



Department of Economic and
Community Development

State Historic Preservation Office

June 2, 2020

Mr. David R. George
Heritage Consultants
PO Box 310249
Newington, CT 06131

Subject: Phase IA and Phase IB Cultural Resource Reconnaissance Survey
East Windsor Solar One
Middle Road
East Windsor, Connecticut
ENV-20-0701

Dear Mr. George:

The State Historic Preservation Office (SHPO) has reviewed the cultural resource reconnaissance surveys prepared by Heritage Consultants, LLC (Heritage), dated March 2020 and May 2020, respectively. The proposed activities are under the jurisdiction of the Connecticut Siting Council and are subject to review by this office pursuant to the Connecticut Environmental Policy Act (CEPA). The proposed undertaking includes the construction of a solar facility, which is to occupy an approximately 25 acre project area. The parcel is bordered to the north by a housing subdivision, to the west by East Road, to the south by agricultural fields, and to the east by forested areas. The submitted reports are well-written, comprehensive, and meet the standards set forth in the *Environmental Review Primer for Connecticut's Archaeological Resources*.

No previously recorded archaeological sites are located within 1 mile of the project area. Similarly, no properties listed or formally determined eligible for listing on either the State or National Register are located within one mile of the project area. Following a pedestrian survey, it was determined that the entirety of the project area was characterized as having low slopes, well-drained soils, and proximity to fresh water sources, Pecks Brook, and therefore, retained a moderate to high potential to contain intact archaeological deposits. A Phase IB reconnaissance survey was recommended and completed.

Phase IB of the reconnaissance survey consisted of subsurface testing of areas deemed to have moderate to high archaeological sensitivity during Phase IA, and that would be subject to ground

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disturbing impacts as part of the proposed undertaking. A total of 112 of 112 planned shovel tests were excavated successfully throughout the proposed work area; an additional 16 delineation shovel tests and one judgmentally placed shovel test were excavated around two positive shovel tests. The reconnaissance survey resulted in the identification of two loci: Locus 1 and Locus 2. Locus 1 consisted of a single quartz flake, recovered from the disturbed plowzone. No other cultural material or features were recovered or identified from Locus 1. Locus 2 yielded a single quartz flake, also from the disturbed plowzone. No other cultural material or features were identified or recovered from Locus 2. Based on low density of artifacts and lack of cultural features, neither locus possesses sufficient research potential to be eligible for listing on the National Register of Historic Places.

As a result of the information submitted, SHPO concurs with the findings of the report that additional archeological investigations of the project areas are not warranted and that no historic properties will be affected by the proposed activities. However, please be advised that if construction plans change to include previously uninvestigated/undisturbed areas, this office should be contacted for additional consultation.

This office appreciates the opportunity to review and comment upon this project. For additional information, please contact Marena Wisniewski, Environmental Reviewer, at (860) 500-2357 or marena.wisniewski@ct.gov.

Sincerely,

A handwritten signature in black ink that reads "Mary B. Dunne". The signature is written in a cursive style with a long horizontal flourish at the end.

Mary B. Dunne
State Historic Preservation Officer

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MARCH 2020

PHASE IA CULTURAL RESOURCES ASSESSMENT SURVEY OF
THE PROPOSED EAST WINDSOR SOLAR ONE, LLC PROJECT
IN EAST WINDSOR, CONNECTICUT

PREPARED FOR:



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ABSTRACT

This report presents the results of a Phase IA cultural resources assessment survey for the proposed East Windsor Solar One, LLC Project in East Windsor, Connecticut. The project area associated with this solar center encompasses approximately 25 acres of land and will be accessed from Middle Road, which is located to the north. The current investigation consisted of: 1) preparation of an overview of the region's prehistory, history, and natural setting; 2) a literature search to identify and discuss previously recorded cultural resources in the region; 3) a review of readily available historic maps and aerial imagery depicting the project area to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the project area to determine their archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report. The results of the survey indicate that the project area retains moderate sensitivity for intact archaeological deposits.

