem, Sassacus. English forces gave chase, making landfall at Quinnipiac and pursuing them west through present-day New Haven County (Cave 1996). In July 1637, the Pequot were defeated in present-day Fairfield and the war soon came to an end. After the war, the Connecticut English claimed Pequot territory as conquered lands for their newly established colony.

In January of 1639, the river towns adopted the "fundamental orders," which outlined the framework for the self-governed Connecticut Colony separate from Massachusetts Bay or Plimoth (Trumbull 1886). Soon after, Connecticut Colony joined with Massachusetts Bay, Plimoth, and New Haven Colonies to form the United Colonies of New England in 1643 for mutual defense against regional threats. In 1662, Governor John Winthrop, Jr. obtained a royal charter from King Charles II to legitimize the existence of Connecticut Colony in the English Empire. Hartford County was established in 1666 as one of the four original counties and consisted of the towns of Windsor, Wethersfield, Hartford, Farmington (1645), and Middletown (1651) (Barry 1985).

While there is a dearth of data on the early Native populations, land transfers shed some light on the Indigenous peoples of Connecticut. English colonists purchased the Woodbury territory, called Pomperaug, from the local Native Americans, though the English concept of land ownership differed from that of the natives. In 1659, a group of "Pagasset" Native Americans sold a vast amount of land in the area that became Woodbury, though members of the Pootatuck tribe occupied that area. In 1673, the colonists paid Pootatuck leaders for a large section of land flanking the Pomperaug River and continued to make additional purchases of land until 1706. A substantial portion on the north bank of the Pootatuck River was kept back from these sales as a reservation. The Pootatucks who remained in the area began selling off this reservation in 1729, making subsequent sales in 1733 and 1734. The remaining land, which only a few people occupied, was finally sold and abandoned in 1758 (Cothren 1854). These types of land sales that drove Native Americans from their ancestral lands to settle elsewhere were common occurrences in colonial Connecticut. The territory of Woodbury originally stretched as far south as the Housatonic River and as far north as the northern border of Bethlehem. Woodbury was established by colonists from the coastal town of Stratford who chose to relocate because of religious differences, and in 1673, they established their new community and made their first land purchase in what became Woodbury (Cothren 1854).

Eighteenth through Nineteenth Century

Early settlers focused mostly on subsistence farming, while others raised sheep as well. Apple orchards were commonplace throughout the area and locals also raised flax and clover, producing cloth, twine, linseed oil, and clover seed for market. The Roxbury area proved to be an abundant mine and quarry

location and yielded iron used to make steel, stone for hearthstones, and quartz that was ground down for a variety of uses (Ancient Woodbury Tercentennial Committee 1959). By 1774, there were 5,313 residents in Woodbury, after which the town experienced a series of separations. Slavery existed in Litchfield County, including in Woodbury, although it was uncommon in the seventeenth century, and by the eighteenth century it was primarily practiced by wealthy families, merchants, and ministers in larger towns (Hurd 1881; Orcutt 1886; Rockey 1892). The 1774 Connecticut colonial census for the Town of Woodbury recorded a "White" population of 5,224, with 89 African Americans and 9 Native Americans, although the number of enslaved individuals was not noted (Hoadly 1887). In 1779, the northwestern corner of the territory became the southern section of the town of Washington.

During the American Revolution (1775-1783), Connecticut played an important role in the process of recruiting soldiers, supplying food stores, and providing a variety of military goods for the war effort. Throughout the war, the Connecticut shoreline suffered from raids from Long Island-based loyalists who would take cattle and sheep to sell in British New York. In 1779, several western Connecticut shoreline towns were invaded in what became known as "Tryon's Raid." British troops looted and set fire to the towns before reembarking (Lambert 1838; Van Dusen 1961). Meanwhile, some Connecticut towns housed populations supportive to the British cause, including the Tory strongholds of Woodbury and Waterbury (Van Dusen 1961). Of note, the Town of Woodbury offered freedom to any enslaved individuals who fought in the Revolutionary Army; 25 African American men from town then joined the fighting forces (Lewis 1881). After the Revolution, the region recovered from wartime economic disruptions thanks to its robust agricultural production and maritime trade. In 1784, the State passed a gradual manumission law, but slavery was not fully abolished until 1848 (Normen 2013). On January 9, 1788, Connecticut ratified the U.S. Constitution to become the fifth state (Van Dusen 1961). In 1787, the new towns of Bethlehem and Southbury were created from Woodbury's northernmost and southernmost portions, reducing its population to 2,662 residents as of 1790. The town of Roxbury separated in 1796 and Woodbury's population fell further to 1,944 inhabitants as of 1800 (Connecticut 2023, 2024a).

Nineteenth through Twenty-first Centuries

The growth and development of towns in the early nineteenth century created a need for better roads. This work was taken up by private corporations who established toll-funded turnpikes throughout the state; two of these were built through Woodbury as of 1803. The Washington Turnpike ran from the center of Woodbury to the northwest, to the center of Washington. The Middle Road Turnpike ran from southwest to northeast through central Woodbury on a route from Danbury to Hartford (Wood 1919). The purpose of these roads was to promote commerce and industry in the region, and to some extent they had that effect. As of 1819, Woodbury's agriculture focused on grains and tree fruits, especially apples. The town also had timber resources and three good mill streams, which supported a handful of tinware factories, fulling mills, grist mills, tanneries, and wool carding machines (Pease and Niles 1819). By the 1850s, Woodbury had numerous factories making a variety of products, including textiles, leather and leather goods, cigars, buttons, thimbles, cabinets, and spectacles (United States Census Bureau 1850). Woodbury was also known as the cutlery capital of the state, due to the number of producers in town (Ancient Woodbury Tercentennial Committee 1959). Despite these various industrial endeavors, the town did not experience significant growth and the population fluctuated throughout the second half of the nineteenth century. In 1850, Woodbury had 2,150 residents and by 1890 there were 1,815 (Connecticut 2024b; Table 1). One key factor in Woodbury's lack of growth was that no railroads entered the town (Turner and Jacobus 1989). Without access to this efficient and relatively inexpensive transport option, in the long run Woodbury's industries could not compete with those located

elsewhere. Additionally, rocky soil and the exodus of Connecticut farmers to the western territory of Ohio kept the population low (Stiles 1959).

As of the early twentieth century, Woodbury was a farming community with limited industrial facilities, which primarily consisted of manufacturing shears and cutlery (Connecticut 1910). The town's population continued to fluctuate during the early decades, never reaching 2,000 inhabitants, mostly because of the limited economic opportunities for residents (Connecticut 2024c). Around mid-century, the population increased dramatically due to the suburbanization trend when many people moved out of cities. As part of the changing demographics in town, Woodbury became a center for Surrealist artists (Hodara 2021). While in 1940, the town had 1,998 residents, by 1970 the population had risen to 5,869 (Table 1; Connecticut 2024c-d). At that time, Woodbury had moved away from agriculture and machine shops were the most prominent industry (Connecticut 1970). Woodbury's population continued to increase as the town became a residential suburb. By 2022, Woodbury had 9,775 residents and the largest employment sector in town was retail followed by local government (AdvanceCT 2024). While there are small mining, industrial, and agricultural areas, most of the town's landscape consists of residential houses. In terms of future growth, town officials intend to focus on attracting and retaining residents to maintain the town's residential character (Woodbury 2020).

Table 1: Population of Woodbury, Connecticut 1790-2020 (Connecticut 2024a-d; USCB 2023)

Town	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900
Woodbury, Litchfield County	2,662	1,944	1,963	1,885	2,045	1,948	2,150	2,037	1,931	2,149	1,815	1,988
	1910	**1920**	**1930**	**1940**	**1950**	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2020**
	1,860	1,698	1,744	1,998	2,564	3,910	5,869	6,942	8,131	9,198	9,975	9,726

History of the Project Parcel and Facility Areas

The proposed Facility is located along Artillery Road in the town of Woodbury, Connecticut. During the nineteenth century, the area was a largely agricultural landscape in the eastern portion of Woodbury. An 1859 map indicates that the project parcel contained a property owned by W.R. Atwood, likely William R. Atwood, a farmer (USCB 1850; Figure 4). Atwood was a common surname in the town in the nineteenth century, as is evidenced by the numerous landowners in the vicinity with that name. Within the northern portion of the project parcel an unnamed stream was noted. By 1874, the structures present in the 1859 map are still present, but area listed under F.J. Atwood. Other residences within proximity to the parcel include those listed under "E.M.A," possibly a member of the Atwood family, as well as J. Cotily (Figure 5). F.J. Atwood was likely Frank J. Atwood, a farmer, but the documentary record does not provide information on Cotily (USCB 1870). This confirms the use of the land for agricultural purposes throughout the nineteenth century.

Throughout the twentieth century, the region around the proposed Facility remained largely agricultural land. In 1934, the first year in which aerial photography was available, the photograph shows the project area on land that was mostly cleared agricultural land, with some pockets of wooded land in the northernmost portion (Figure 6). A freshwater stream bisected the project parcel along its east/west axis and a single-family home was present in the southernmost portion of the project parcel. The greater project environment also consisted of open, agricultural land. By 1990, portions of the project parcel had been reforested, although two main fields remained (Figure 7). The single-family home in the southern part of the project parcel was not visible; it is unclear if it was still present and obscured by trees or if it was no longer present. Outside of the area, slight residential development was evident to the west of the proposed Facility, as well as some commercial development to the east of the project

parcel. In the early twenty-first century, only slight development was noted near the proposed Facility, while the project parcel remained comprised of both cleared land and wooded areas. By 2019, the aerial photography showed three distinct cleared areas of land within the project parcel while the rest were wooded (Figure 8). There was no evidence of homes or structures within the project parcel. The greater environment surrounding the project area showed small signs of residential and commercial development, in keeping with the trend first noted in the photograph from 1990.

Conclusions

The post-European Contact period investigation of the proposed Solar Center is located along Artillery Road in the town of Woodbury, Connecticut indicates that the project parcel and the Facility have the potential to be associated with cultural resources. In the portion that was agricultural fields, there is the possibility of encountering evidence of post-European Contact period farming activities that may be important as a component of a rural historic landscape (*sensu* McClelland et al. 1999). Finally, the proximity of freshwater streams suggests the possibility of encountering cultural resources related to post-European Contact period riverine activity.

CHAPTER V
PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previously identified cultural resources in the vicinity of the project parcel and the Facility in Woodbury, Connecticut. This discussion provides the comparative data necessary for assessing the results of the current Phase IA cultural resources assessment survey, and it ensures that the potential impacts to all previously recorded cultural resources located within and adjacent to the proposed Facility are taken into consideration. Specifically, this chapter reviews previously identified archaeological sites, National/State Register of Historic Places properties (NRHP/SRHP), and previously identified standing structures over 50 years in age within 0.8 kilometers (0.5 miles) of the area of impact. The discussions presented below are based on information currently on file at the Connecticut State Historic Preservation Office (CT-SHPO) in Hartford, Connecticut. In addition, the electronic site files maintained by Heritage were examined during this investigation. Both the quantity and quality of the information contained in the original cultural resources survey reports and State of Connecticut archaeological site forms are reflected below.

Previously Recorded Archaeological Sites and National/State Register of Historic Places Districts/Properties in the Vicinity of the Project parcel

A review of data currently on file at the CT-SHPO, as well as the electronic files maintained by Heritage did not result in the identification of any precontact era archaeological sites situated within 0.8 km (0.5 mi) of the proposed Facility (Figure 9). In addition, there were no NRHP or SRHP properties identified within 0.8 kilometers (0.5 miles) of the Facility (Figure 10). However, it should be noted that the absence of previously identified cultural resources is likely due to the lack of surveys conducted in the area and should not be interpreted as the absence of extant/intact cultural resources throughout the area.

CHAPTER VI
METHODS

Introduction

This chapter describes the research design and field methods used to complete the Phase IA cultural resources assessment survey of the proposed Facility in Woodbury, Connecticut. The following tasks were completed during this investigation: 1) study of the region's precontact era, post-European Contact period, and natural settings, as presented in Chapters II through IV; 2) a literature search to identify and discuss previously recorded cultural resources in the region; 3) a review of historical maps, topographic quadrangles, and aerial imagery depicting the Facility in order to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project parcel and the Facility in order to determine their archaeological sensitivity.

Research Design

The current Phase IA cultural resources reconnaissance survey was designed to identify all precontact and post-European Contact period cultural resources located within and near the Facility in Woodbury, Connecticut. The undertaking was comprehensive in nature, and planning considered the distribution of previously recorded cultural resources located within the larger region, local soil conditions, and a visual assessment of the proposed project parcel and the Facility. The methods used to complete this investigation were designed to provide coverage of all portions of the area and considered both below and above ground resources. The fieldwork portion of this undertaking entailed pedestrian survey, photo-documentation, and mapping.

Archival Research & Literature Review

Background research for this survey included a review of a variety of maps depicting the proposed preject parcel and the Facility; an examination of USGS 7.5' series topographic quadrangles; an examination of aerial images dating from 1934 through 2019; and a review of all archaeological sites and NRHP/SHRP properties/districts, and previously identified standing structures over 50 years old on file with the CT-SHPO, as well as electronic cultural resources data maintained by Heritage. The intent of this review was to identify all previously recorded cultural resources situated within and immediately adjacent to the project parcel and the Facility, and to provide a natural and cultural context for the development area. This information then was used to develop the archaeological context of the Facility area, and to assess its sensitivity with respect to the potential for producing intact cultural resources.

Background research materials, including maps, aerial imagery, and information related to previous archaeological investigations, were gathered from the CT-SHPO. Finally, electronic databases and Geographic Information System files maintained by Heritage were employed during the course of this survey, and they provided valuable data related to the project region, as well as data concerning previously identified archaeological sites, NRHP/SHRP properties/districts, and previously identified standing structures over 50 years old within the general vicinity of the development areas.

Field Methodology and Data Synthesis

Heritage personnel performed pedestrian survey, photo-documentation, and mapping of the proposed project parcel and Facility area, as well as the surrounding region. During the pedestrian survey, Heritage staff members visually reconnoitered the project parcel and Facility area, and noted the locations of all above-ground cultural features, standing structures over 50 years old, previous

disturbances, wetlands, topographic relief, and locations of freshwater sources within and immediately adjacent to the project parcel and the Facility. These natural and cultural landscape features were recorded on a survey base map. Any identified cultural resources were recorded using a GPS unit so that their locations could be transferred into the project GIS. In addition, during the pedestrian survey, the field crew photo-documented the proposed development area and the surroundings, including previously identified standing structures over 50 years old and any other historic buildings on the property. The locations from which all photos were taken, as well as directional indications, were recorded on a base map of the survey area. The photo-documentation portion of the survey was completed using color digital media. The pedestrian survey was useful to stratify the project parcel and the Facility into zones of no/low and moderate/high archaeological sensitivity.

CHAPTER VII
RESULTS OF THE INVESTIGATION & MANAGEMENT RECOMMENDATIONS

Introduction

This chapter presents the results of the Phase IA cultural resources assessment survey of the proposed project parcel and Facility along Artillery Road in Woodbury, Connecticut (Figure 11, Sheets 1 and 2 and Photos 1 through 12). As stated in the introductory section of this report, the goals of the investigation included completion of the following tasks: 1) a contextual overview of the region's precontact era, post-European contact period, and natural settings (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously recorded cultural resources in the project region; 3) a review of readily available maps and aerial imagery depicting the project parcel and the Facility to identify potential post-European Contact period resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project parcel and the Facility to determine their depositional integrity, historical associations, and archaeological sensitivity.

Determining Archaeological Sensitivity

The field data associated with soils, slopes, aspect, distance to water, and previous disturbance collected during the pedestrian survey and presented above was used in conjunction with the analysis of maps, aerial images, and data regarding previously identified archaeological sites NRHP/SRHP properties/districts, and previously identified standing structures over 50 years old to stratify the project parcel into zones of no/low and/or moderate/high archaeological sensitivity. In general, post-European Contact period archaeological sites are relatively easy to identify on the current landscape because the features associated with them tend to be relatively permanent constructions that extend above the ground surface (i.e., stone foundations, pens, wells, privies, etc.). Archaeological sites dating from the precontact era, on the other hand, are less often identified during pedestrian survey because they are buried, and predicting their locations relies more on the analysis and interpretation of environmental factors that would have informed Native American site choices.

With respect to the potential for identifying precontact archaeological sites, the project area was divided into areas of no/low and/or moderate/high archaeological potential by analyzing the landform types, slope, aspect, soils contained within them, and their distance to water. In general, areas located less than 300 m (1,000 ft) from a freshwater source and that contain slopes of less than 8 percent and well-drained soils possess a high potential for producing precontact archaeological deposits. Those areas located between 300 and 600 m (1,000 and 2,000 ft) from a freshwater source and well drained soils are considered moderate probability areas. This is in keeping with broadly based interpretations of precontact settlement and subsistence models that are supported by decades of previous archaeological research throughout the region. It is also expected that there may be variability of precontact site types found in the moderate/high sensitivity zones. For example, large Woodland period village sites and Archaic period seasonal camps may be expected along large river floodplains and near stream/river confluences, while smaller temporary or task specific sites may be expected on level areas with well-drained soils that are situated more than 300 m (1,000 ft) but less than 600 m (2,000 ft) from a water source. Finally, steeply sloping areas, poorly drained soils, or areas of previous disturbance are generally deemed to retain a no/low archaeological sensitivity with respect to their potential to contain precontact archaeological sites.

In addition, the potential for a given area to yield evidence of post-European Contact period archaeological deposits is based not only on the above-defined landscape features but also on the presence or absence of previously identified post-European Contact period archaeological resources as identified during previous archaeological surveys, recorded on historical maps, or captured in aerial images of the region under study. In this case, portions of a proposed project area that are situated within 100 m (328 ft) of a previously identified post-European Contact period archaeological site or a National or State Register of Historic Places district/individually listed property also may be deemed to retain a moderate/high archaeological sensitivity. In contrast, those areas situated over 100 m (328 ft) from any of the above-referenced properties would be considered to retain a no/low post-European Contact period archaeological sensitivity.

Results of Phase IA Survey and Management Summary

As noted above, the proposed Facility will encompass 14.12 acres across two separate areas (Northern and Southern Areas) situated on a larger 48.48 acre parcel of land located on the eastern side of Quassapaug Road and the northwestern side of Artillery Road in Woodbury, Connecticut. The Northern Area covers 3.51 acres and the Southern Area encompasses 10.61 acres of land. The development parcel is bisected by Frank Atwood Brook, which flows on an east-west axis, and is situated to the south of Lewis Atwood Brook and the north of Sawmill Brook. The parcel is situated at elevations ranging between 146 to 184 meters (479 to 604 feet) NGVD. The desktop portion of the Phase IA survey did not reveal any previously identified archaeological sites or National/State Register of Historic Places properties/districts located within 0.8 km (0.5 mi) of the development parcel. The presence of well drained soils and gently sloping terrain as identified during the desktop portion of the survey suggested that the Facility area may have the potential to yield intact archaeological deposits from both the precontact era and the post-European Contact period. Therefore, pedestrian survey was completed, the results of which are discussed below.

Pedestrian survey of the project parcel and the Facility, which was completed in July of 2024, confirmed the findings of the desktop portion of the Phase IA survey (Figure 11, Sheets 1 and 2; Photos 1 through 12). During the walkover investigation, it became clear that the project parcel and the Facility were characterized by a mix of planted agricultural fields surrounded by deciduous forested land and wetlands (Photos 1 through 3). The majority of the parcel was characterized by gently sloping topography, with the exception of steep eastern facing slopes to the road on the western edge of the parcel (Photo 4). In addition, an unnamed creek runs along an east-west axis through the center of parcel (Photo 5). The Northern and Southern portions of Facility themselves were characterized by corn fields (Photos 6 and 7). Soil cores were taken throughout the project parcel and revealed the presence of intact soils horizons.

Th results of the pedestrian survey indicated that 14.16 acres of the parcel, of which 0.24 acres will be impacted by construction, were characterized by wetlands and steep sloping topography. These areas were designated as retaining a no/low archaeological sensitivity and no further archaeological investigation of them is recommended prior to development. The remaining 34.32 acres of land, of which 13.98 acres will be impacted by construction, were characterized by gently sloping topography, well drained soils and close proximity to freshwater sources. These areas were designated as retaining the potential to yield intact archaeological deposits. It is recommended that the 13.98 acres of the moderate/high archaeological sensitivity located within the Northern and Southern portions of the Facility be subjected to Phase IB cultural reconnaissance survey prior to construction.

Pedestrian survey of the project parcel and the Facility also revealed the presence of a post-1930 and pre-1960s foundation in the south tip of the Southern Area (see Figure 11, Sheets 1 and 2). It consisted of aggregate concrete and cinder blocks (Photos 8 through 10). Several barns are visible in this general area in the 1934 aerial image that have disappeared by the 1990 aerial image (Figures 6 and 7). It is recommended that the foundations be examined and recorded as part of the proposed Phase IB survey. In addition, pedestrian survey of the larger project parcel also revealed the presence of a single dry-laid stonewall that was designated as Stonewall SW-1 (Figure 11, Sheet 1; Photo 11). It was located along the northern boundary of the parcel. The stonewall extended approximately 190 meters (623.4 feet) on an east-west axis. The stonewall measured 1.1 meters (3.5 feet) in width and 45 centimeters (17.7 inches) in height. It remains in fair condition. This stonewall will not be impacted by construction; thus, no further investigation of this stonewall is recommended prior to development.

Finally, pedestrian survey led to the recovery of a single brick fragment associated with the early-twentieth century foundations. It was collected for analysis to obtain a date of occupation from the area. It measures approximately 14 x 9 x 5.5 cm in size and was stamped with the word "…ILES" (Photo 12). This indicates it was manufactured by the I.L. Stiles and Son Brick Company, which operated in North Haven, Connecticut between 1892 and 1957. This brick further indicates that the foundation was built in the early half of the twentieth century.

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APPENDIX A

FIGURES

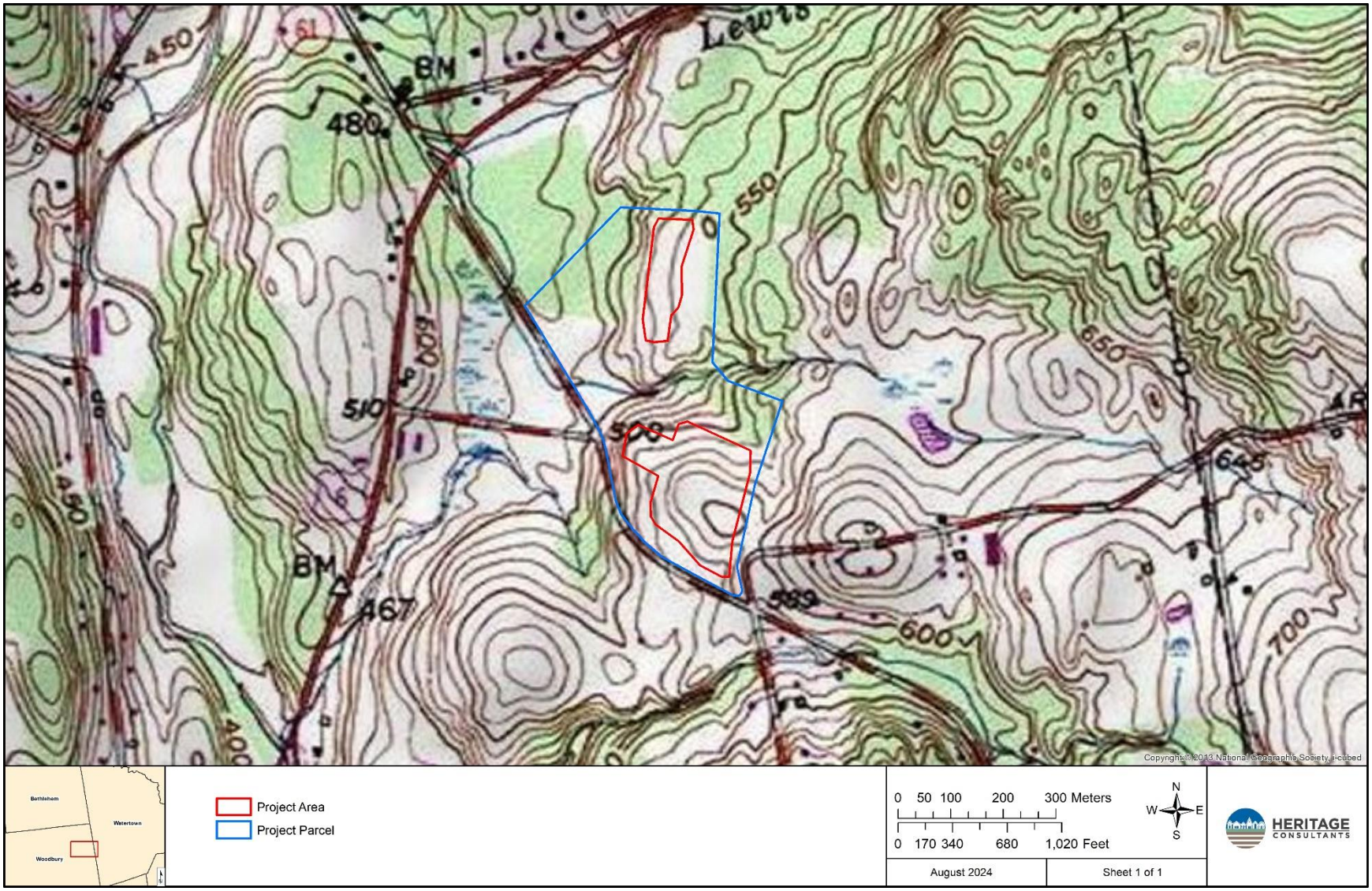

Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project parcel in Woodbury, Connecticut.

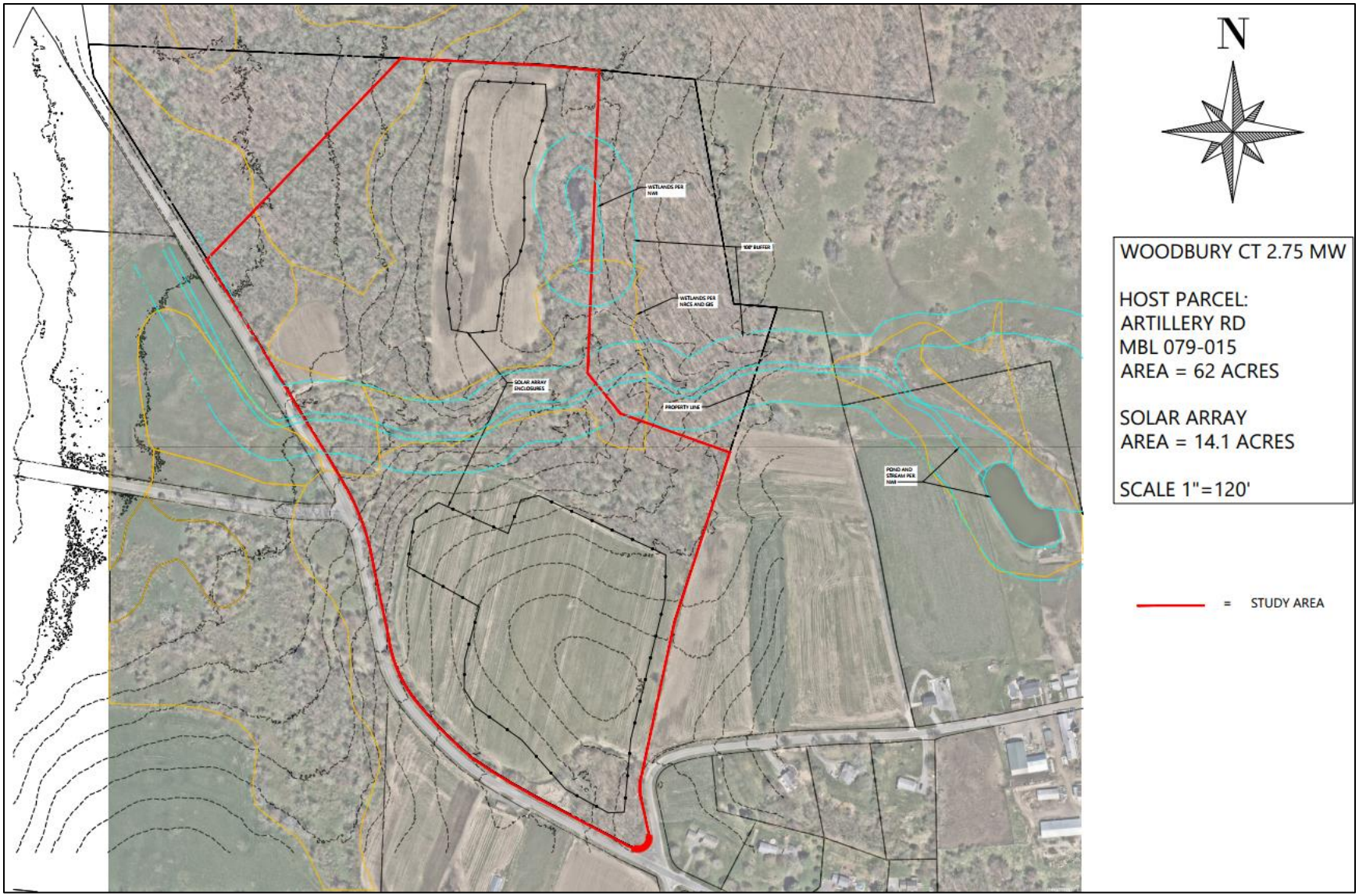

Figure 2. Digital map depicting the client's project plans for the solar facility in Woodbury, Connecticut.

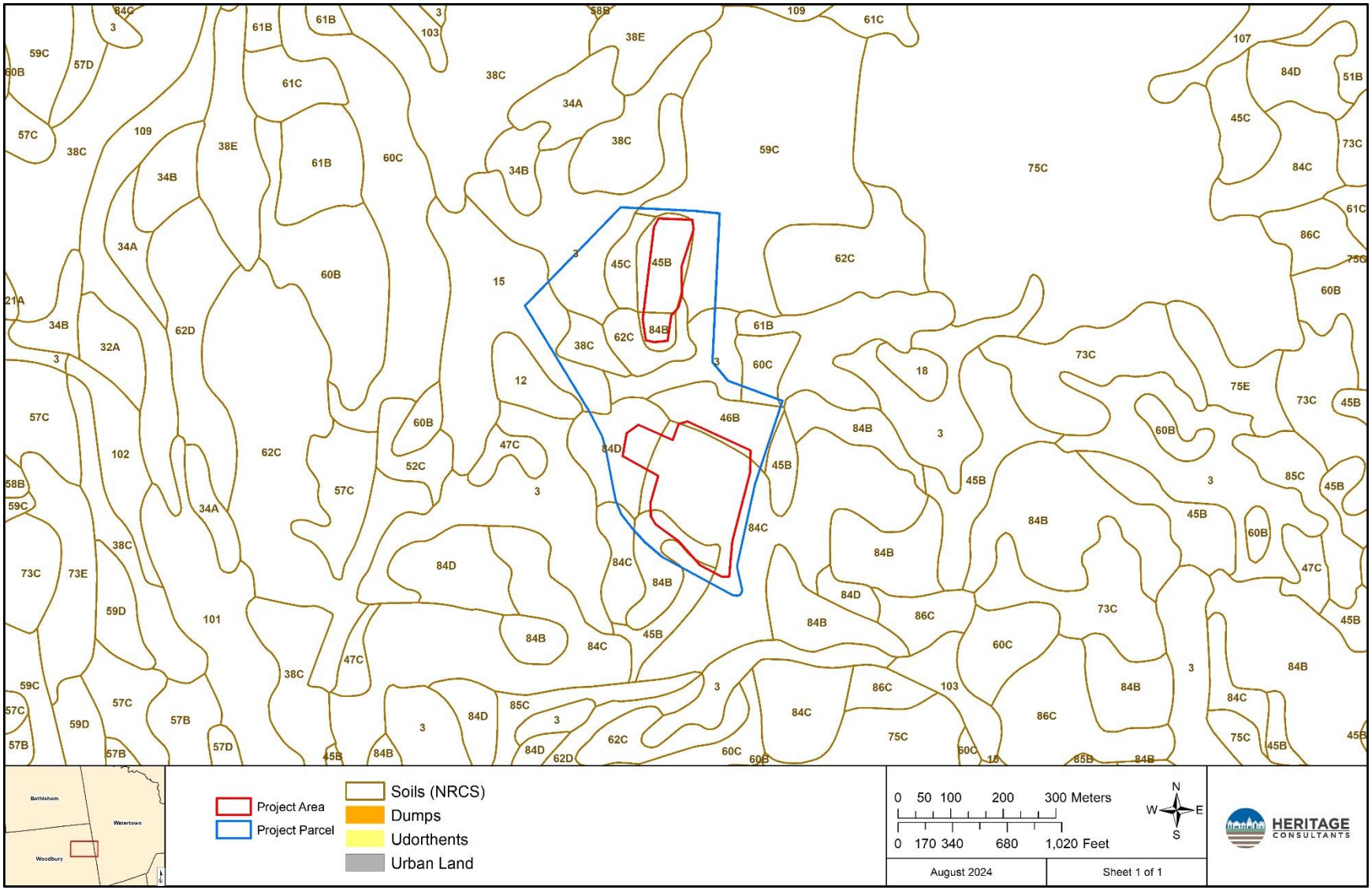

Figure 3. Digital map depicting the soil types present in the vicinity of the project parcel in Woodbury, Connecticut.

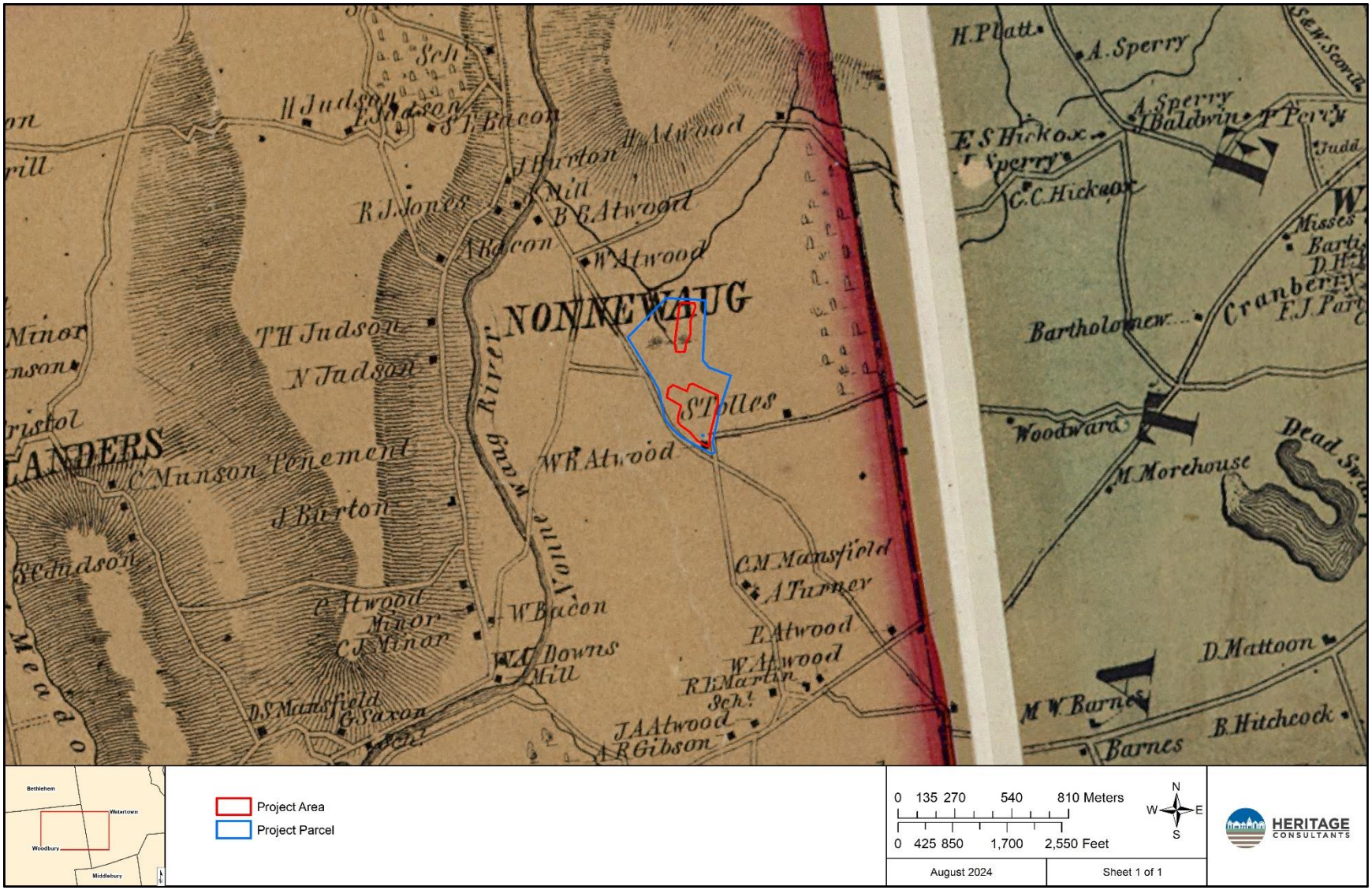

Figure 4. Excerpt from an 1859 map showing the location of the project parcel in Woodbury, Connecticut.

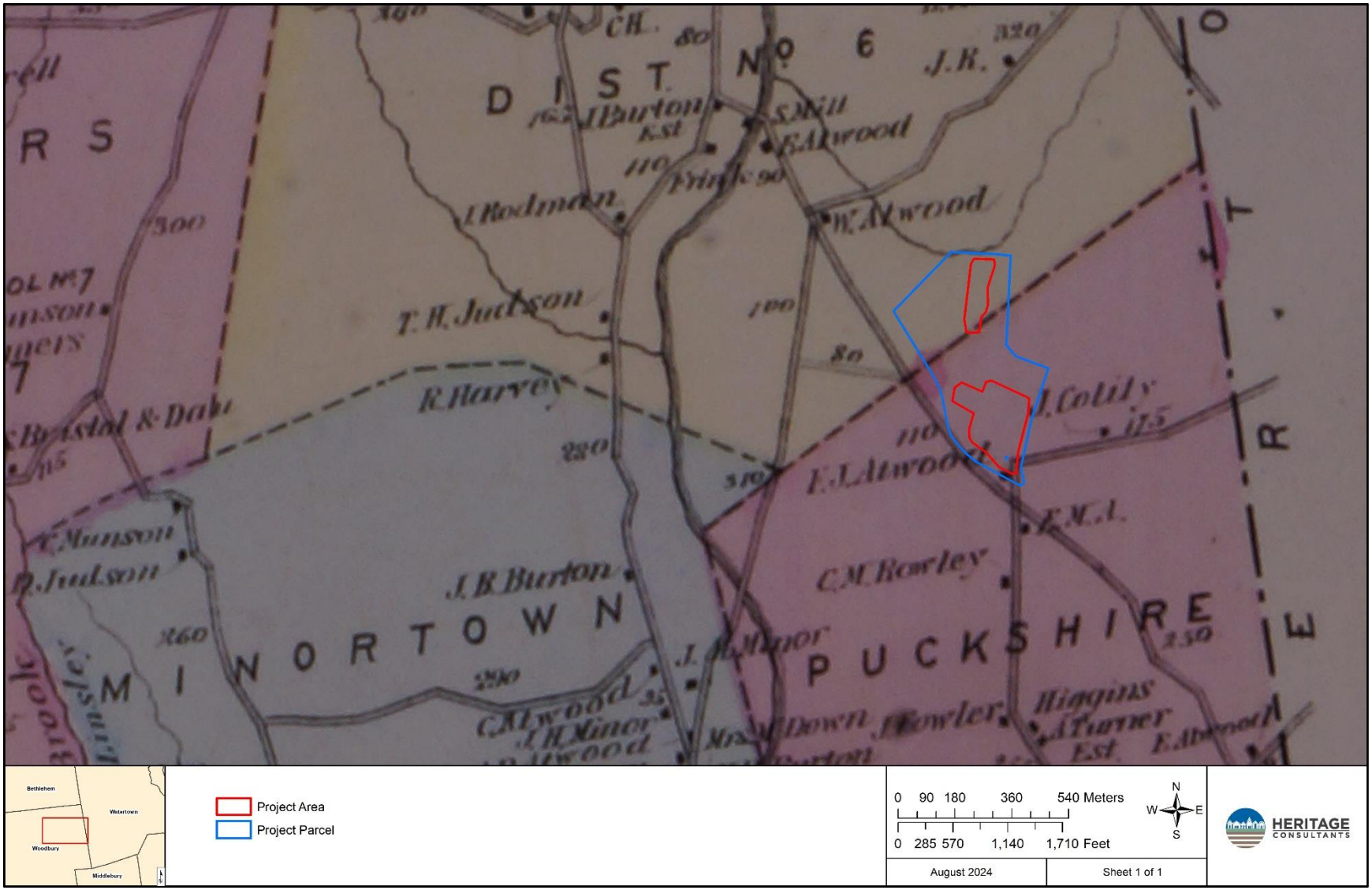

Figure 5. Excerpt from an 1874 map showing the location of the project parcel in Woodbury, Connecticut.

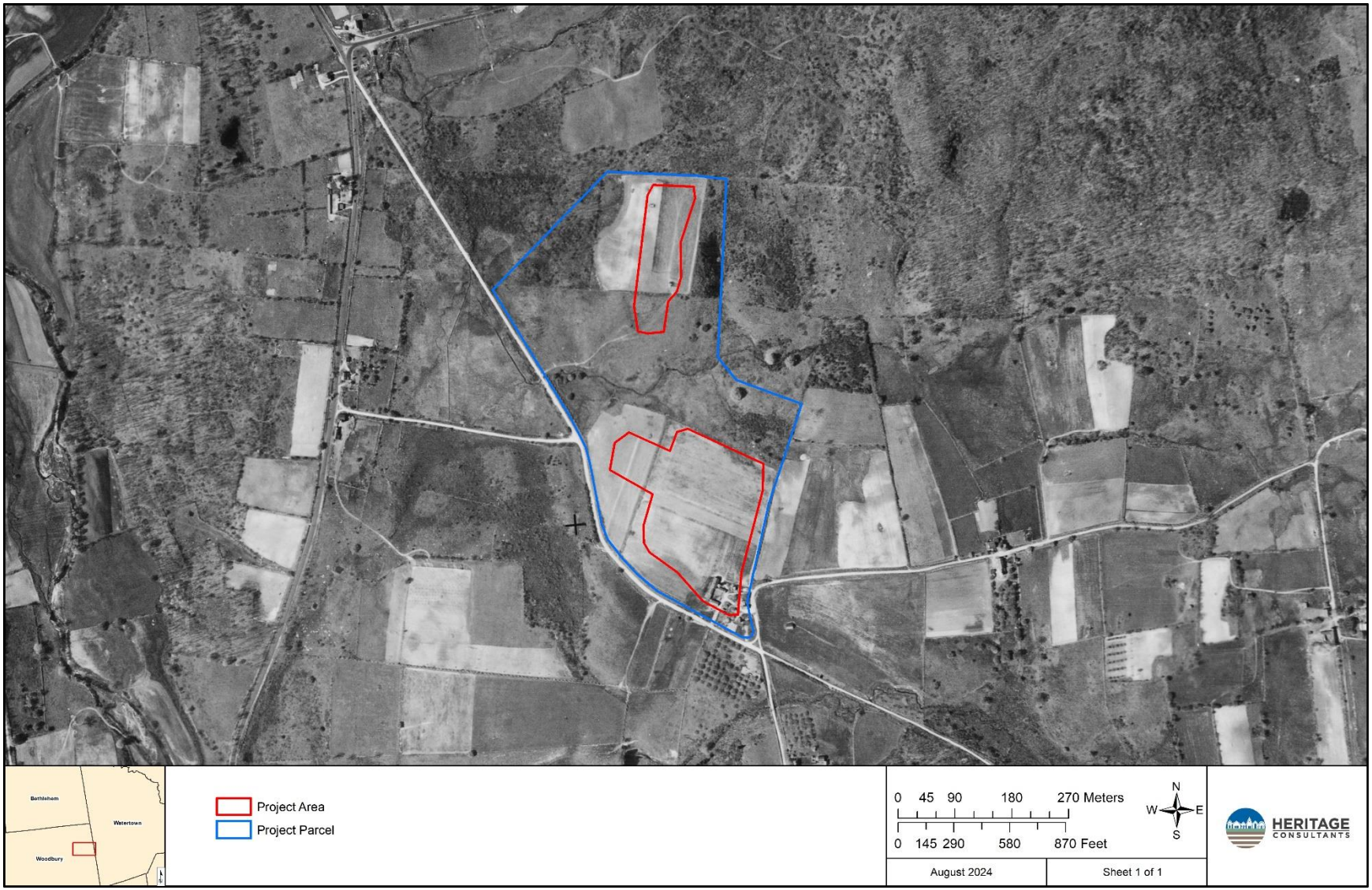

Figure 6. Excerpt from a 1934 aerial photograph showing the location of the project parcel in Woodbury, Connecticut.

Figure 7. Excerpt of a 1990 aerial photograph showing the location of the project parcel in Woodbury, Connecticut.

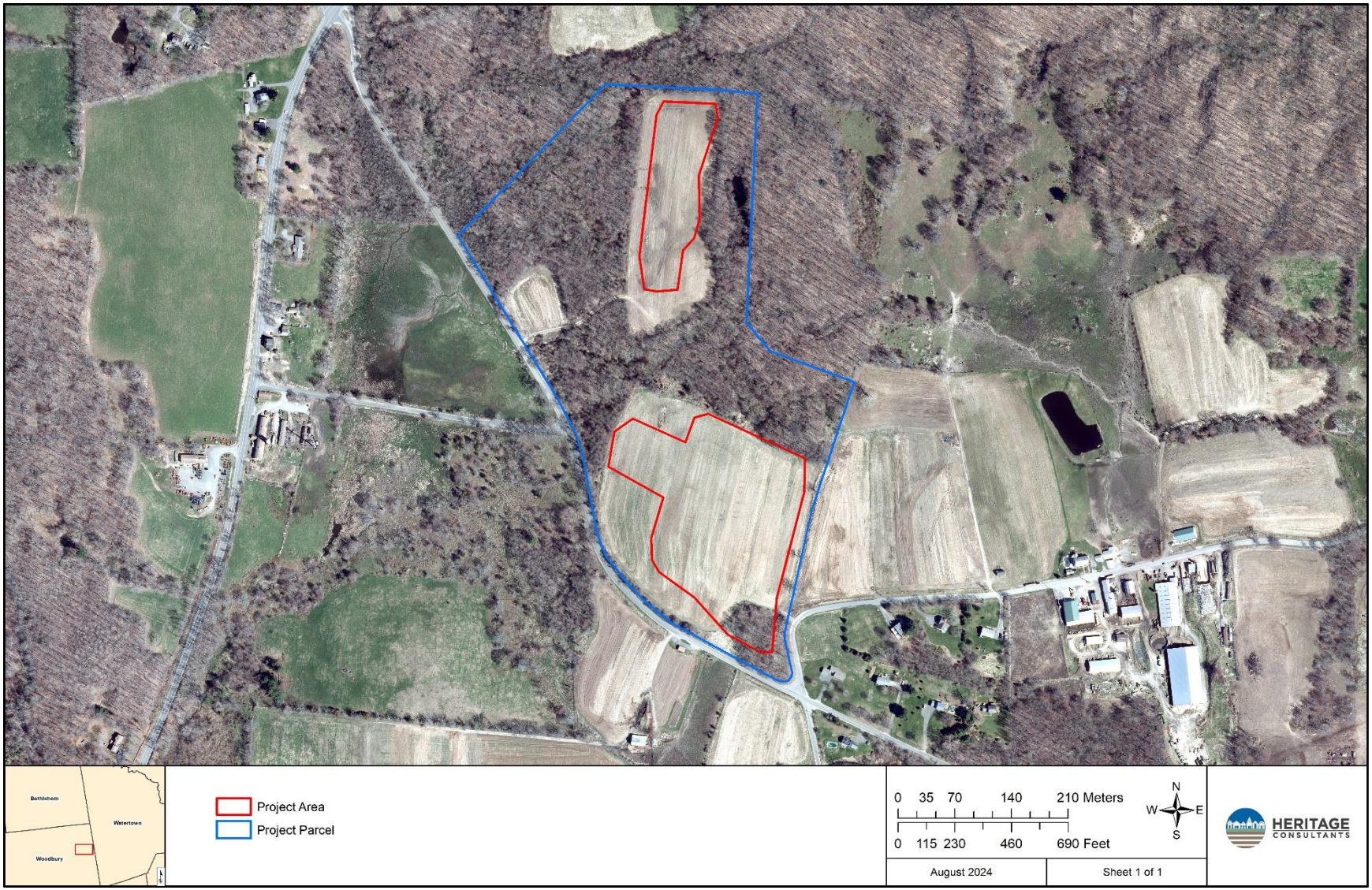

Figure 8. Excerpt of a 2019 aerial photograph showing the location of the project parcel in Woodbury, Connecticut.