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CHAPTER I

INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey of the proposed Windsor Solar One, LLC Project in East Windsor, Connecticut (Figure 1). All-Points Technology Corporation (All-Points) requested that Heritage Consultants, LLC (Heritage) complete the assessment survey as part of the planning process for the proposed solar center, which will occupy approximately 25 acres of land located to the south of Middle Road. The project area is surrounded to the north by a recently built housing subdivision to the north, a wooded area containing Peck's Brook to the east, farm fields to the south and East Road and farm roads to the east. Heritage completed this investigation on behalf of All-Points in March of 2020. 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 project will contain a solar center that will include the installation of rows of solar panels spaced at 3.47 m (11.4 ft) intervals across the above-referenced project area. The project area, which is located within a large agricultural field, is situated at elevations ranging from 57.9 to 64 m (190 to 210 ft) NGVD. This Phase IA cultural resources assessment survey consisted of the completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the region encompassing the project area; 3) a review of readily available historic maps and aerial imagery depicting the project area in order to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the project area in order to determine their archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report.

Project Results and Management Recommendations Overview

The review of historic maps and aerial images of the project area, files maintained by the CT-SHPO, as well as pedestrian survey of the development area, failed to detect any previously identified archaeological sites or National/State Register of Historic Places properties within 1.6 km (1 mi) mile of the project area. This is likely due to a lack of professional surveys in this area rather than an actual absence of cultural resources.

In addition to the cultural resources discussed above, Heritage combined data from the historic map and aerial image analysis, and the pedestrian survey to stratify the project area into zones of no/low and/or moderate/high archaeological sensitivity. Upon completion of the above-referenced analysis and pedestrian survey, it was determined that the project area contains low slopes and well-drained soils in proximity to Pecks Brook to the east. As a result, it was determined that the project area has a moderate potential to contain intact archaeological deposits buried beneath the existing plow zone. As a result, a Phase IB cultural resources survey is recommended prior to construction of the proposed solar center.

Project Personnel

Key personnel for this project included Mr. David R. George, M.A., R.P.A, who served as Principal Investigator for this effort; he was assisted by Mr. Antonio Medina, B.A., who completed the field work

portion of the project. Dr. Kristen Keegan completed the historic background research of the project and contributed to the final report, while Mr. Stephen Anderson, B.A., completed all GIS tasks associated with the project. Finally, Ms. Elizabeth Correia, M.A., compiled the report and the associated figures.

Organization of the Report

The natural setting of the region encompassing the project area is presented in Chapter II; it includes a brief overview of the geology, hydrology, and soils of the project region. The prehistory of the project region is outlined briefly in Chapter III. The history of the region encompassing the project region and project area is chronicled in Chapter IV, while a discussion of previous archaeological investigations in the vicinity of the project area is presented in Chapter V. The methods used to complete this investigation are discussed in Chapter VI. Finally, the results of this investigation and management recommendations for the project area and the identified cultural resources are presented in Chapter VII.

CHAPTER II

NATURAL SETTING

Introduction

This chapter provides a brief overview of the natural setting of the region containing the project area. Previous archaeological research has documented that a few specific environmental factors can be associated with both prehistoric and historic period site selection. These include general ecological conditions, as well as types of fresh water sources and soils present. The remainder of this section provides a brief overview of the ecology, hydrological resources, and soils present within the project area 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 very 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 one of the ecoregions is germane to the current investigation: North-Central Lowlands ecoregion. A brief summary of this ecoregion is presented below. It is followed by a discussion of the hydrology and soils found in and adjacent to the project area.

North-Central Lowlands Ecoregion

The North-Central Lowlands ecoregion consists of a broad valley located between 40.2 and 80.5 km (25 and 50 mi) to the north of Long Island Sound (Dowhan and Craig 1976). It is characterized by extensive floodplains, backwater swamps, and lowland areas situated near large rivers and tributaries. Physiography in this region is composed of a series of north-trending ridge systems, the easternmost of which is referred to as the Bolton Range (Bell 1985:45). These ridge systems comprise portions of the terraces that overlook the larger rivers such as the Connecticut and Farmington Rivers. The bedrock of the region is composed of Triassic sandstone, interspersed with very durable basalt or “traprock” (Bell 1985). Soils found in the upland portion of this ecoregion are developed on red, sandy to clayey glacial till, while those soils situated nearest to the rivers are situated on widespread deposits of stratified sand, gravel, silt, and alluvium resulting from the impoundment of glacial Lake Hitchcock.