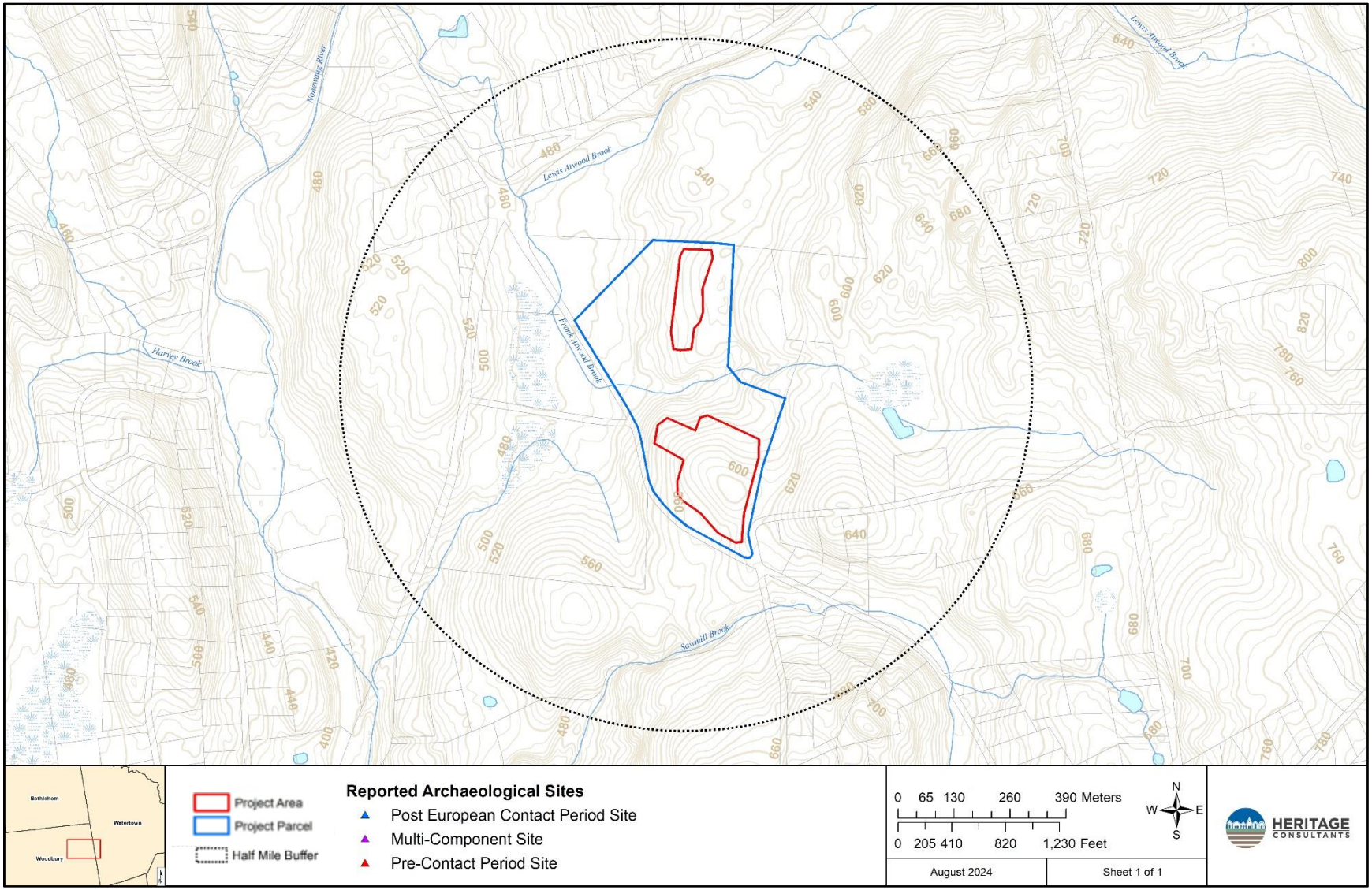

Figure 9. Digital map depicting the locations of the previously identified archaeological sites in the vicinity of the project parcel in Woodbury, Connecticut.

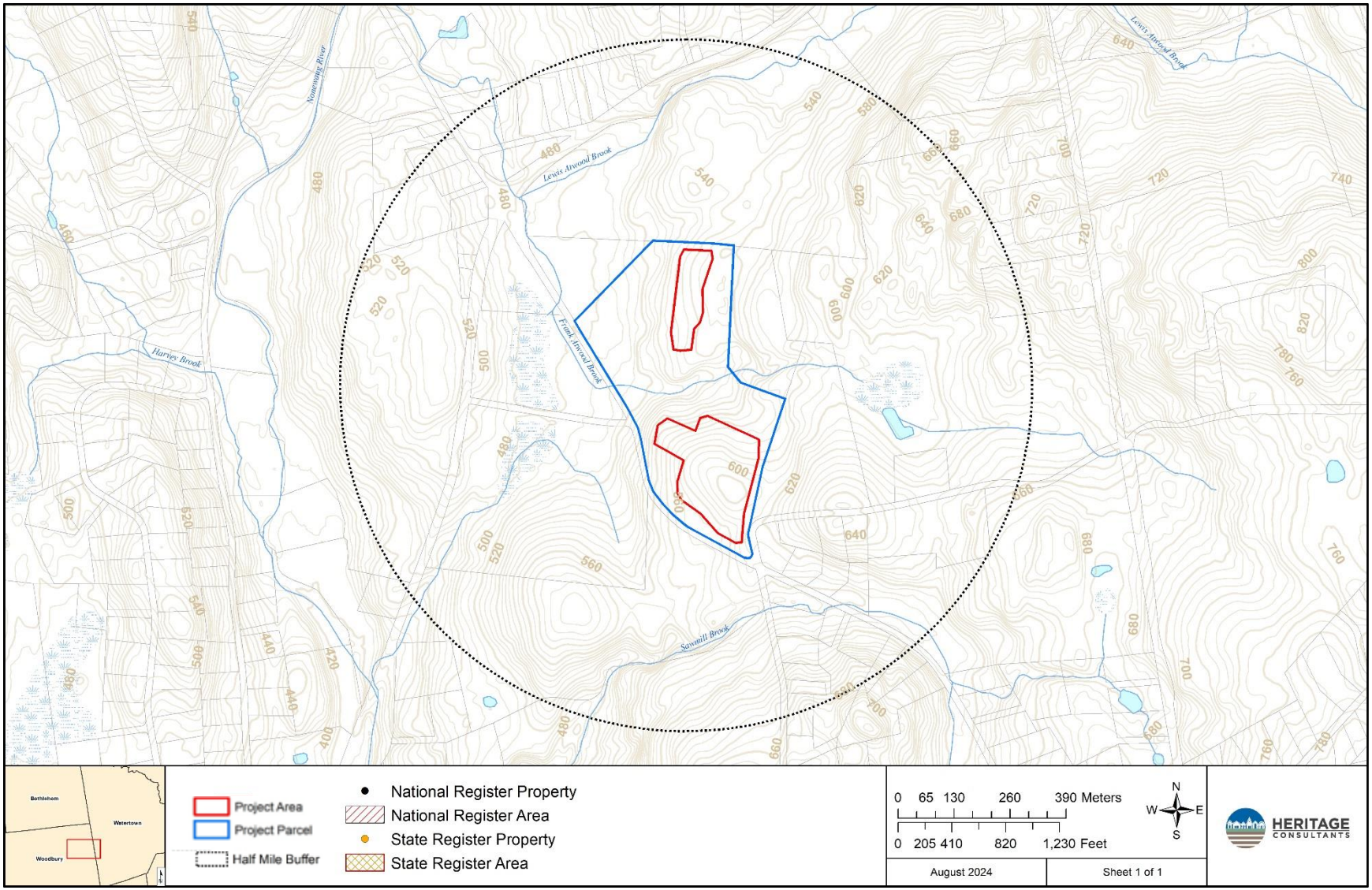

Figure 10. Digital map depicting the locations of the previously identified National Register of Historic Places and State Register of Historic Places properties in the vicinity of the project parcel in Woodbury, Connecticut.

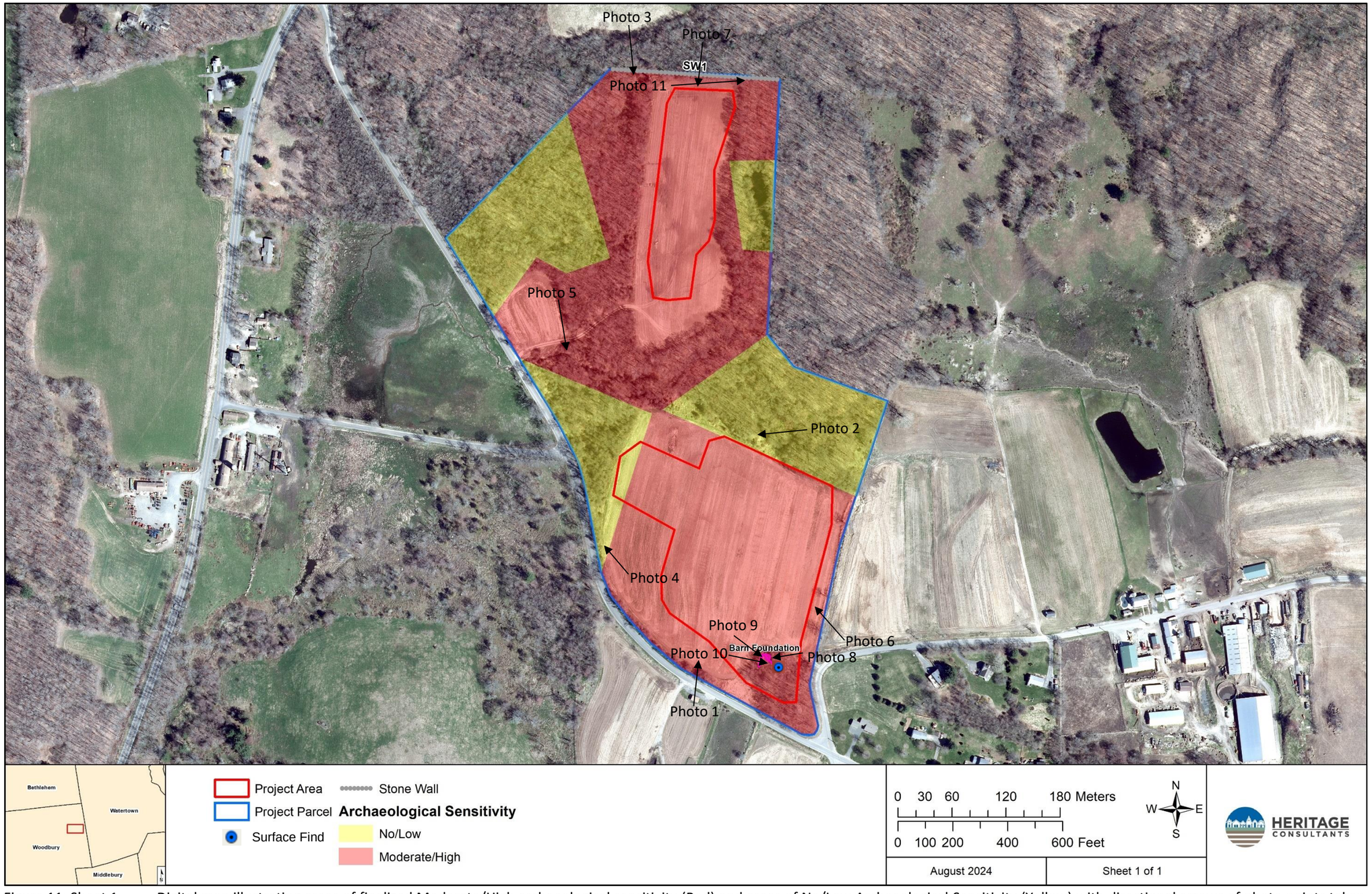

Figure 11; Sheet 1. Digital map illustrating areas of finalized Moderate/High archaeological sensitivity (Red) and areas of No/Low Archaeological Sensitivity (Yellow) with directional arrows of photo points taken for the proposed development in Woodbury, Connecticut.

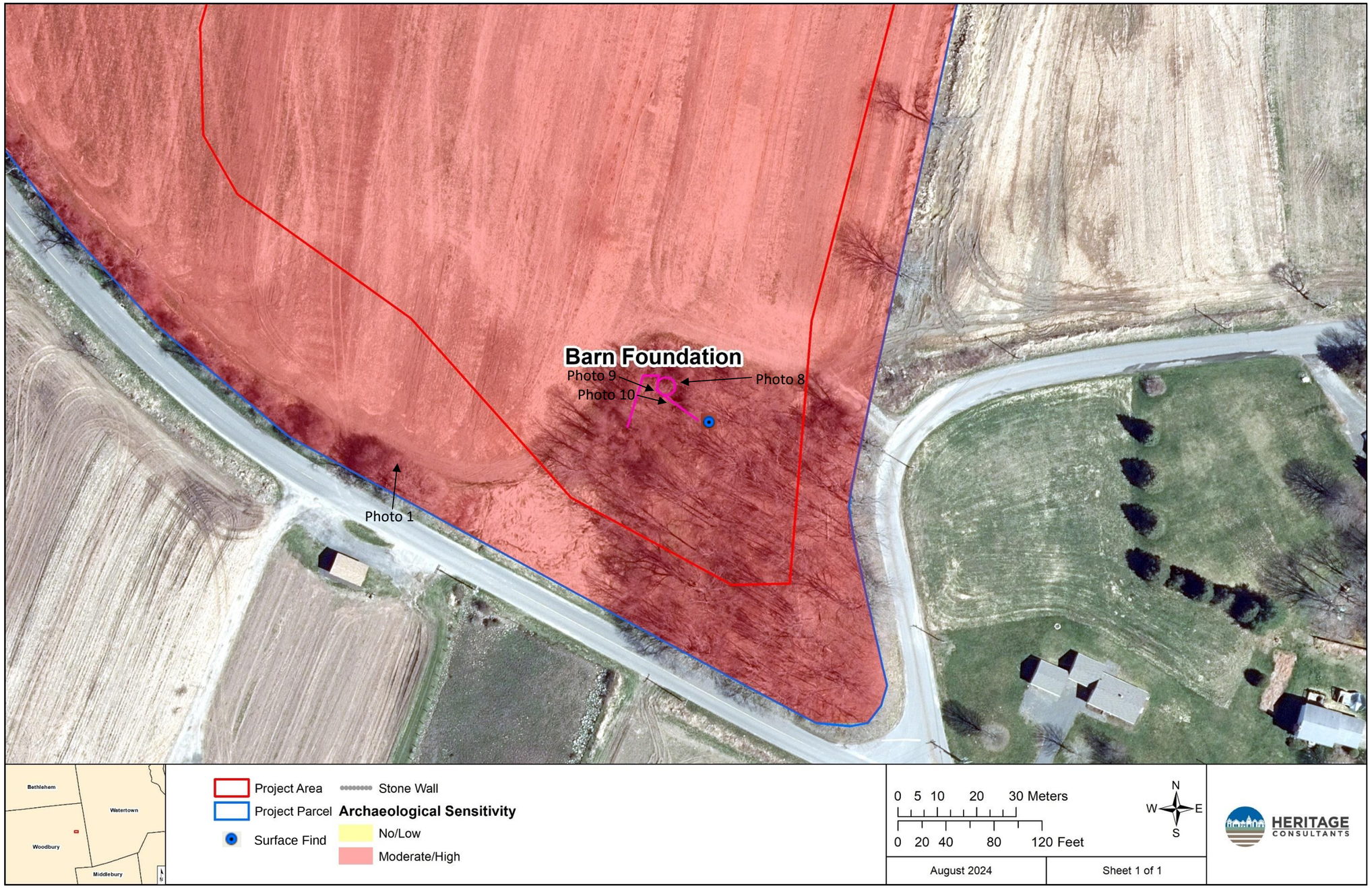

Figure 11; Sheet 2. Digital map illustrating areas of finalized Moderate/High archaeological sensitivity (Red) and areas of No/Low Archaeological Sensitivity (Yellow) with directional arrows of photo points taken for the proposed development in Woodbury, Connecticut.

APPENDIX B

PHOTOS

Photo 1. Overview of the cornfield covering the southern portion of the parcel. Photo facing to the north.

Photo 2. Overview of wetland in the east central portion of the parcel. Photo facing to the west.

Photo 3. Overview of dense vegetation in the north center portion of the parcel. Photo facing south.

Photo 4. Overview of the steep slopes along the western side of the parcel. Photo facing to the northwest.

Photo 5. Photo showing the creek flowing through the center of the parcel. Photo facing to the south.

Photo 6. Photo of the Southern Area. Photo facing to the northwest.

Photo 7. Photo of the Northern Area. Photo facing to the south.

Photo 8. Overview of the silo foundation. Photo facing to the west.

Photo 9. Overview of doorway in silo with connecting walls visible. Photo facing to the southeast.

Photo 10. Overview of aggregate cement wall extending off silo. Photo facing to the southeast.

Photo 11. Overview of the Stonewall SW-1 spanning the northern boundary of the parcel. Photo facing to the east.

Photo 12. A brick recovered from the early twentieth century foundation with the diagnostic maker's mark "…ILES" stamped on it.

JANUARY 2025

PHASE IB CULTURAL RESOURCES RECONNAISSANCE SURVEY OF A PROPOSED SOLAR CENTER ALONG ARTILLERY ROAD IN WOODBURY, CONNECTICUT

PREPARED FOR:

100 GREAT MEADOW ROAD #200
WETHERSFIELD, CT 06109

PREPARED BY:

830 BERLIN TURNPIKE
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ABSTRACT

This report presents the results of a Phase IB Cultural Resources Reconnaissance survey for a proposed solar facility along Artillery Road in Woodbury, Connecticut. Heritage Consultants, LLC completed a previous Phase IA cultural resources assessment survey of the area that determined that portions of the proposed project area retained moderate/high archaeological sensitivity. These areas were characterized by agricultural fields with level to gently sloping topography. The Phase IB reconnaissance survey was completed in December of 2024. The subsurface investigation resulted in the recovery of 12 post-European Contact period artifacts, which consisted of 3 glass shards, 4 ceramic sherds, and 5 brick fragments. All of the artifacts were recovered in low densities from disturbed plowzone horizon soils throughout the project area and not in association with any above or below ground architectural features. As a result, the post-European Contact period assemblage was classified as unassociated field scatter and does not retain research potential or the qualities of significance for listing to the National Register of Historic Places applying the criteria for evaluation (36 CFR 60.4[a-d]). No additional archaeological examination of these materials is recommended.

The Phase IB investigation also resulted in the identification of two precontact era sites (Site 1 and Site 2) within the project area. Site 1 is located along the northeastern boundary of the Project area. The subsurface examination of Site 1 resulted in the recovery of 1 quartz flake, 1 quartz scraper, and a single quartz utilized flake. While all three artifacts were recovered from the plowzone, their presence is indicative of lithic tool production and maintenance, as well as exploitation of local raw materials. As a result, it was determined that Site 1 may retain research potential and is potentially eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). Site 2 was identified along the northwestern boundary of the Project area. A total of four precontact era lithics were recovered from the site. They consisted of 2 biface reduction flakes, 1 flake fragment, and 1 single quartz preform. While all three artifacts were recovered from the plowzone, their presence is indicative of lithic tool production and maintenance, as well as exploitation of local and exotic raw materials. As a result, it was determined that Site 2 may retain research potential and is potentially eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]).

Finally, pedestrian survey of the project parcel resulted in the identification of a post-European Contact period farm-stead site located in the southeastern corner (Site 3). The site contains a series of extant features associated with the architectural and infrastructure remains. Review of historical maps and ariel imagery suggest this area was occupied as early as 1859 and continued to be occupied through 1951. By 1970, the majority of the infrastructure associated with the site was demolished and by 1986 no structures remain extant within the site. Site 3 is located outside of the proposed area of impact and therefore was not subjected to subsurface testing. However, the extant remains are indicative of nineteenth through twentieth century homestead occupation. As a result, it was determined that Site 3 may retain research potential and is potentially eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). No additional examination of this area is needed unless project plans change and call for its impact.

Review of updated client provided project plans revealed that Sites 1 through 3 fall outside the current proposed area of impact. Therefore, each site will be preserved in place and experience no adverse impact. If the areas that contain Sites 1 through 3 will become impacted by construction then each site should be subjected to Phase II National Register of Historic Places testing and evaluation prior to construction.

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Photo 14. Overview of Feature 5. Photo facing to the west.

CHAPTER I
INTRODUCTION

This report presents the results of a Phase IB cultural resources reconnaissance survey of previously identified moderate/high archaeologically sensitive areas within a proposed solar center along Artillery Road in Woodbury, Connecticut (the Project). The proposed solar array and associated infrastructure will encompass approximately 14.12 acres of a larger 48.47 acre parcel of land (Figure 1). Vanasse Hangen Brustlin, Inc., (VHB), requested that Heritage Consultants, LLC (Heritage) complete the Phase IB cultural resources reconnaissance survey of the previously identified moderate/high archaeologically sensitive areas prior to construction. Heritage completed this investigation in December of 2024. All work associated with this survey was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987) promulgated by the Connecticut State Historic Preservation Office (CT-SHPO).

Project Description and Methods Overview

The proposed Project will consist of two solar arrays and associated infrastructure (Figure 2). The project parcel is situated at elevations ranging between 146 to 184 meters (479 to 604 feet) NGVD. It is located on the eastern side of Quassapaug Road and the southern side of Route 6 in Woodbury, Connecticut. It is bound by forested land and agricultural fields on all sides, with a small amount of residential development to the north. At the time of the survey, it was characterized by agricultural fields and level topography. The previously identified moderate/high archaeologically sensitive areas were subjected to Phase IB cultural resources reconnaissance survey utilizing pedestrian survey, photo-documentation, GPS recordation, and systematic shovel testing. The subsurface examination was completed through the excavation of shovel tests at 25 meter (82 foot) intervals along survey transects positioned 25 meters (82 feet) apart throughout the previously identified moderate/high archaeologically sensitive areas. Each shovel test measured 50 x 50 centimeter (19.7 x 19.7 inch) in size, and each was excavated until glacially derived C-Horizon or immovable object (e.g., boulders, large tree roots) were encountered. Each shovel test was excavated in 10 centimeter (3.9 inch) arbitrary levels within natural strata, and the fill from each level was screened separately. All shovel test fill was screened through 0.635-centimeter (0.25 inch) hardware cloth. Soil characteristics were recorded in the field using Munsell Soil Color Charts and standard soils nomenclature. Each shovel test was backfilled after it was fully documented.

Phase IB Survey Results and Management Recommendations

A total of 148 of 148 (100 percent) of planned shovel tests were excavated throughout the moderate/high sensitivity areas. An additional 10 delineation test pits were excavated to further explore identified precontact era cultural deposits. The subsurface investigation resulted in the recovery of 12 post-European Contact period artifacts, which consisted of 3 glass shards, 4 ceramic sherds, and 5 brick fragments. All of the artifacts were recovered in low densities from disturbed plow zone horizon soils throughout the project area and not in association with any above or below ground architectural features. As a result, the post-European Contact period assemblage was classified as unassociated field scatter and does not retain research potential or the qualities of significance for listing to the National Register of Historic Places applying the criteria for evaluation (36 CFR 60.4[a-d]). No additional archaeological examination of these materials is recommended.

The Phase IB investigation also resulted in the identification of two precontact era sites (Site 1 and Site 2) within the project area. Site 1 is located along the northeastern boundary of the Project area. The

subsurface examination of Site 1 resulted in the recovery of 1 quartz flake, 1 quartz scraper, and a single quartz utilized flake. Their presence is indicative of lithic tool production and maintenance, as well as exploitation of local raw materials. As a result, it was determined that Site 1 may retain research potential and is potentially eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). Site 2 was identified along the northwestern boundary of the Project area. A total of four precontact era lithics were recovered from the site. They consisted of 2 biface reduction flakes, 1 flake fragment and a single quartz preform. Their presence is indicative of lithic tool production and maintenance, as well as exploitation of local and exotic raw materials. As a result, it was determined that Site 2 may retain research potential and is potentially eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]).

Finally, pedestrian survey of the project parcel resulted in the identification of a post-European Contact period farmstead site located in the southern portion of the parcel (Site 3). The site contains a series of extant features associated with the architectural and infrastructure remains of the site. Review of historical maps and ariel imagery suggest the site was occupied as early as 1859 and continued to be occupied through 1951. By 1970, the majority of the infrastructure associated with the site was demolished and by 1986 no structures remained extant within the site. Site 3 is located outside of the proposed area of impact and therefore was not subjected to subsurface testing. However, the extant remains are indicative of nineteenth through twentieth century homestead occupation. As a result, it was determined that Site 3 may retain research potential and is potentially eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). Avoidance of this area is recommended.

A review of updated project plans revealed that Sites 1 through 3 all fall outside the current proposed area of impact. Therefore, each site will be preserved in place and will not be impacted. However, if the areas that contain Sites 1 through 3 are scheduled for impacts by construction in the future, then each site should be subjected to Phase II National Register of Historic Places testing and evaluation prior to construction.

Project Personnel

Key personnel who worked on this project included David R. George, M.A., RPA, (Principal Investigator); Brenna Pisanelli, M.A. (Senior Project Manager); Melissa Wales, B.A. (Field Director); Nita Vitaliano, M.A. (Historian); and Morgan Tirrell, B.A. (GIS Specialist).

CHAPTER II
NATURAL SETTING

Introduction

This chapter provides a brief overview of the natural setting of the region containing the proposed Facility in Woodbury, Connecticut. Previous archaeological research has documented that specific environmental factors can be associated with both precontact era and post-European Contact period site selection. These include general ecological conditions, as well as types of fresh water sources present, degree of slopes, and soils situated within a given study area. The remainder of this chapter provides a brief overview of the ecology, hydrological resources, and soils present within the project parcel and Facility areas and the larger region in general.

Ecoregions of Connecticut

Throughout the Pleistocene and Holocene Periods, Connecticut has undergone numerous environmental changes. Variations in climate, geology, and physiography have led to the "regionalization" of Connecticut's modern environment. It is clear, for example, that the northwestern portion of the state has different natural characteristics than the coastline. Recognizing this fact, Dowhan and Craig (1976), as part of their study of the distribution of rare and endangered species in Connecticut, subdivided the state into various ecoregions. Dowhan and Craig (1976:27) defined an ecoregion as:

> "An area characterized by a distinctive pattern of landscapes and regional climate as expressed by the vegetation composition and pattern, and the presence or absence of certain indicator species and species groups. Each ecoregion has a similar interrelationship between landforms, local climate, soil profiles, and plant and animal communities. Furthermore, the pattern of development of plant communities (chronosequences and toposequences) and of soil profile is similar in similar physiographic sites. Ecoregions are thus natural divisions of land, climate, and biota."

Dowhan and Craig defined nine major ecoregions for the State of Connecticut. They are based on regional diversity in plant and animal indicator species (Dowhan and Craig 1976). Only the Northeast Hills Ecoregion is germane to the current investigation. A summary of this ecoregion is presented below. It is followed by a discussion of the hydrology and soils found within and adjacent to the Facility area.

Northeast Hills Ecoregion

The Northeast Hills ecoregion consists of a hilly upland terrain located between approximately 40.2 and 88.5 km (25 and 55 mi) to the north of Long Island Sound (Dowhan and Craig 1976). It is characterized by streamlined hills bordered on either side by local ridge systems, as well as broad lowland areas situated near large rivers and tributaries. Physiography in this region is composed of a series of north-trending ridge systems, the western-most of which is referred to as the Bolton Range and the eastern-most as the Mohegan Range (Bell 1985:45). Elevations in the Northeast Hills range from 121.9 to 243.8 m (400 to 800 ft) above sea level, reaching a maximum of nearly 304.8 m (1,000 ft) above sea level near the Massachusetts border (Bell 1985). The bedrock of the region is composed of Schist and gneiss created during the Paleozoic as well as gneiss and granite created during the Precambrian period (Bell 1985). Soils in uplands areas have been deposited on top of glacial till and in the valley they consist of stratified deposits of sand, gravel, and silt (Dowhan and Craig 1976).

Hydrology of the Study Region

The Facility is located within close proximity of several streams, ponds and wetlands. The major fresh water sources in this area include Frank Atwood Brook, which runs through the center of the parcel, as

well as Lewis Atwood Brook and Sawmill Brook which are in the vicinity. Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were focal points for precontact era occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources. These water sources also provided the impetus for the construction of water powered mill facilities during the eighteenth and nineteenth centuries.

Soils Comprising the Project Parcel and Facility Area

Soil formation is the direct result of the interaction of several variables, including climate, vegetation, parent material, time, and organisms present (Gerrard 1981). Once archaeological deposits are buried within the soil, they are subject to many diagenic processes. Different classes of artifacts may be preferentially protected, or unaffected by these processes, whereas others may deteriorate rapidly. Cyclical wetting and drying, freezing, and thawing, and compression can accelerate chemically and mechanically the decay processes for animal bones, shells, lithics, ceramics, and plant remains. Lithic and ceramic artifacts are largely unaffected by soil pH, whereas animal bones and shells decay more quickly in acidic soils such as those that are present within the Project area. In contrast, acidic soils enhance the preservation of charred plant remains.

A total of 12 soil types were identified within the project parcel and the Facility areas (Figure 3). The most ubiquitous of these soils was Paxton and Montauk soils, which dominate the southern half of the parcel; in addition, Woodbridge soils were common in the remainder of the parcel. These soil types fall into two categories of well-to-excessively drained and poorly drained soil types. When well drained soils such as Woodbridge, Hinckley, Paxton, Montauk, Canton, Charlton, and Gloucester soils remain undisturbed and on less than eight percent slope, they are generally well correlated with precontact era and post-European Contact period site locations and are considered to have higher archaeological sensitivity. In contrast, Scarboro, Ridgebury, Leicester, and Whitman soils are characterized as poorly drained soils and are not likely to contain archaeological deposits. Below is a summary of each specific soil type identified within the Project parcel.

<u>Woodbridge Soils</u>

The Woodbridge series consists of moderately well drained loamy soils formed in lodgment till. They are very deep to bedrock and moderately deep to a densic contact. They are nearly level to moderately steep soils on hills, drumlins, till plains, and ground moraines. Slope ranges from 0 to 25 percent. A typical profile associated with Woodbridge soils is as follows: **Ap**--0 to 18 cm; very dark grayish brown (10YR 3/2) fine sandy loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many fine and medium roots; few very dark brown (10YR 2/2) earthworm casts; 5 percent gravel; moderately acid; abrupt wavy boundary; **Bw1**--18 to 46 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; few very dark brown (10YR 2/2) earthworm casts; 10 percent gravel; moderately acid; gradual wavy boundary; **Bw2**--46 to 66 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; few very dark brown (10YR 2/2) earthworm casts; 10 percent gravel; few medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately acid; gradual wavy boundary; **Bw3**--66 to 76 cm; light olive brown (2.5Y 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent gravel; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately acid; clear wavy boundary; **Cd1**--76 to 109 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; weak thick plates of geogenic origin; very firm, brittle; 20 percent gravel; many medium prominent strong brown (7.5YR 5/8) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately

acid; gradual wavy boundary; and **Cd2**--109 to 165 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; weak thick plates of geogenic origin; very firm, brittle; few fine prominent very dark brown (10YR 2/2) coatings on plates; 25 percent gravel; common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation; moderately acid.

Hinckley Soils

Hinckley series consists of very deep, excessively drained soils formed in glaciofluvial materials. They are nearly level through very steep soils on outwash terraces, outwash plains, outwash deltas, kames, kame terraces, and eskers. Saturated hydraulic conductivity is high or very high. Slope ranges from 0 to 60 percent. A typical profile associated with Hinckley soils is as follows: **Oe** -- 0 to 3 cm; moderately decomposed plant material derived from red pine needles and twigs; **Ap** -- 3 to 20 cm; very dark grayish brown (10YR 3/2) loamy sand; weak fine and medium granular structure; very friable; many fine and medium roots; 5 percent fine gravel; very strongly acid; abrupt smooth boundary; **Bw1** -- 20 to 28 cm; strong brown (7.5YR 5/6) gravelly loamy sand; weak fine and medium granular structure; very friable; common fine and medium roots; 20 percent gravel; very strongly acid; clear smooth boundary; **Bw2** -- 28 to 41 cm; yellowish brown (10YR 5/4) gravelly loamy sand; weak fine and medium granular structure; very friable; common fine and medium roots; 25 percent gravel; very strongly acid; clear irregular boundary; **BC** -- 41 to 48 cm; yellowish brown (10YR 5/4) very gravelly sand; single grain; loose; common fine and medium roots; 40 percent gravel; strongly acid; clear smooth boundary; and **C** -- 48 to 165 cm; light olive brown (2.5Y 5/4) extremely gravelly sand consisting of stratified sand, gravel and cobbles; single grain; loose; common fine and medium roots in the upper 20 cm and very few below; 60 percent gravel and cobbles; moderately acid.

Paxton and Montauk Soils

The Paxton series consists of well drained loamy soils formed in lodgment till. The soils are very deep to bedrock and moderately deep to a densic contact. They are found on nearly level to steep soils on hills, drumlins, till plains, and ground moraines. Slope associated with these soils range from 0 to 45 percent. A typical profile associated with Paxton soils is as follows: **Ap**--0 to 20 cm; dark brown (10YR 3/3) fine sandy loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots; 5 percent gravel; strongly acid; abrupt smooth boundary; **Bw1**--20 to 38 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; 5 percent gravel; few earthworm casts; strongly acid; gradual wavy boundary; **Bw2**--38 to 66 cm; olive brown (2.5Y 4/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent gravel; strongly acid; clear wavy boundary; and **Cd**--66 to 165 cm; olive (5Y 5/3) gravelly fine sandy loam; medium plate-like divisions; massive; very firm, brittle; 25 percent gravel; many dark coatings on plates; strongly acid.

The Montauk series consists of well drained soils formed in lodgment or flow till derived primarily from granitic materials with lesser amounts of gneiss and schist. The soils are very deep to bedrock and moderately deep to a densic contact. These soils are on upland hills and moraines. Slopes associated with these soils ranges from 0 to 35 percent. A typical profile associated with Montauk soils is as follows: **Ap**--0 to 10 cm; very dark gray (10YR 3/1) loam; moderate fine granular structure; very friable; many very fine, fine, medium, and coarse roots; 2 percent gravel, 1 percent cobbles, and 1 percent stones; extremely acid (pH 4.1); clear smooth boundary; **BA**--10 to 34 cm; brown (10YR 4/3) loam; moderate medium and coarse subangular blocky structure; friable; many fine, medium, and coarse roots; many fine and medium pores; 4 percent gravel, 1 percent cobbles, and 1 percent stones; extremely acid (pH 4.3); clear wavy boundary; **Bw1**--34 to 65 cm; dark yellowish brown (10YR 4/6) loam; moderate coarse subangular blocky structure; friable; many fine, medium, and coarse roots; many fine and medium

pores; 6 percent gravel, 1 percent cobbles, and 1 percent stones; extremely acid (pH 4.3); clear wavy boundary; **Bw2**--65 to 87 cm; yellowish brown (10YR 5/6) sandy loam; moderate medium and coarse subangular blocky structure; friable; many very fine, fine, and coarse roots; many fine and medium pores; 5 percent gravel and 1 percent cobbles; extremely acid (pH 4.3); clear smooth boundary; **2Cd1**--87 to 101 cm; strong brown (7.5YR 5/6) gravelly loamy sand; moderate medium plates; firm; few fine roots; many fine pores; 10 percent gravel, 5 percent cobbles, and 1 percent stones; very strongly acid (pH 4.7); clear wavy boundary; and **2Cd2**--101 to 184 cm; dark yellowish brown (10YR 4/6) gravelly loamy sand; moderate medium plates; firm; many fine pores; 10 percent gravel, 5 percent cobbles, and 1 percent stones; strongly acid (pH 5.1).

Canton Charlton Soils

The Canton series consists of very deep, well drained soils formed in a loamy mantle underlain by sandy till. They are on nearly level to very steep moraines, hills, and ridges. Slope ranges from 0 to 45 percent. A typical profile associated with Canton soils is as follows: **Oi**--0 to 5 cm; slightly decomposed plant material; **A**--5 to 13 cm; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; friable; common fine roots; 5 percent gravel; very strongly acid (pH 4.6); abrupt smooth boundary; **Bw1**--13 to 30 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 5 percent gravel; very strongly acid (pH 4.6); clear smooth boundary; **Bw2**--30 to 41 cm; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 5 percent gravel; strongly acid (pH 5.1); clear smooth boundary; **Bw3**--41 to 56 cm; yellowish brown (10YR 5/4) gravelly fine sandy loam; weak medium subangular blocky; friable; common fine and medium roots; 15 percent gravel; strongly acid (pH 5.1); abrupt smooth boundary; and **2C**--56 to 170 cm; grayish brown (2.5Y 5/2) gravelly loamy sand; massive; friable; 25 percent gravel; moderately acid (pH 5.6).

The Charlton series consists of very deep, well drained soils formed in loamy melt-out till. They are nearly level to very steep soils on moraines, hills, and ridges. Slope ranges from 0 to 60 percent. A typical profile associated with Charlton soils is as follows: **Oe**--0 to 4 cm; black (10YR 2/1) moderately decomposed forest plant material; **A**--4 to 10 cm; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; 5 percent gravel; very strongly acid; abrupt smooth boundary; **Bw1**--10 to 18 cm; brown (7.5YR 4/4) fine sandy loam; weak coarse granular structure; very friable; many fine and medium roots; 5 percent gravel; very strongly acid; clear wavy boundary; **Bw2**--18 to 48 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; common fine and medium roots; 10 percent gravel and cobbles; very strongly acid; clear wavy boundary; **Bw3**--48 to 69 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; massive; very friable; few medium roots; 15 percent gravel and cobbles; very strongly acid; abrupt wavy boundary; and **C**--69 to 165 cm; grayish brown (2.5Y 5/2) gravelly fine sandy loam with thin lenses of loamy sand; massive; friable, some lenses firm; few medium roots; 25 percent gravel and cobbles; strongly acid.

Scarboro Series

The Scarboro series consists of very deep, very poorly drained soils in sandy glaciofluvial deposits on outwash plains, deltas, and terraces. They are nearly level soils in depressions. Slope ranges from 0 through 3 percent. Saturated hydraulic conductivity is high or very high. A typical soil profile is as follows: **Oi**-- 0 to 1 inch (0 to 3 centimeters); slightly decomposed maple leaves and other plant material; **Oa**-- 1 to 8 inches (3 to 20 centimeters); dark brown (10YR3/3) mucky peat; thin platy structure; friable; common fine roots; very strongly acid; abrupt wavy boundary; **A**-- 8 to 14 inches (20 to 36 centimeters); black (N 2/0) mucky fine sandy loam; weak medium granular structure; friable; common fine roots; very strongly acid; abrupt smooth boundary; **Cg1**-- 14 to 19 inches (36 to 48 centimeters); grayish brown

(2.5Y 5/2) loamy sand; massive; friable; many fine roots; very strongly acid; abrupt irregular boundary; **Cg2**-- 19 to 22 inches (48 to 56 centimeters); grayish brown (2.5Y 5/2) sand; massive; friable; few fine roots; 10 percent rock fragments; common medium prominent dark brown (7.5YR 3/2) areas of iron depletion and common medium prominent yellowish red (5YR 4/6) masses of iron; very strongly acid; clear wavy boundary; **Cg3**-- 22 to 65 inches (56 to 165 centimeters); grayish brown (2.5Y 5/2) gravelly sand; single grain; loose; 15 percent rock fragments; strongly acid.

Ridgebury, Leicester, and Whitman Series

The Ridgebury series consists of very deep, somewhat poorly drained soils formed in lodgment till derived mainly from granite, gneiss and/or schist. They are commonly shallow to a densic contact. They are nearly level to gently sloping soils in depressions in uplands. They also occur in drainageways in uplands, in toeslope positions of hills, drumlins, and ground moraines, and in till plains. Slope ranges from 0 to 15 percent. A typical profile associated with Ridgebury soils is as follows: **A**--0 to 13 cm; black (N 2/0) fine sandy loam; weak medium and coarse granular structure; friable; many very fine, fine and medium tree roots; 5 percent gravel and 5 percent cobbles; very strongly acid; abrupt smooth boundary; **Bw**--13 to 23 cm; brown (10YR 4/3) sandy loam; weak medium subangular blocky structure; friable; few fine tree roots; 5 percent gravel and 5 percent cobbles; very strongly acid; abrupt wavy boundary; **Bg**--23 to 46 cm; dark gray (10YR 4/1) gravelly sandy loam; massive; friable; 10 percent gravel and 5 percent cobbles; common fine prominent yellowish brown (10YR 5/6) and common medium distinct reddish brown (5YR 4/4) masses of iron accumulation; very strongly acid; gradual wavy boundary; and **Cd**--46 to 165 cm; gray (5Y 5/1) gravelly sandy loam; massive; firm; 10 percent gravel and 5 percent cobbles; common fine prominent reddish yellow (7.5YR 6/8) masses of iron accumulation; very strongly acid.

The Leicester series consists of very deep, poorly drained soils formed in coarse-loamy till. They are nearly level or gently sloping soils in drainageways and low-lying positions on hills. Slope ranges from 0 to 8 percent. A typical profile associated with Leicester soils is as follows: **Oe**--0 to 3 cm; black (10YR 2/1) moderately decomposed plant material; **A**--3 to 18 cm; black (10YR 2/1) fine sandy loam; moderate medium granular structure; friable; common fine and medium roots; 10 percent gravel and cobbles; strongly acid; clear wavy boundary; **Bg1**--18 to 25 cm; grayish brown (2.5Y 5/2) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 10 percent gravel and cobbles; common medium prominent yellowish red (5YR 5/6) masses of iron accumulation; strongly acid; gradual wavy boundary; **Bg2**--25 to 46 cm; light brownish gray (2.5Y 6/2) fine sandy loam; weak medium subangular blocky structure; friable; few fine and medium roots; 10 percent gravel and cobbles; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; gradual wavy boundary; **BC**--46 to 61 cm; pale brown (10YR 6/3) fine sandy loam; massive; friable; few fine roots; 10 percent gravel and cobbles; many medium distinct yellowish brown (10YR 5/6) and yellowish red (5YR 4/6) masses of iron accumulation; strongly acid; clear wavy boundary. **C1**--61 to 84 cm; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; massive; friable; 15 percent gravel and cobbles; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation and prominent pinkish gray (7.5YR 6/2) iron depletions; strongly acid; gradual wavy boundary; **C2**--84 to 155 cm; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; massive; friable; 15 percent gravel and cobbles; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid.

The Whitman series consists of very deep, very poorly drained soils formed in lodgment till derived mainly from granite, gneiss, and schist. They are shallow to a densic contact. These soils are nearly level or gently sloping soils in depressions and drainageways on uplands. A typical profile associated with Whitman soils is as follows: **Ap**--0 to 25 cm; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak medium granular structure; friable; 10 percent rock fragments; common medium distinct red (2.5YR

4/8) masses of iron accumulation lining pores; moderately acid; abrupt wavy boundary; **Bg**--25 to 46 cm; gray (5Y 5/1) fine sandy loam; massive; friable; 10 percent rock fragments, few medium distinct pale olive (5Y 6/4) and light olive brown (2.5Y 5/4) masses of iron accumulation; strongly acid; abrupt wavy boundary; **Cdg**--46 to 79 cm; gray (5Y 6/1) fine sandy loam; moderate medium plates; firm; 10 percent rock fragments; many medium distinct light olive brown (2.5Y 5/4) masses of iron accumulation; moderately acid; clear wavy boundary; **Cd1**--79 to 122 cm; olive (5Y 4/3) fine sandy loam; massive; firm; 10 percent rock fragments; few medium prominent dark reddish brown (2.5YR 3/4) masses of iron accumulation; moderately acid; gradual wavy boundary; and **Cd2**--122 to 165 cm; olive (5Y 5/3) fine sandy loam; massive; firm; 10 percent rock fragments; moderately acid.

Gloucester Series

The Gloucester series consists of very deep, somewhat excessively drained soils formed in sandy till. They are nearly level through very steep soils on ground moraine uplands and moraines. Slope ranges from 0 through 50 percent; **Oa** -- 0 to 2 inch (0 to 5 centimeters); black (N 2/) highly decomposed plant material; many fine roots; very strongly acid; **A** -- 2 to 6 inches (5 to 15 centimeters); very dark grayish brown (10YR 3/2) sandy loam; weak fine and medium granular structure; very friable; many fine, medium and coarse roots; 10 percent gravel; very strongly acid; abrupt wavy boundary; **Bw1** -- 6 to 15 inches (15 to 38 centimeters); strong brown (7.5YR 5/6) gravelly sandy loam; weak fine and medium granular structure; very friable; many fine, medium and coarse roots; 30 percent cobbles and gravel; strongly acid; clear wavy boundary; **Bw2** -- 15 to 29 inches (38 to 74 centimeters); yellowish brown (10YR 5/6) very gravelly loamy coarse sand; very weak fine and medium granular structure; very friable; common fine and medium roots; 40 percent cobbles and gravel; strongly acid; clear wavy boundary.; and **C** -- 29 to 65 inches (74 to 165 centimeters); light yellowish brown (2.5Y 6/4) very gravelly loamy coarse sand; massive; very friable; few fine and medium roots; 40 percent cobbles and gravel; strongly acid.

Summary

A review of mapping, geological data, ecological conditions, soils, slopes, and proximity to freshwater suggests that portions of the Project area appear to be amenable to both precontact era and post-European Contact period occupations. This includes areas of low to moderate slopes with well-drained soil located near freshwater sources. The types of precontact sites that may be contained in these areas include task specific, temporary, or seasonal base camps, which may include areas of lithic tool manufacturing, hearths, post-molds, and storage pits.

CHAPTER III
PRECONTACT ERA SETTING

Introduction

Prior to the late 1970s and early 1980s, very few systematic archaeological surveys of large portions of the State of Connecticut had been undertaken. Rather, the precontact period of the region was studied at the site level. Sites chosen for excavation were highly visible and they were in such areas as the coastal zone, e.g., shell middens, and Connecticut River Valley. As a result, a skewed interpretation of the precontact period of Connecticut was developed. It was suggested that the upland portions of the state, i.e., the northeastern and northwestern hills ecoregions, were little used and rarely occupied by precontact Native Americans, while the coastal zone, i.e., the eastern and western coastal and the southeastern and southwestern hills ecoregions, were the focus of settlements and exploitation in the precontact era. This interpretation remained unchallenged until the 1970s and 1980s when several town-wide and regional archaeological studies were completed. These investigations led to the creation of several archaeological phases that subsequently were applied to understand the precontact period of Connecticut. The remainder of this chapter provides an overview of the precontact setting of the region encompassing the project parcel.

Paleo-Indian Period (12,000 to 10,000 Before Present [B.P.])

The earliest inhabitants of the area encompassing the State of Connecticut, who have been referred to as Paleo-Indians, arrived in the area by ca., 13,000 B.P. (Gramly and Funk 1990; Snow 1980). Due to the presence of large Pleistocene mammals at that time and the ubiquity of large fluted projectile points in archaeological deposits of this age, Paleo-Indians often have been described as big-game hunters (Ritchie and Funk 1973; Snow 1980); however, as discussed below, it is more likely that they hunted a broad spectrum of animals. While there have been over 50 surface finds of Paleo-Indian projectile points throughout the State of Connecticut (Bellantoni 1995), only three sites, the Templeton Site (6-LF-21) in Washington, Connecticut, the Hidden Creek Site (72-163) in Ledyard, Connecticut, and the Brian D. Jones Site (4-10B) in Avon, Connecticut have been studied in detail and dated using the radiocarbon method (Jones 1997; Moeller 1980; Singer 2017a; Leslie et al. 2020).

The Templeton Site (6-LF-21) is in Washington, Connecticut and was occupied between 10,490 and 9,890 years ago (Moeller 1980). In addition to a single large and two small, fluted points, the Templeton Site produced a stone tool assemblage consisting of gravers, drills, core fragments, scrapers, and channel flakes, which indicates that the full range of stone tool production and maintenance took place at the site (Moeller 1980). Moreover, the use of both local and non-local raw materials was documented in the recovered tool assemblage, suggesting that not only did the site's occupants spend some time in the area, but they also had access to distant stone sources, the use of which likely occurred during movement from region to region. More recently, the site has undergone re-investigation by Singer (2017a and 2017b), who has determined that most tools and debitage are exotic and were quarried directly from the Hudson River Valley. Recent research has focused on task-specific loci at the Templeton Site, particularly the production of numerous Michaud-Neponset projectile points, as identified through remnant channel flakes.

The Hidden Creek Site (72-163) is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut (Jones 1997). While excavation of the Hidden Creek Site produced evidence of Terminal Archaic and Woodland Period components (see below) in the upper soil horizons, the lower levels of the site yielded artifacts dating from the Paleo-Indian era.

Recovered Paleo-Indian artifacts included broken bifaces, side-scrapers, a fluted preform, gravers, and end-scrapers. Based on the types and number of tools present, Jones (1997:77) has hypothesized that the Hidden Creek Site represented a short-term occupation, and that separate stone tool reduction and rejuvenation areas were present.

The Brian D. Jones Site (4-10B) was identified in a Pleistocene levee on the Farmington River in Avon, Connecticut; it was buried under 1.5 m (3.3 ft) of alluvium (Leslie et al. 2020). The Brian D. Jones Site was identified by Archaeological and Historical Services, Inc., in 2019 during a survey for the Connecticut Department of Transportation preceding a proposed bridge construction project. It is now the oldest known archaeological site in Connecticut at +12,500 years old. The site also provides a rare example of a Paleo-Indian site on a river rather than the more common upland areas or on the edges of wetlands. Ground-penetrating radar survey revealed overbank flooding and sedimentation that resulted in the creating of a stable ancient river levee with gentle, low-energy floods. Archaeological deposits on the levee were therefore protected.

Excavations at the Brian D. Jones Site revealed 44 soil anomalies, 27 of which were characterized as cultural features used as hearths and post holes, among other uses. One hearth has been dated thus far (10,520 ± 30 14C yr BP; charred Pinus; 2-sigma 12,568 to 12,410 CAL BP) (Leslie et al. 2020:4). Further radiocarbon testing will be completed in the future. Artifact concentrations surrounded these features and were separated in two stratigraphic layers represented at least two temporally discrete Paleo-Indian occupations. The recovered lithic artifacts are fashioned from Normanskill chert, Hardyston jasper, Jefferson/Mount Jasper rhyolite, chalcedony, siltstone, and quartz (Leslie 2023). They include examples of a fluted point base, preforms, channel flakes, pièces esquillées, end scrapers, side scrapers, grinding stones, bifaces, utilized flakes, gravers, and a drilled stone pendant fragment. Lithic tools numbered over 100, while toolmaking debris was in the thousands. The channel flakes represent the production of spear points used in hunting. Scrapers, perforators, and grinding stones indicate animal butchering, plant food grinding, the production of wood and bone tools, and the processing of animal skins for clothing and tents. Other collected cultural materials included charred botanicals and calcined bone. Botanicals recovered in hearth features included burned remains of cattail, pin cherry, strawberry, acorn, sumac, water lily, and dogwood (Leslie 2023). Approximately 15,000 artifacts were collected from the site.

The scarcity of identified Paleo-Indian sites suggests a low population density during this period. The small size of most Paleo-Indian sites, their likely inundation by rising sea levels, and the high degree of landscape disturbance over the past 10,000 years likely contribute to poor site visibility, although the presence of two deeply alluvially buried Paleo-Indian sites in Connecticut suggests that other sites may be located along stable rivers (Leslie et al. 2021).