Hydrology in the Vicinity of the Project area

The project area is situated within a region that contains several sources of freshwater, including Pecks Brook, Ketch Brook, and Windsorville Pond, as well as unnamed streams, ponds, and wetlands. These freshwater sources may have served as resource extraction areas for Native American and historic populations. Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were focal points for prehistoric occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources.

Soils Comprising the Project area

Soil formation is the direct result of the interaction of a number of variables, including climate, vegetation, parent material, time, and organisms present (Gerrard 1981). Once archaeological deposits are buried within the soil, they are subject to a number of 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 in within the current project area. In contrast, acidic soils enhance the preservation of charred plant remains.

A review of the soils within the project area is presented below. The project area is characterized by the presence of three major soil types: Haven, Enfield, and Manchester soils (Figure 2). A review of these soils shows that they consist of well drained sandy loams; they are the types of soils that are typically correlated with prehistoric and historic use and occupation. Descriptive profiles for each soil type are presented below; they were gathered from the National Resources Conservation Service.

Haven Soils:

A typical profile associated with Haven soils is as follows: **Oi**--0 to 2 inches (0 to 5 centimeters); slightly decomposed plant material derived from loose pine needles, leaves and twigs. **Oa**-- 2 to 3 inches (5 to 8 centimeters); black (5YR 2/1) highly decomposed plant material; **A**--3 to 6 inches (8 to 15 centimeters); dark grayish brown (10YR 4/2) loam; weak fine and medium granular structure; friable; many fine and coarse roots; very strongly acid; abrupt smooth boundary; **Bw1**-- 6 to 13 inches (15 to 33 centimeters); brown (7.5YR 4/4) loam; weak fine and medium subangular blocky structure; friable; common fine roots; many fine pores; very strongly acid; clear wavy boundary. **Bw2**-- 13 to 22 inches (33 to 56 centimeters); strong brown (7.5YR 5/6) loam; weak fine and medium subangular blocky structure; friable; common fine roots; many fine pores; 5 percent fine gravel; very strongly acid; gradual wavy boundary; **BC**-- 22 to 31 inches (56 to 79 centimeters); yellowish brown (10YR 5/6) gravelly loam; weak medium and fine subangular blocky structure; friable; few fine roots; common fine pores; 20 percent fine gravel; very strongly acid; clear wavy boundary; and **2C**-- 31 to 65 inches (79 to 165 centimeters); yellowish brown (10YR 5/4) to brownish yellow (10YR 6/6) stratified gravelly sand; single grained; loose; 30 percent fine gravel; very strongly acid.

Enfield Soils:

A typical profile associated with Enfield soils is as follows: **Ap**--0 to 7 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; friable; many very fine and fine roots; 5 percent fine gravel; strongly acid; abrupt smooth boundary; **Bw1**--7 to 16 inches; strong brown (7.5YR 5/6) silt loam; weak medium subangular blocky structure; friable; common very fine and many fine roots; 5 percent fine gravel; strongly acid; clear wavy boundary. **Bw2**--16 to 25 inches; light olive brown (2.5Y 5/4) silt loam; weak medium subangular blocky structure; friable, few very fine and common fine roots; 5

percent fine gravel; strongly acid; abrupt wavy boundary; and **2C**--25 to 60 inches; brown (10YR 5/3) very gravelly sand; single grain; loose; stratified; 45 percent gravel and 5 percent cobbles; strongly acid.

Manchester Soils:

A typical profile associated with Manchester soils is as follows: **Ap**--0 to 9 inches; dark brown (7.5YR 3/2) gravelly sandy loam; weak medium granular structure; very friable; many fine and common medium roots; 20 percent gravel; strongly acid; clear smooth boundary; **Bw**--9 to 18 inches; reddish brown (5YR 4/3) gravelly loamy sand; very weak fine and medium granular structure; very friable; few fine roots; 25 percent gravel; strongly acid; clear wavy boundary; and **C**--18 to 65 inches; reddish brown (5YR 4/4) very gravelly sand; single grain; loose; 50 percent gravel; very strongly acid.

Summary

The natural setting of the area containing the proposed Windsor Solar One, LLC Project is common throughout the North-Central Lowlands ecoregion. Streams and rivers of this area empty into the Connecticut River, which in turn, drains into the Long Island Sound. Further, the landscape in general is dominated by sandy loamy soil types with some wetland soils intermixed. In addition, low slopes dominate the region. Thus, in general, the project region was well suited to Native American occupation throughout the prehistoric era. This portion of East Windsor was also used throughout the historic era, as evidenced by the presence of numerous historic residences and agricultural fields throughout the region; thus, archaeological deposits dating from the prehistoric and historic era may be expected near or within the proposed project area.

CHAPTER III

PREHISTORIC 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 prehistory of the region was studied at the site level. Sites chosen for excavation were highly visible and they were located in such areas as the coastal zone, e.g., shell middens, and Connecticut River Valley. As a result, a skewed interpretation of the prehistory 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 prehistoric 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 prehistoric 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 prehistory of Connecticut. The remainder of this chapter provides an overview of the prehistoric setting of the region encompassing the project area.

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., 12,000 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 numerous surface finds of Paleo-Indian projectile points throughout the State of Connecticut, only two sites, the Templeton Site (6-LF-21) in Washington, Connecticut and the Hidden Creek Site (72-163) in Ledyard, Connecticut, have been studied in detail and dated using the radiocarbon method (Jones 1997; Moeller 1980). The Templeton Site (6-LF-21) is located 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 graters, 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.

The only other Paleo-Indian site studied in detail in Connecticut is the Hidden Creek Site (72-163) (Jones 1997). The Hidden Creek Site is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut. 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, graters, 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.

While archaeological evidence for Paleo-Indian occupation is scarce in Connecticut, it, combined with data from the West Athens Road and King's Road Site in the Hudson drainage and the Davis and Potts Sites in northern New York, supports the hypothesis that there was human occupation of the area not long after ca. 12,000 B.P. (Snow 1980). Further, site types currently known suggest that the Paleo-Indian settlement pattern was characterized by a high degree of mobility, with groups moving from region to region in search of seasonally abundant food resources, as well as for the procurement of high-quality raw materials from which to fashion stone tools.

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, finds of these projectile points have 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.

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

By the onset of the Middle Archaic Period, essentially modern deciduous forests had developed in the region (Davis 1969). It is at this time that increased numbers and types of sites are noted in Connecticut (McBride 1984). The most well-known Middle Archaic site in New England is the Neville Site, which is located in Manchester, New Hampshire and studied by Dincauze (1976). Careful analysis of the Neville Site indicated that the Middle Archaic occupation dated from between ca., 7,700 and 6,000 years ago. In

fact, Dincauze (1976) obtained several radiocarbon dates from the Middle Archaic component of the Neville Site. The dates, associated with the then-newly named Neville type projectile point, ranged from 7,740 \pm 280 and 7,015 \pm 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 \pm 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 m² (5,383 ft²). 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 Terminal Archaic Period (3,700 to 2,700 B.P.)

The Terminal Archaic Period, 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 prehistory. 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 Period has long posed problems for regional archeologists. 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 the use of Orient Fishtail projectile points (McBride 1984:119; Ritchie 1971).

In addition, it was during the late Terminal Archaic Period 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 still was 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 it has been 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.

Careful archaeological investigations of Early Woodland sites in southern New England have 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 indicates 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 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 diverse stylistically 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 Prehistory

In sum, the prehistory of Connecticut spans from ca., 12,000 to 350 B.P., and it is characterized by numerous changes in tool types, subsistence patterns, and land use strategies. For the majority of the prehistoric era, local Native American groups practiced a subsistence pattern based on a mixed economy of hunting and gathering wild 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 prehistoric era 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 containing the proposed project area, a variety of prehistoric site types may be expected. These range from seasonal camps utilized by Archaic populations to temporary and task-specific sites of the Woodland era.

CHAPTER IV

HISTORIC OVERVIEW

Introduction

As Chapter I indicates, the project area consists of approximately 25 acres of land located on level ground in the southeastern quarter of the town of East Windsor, which is located in Hartford County, Connecticut. The project area is situated immediately adjacent to the border with the town of Ellington (in Tolland County, and to the east of the project area). The adjacent roads are Middle Road to the north and East Road to the west. A watercourse known as Pecks Brook also passes to the south and east of the project area parcel. The remainder of this chapter provides an overview history of the town of East Windsor, as well as data specific to the project area.