Archaic Period (10,000 to 2,700 B.P.)

The Archaic Period, which succeeded the Paleo-Indian Period, began by ca., 10,000 B.P. (Ritchie and Funk 1973; Snow 1980), and it has been divided into three subperiods: Early Archaic (10,000 to 8,000 B.P.), Middle Archaic (8,000 to 6,000 B.P.), and Late Archaic (6,000 to 3,400 B.P.). These periods were devised to describe all non-farming, non-ceramic producing populations in the area. Regional archeologists recently have recognized a final “transitional” Archaic Period, the Terminal Archaic Period (3,400-2,700 B.P.), which was meant to describe those groups that existed just prior to the onset of the Woodland Period and the widespread adoption of ceramics into the toolkit (Snow 1980; McBride 1984; Pfeiffer 1984, 1990; Witthoft 1949, 1953).

Early Archaic Period (10,000 to 8,000 B.P.)

To date, very few Early Archaic sites have been identified in southern New England. As a result, researchers such as Fitting (1968) and Ritchie (1969), have suggested a lack of these sites likely is tied to cultural discontinuity between the Early Archaic and preceding Paleo-Indian Period, as well as a population decrease from earlier times; however, with continued identification of Early Archaic sites in the region, and the recognition of the problems of preservation, it is difficult to maintain the discontinuity hypothesis (Curran and Dincauze 1977; Snow 1980).

Like their Paleo-Indian predecessors, Early Archaic sites tend to be very small and produce few artifacts, most of which are not temporally diagnostic. While Early Archaic sites in other portions of the United States are represented by projectile points of the Kirk series (Ritchie and Funk 1973) and by Kanawha types (Coe 1964), sites of this age in southern New England are identified on the basis of a series of ill-defined bifurcate-based projectile points. These projectile points are identified by the presence of their characteristic bifurcated base, and they generally are made from high quality raw materials. Moreover, the recovery of these projectile points has rarely been in stratified contexts. Rather, they occur commonly either as surface expressions or intermixed with artifacts representative of later periods. Early Archaic occupations, such as the Dill Farm Site and Sites 6LF64 and 6LF70 in Litchfield County, are represented by camps that were relocated periodically to take advantage of seasonally available resources (McBride 1984; Pfeiffer 1986). In this sense, a foraging type of settlement pattern was employed during the Early Archaic Period.

Another localized cultural tradition, the Gulf of Maine Archaic, which lasted from ca. 9,500 to 6,000 14C BP, is beginning to be recognized in Southern New England (Petersen and Putnam 1992). It is distinguished by its microlithic industry, which may be associated with the production of compound tools (Robinson and Peterson 1993). Assemblages from Maine (Petersen et al. 1986; Petersen 1991; Sanger et al. 1992), Massachusetts (Strauss 2017; Leslie et al. 2022), and Connecticut (Forrest 1999) reflect the selection of local, coarse-grained stones. Large choppers and hoe-like forms from southeastern Connecticut's Sandy Hill Site likely functioned as digging implements. Woodworking tools, including adzes, celts, and gull-channeled gouges recovered at the Brigham and Sharrow sites in Maine (Robinson and Petersen 1993:68) may have been used for dugout canoe manufacture. The deeply stratified Sandy Hill (Forrest 1999; Jones and Forrest 2003) and Sharrow sites (Petersen 1991), with their overlapping lenses of "black sand" floor deposits, suggest intensive site re-occupations according to an adaptation that relied, in part, on seasonally available wetland resources. Thus far, sites from this tradition have only been identified within coastal and near-coastal territories along the Gulf of Maine, in southeastern Connecticut, and in Massachusetts.

Middle Archaic Period (8,000 to 6,000 B.P.)

By the onset of the Middle Archaic Period modern deciduous forests had developed in the region (Davis 1969). Increased numbers and types of sites associated with this period are noted in Connecticut (McBride 1984). The most well-known Middle Archaic site in New England is the Neville Site in Manchester, New Hampshire studied by Dincauze (1976). Careful analysis of the Neville Site indicated that the Middle Archaic occupation dated from between 7,700 and 6,000 years ago. In fact, Dincauze obtained several radiocarbon dates from the Middle Archaic component of the Neville Site associated with the then-newly named Neville type projectile point, ranging from 7,740±280 and 7,015±160 B.P. (Dincauze 1976).

In addition to Neville points, Dincauze (1976) described two other projectile points styles that are attributed to the Middle Archaic Period: Stark and Merrimac projectile points. While no absolute dates

were recovered from deposits that yielded Stark points, the Merrimac type dated from 5,910±180 B.P. Dincauze argued that both the Neville and later Merrimac and Stark occupations were established to take advantage of the excellent fishing that the falls situated adjacent to the site area would have afforded Native American groups. Thus, based on the available archaeological evidence, the Middle Archaic Period is characterized by continued increases in diversification of tool types and resources exploited, as well as by sophisticated changes in the settlement pattern to include different site types, including both base camps and task-specific sites (McBride 1984:96).

Late Archaic Period (6,000 to 3,700 B.P.)

The Late Archaic Period in southern New England is divided into two major cultural traditions that appear to have coexisted. They include the Laurentian and Narrow-Stemmed Traditions (Funk 1976; McBride 1984; Ritchie 1969a and b). Artifacts assigned to the Laurentian Tradition include ground stone axes, adzes, gouges, ulus (semi-lunar knives), pestles, atlatl weights, and scrapers. The diagnostic projectile point forms of this time period in southern New England include the Brewerton Eared-Notched, Brewerton Eared and Brewerton Side-Notched varieties (McBride 1984; Ritchie 1969a; Thompson 1969). In general, the stone tool assemblage of the Laurentian Tradition is characterized by flint, felsite, rhyolite, and quartzite, while quartz was largely avoided for stone tool production.

In terms of settlement and subsistence patterns, archaeological evidence in southern New England suggests that Laurentian Tradition populations consisted of groups of mobile hunter-gatherers. While a few large Laurentian Tradition occupations have been studied, sites of this age generally encompass less than 500 m^2 (5,383 ft^2). These base camps reflect frequent movements by small groups of people in search of seasonally abundant resources. The overall settlement pattern of the Laurentian Tradition was dispersed in nature, with base camps located in a wide range of microenvironments, including riverine as well as upland zones (McBride 1978, 1984:252). Finally, subsistence strategies of Laurentian Tradition focused on hunting and gathering of wild plants and animals from multiple ecozones.

The second Late Archaic tradition, known as the Narrow-Stemmed Tradition, is unlike the Laurentian Tradition, and it likely represents a different cultural adaptation. The Narrow-Stemmed Tradition is recognized by the presence of quartz and quartzite narrow stemmed projectile points, triangular quartz Squibnocket projectile points, and a bipolar lithic reduction strategy (McBride 1984). Other tools found in Narrow-Stemmed Tradition artifact assemblages include choppers, adzes, pestles, antler and bone projectile points, harpoons, awls, and notched atlatl weights. Many of these tools, notably the projectile points and pestles, indicate a subsistence pattern dominated by hunting and fishing, as well the collection of a wide range of plant foods (McBride 1984; Snow 1980:228).

The Narrow-Stemmed Tradition also marks one of the most prevalent manifestations of the archaeological record in southern New England, narrow-stemmed projectile points, often untyped, or typed as Lamoka, Wading River, or Squibnocket Stemmed forms. These are generally attributed to a form of projectile technology, but some (Boudreau 2008), have suggested that these tool forms might not be related to projectile technology, and may instead relate to graver or drill functions. Boudreau (2008) also drew important connections to the forms of these narrow-stemmed points with later Woodland era forms, such as Rossville points, which are nearly identical. Others (Lavin 2013; Zoto 2019) have similarly suggested a continuation of the Narrow-Stemmed Tradition into the Woodland era, with most of this evidence originating at coastal sites in southern New England. The vast majority of Narrow-Stemmed projectile points that are associated with cultural features suitable for radiocarbon dating, particularly Lamoka style projectile points, are associated with Late Archaic date ranges (Lavin 2013).

The Terminal Archaic Period (3,700 to 2,700 B.P.)

The Terminal Archaic, which lasted from ca., 3,700 to 2,700 BP, is perhaps the most interesting, yet confusing of the Archaic Periods in southern New England precontact periods. Originally termed the "Transitional Archaic" by Witthoft (1953) and recognized by the introduction of technological innovations, e.g., broadspear projectile points and soapstone bowls, the Terminal Archaic has long posed problems for regional archaeologists. While the Narrow-Stemmed Tradition persisted through the Terminal Archaic and into the Early Woodland Period, the Terminal Archaic is coeval with what appears to be a different technological adaptation, the Susquehanna Tradition (McBride 1984; Ritchie 1969b). The Susquehanna Tradition is recognized in southern New England by the presence of a new stone tool industry that was based on the use of high-quality raw materials for stone tool production and a settlement pattern different from the "coeval" Narrow-Stemmed Tradition.

The Susquehanna Tradition is based on the classification of several Broadspear projectile point types and associated artifacts. There are several local sequences within the tradition, and they are based on projectile point type chronology. Temporally diagnostic projectile points of these sequences include the Snook Kill, Susquehanna Broadspear, Mansion Inn, and Orient Fishtail types (Lavin 1984; McBride 1984; Pfeiffer 1984). The initial portion of the Terminal Archaic Period (ca., 3,700-3,200 BP) is characterized by the presence of Snook Kill and Susquehanna Broadspear projectile points while the latter Terminal Archaic (3,200-2,700 BP) is distinguished by Orient Fishtail projectile points (McBride 1984:119; Ritchie 1971).

In addition, it was during the late Terminal Archaic that interior cord marked, grit tempered, thick-walled ceramics with conoidal (pointed) bases made their initial appearance in the Native American toolkit. These are the first ceramics in the region, and they are named Vinette I (Ritchie 1969a; Snow 1980:242); this type of ceramic vessel appears with much more frequency during the ensuing Early Woodland Period. In addition, the adoption and widespread use of soapstone bowls, as well as the implementation of subterranean storage, suggests that Terminal Archaic groups were characterized by reduced mobility and longer-term use of established occupation sites (Snow 1980:250).

Finally, while settlement patterns appeared to have changed, Terminal Archaic subsistence patterns were analogous to earlier patterns. The subsistence pattern was still diffuse in nature, and it was scheduled carefully. Typical food remains recovered from sites of this period consist of fragments of white-tailed deer, beaver, turtle, fish, and various small mammals. Botanical remains recovered from the site area consisted of *Chenopodium* sp., hickory, butternut, and walnut (Pagoulatos 1988:81). Such diversity in food remains suggests at least minimal use of a wide range of microenvironments for subsistence purposes.

Woodland Period (2,700 to 350 B.P.)

Traditionally, the advent of the Woodland Period in southern New England has been associated with the introduction of pottery; however, as mentioned above, early dates associated with pottery now suggest the presence of Vinette I ceramics appeared toward the end of the preceding Terminal Archaic Period (Ritchie 1969a; McBride 1984). Like the Archaic Period, the Woodland Period has been divided into three subperiods: Early, Middle, and Late Woodland. The various subperiods are discussed below.

Early Woodland Period (ca., 2,700 to 2,000 B.P.)

The Early Woodland Period of the northeastern United States dates from ca., 2,700 to 2,000 B.P., and was thought to have been characterized by the advent of farming, the initial use of ceramic vessels, and increasingly complex burial ceremonialism (Griffin 1967; Ritchie 1969a and 1969b; Snow 1980). In the

Northeast, the earliest ceramics of the Early Woodland Period are thick walled, cord marked on both the interior and exterior, and possess grit temper. Archaeological investigations of Early Woodland sites in southern New England resulted in the recovery of narrow stemmed projectile points in association with ceramic sherds and subsistence remains, including specimens of white-tailed deer, soft and hard-shell clams, and oyster shells (Lavin and Salwen: 1983; McBride 1984:296-297; Pope 1952). McBride (1984) has argued that the combination of the subsistence remains and the recognition of multiple superimposed cultural features at various sites indicate that Early Woodland Period settlement patterns were characterized by multiple re-use of the same sites on a seasonal basis by small co-residential groups.

Middle Woodland Period (2,000 to 1,200 B.P.)

The Middle Woodland Period is marked by an increase in the number of ceramic types and forms utilized (Lizee 1994a), as well as an increase in the amount of exotic lithic raw material used in stone tool manufacture (McBride 1984). The latter suggests that regional exchange networks were established, and that they were used to supply local populations with necessary raw materials (McBride 1984; Snow 1980). The Middle Woodland Period is represented archaeologically by narrow stemmed and Jack's Reef projectile points; increased amounts of exotic raw materials in recovered lithic assemblages, including chert, argillite, jasper, and hornfels; and conoidal ceramic vessels decorated with dentate stamping. Ceramic types that are indicative of the Middle Woodland Period include Linear Dentate, Rocker Dentate, Windsor Cord Marked, Windsor Brushed, Windsor Plain, and Hollister Stamped (Lizee 1994a:200).

In terms of settlement patterns, the Middle Woodland Period is characterized by the occupation of village sites by large co-residential groups that utilized native plant and animal species for food and raw materials in tool making (George 1997). These sites were the principal place of occupation, and they were positioned close to major river valleys, tidal marshes, estuaries, and the coastline, all of which would have supplied an abundance of plant and animal resources (McBride 1984:309). In addition to villages, numerous temporary and task-specific sites were utilized in the surrounding upland areas, as well as in closer ecozones such as wetlands, estuaries, and floodplains. The use of temporary and task-specific sites to support large village populations indicates that the Middle Woodland Period was characterized by a resource acquisition strategy that can best be termed as logistical collection (McBride 1984:310).

Late Woodland Period (ca., 1,200 to 350 B.P.)

The Late Woodland Period in southern New England dates from ca., 1,200 to 350 B.P., and it is characterized by the earliest evidence for the use of corn in the lower Connecticut River Valley (Bendremer 1993; Bendremer and Dewar 1993; Bendremer et al. 1991; George 1997; McBride 1984); an increase in the frequency of exchange of non-local lithics (Feder 1984; George and Tryon 1996; McBride 1984; Lavin 1984); increased variability in ceramic form, function, surface treatment, and decoration (Lavin 1980, 1986, 1987; Lizee 1994a, 1994b); and a continuation of a trend towards larger, more permanent settlements in riverine, estuarine, and coastal ecozones (Dincauze 1974; McBride 1984; Snow 1980).

Stone tool assemblages associated with Late Woodland occupations, especially village-sized sites, are functionally variable and they reflect plant and animal resource processing and consumption on a large scale. Finished stone tools recovered from Late Woodland sites include Levanna and Madison projectile points; drills; side-, end-, and thumbnail scrapers; mortars and pestles; nutting stones; netsinkers; and celts, adzes, axes, and digging tools. These tools were used in activities ranging from hide preparation to

plant processing to the manufacture of canoes, bowls, and utensils, as well as other settlement and subsistence-related items (McBride 1984; Snow 1980). Finally, ceramic assemblages recovered from Late Woodland sites are as variable as the lithic assemblages. Ceramic types identified include Windsor Fabric Impressed, Windsor Brushed, Windsor Cord Marked, Windsor Plain, Clearview Stamped, Sebonac Stamped, Selden Island, Hollister Plain, Hollister Stamped, and Shantok Cove Incised (Lavin 1980, 1988a, 1988b; Lizee 1994a; Pope 1953; Rouse 1947; Salwen and Ottesen 1972; Smith 1947). These types are more stylistically diverse than their predecessors with incision, shell stamping, punctation, single point, linear dentate, rocker dentate stamping, and stamp and drag impressions common (Lizee 1994a:216).

Summary of Connecticut Precontact Period

The precontact period of Connecticut spans from ca. 13,000 to 350 B.P., and it is characterized by numerous changes in tool types, subsistence patterns, and land use strategies. Much of this era is characterized by local Native American groups who practiced a subsistence pattern based on a mixed economy of hunting and gathering plant and animal resources. It is not until the Late Woodland Period that incontrovertible evidence for the use of domesticated species is available. Further, settlement patterns throughout the precontact period shifted from seasonal occupations of small co-residential groups to large aggregations of people in riverine, estuarine, and coastal ecozones. In terms of the region that includes the proposed project parcel, a variety of precontact site types may be expected, ranging from seasonal camps utilized by Paleo-Indian and Archaic populations to temporary and task-specific sites of the Woodland era.

CHAPTER IV
POST-EUROPEAN CONTACT PERIOD OVERVIEW

Introduction

The Facility is located along Artillery Road in the Town of Woodbury, which is located in Litchfield County, Connecticut. Settled in 1673, Woodbury originally encompassed a large territory and included the modern towns of Southbury, Roxbury, and Bethlehem, as well as parts of Washington and Middlebury. While agriculture dominated Woodbury for most of its history, the town eventually became a residential suburb. This chapter presents a brief overview history of Litchfield County and the town of Woodbury, as well as data specific to the proposed project parcel and Facility areas.

Litchfield County

Litchfield County was founded in 1751 with land drawn from Fairfield, New Haven, and Hartford Counties (Hoadly 1877). Located in the northwest corner of Connecticut, it is bounded to the south by New Haven and Fairfield Counties, to the east by Hartford County, to the north by Berkshire and Hampden Counties, Massachusetts, and to the west by Dutchess County, New York. Litchfield County is the largest county in Connecticut by total area. Its landscape includes rocky hills adjacent to the Berkshire Mountains, including Bear Mountain, the highest peak in Connecticut, interspersed with flat lands and watersheds. Important bodies of water associated with Litchfield County include the Housatonic River, Naugatuck River, Candlewood Lake, Barkhamsted Reservoir, Lake Waramaug, in addition to smaller un-named streams and ponds. Torrington is the only city in Litchfield County and the most populous location in the county (Connecticut 2023).

Woodland Period to the Seventeenth Century

During the Woodland Period of northeastern North American history (ca., 3,000 to 500 years ago), the Indigenous peoples who resided along the shoreline in central Connecticut were part of the greater Algonquian culture of northeastern North America (Lavin 2013). They spoke local variations of Southern New England Algonquian (SNEA) languages and lived in extended kinship groups on lands they maintained for a variety of horticultural and resource extraction purposes (Goddard 1978). Indigenous people in the region practiced subsistence activities including hunting, fowling, and fishing, along with the cultivation of various crops, the most important of which were maize, squash, and beans. They supplemented these foods seasonally by collecting shellfish, fruits, and plants during warmer periods, and gathering nuts, roots, and tubers during colder times. In addition, these communities came together in large groups to hunt deer in the fall and winter. Indigenous peoples lived with their immediate or extended families in large settlements, often concentrated along rivers and/or wetlands. Some villages were fortified by wooden palisades. Their habitation, known as a weetu or wigwam, was usually constructed of a tree-sapling frame and covered in reed matting during warm months and tree bark throughout the winter. These varied in size from a small, individual dwelling, to an expansive “long house,” which could accommodate several families. Native communities commonly traded among their immediate neighbors and often maintained long-distance networks (Lavin 2013). Southwestern Connecticut was the territory of the Pootatuck and Paugussett tribes. The domain of these groups ran from the coast of Long Island Sound to as far northward as present-day Waterbury and Woodbury.

In 1633, the Pequot allowed the Dutch to build a fortified trading post on the Connecticut River at the site of present-day Hartford to further cement both parties’ domination over the flow of wampum, fur, and trade goods. To break from the Pequot, several Connecticut River sachems invited the English to

settle in the Connecticut River Valley (Van Dusen 1961). Increased European interaction resulted in exposure to diseases and epidemics Indigenous people had never encountered and to which they had no natural immunity. Illnesses such as smallpox, measles, tuberculosis, and cholera devastated Indigenous communities (Lavin 2013). In 1633, an epidemic spread through the region impacting the Pequot and may have spread among the Quinnipiac as well. Additionally, tensions between Native and European groups laying claim to the Connecticut River resulted in the death of several colonial traders between 1634 and 1636, which the Pequot were assumed responsible. In retaliation, English forces from Massachusetts Bay destroyed Pequot and Nehantic villages on the Pequot (Thames) River in August 1636 which began the Pequot War. The Pequot laid siege to Saybrook Fort at the mouth of the Connecticut River during the winter of 1636-1637 and attacked Wethersfield in April 1637 further upriver. Connecticut Colony declared war on the Pequot and were joined by Native warriors from the Connecticut River and Mohegans under the Sachem Uncas (Oberg 2006). In May 1637, English allied forces destroyed the fortified Pequot village at Mistick which proved to be the turning point of the war. Pequot refugees fled west with their Sachem, Sassacus. English forces gave chase, making landfall at Quinnipiac and pursuing them west through present-day New Haven County (Cave 1996). In July 1637, the Pequot were defeated in present-day Fairfield and the war soon came to an end. After the war, the Connecticut English claimed Pequot territory as conquered lands for their newly established colony.

In January of 1639, the river towns adopted the "fundamental orders," which outlined the framework for the self-governed Connecticut Colony separate from Massachusetts Bay or Plimoth (Trumbull 1886). Soon after, Connecticut Colony joined with Massachusetts Bay, Plimoth, and New Haven Colonies to form the United Colonies of New England in 1643 for mutual defense against regional threats. In 1662, Governor John Winthrop, Jr. obtained a royal charter from King Charles II to legitimize the existence of Connecticut Colony in the English Empire. Hartford County was established in 1666 as one of the four original counties and consisted of the towns of Windsor, Wethersfield, Hartford, Farmington (1645), and Middletown (1651) (Barry 1985).

While there is a dearth of data on the early Native populations, land transfers shed some light on the Indigenous peoples of Connecticut. English colonists purchased the Woodbury territory, called Pomperaug, from the local Native Americans, though the English concept of land ownership differed from that of the natives. In 1659, a group of "Pagasset" Native Americans sold a vast amount of land in the area that became Woodbury, though members of the Pootatuck tribe occupied that area. In 1673, the colonists paid Pootatuck leaders for a large section of land flanking the Pomperaug River and continued to make additional purchases of land until 1706. A substantial portion on the north bank of the Pootatuck River was kept back from these sales as a reservation. The Pootatucks who remained in the area began selling off this reservation in 1729, making subsequent sales in 1733 and 1734. The remaining land, which only a few people occupied, was finally sold and abandoned in 1758 (Cothren 1854). These types of land sales that drove Native Americans from their ancestral lands to settle elsewhere were common occurrences in colonial Connecticut. The territory of Woodbury originally stretched as far south as the Housatonic River and as far north as the northern border of Bethlehem. Woodbury was established by colonists from the coastal town of Stratford who chose to relocate because of religious differences, and in 1673, they established their new community and made their first land purchase in what became Woodbury (Cothren 1854).

Eighteenth through Nineteenth Century

Early settlers focused mostly on subsistence farming, while others raised sheep as well. Apple orchards were commonplace throughout the area and locals also raised flax and clover, producing cloth, twine, linseed oil, and clover seed for market. The Roxbury area proved to be an abundant mine and quarry

location and yielded iron used to make steel, stone for hearthstones, and quartz that was ground down for a variety of uses (Ancient Woodbury Tercentennial Committee 1959). By 1774, there were 5,313 residents in Woodbury, after which the town experienced a series of separations. Slavery existed in Litchfield County, including in Woodbury, although it was uncommon in the seventeenth century, and by the eighteenth century it was primarily practiced by wealthy families, merchants, and ministers in larger towns (Hurd 1881; Orcutt 1886; Rockey 1892). The 1774 Connecticut colonial census for the Town of Woodbury recorded a "White" population of 5,224, with 89 African Americans and 9 Native Americans, although the number of enslaved individuals was not noted (Hoadly 1887). In 1779, the northwestern corner of the territory became the southern section of the town of Washington.

During the American Revolution (1775-1783), Connecticut played an important role in the process of recruiting soldiers, supplying food stores, and providing a variety of military goods for the war effort. Throughout the war, the Connecticut shoreline suffered from raids from Long Island-based loyalists who would take cattle and sheep to sell in British New York. In 1779, several western Connecticut shoreline towns were invaded in what became known as "Tryon's Raid." British troops looted and set fire to the towns before reembarking (Lambert 1838; Van Dusen 1961). Meanwhile, some Connecticut towns housed populations supportive to the British cause, including the Tory strongholds of Woodbury and Waterbury (Van Dusen 1961). Of note, the Town of Woodbury offered freedom to any enslaved individuals who fought in the Revolutionary Army; 25 African American men from town then joined the fighting forces (Lewis 1881). After the Revolution, the region recovered from wartime economic disruptions thanks to its robust agricultural production and maritime trade. In 1784, the State passed a gradual manumission law, but slavery was not fully abolished until 1848 (Normen 2013). On January 9, 1788, Connecticut ratified the U.S. Constitution to become the fifth state (Van Dusen 1961). In 1787, the new towns of Bethlehem and Southbury were created from Woodbury's northernmost and southernmost portions, reducing its population to 2,662 residents as of 1790. The town of Roxbury separated in 1796 and Woodbury's population fell further to 1,944 inhabitants as of 1800 (Connecticut 2023, 2024a).

Nineteenth through Twenty-first Centuries

The growth and development of towns in the early nineteenth century created a need for better roads. This work was taken up by private corporations who established toll-funded turnpikes throughout the state; two of these were built through Woodbury as of 1803. The Washington Turnpike ran from the center of Woodbury to the northwest, to the center of Washington. The Middle Road Turnpike ran from southwest to northeast through central Woodbury on a route from Danbury to Hartford (Wood 1919). The purpose of these roads was to promote commerce and industry in the region, and to some extent they had that effect. As of 1819, Woodbury's agriculture focused on grains and tree fruits, especially apples. The town also had timber resources and three good mill streams, which supported a handful of tinware factories, fulling mills, grist mills, tanneries, and wool carding machines (Pease and Niles 1819). By the 1850s, Woodbury had numerous factories making a variety of products, including textiles, leather and leather goods, cigars, buttons, thimbles, cabinets, and spectacles (United States Census Bureau 1850). Woodbury was also known as the cutlery capital of the state, due to the number of producers in town (Ancient Woodbury Tercentennial Committee 1959). Despite these various industrial endeavors, the town did not experience significant growth and the population fluctuated throughout the second half of the nineteenth century. In 1850, Woodbury had 2,150 residents and by 1890 there were 1,815 (Connecticut 2024b; Table 1). One key factor in Woodbury's lack of growth was that no railroads entered the town (Turner and Jacobus 1989). Without access to this efficient and relatively inexpensive transport option, in the long run Woodbury's industries could not compete with those located

elsewhere. Additionally, rocky soil and the exodus of Connecticut farmers to the western territory of Ohio kept the population low (Stiles 1959).

As of the early twentieth century, Woodbury was a farming community with limited industrial facilities, which primarily consisted of manufacturing shears and cutlery (Connecticut 1910). The town's population continued to fluctuate during the early decades, never reaching 2,000 inhabitants, mostly because of the limited economic opportunities for residents (Connecticut 2024c). Around mid-century, the population increased dramatically due to the suburbanization trend when many people moved out of cities. As part of the changing demographics in town, Woodbury became a center for Surrealist artists (Hodara 2021). While in 1940, the town had 1,998 residents, by 1970 the population had risen to 5,869 (Table 1; Connecticut 2024c-d). At that time, Woodbury had moved away from agriculture and machine shops were the most prominent industry (Connecticut 1970). Woodbury's population continued to increase as the town became a residential suburb. By 2022, Woodbury had 9,775 residents and the largest employment sector in town was retail followed by local government (AdvanceCT 2024). While there are small mining, industrial, and agricultural areas, most of the town's landscape consists of residential houses. In terms of future growth, town officials intend to focus on attracting and retaining residents to maintain the town's residential character (Woodbury 2020).

Table 1: Population of Woodbury, Connecticut 1790-2020 (Connecticut 2024a-d; USCB 2023)

Town	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900
Woodbury, Litchfield County	2,662	1,944	1,963	1,885	2,045	1,948	2,150	2,037	1,931	2,149	1,815	1,988
	1910	**1920**	**1930**	**1940**	**1950**	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2020**
	1,860	1,698	1,744	1,998	2,564	3,910	5,869	6,942	8,131	9,198	9,975	9,726

History of the Project Parcel and Facility Areas

The proposed Facility is located along Artillery Road in the town of Woodbury, Connecticut. During the nineteenth century, the area was a largely agricultural landscape in the eastern portion of Woodbury. An 1859 map indicates that the project parcel contained a property owned by W.R. Atwood, likely William R. Atwood, a farmer (USCB 1850; Figure 4). Atwood was a common surname in the town in the nineteenth century, as is evidenced by the numerous landowners in the vicinity with that name. Within the northern portion of the project parcel an unnamed stream was noted. By 1874, the structures present in the 1859 map are still present, but area listed under F.J. Atwood. Other residences within proximity to the parcel include those listed under "E.M.A," possibly a member of the Atwood family, as well as J. Cotily (Figure 5). F.J. Atwood was likely Frank J. Atwood, a farmer, but the documentary record does not provide information on Cotily (USCB 1870). This confirms the use of the land for agricultural purposes throughout the nineteenth century.

Throughout the twentieth century, the region around the proposed Facility remained largely agricultural land. In 1934, the first year in which aerial photography was available, the photograph shows the project area on land that was mostly cleared agricultural land, with some pockets of wooded land in the northernmost portion (Figure 6). A freshwater stream bisected the project parcel along its east/west axis and a single-family home was present in the southernmost portion of the project parcel. The greater project environment also consisted of open, agricultural land. By 1990, portions of the project parcel had been reforested, although two main fields remained (Figure 7). The single-family home in the southern part of the project parcel was not visible; it is unclear if it was still present and obscured by trees or if it was no longer present. Outside of the area, slight residential development was evident to the west of the proposed Facility, as well as some commercial development to the east of the project

parcel. In the early twenty-first century, only slight development was noted near the proposed Facility, while the project parcel remained comprised of both cleared land and wooded areas. By 2019, the aerial photography showed three distinct cleared areas of land within the project parcel while the rest were wooded (Figure 8). There was no evidence of homes or structures within the project parcel. The greater environment surrounding the project area showed small signs of residential and commercial development, in keeping with the trend first noted in the photograph from 1990.

Conclusions

The post-European Contact period investigation of the proposed Solar Center is located along Artillery Road in the town of Woodbury, Connecticut indicates that the project parcel and the Facility have the potential to be associated with cultural resources. In the portion that was agricultural fields, there is the possibility of encountering evidence of post-European Contact period farming activities that may be important as a component of a rural historic landscape (*sensu* McClelland et al. 1999). Finally, the proximity of freshwater streams suggests the possibility of encountering cultural resources related to post-European Contact period riverine activity.

CHAPTER V
PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previously identified cultural resources in the vicinity of the project parcel and the Facility in Woodbury, Connecticut. This discussion provides the comparative data necessary for assessing the results of the current Phase IB cultural resources reconnaissance survey, and it ensures that the potential impacts to all previously recorded cultural resources located within and adjacent to the proposed Facility are taken into consideration. Specifically, this chapter reviews previously identified archaeological sites, National/State Register of Historic Places properties (NRHP/SRHP), and previously identified standing structures over 50 years in age within 0.8 kilometers (0.5 miles) of the area of impact. The discussions presented below are based on information currently on file at the Connecticut State Historic Preservation Office (CT-SHPO) in Hartford, Connecticut. In addition, the electronic site files maintained by Heritage were examined during this investigation. Both the quantity and quality of the information contained in the original cultural resources survey reports and State of Connecticut archaeological site forms are reflected below.

Previously Recorded Archaeological Sites and National/State Register of Historic Places Districts/Properties in the Vicinity of the Project parcel

A review of data currently on file at the CT-SHPO, as well as the electronic files maintained by Heritage did not result in the identification of any precontact era archaeological sites situated within 0.8 km (0.5 mi) of the proposed Facility (Figure 11). In addition, there were no NRHP or SRHP properties identified within 0.8 kilometers (0.5 miles) of the Facility (Figure 12). However, it should be noted that the absence of previously identified cultural resources is likely due to the lack of surveys conducted in the area and should not be interpreted as the absence of extant/intact cultural resources throughout the area.

CHAPTER VI
METHODS

Introduction

This chapter describes the research design and field methods used to complete the Phase IB cultural survey of the Project area in Woodbury, Connecticut. In addition, the location and point-of-contact for the facility at which all cultural material, drawings, maps, photographs, and field notes generated during survey will be curated is provided below.

Research Design

The current Phase IB cultural resources reconnaissance survey was designed to identify all precontact era and post-European Contact period cultural resources located within the proposed development areas associated with the Project. Fieldwork for the survey was comprehensive in nature and planning considered the distribution of previously recorded archaeological sites located near the development area, as well as an assessment of the natural qualities of the Project parcel. The methods used to complete this investigation were designed to provide complete and thorough coverage of all portions of the development area. This undertaking entailed pedestrian survey, systematic subsurface testing, detailed mapping, and photo-documentation.

Field Methods

Following the completion of all background research, the development area was subjected to a Phase IB cultural resources reconnaissance survey utilizing pedestrian survey, photo-documentation, GPS recordation, and systematic shovel testing. The field strategy was designed such that the entirety of Areas 1 through 3 was examined visually and photographed. The pedestrian survey portion of this investigation included visual reconnaissance of all of the development locations. The subsurface examination was completed through the excavation of shovel tests at 25 meter (82 foot) intervals along survey transects positioned 25 meters (82 feet) apart across the Project area. Each shovel test measured 50 x 50 cm (19.7 x 19.7 in) in size, and each was excavated until glacially derived C-Horizon or immovable object (e.g., boulders, large tree roots) were encountered. Each shovel test was excavated in 10 cm (3.9 in) arbitrary levels within natural strata, and the fill from each level was screened separately. All shovel test fill was screened through 0.635-centimeter (0.25 in) hardware cloth. Soil characteristics were recorded in the field using Munsell Soil Color Charts and standard soils nomenclature. Each shovel test was backfilled after it was fully documented.

Post-European Contact Period Cultural Material Analysis

The analysis of the post-European Contact period cultural material recovered during the Phase II Intensive Archaeological Survey was organized by class, functional group type, and subtype. The first level, class, represented the material category, e.g., ceramic, glass, metal. The second level, functional group, e.g., architecture, kitchen, or personal was based on standard classifications. The third and fourth levels, type and subtype, described the temporally and/or functionally diagnostic artifact attributes. The identification of artifacts was aided by consulting standard reference works.

Precontact Era Cultural Material Analysis

The lithic analysis protocol used during completion of the Phase II Intensive Archaeological Survey effort was a “technological” or “functional” one designed to identify precontact reduction trajectories and lithic

industries. The protocol, therefore, focused on recording technological characteristics of the recovered lithic artifacts. The lithic artifact database was organized by lithic material group, type, and subtype. The first level described the raw material type of the artifact. Lithic materials were identified utilizing recognized geological descriptions and terminology and were placed into distinct categories based on three factors: texture, color, and translucence.

The second analysis level, type, was used to define the general class (e.g., unmodified flake, core, or perform) of lithic artifact, while the last level, subtype, was employed to specify placement within the reduction sequence (e.g., primary, secondary, and tertiary). These levels followed classifications outlined by such authors as Callahan (1979) and Crabtree (1972), among others.

Curation

Following the completion and acceptance of the Final Report of Investigations, all cultural material, drawings, maps, photographs, and field notes will be curated with:

Dr. Sarah Sportman
Office of Connecticut State Archaeology
Box U-1023
University of Connecticut
Storrs, Connecticut 06269

CHAPTER VII
RESULTS OF THE INVESTIGATION & MANAGEMENT RECOMMENDATIONS

Introduction

This chapter presents the results of the Phase IB cultural resources reconnaissance survey of the previously identified moderate/high sensitive areas within the Project area in Woodbury, Connecticut. As described in Chapters I and IV, Phase IB survey included pedestrian survey augmented by systematic shovel testing and photo-documentation throughout the limits of the previously identified moderate/high archaeologically sensitive areas within the development parcel (Figure 11). The results of the Phase IB survey effort is presented below.

Results of Phase IB Cultural Resources Reconnaissance Survey

As stated above, the proposed Project will consist of a solar center and arrays, constructed on approximately 14.12 acres of land within a larger 48.48 acre parcel of land on the eastern side of Quassapaug Road and the northwestern side of Artillery Road in Woodbury, Connecticut. The development parcel is bisected by Frank Atwood Brook, which flows on an east-west axis, and is situated to the south of Lewis Atwood Brook and the north of Sawmill Brook. The parcel is situated at elevations ranging between 146 to 184 meters (479 to 604 feet) NGVD. At the time of survey, the area was characterized by agricultural fields with level to gently sloping topography (Photo 1 through 7). The previously conducted Phase IA cultural assessment survey determined that the Project area retained four separate areas of moderate/high archaeological sensitivity. The results of the Phase IB survey are discussed below.

A total of 148 of 148 (100 percent) planned shovel test were excavated throughout the archaeologically sensitive portions of the Project area (Figure 13 and 14; Sheet 1 through 3). An additional 10 delineation test pits were excavated to further explore identified precontact era Native American cultural deposits (see below). A typical shovel test excavated during the Phase IB investigation extended to an average depth between 50 and 77 centimeters below surface (cmbs) (19 to 30 inches below surface [inbs]) and exhibited up to the three soil horizons in profile. The uppermost soil horizon was characterized by an Ap-Horizon (plowzone) that extended from the ground surface to 30 cmbs (0 to 11.8 inbs); it consisted of a layer of dark brown (10YR 3/3) fine sandy loam. This was underlaid by a B-Horizon (subsoil) that reached from 30 to 54 cmbs (11.8 to 21.2 inbs) and was defined by a deposit of yellowish brown (10YR 5/6) fine sandy loam. Finally, the glacially derived C-Horizon consisted of a layer of light olive brown (2.5Y 5/4) medium to coarse sand with gravel inclusions; it was encountered at 54 cmbs (21 inbs) and extended to the bottom of the test pit at 77 cmbs (30 inbs). This stratigraphy can be seen within the digital profile of Shovel Test 6 along Survey Transect 6 (Figure 15).

The Phase IB subsurface investigation resulted in the recovery of 12 artifacts dating from the post-European Contact period. They included examples of glass (n=3) and ceramic objects (n=9) (Photo 8). The glass was represented by a single fragment of amber bottle glass, 1 colorless flat glass shard, and a single aqua curved glass shard. The ceramics included 5 pieces brick fragments, 1 unidentifiable hand-painted vessel sherd, and a single plain whiteware sherd. All of the post-European Contact period artifacts were recovered from the Ap-Horizon (plowzone). Laboratory analysis of the post-European Contact period artifacts revealed that they have a general date range of twentieth century and are likely related to domestic and agricultural use of the land. Figure 12 shows that the post-European Contact

period artifacts were collected from various locations across the Project area. They were not recovered in significant concentrations or in association with any above ground cultural features. As a result, the post-European Contact period materials were classified as unassociated low density field scatter. These items in and of themselves do not retain research potential or the qualities of significance for listing to the National Register of Historic Places applying the criteria for evaluation (36 CFR 60.4[a-d]). No additional examination of the post-European Contact period assemblage is recommended prior to Project construction.

In addition, the Phase IB survey of the previously identified moderate/high sensitivity areas resulted in the identification of two precontact Native American era sites; they were designated as Site 1 and Site 2 (Figure 13). Each site is discussed in detail below.

Site 1

Site 1 was identified in the northeastern portion of the Project area (Figure 14; Sheet 2). At the time of the survey, this area was characterized by fallow agricultural fields and generally level topography. Site 1 was identified through the excavation of Shovel Test 9 along Survey Transect 11. This shovel test was terminated at 48 cmbs (18.8 inbs) and exhibited two soil horizons in profile. The uppermost consisted of an Ap-Horizon (plowzone) that extended from the ground surface to 25 cmbs (0 to 9.8 inbs) and consisted of brown (10YR 4/3) sandy loam. This was directly underlaid by the glacially derived C-Horizon which was reached from 25 cmbs (9.8 inbs) and extended to the base of the pit at 48 cmbs (18.8 inbs). The lack of the presence of B-Horizon subsoil suggests that the area has been previously disturbed due to deep agricultural plowing.

The archaeological examination of Site 1 was accomplished through the excavation of the original survey shovel test and five delineation shovel tests, which were excavated at 5 meter (16 foot) intervals in each cardinal direction away from Shovel Test 9 along Survey Transect 11; and 10 meter (32.8 foot) intervals to the north and the south. The excavations of Site 1 resulted in the recovery of three precontact era lithic artifacts. The artifact assemblage consisted of 1 quartz flake, 1 quartz scraper, and a single quartz utilized flake (Photo 9 and 10). While all three artifacts were recovered from the topsoil deposits, their presence is indicative of lithic tool production and maintenance, as well as exploitation of local raw materials. As a result, it was determined that Site 1 may retain research potential and is potentially eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). However, a review of updated project plans revealed that Site 1 falls outside the current proposed area of impact. Therefore, Site 1 will be preserved in place and need not be subjected to additional archaeological examination unless the project plans change such that it may be impacted. If the Site 1 area does become part of the proposed development, Phase II National Register of Historic Places testing and evaluation of it should be completed prior to construction.

Site 2

Site 2 was identified in the northwestern portion of the Project area (Figure 14; Sheet 2). At the time of the survey, this area was characterized by fallow agricultural fields and generally level topography. Site 2 was identified through the excavation of Shovel Test 12 along Survey Transect 14. The shovel test was terminated at 81 cmbs (31.8 inbs) within the B2-Horizon due to the presence of a large rock impasse. The stratigraphy observed within the shovel test was consistent with a typical shovel test from the Project area as discussed above.

The archaeological examination of Site 2 was accomplished through the excavation of the original survey shovel test and four delineation shovel tests. The latter which were excavated at 5 meter (16 foot)

intervals in each cardinal direction away from Shovel Test 12 along Survey Transect 14. Survey and delineation of Site 2 resulted in the recovery of four precontact era lithic artifacts (Photo 9 and 10). The lithic assemblage was represented by debitage consisting of 1 quartz flake, 1 chert biface reduction flake, 1 quartz biface reduction, and a single quartz preform. All of the precontact era artifacts collected from Site 2 were recovered from disturbed Ap-Horizon (plowzone) soils between 20 and 32 cmbs (7.8 to 12.5 inbs). While the artifacts were recovered from disturbed soils context, the presence of multiple lithic raw material types and the flaked tool, suggests that activities of lithic tool production and maintenance occurred on site. As a result, it was determined that Site 2 may retain research potential and is potentially eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). However, a review of updated project plans revealed that Site 2 falls outside the current proposed area of impact. Therefore, Site 2 will be preserved in place and need not be subjected to additional archaeological examination unless the project plans change such that it may be impacted. If the Site 2 area does become part of the proposed development, Phase II National Register of Historic Places testing and evaluation of it should be completed prior to construction.

Site 3

Finally, pedestrian survey of the Project area resulted in the identification of a post-European Contact period historic farmstead, which was designated as Site 3. It was identified within the southern portion of the Project area and to the northeast of Quassapuag road and west of Artillery Road. The site extends for approximately 94 meters (308 feet) in an east-west direction by 72 meters (236 feet) in an north-south direction (Figure 14; Sheet 3). The site consists of a series of extant above-ground features associated with the architectural remains of the historic farmstead. A review of historical maps and aerial imagery suggest that the site was occupied as early as 1859 and continued to be occupied through 1951 (Figure 4 through 8). However, by 1970 the majority of the structures associated with the site had been demolished (Figure 9). By 1990, no structures remained visible within the site (Figure 10).

A total of five features were identified during the pedestrian survey of the site Feature 1 consists of a barn foundation and associated silo located in the western portion of the site area. Feature 1 was identified during a previously conducted Phase IA cultural resources assessment. Features 2 through 5 are located within the eastern portion of Site 3. They consist of a series of stonewalls, foundations, and cellar holes. The foundation walls consist of multiple construction methods, including dry-laid stacked stone, stone and mortar, and concrete cinder block. Each feature is briefly discussed below. Feature 2 is located within the northeastern portion of the site. It consists of a partial foundation wall that extends for a total of 12.5 meters (41 feet). The extant foundation consists of dry-laid stacked stone and stone with mortar. The foundation's condition varies, but at its tallest, it measures approximately 1 meter (3.2 feet) in height (Photo 11).

Feature 3 was identified 9 meters (29 feet) to the south of Feature 2. It consists of foundation with three extant sides comprised of stone and mortar, as well as concrete cinder blocks. The foundation measures 8 meters (27 feet) by 3.3 meters (11 feet) and extends approximately 1.2 meters (3.9 feet) in height (Photo 12). Feature 4 was noted approximately 6 meters (19 feet) south of Feature 3. It consists of a foundation with four extant sides and an interior wall, as well as an exterior stone wall. The foundation and wall consist of stacked stone and mortar. The foundation measures 6.7 meters (22 feet) by 8.5 meters (28 feet), with the interior wall extending for 5.4 meters (18 feet) and the exterior stonewall extending for 6 meters (20 feet) to the east. The foundation is in intact measures approximately 50 centimeters (19 inches) in height (Photos 13). Feature 5 is located approximately 10 meters (33 feet) to the south of Feature 4. Feature 5 consists of a series of three depressions and extant foundations. It measures 16 meters (52 feet) to the east-west by 10 meters (33 feet) to the north-south. Much of the

foundation walls are no longer present, leaving behind just a depression. Where walls are extant, they consist of dry-laid stacked stone and stone and mortar and extend up to 1 meter (3.2 feet) in height (Photos 14).

Review of the available historical maps and imagery was unable to determine the specific use associated with each feature beyond general farm and homestead infrastructure. Site 3 is located outside of the proposed area of impact and therefore was not subjected to subsurface testing during the current Phase IB survey. However, the extant remains are indicative of nineteenth through twentieth century homestead occupation. As a result, it was determined that Site 3 may retain research potential and is potentially eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). Since Site 3 is located outside of the development area, no additional archaeological examination of it is recommended. However, if project plans changes such that Site 3 will be impacted, then Phase II National Register of Historic Places testing and evaluation would warranted.

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APPENDIX A

FIGURES

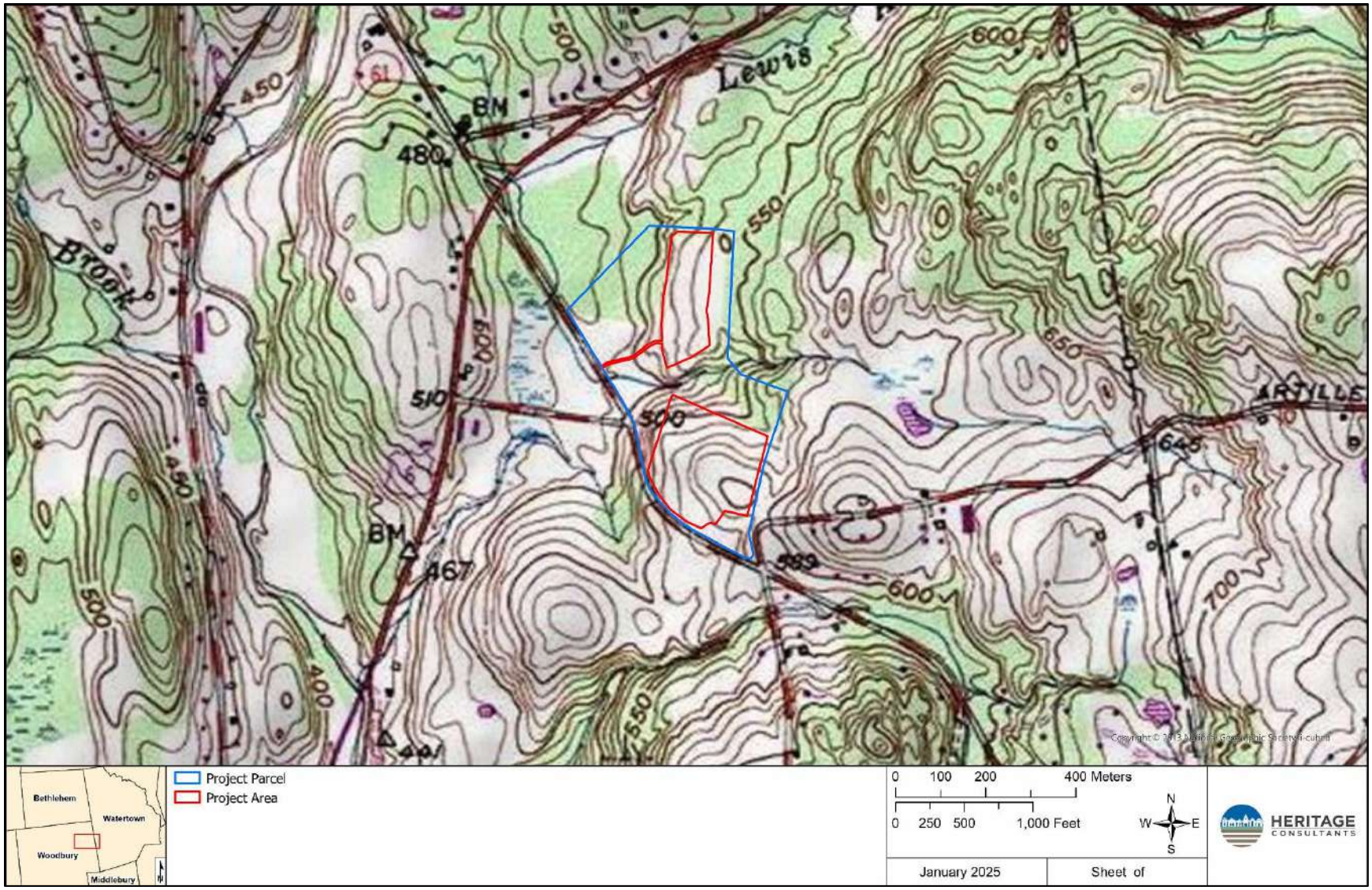

Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project parcel in Woodbury, Connecticut.