Native American History of East Windsor

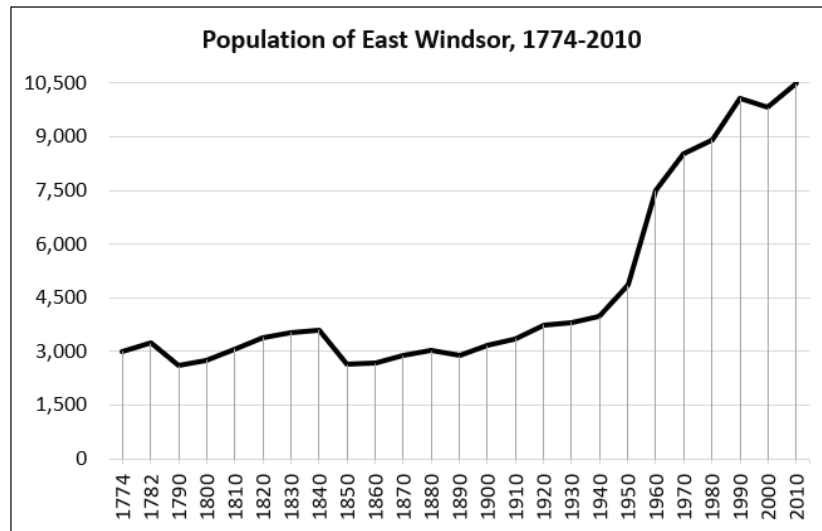
East Windsor was formerly part of the town of Windsor and is also the parent town of both of the present towns of South Windsor and Ellington. The Native Americans who lived in the Windsor area on the west bank of the Connecticut River were known to the colonists as the Poquonocks; a road and a village in Windsor still bear that name (Stiles 1891). The Native Americans who lived on the east side of the Connecticut River in the areas that included the present South Windsor were known to the colonists as the Podunks. Multiple Podunk villages were recorded along the bank of the river, and upland camps and seasonal villages have been found throughout the area. The primary Podunk village site during the contact period appears to have been situated beside the Connecticut River near the border between South Windsor and East Hartford (Goodwin 1886, 1879; Spiess 1937). These lands were claimed by the sachem Aramamet, under the English colonists' convenient understanding of land ownership by an individual sovereign; he also claimed parts of the future Hartford and Windsor lands on the river's west side (Stiles 1892). At the time of King Philip's War in 1675-1676, the Podunks were believed to be quite numerous, and to their misfortune they took the side of King Philip. Many of them fled from colonial retribution and the loss of their land, although a few nonetheless remained behind. The last mention of a Podunk Native American in the colonial records was in 1722, but local records mentioned small numbers as late as 1745 and even 1879 (Spiess 1937; Goodwin 1879; De Forest 1852).

History of the Town of East Windsor

Hartford County was the site of one of the two earliest loci of colonial settlement in Connecticut, with three of its towns dating from the 1630s. It extends southward from the Massachusetts border and flanks the Connecticut River. The earliest colonial development of the region depended on the agricultural and transportation advantages of the river and its valley; areas further from the Connecticut River valley were colonized later and usually grew more slowly through the early nineteenth century. Thereafter, the main source of differentiation in Hartford County towns' development was, first, whether they had significant levels of industrialization, and, later, whether they had significant levels of suburbanization. East Windsor, located on the east bank of the Connecticut River, had the expected agricultural and transport advantages, with only modest early industrial development. Its suburbanization began early in the twentieth century, then increased exponentially later in the century. The following discussion outlines the history of East Windsor in more detail and discusses the presence or absence of historical resources in the vicinity of the project items.

Windsor was one of three colonial communities planted near each other on the Connecticut River in the 1630s, the others being Hartford and Wethersfield. Initially the colonists settled on the west side of the

river, but eventually they claimed a wide area on both sides of it. Colonists began moving permanently to the eastern and northern Windsor territory in 1680, after King Philip’s War (1675-1676) had reduced both their fears and the numbers of the Native Americans living there (Crofut 1937). The town’s initial area was very large, and over time it was divided into the towns of East Windsor, South Windsor, Ellington, Windsor Locks, and part of Bloomfield (Barry 1985). Its population spread out across the landscape in search of agricultural land, cultivating the higher-quality areas first. According to a census taken in 1762, the whole town of Windsor had 4,019 residents. In 1768, the section on the east side of the Connecticut River became the separate town of East Windsor, and as of 1774, the new town of East Windsor had 2,999 residents, and then 3,237 residents as of 1782 (see the population chart below;



Keegan 2012; Barry 1985). East Windsor (still including South Windsor) sent as many as 400 men to fight in the Revolutionary War; in addition, East Windsor contained a great deal of excellent agricultural land whose products must have fed many soldiers during the war. In 1786, the town of Ellington separated from East Windsor (Barry 1985; Tarbox 1886; Destler 1973).