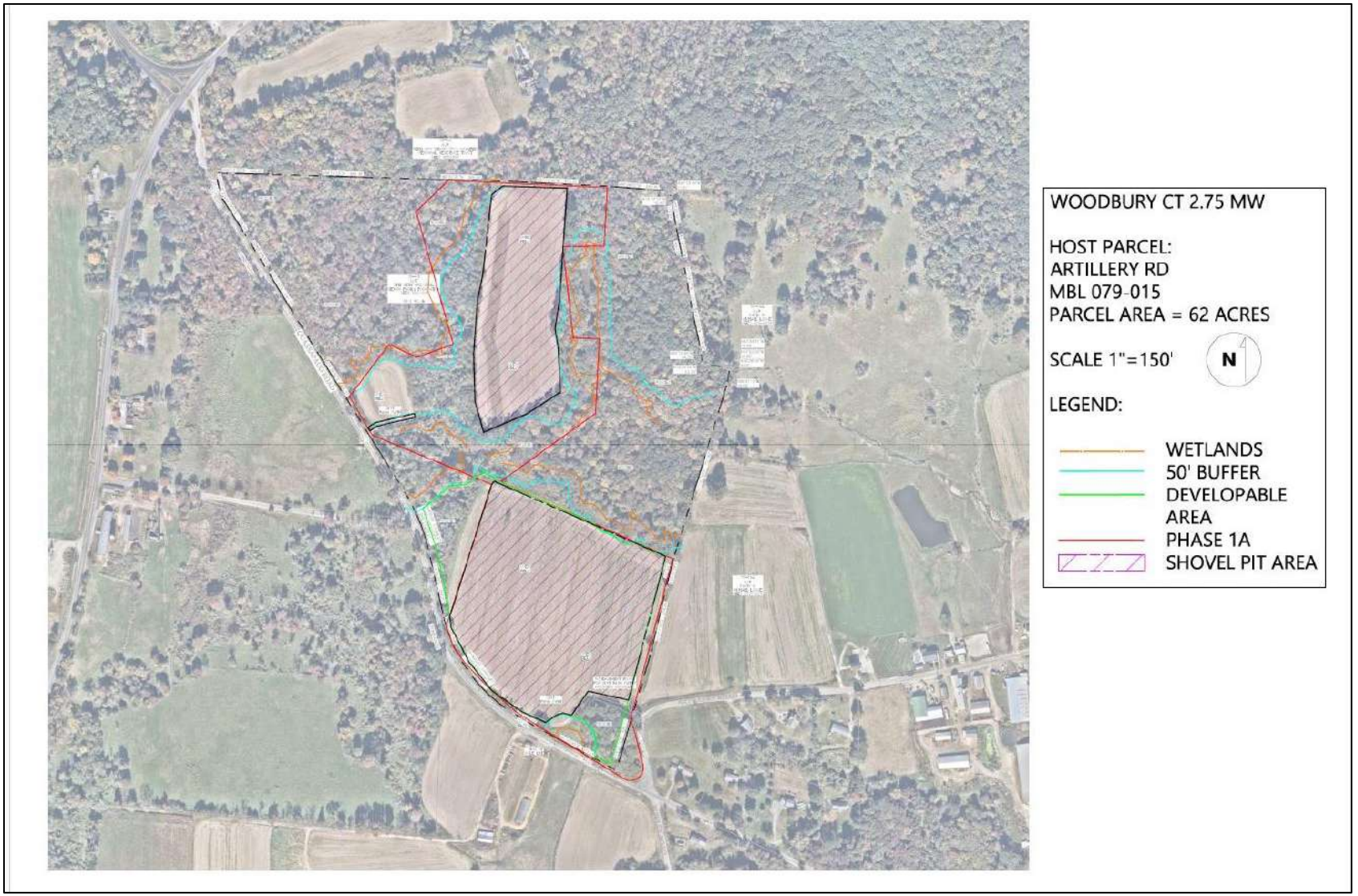

Figure 2. Digital map depicting the client's project plans for the solar facility in Woodbury, Connecticut.

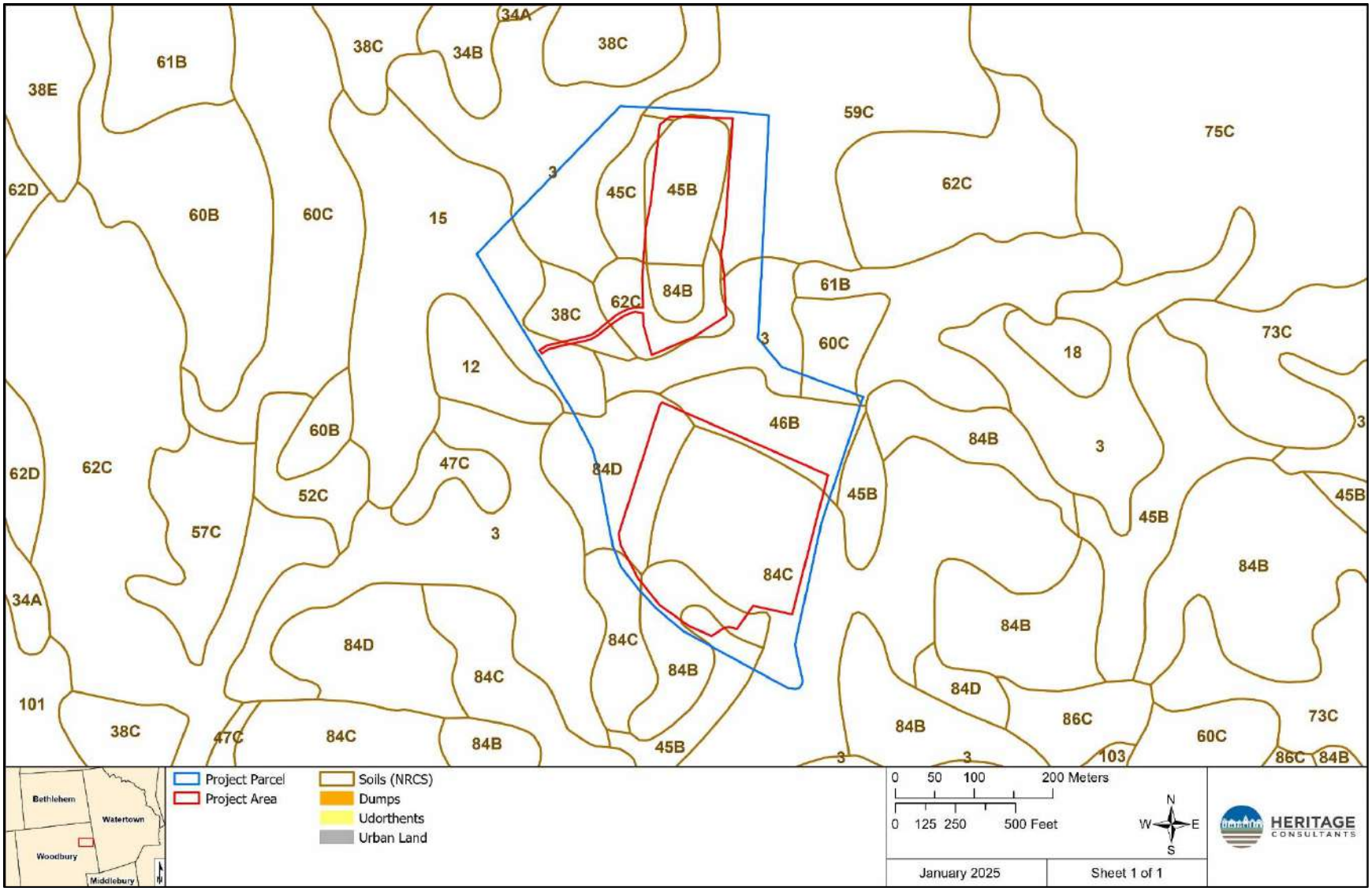

Figure 3. Digital map depicting the soil types present in the vicinity of the project parcel in Woodbury, Connecticut.

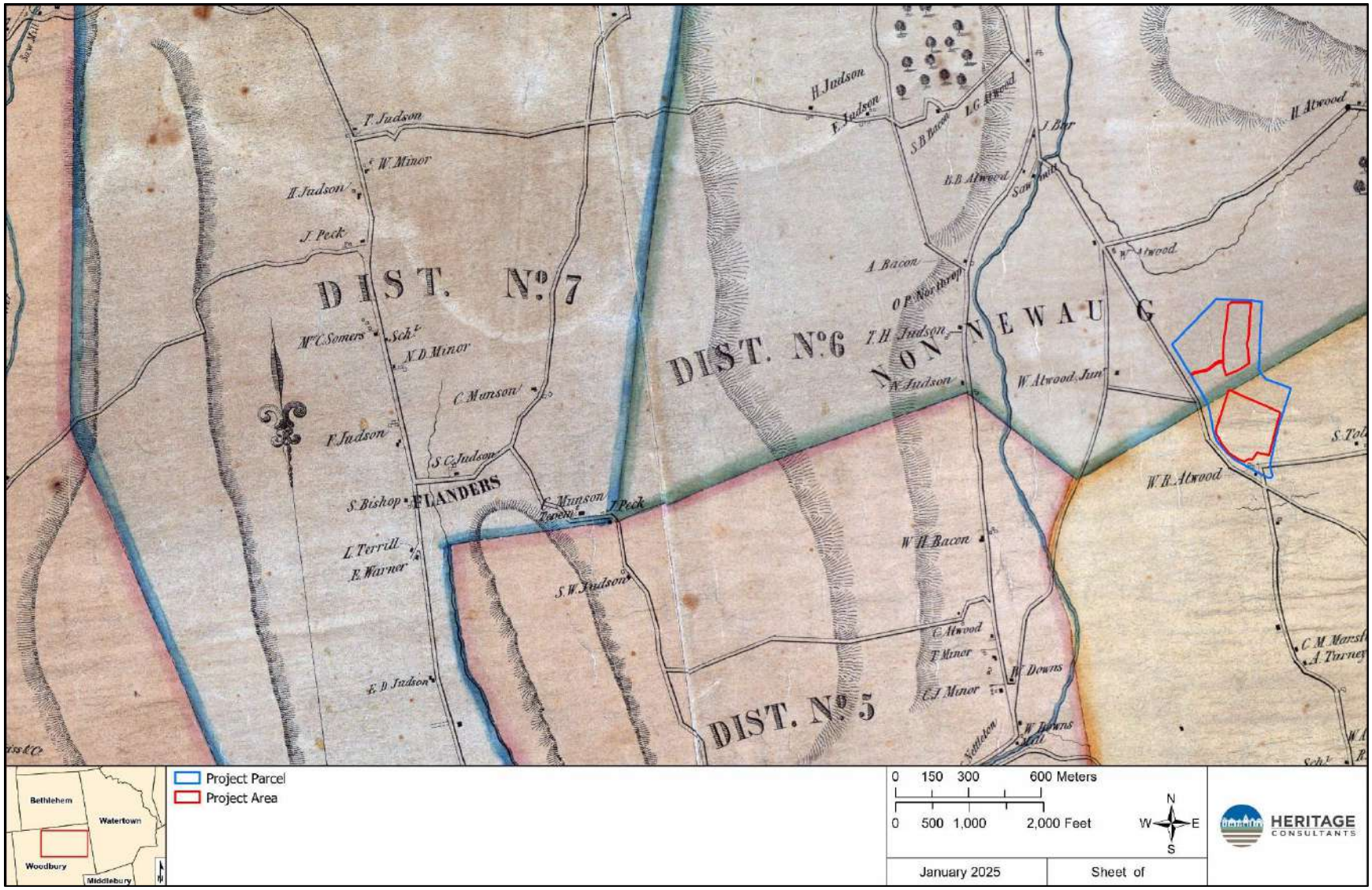

Figure 4. Excerpt from an 1853 map showing the location of the project parcel in Woodbury, Connecticut.

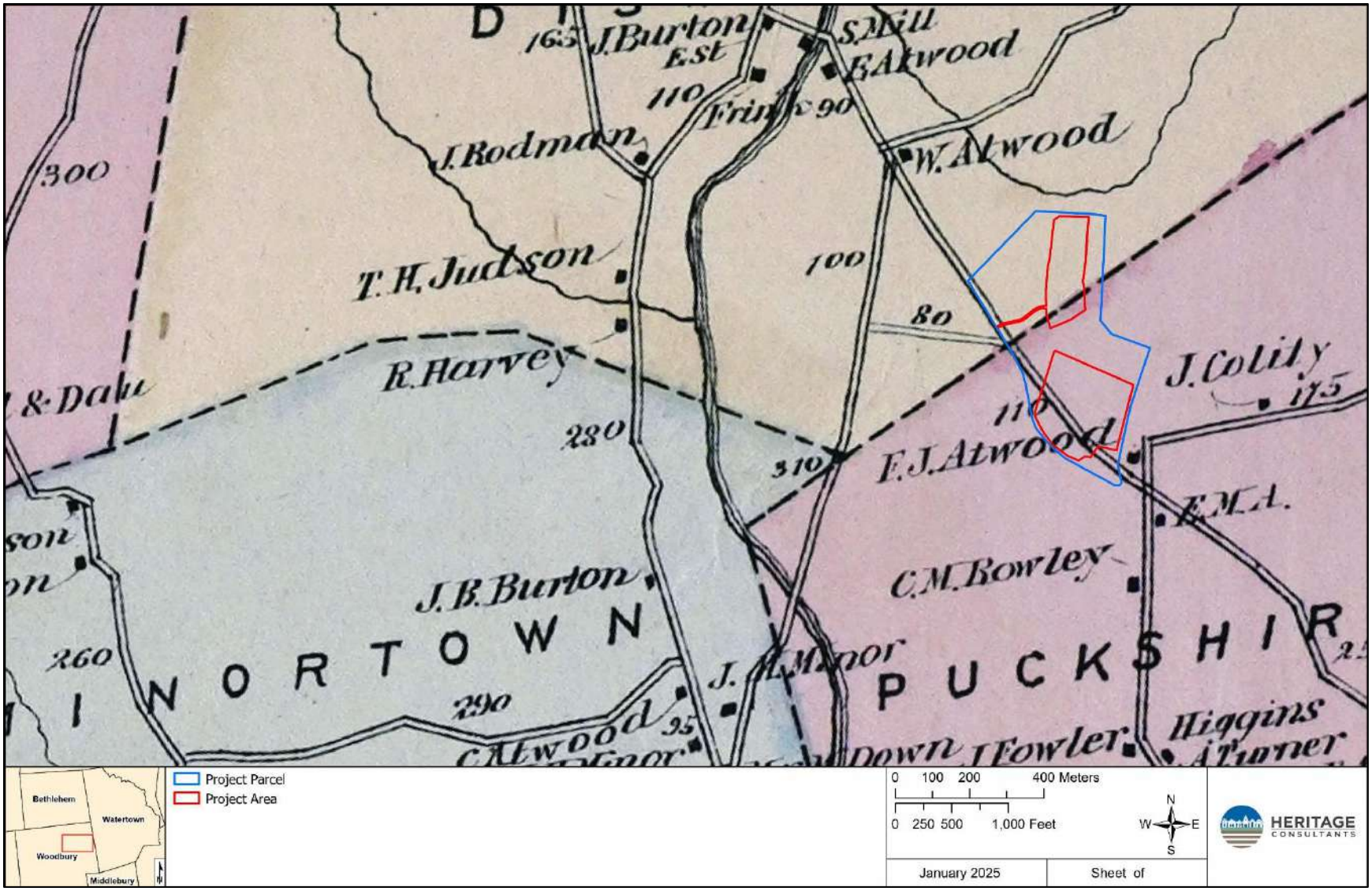

Figure 5. Excerpt from an 1874 map showing the location of the project parcel in Woodbury, Connecticut.

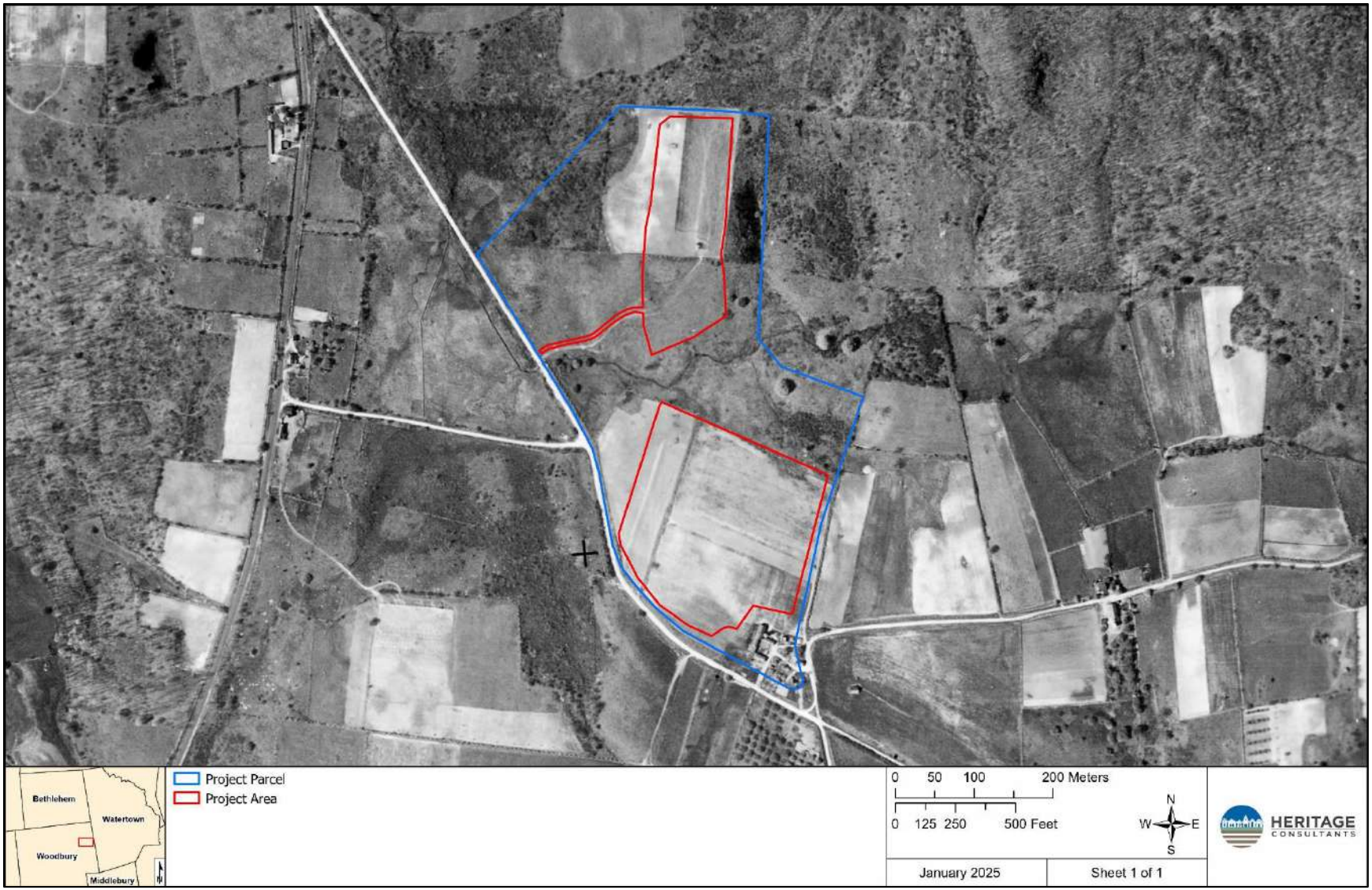

Figure 6. Excerpt from a 1934 aerial photograph showing the location of the project parcel in Woodbury, Connecticut.

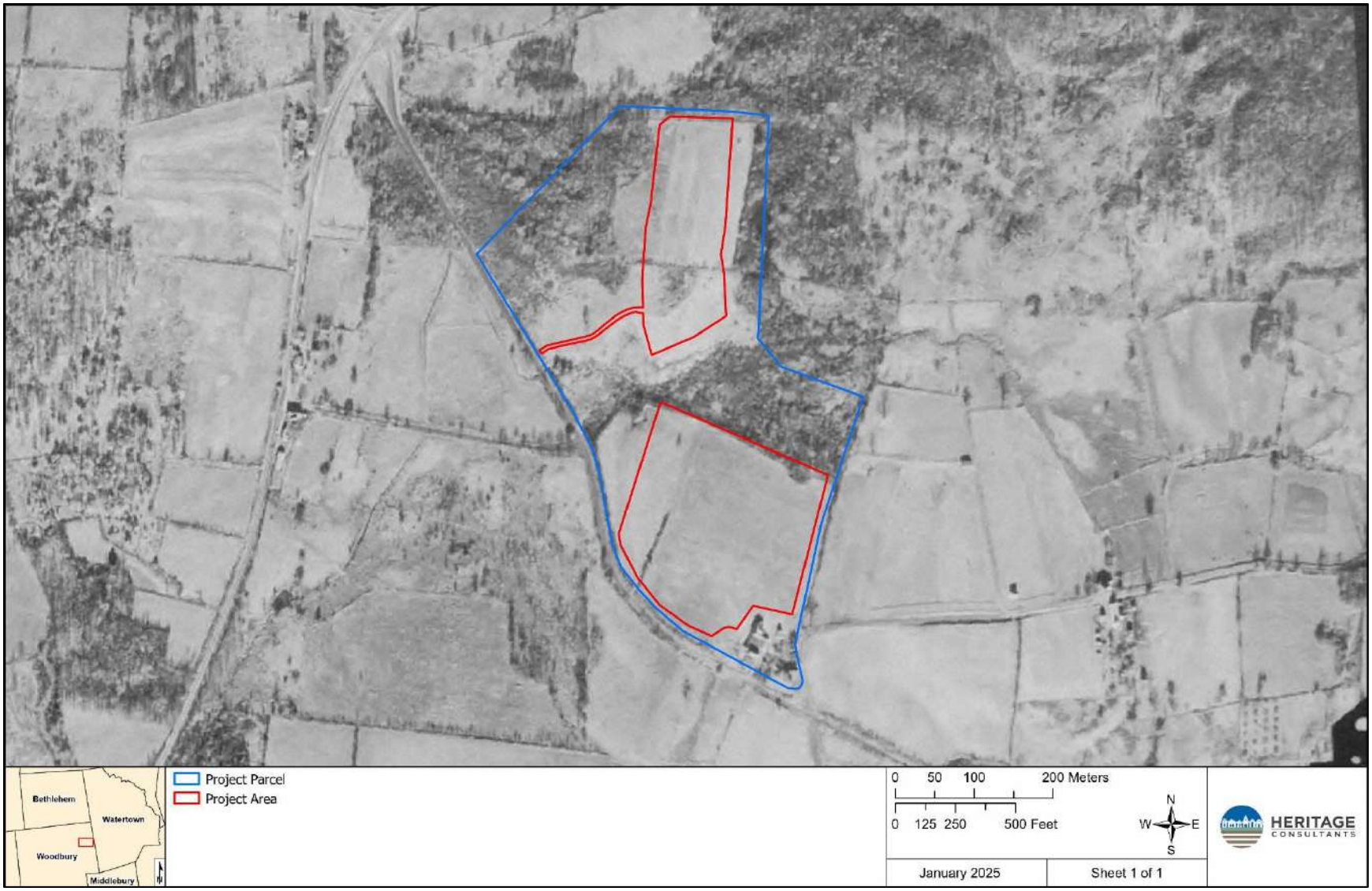

Figure 7. Excerpt of a 1951 aerial photograph showing the location of the project parcel in Woodbury, Connecticut.

Figure 8. Excerpt of a 1970 aerial photograph showing the location of the project parcel in Woodbury, Connecticut.

Figure 9. Excerpt of a 1990 aerial photograph showing the location of the project parcel in Woodbury, Connecticut.

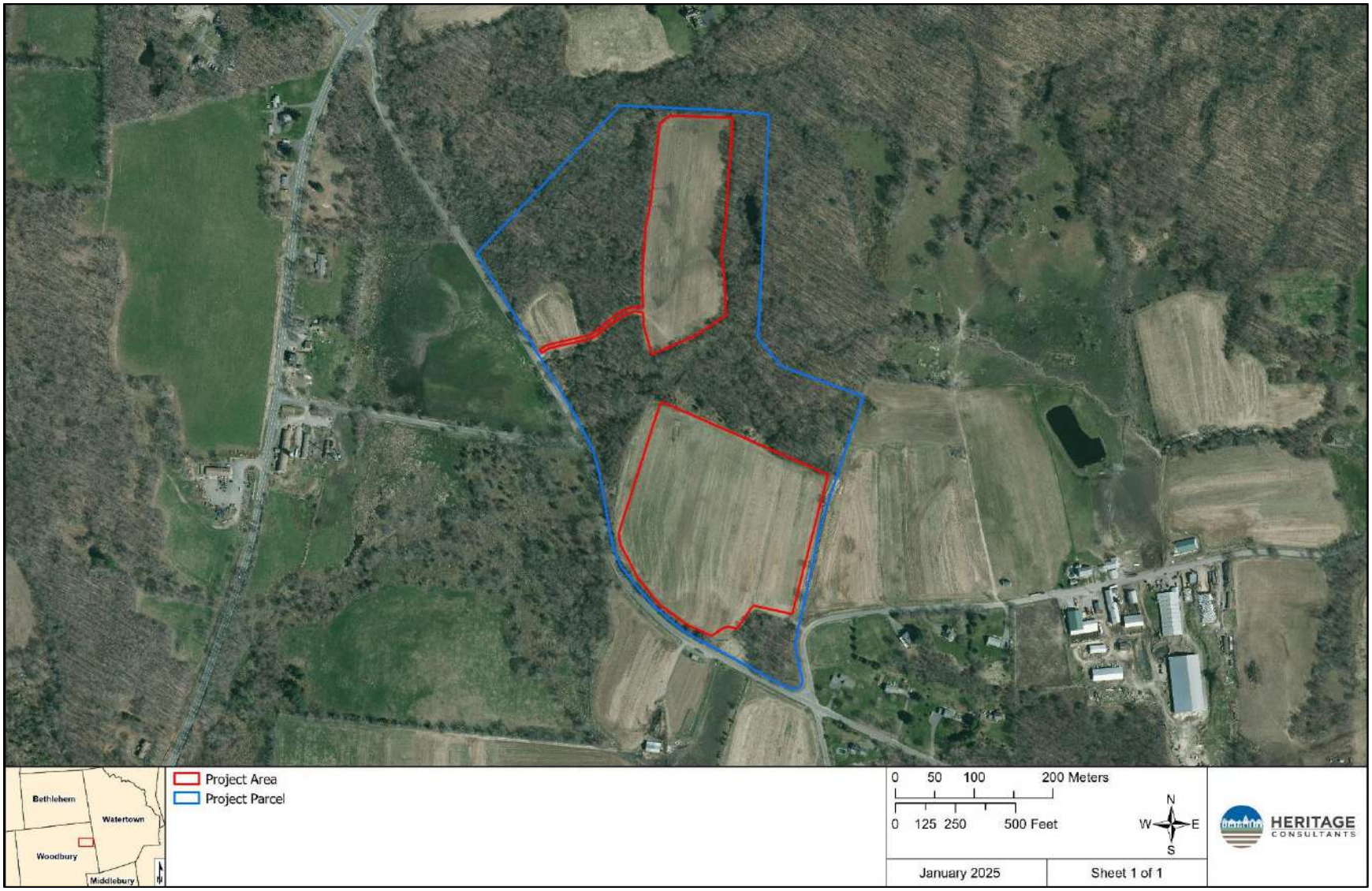

Figure 10. Excerpt of a 2019 aerial photograph showing the location of the project parcel in Woodbury, Connecticut.

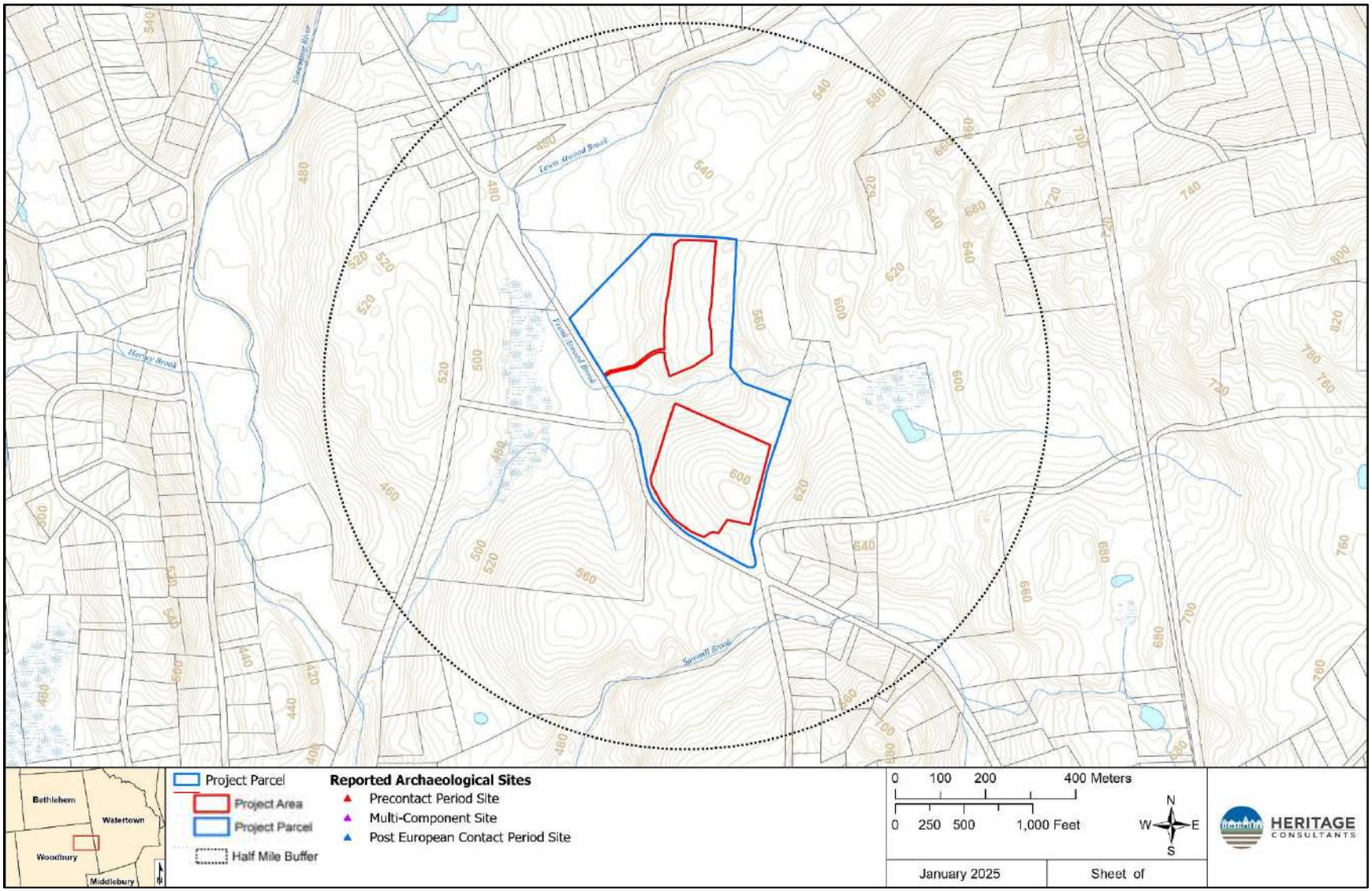

Figure 11. Digital map depicting the locations of the previously identified archaeological sites in the vicinity of the project parcel in Woodbury, Connecticut.

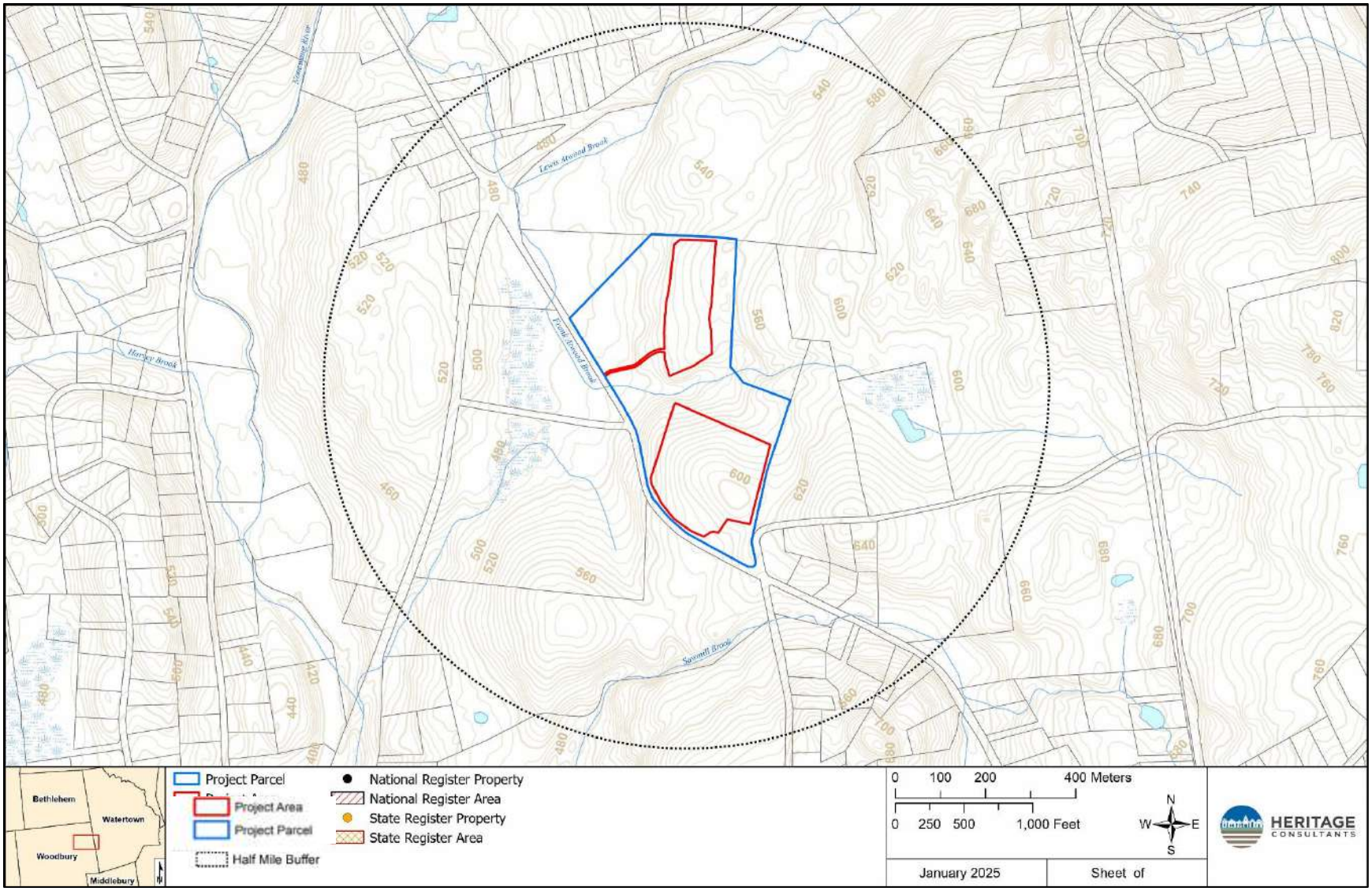

Figure 12. Digital map depicting the locations of the previously identified National Register of Historic Places and State Register of Historic Places properties in the vicinity of the project parcel in Woodbury, Connecticut.

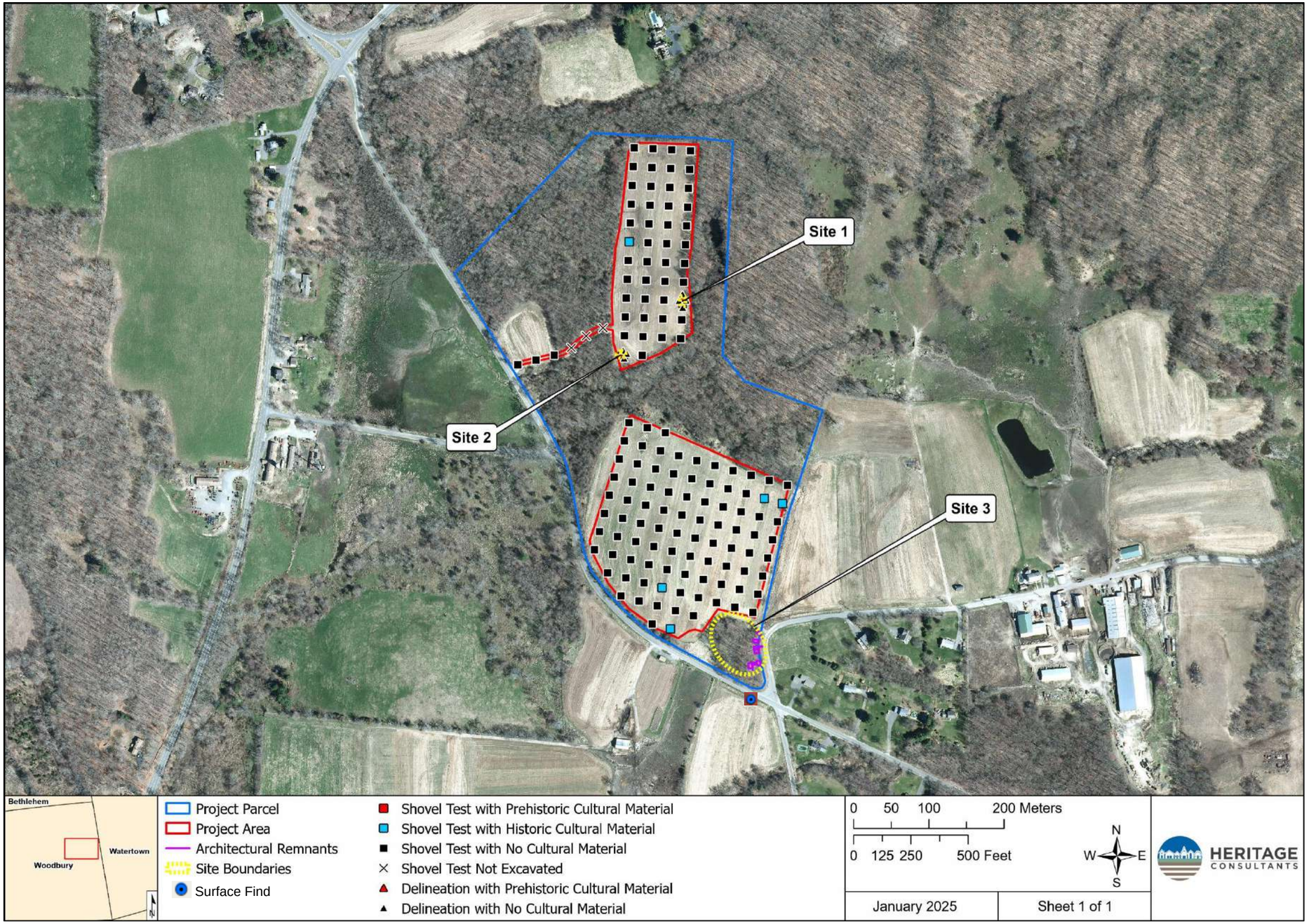

Figure 13. Digital map illustrating an overview of the results of the Phase IB of the Project area in Woodbury, Connecticut.

Figure 14; Sheet 1. Digital map illustrating the results of the Phase IB of the Project area in Woodbury, Connecticut.

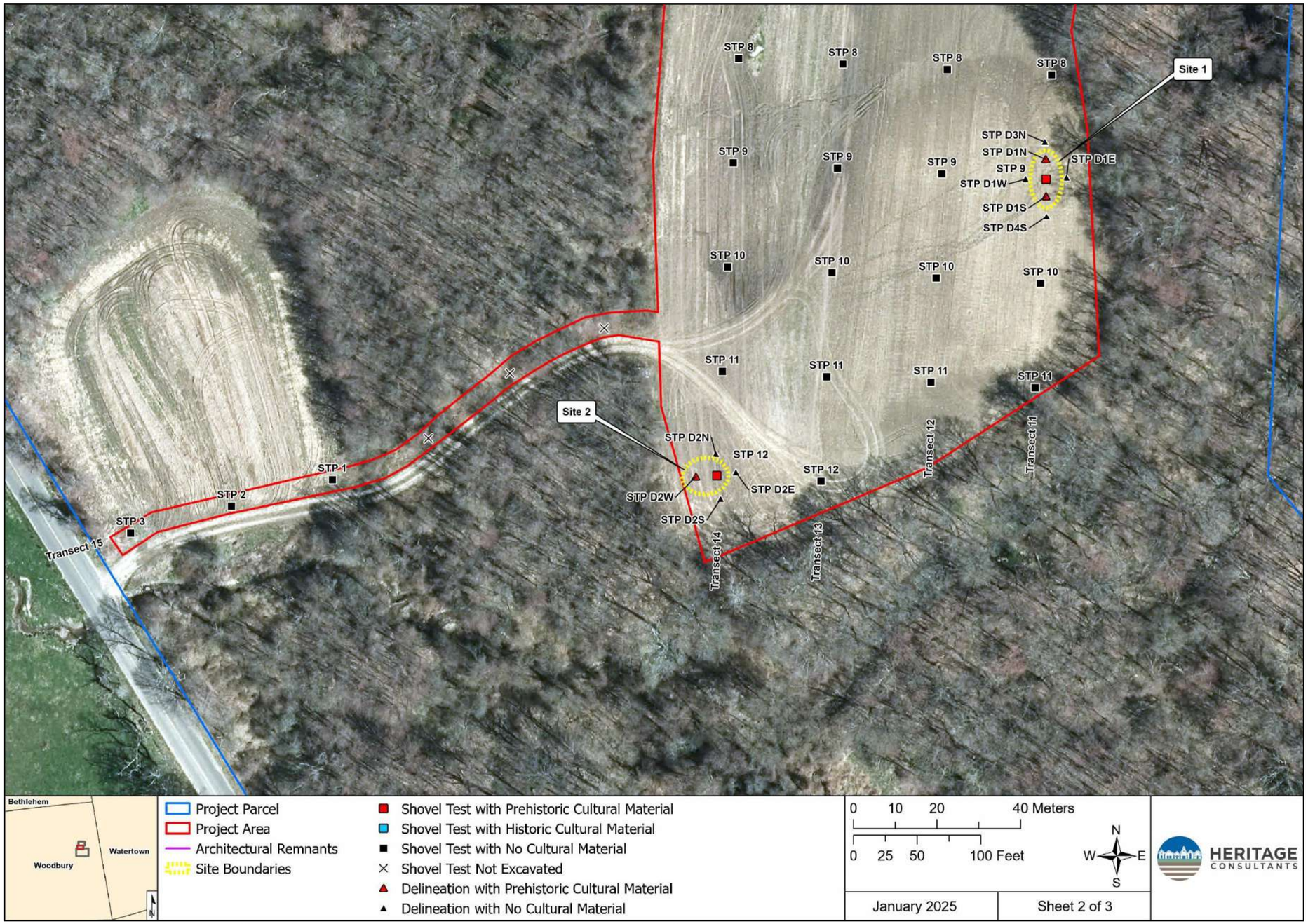

Figure 14; Sheet 2. Digital map illustrating the results of the Phase IB of the Project area in Woodbury, Connecticut.

Figure 14; Sheet 3. Digital map illustrating the results of the Phase IB of the Project area in Woodbury, Connecticut.

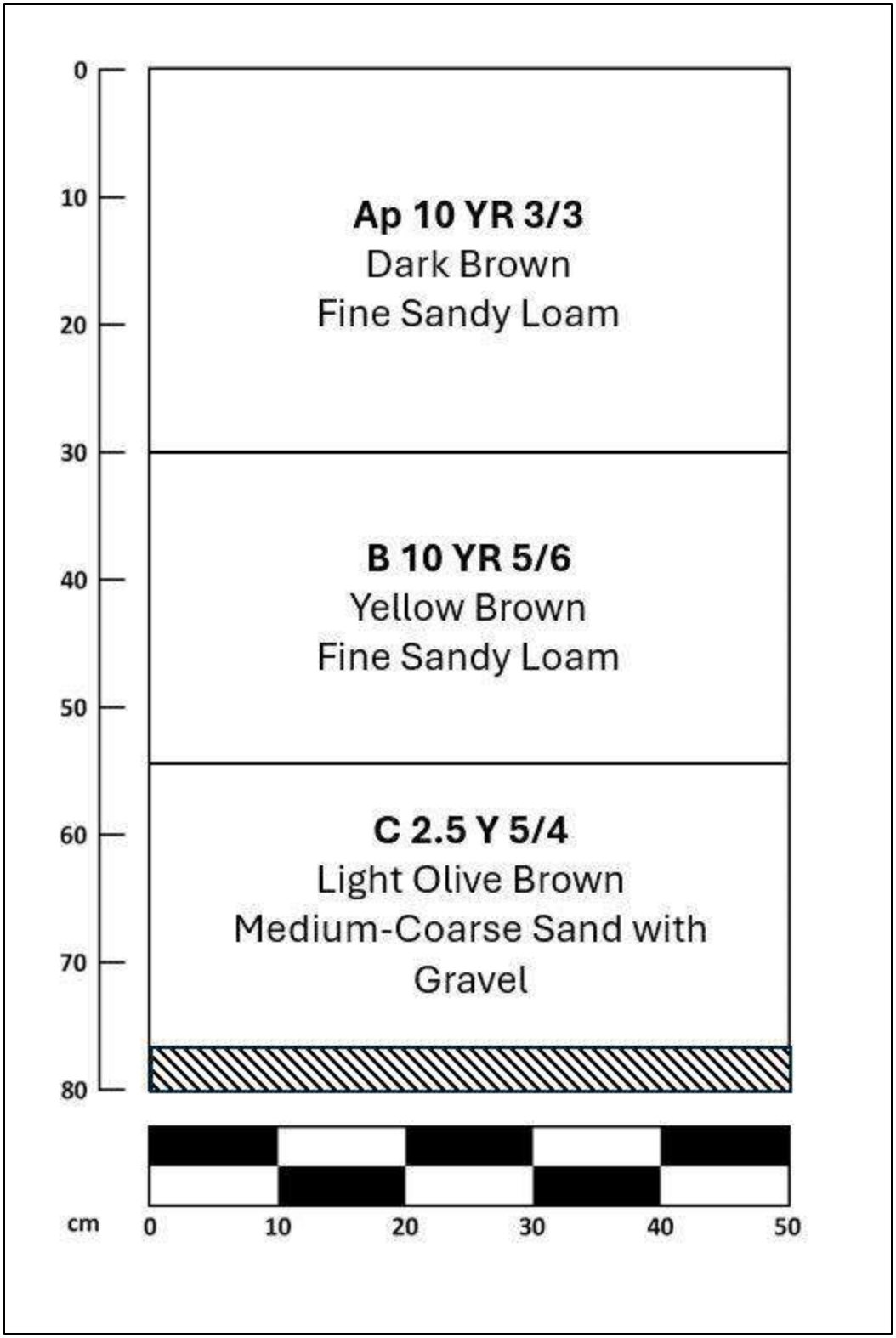

Figure 15. Digital Drawing of soil profile for Transect 6; STP 6.

APPENDIX B

PHOTOS

Photo 1. Overview of northern field. Photo facing to the south.

Photo 2. Overview of northern field. Photo facing to the north.

Photo 3. Overview of the access road to the west of the northern field. Photo facing west.

Photo 4. Overview of the access road to the west of the northern field. Photo facing to the east.

Photo 5. Overview of the southern field. Photo facing to the south.

Photo 6. Overview of the southern field. Photo facing to the east.

Photo 7. Overview of the southern field. Photo facing to the west.

Photo 8. Sample of post-European Contact period recovered from the Project area. A) Aqua curved glass; B) Amber bottle glass; C) Undecorated whiteware sherd; D) Hand-painted blue refined earthenware sherd.

Photo 9. Sample of precontact era artifact recovered from the Project area, side A. A) Quartz scraper fragment; B) Quartz preform; C) Quartz utilized flake; D) Chert biface reduction flake.

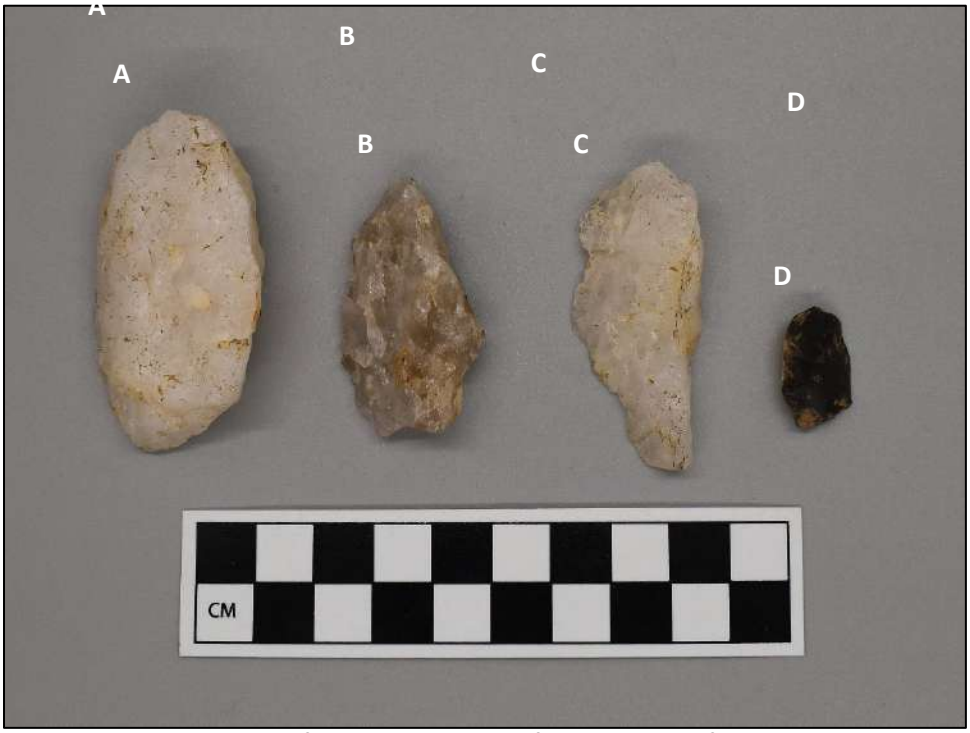

Photo 10. Sample of precontact era artifact recovered from the Project area, side B. A) Quartz scraper fragment; B) Quartz preform; C) Quartz utilized flake; D) Chert biface reduction flake.

Photo 11. Overview of Feature 2. Photo facing to the east.

Photo 12. Overview of Feature 3. Photo facing to the south.

Photo 13. Overview of Feature 4. Photo facing to the west.

Photo 14. Overview of Feature 5. Photo facing to the west.

Photo 15. Overview of Feature 5. Photo facing to the east.