During the first 50 years of the new United States, Windsor and its municipal offspring remained agricultural in economy, their populations slowly rising but staying below 4,000 people through 1840, when the census reported only 3,600 residents in East Windsor. In 1845, South Windsor was created out of East Windsor, and as of the 1850 federal census both towns had populations of under 3,000 people (Keegan 2012; see the population chart above). Interestingly, and perhaps significantly in terms of their economic history, East Windsor and South Windsor were entirely bypassed by the turnpike system that developed between ca., 1790 and 1850, under which private companies undertook to build and/or improve roads in order to speed the movement of people and goods. Often, though not always, the presence of such roads did indeed foster the development of commerce and industry (Wood 1919). It is likely that instead of turnpikes, the Connecticut River was used for commercial transport by residents of these towns. This river access also encouraged some early industrial development. As of the federal census of industry taken in 1850, East Windsor had 13 firms making products worth at least \$500.00 per year, two of them steam-operated textile manufacturers employing a total of 210 men and 115 women; the remainder employed between 21 people and one person, including three cigar-makers (U.S. Census 1850).

In the 1855 map of Hartford County, both of the roads adjacent to the project area (presently known as East Road, to the west, and Middle Road, to the north) were present (Figure 3; Woodford 1855). Although the small manufacturing village of Windsorville was not far to the west, the project area was situated in a rural zone. The map depicted two buildings labeled with the name Horatio Thrall within 152 m (500 ft) of the project area, one on the north side of Middle Road and one to the south of Middle Road and a short distance to the east of the project area. A third building, labeled with the name Julius Osborne, was mapped a little over 152 m (500 ft) to the south of the project area. The map of the town published in 1869 showed only one building labeled with the name H. Thrall, located to the north of Middle Road. A building to the south of the project area was labeled with the name J. Osborn, and a new building was depicted between it and the project area, labeled with the name C. Clark (Figure 4; Baker & Tilden 1869).

Horatio Thrall (1791-1869) was a farmer born in Ellington; he moved to East Windsor after 1850, and eventually died at South Windsor. He was a member of a Thrall family that had been in Hartford County since the seventeenth century. He married Sibyl Clark (c. 1800-1878/1879) in East Windsor. Seven of their eight children lived to adulthood; sons Norman, Reuben, Edwin, and Moses stayed in East Windsor, and Russell and Carlos moved to Ellington and became locally prominent (Cutter 1913:2:904). The federal census of 1850 listed Horatio already living in East Windsor, aged 58, and owning a farm worth \$5,000.00. His household consisted of his wife "Sybal" (aged 52), three sons, and one daughter, ranging in age from 8 to 22 years. The family's neighbors, including Charles Clark and Julius Osborn, were also middle-aged, but with smaller families and owned farms valued at \$2,000.00 each. According to the agricultural census taken in 1850, the Thrall family owned 50 acres of improved land, one horse, three milch cows (from which they produced butter and cheese), and two teams of oxen, along with 17 sheep. Only some of their neighbors also kept sheep; the Clark and Osborn families did not. The Thrall family grew corn, oats, hay, and potatoes, and their two closest neighbors also grew rye. None of the three families grew tobacco, although the census return shows that many East Windsor families did (United States Census 1850a, 1850b). In the 1860 census, the Thrall family had four unmarried sons at home, aged between 18 and 29. Neither they nor the Clarks, who had two live-in servants in their household, gave a value for their farm; the Osborn family was not listed (United States Census 1860).

In the 1870 census, the widowed Sybil Thrall owned \$2,910.00 in real estate and \$2,400.00 in personal estate. Her unmarried son Reuben (age 40) worked as a house carpenter and claimed \$1,500.00 in personal estate. Her son Moses (age 37) had married Adelaide (age 28) and they had one young son. He reported owning \$4,000.00 in real estate and \$1,111.00 in personal estate, indicating that he had secured ownership of much of the family farm. The household also included a German teenager who worked as a farm laborer. Another family on the same census page was headed by an Irish woman. These were the only foreign-born people on this census page. According to the form, Sybil's son Edwin Thrall and his young family lived a few doors away. According to the 1870 agricultural census, almost every farmer in East Windsor was growing tobacco by that year, including both Moses and Edwin Thrall (United States Census 1870a, 1870b). Moses and Adelaide Thrall were still in East Windsor in the 1880 census, with three children and a boarding farm laborer, although it is less clear that they were still living at or near the project area. The agricultural schedule showed that their farm included 60 tilled acres (24 ha), 18 acres (7 ha) of woodland, and 25 acres (10 ha) of mown meadow. Like their neighbors, they grew tobacco, grains, and hay, and produced butter and eggs from their animals (United States Census 1880a, 1880b). These agricultural patterns suggest a mix of cash-crop and subsistence farming and appears to have been typical of the town's farmers.

This shift to tobacco-growing was consistent with the report that by the 1890s, East Windsor's agricultural emphasis had shifted from food and feed crops such as rye, corn, and hay to the growing of tobacco. The distilleries that once made use of the rye had also closed. Windsorville, previously known as Ketch Mills, had previously had a gin distillery that burned down in the 1840s, to be replaced by a woolen textile mill (Stiles 1891:745-746). It is not certain when nineteenth-century railroad service came to East Windsor and South Windsor. No railroad was shown on the 1869 map (Baker & Tilden). In 1880, the Connecticut Central Railroad, a 20 mile track going from East Hartford to South Windsor and up to Springfield, Massachusetts, was leased by the New York & New England Railroad; the same line had also been leased in 1876 by the Connecticut Valley Railroad (Turner and Jacobus 1989). At whatever time it was built, however, its population effects in East Windsor appear to have been limited. As the population chart above shows, East Windsor had 3,158 residents as of 1900 and 4,859 residents as of 1950 (Keegan 2012). While this shows a continuing growth trend during the first half of the twentieth century, it was not a spectacular one. In economy, these nineteenth and twentieth century towns were, and to some extent still are, focused on agriculture. According to a 1932 assessment of the towns' economic activity, East Windsor's main industries included only agriculture and textiles (Connecticut 1932). The "agriculture" category certainly included tobacco, though it was not specifically mentioned.

Tobacco growing in Connecticut goes back to the colonial era. Although it was not the overwhelmingly important activity that it was in more southern colonies, it was an important cash crop in the Connecticut River valley by ca., 1700. In 1810, cigar making began at East Windsor and Suffield, and by 1830 a new way of curing tobacco for cigar wrappers called "sweating" was discovered by an East Windsor company. After that, all or most of the industry shifted to producing for cigars, and high profit margins encouraged farmers to try their hand at growing it from the Housatonic valley to New Haven and as far north as Vermont and Maine. By the late nineteenth century, competition and overproduction had brought about a gradual decrease of acreage, until only the "best lands in the immediate vicinity of the Connecticut River continued to be used," presumably because those lands produced the highest yield (McDonald 1936:5, 14). An improvement in tobacco production, which occurred in 1896, was the development of a method for growing "shade tobacco," and consisted simply of building light cloth tents on poles over the plants. This caused the tobacco leaves to take on a more attractive color, and the technique rapidly spread throughout the market. It resulted in significant increases in the grower's profit base (McDonald 1936). These tents, and the associated barns for drying or "curing" the tobacco, are clearly visible in the 1941 aerial photograph mentioned above.

The 1934 aerial photograph showing the project area seems to have been taken at a point in time when the tobacco shade tents were not in place (Figure 5; Fairchild 1934). On and around the project area, however, there were a half-dozen of the long, narrow tobacco drying sheds, which were normally placed in tobacco fields. Because of its setback from Middle Road, two tobacco sheds were only partly within the northern end of the project area. The image also shows that a small house or barn was within the project area. The historic Horatio Thrall farmstead was present on the north side of Middle Road; to the south, the historic Charles Clark farmstead was also still there, as was the Julius Osborn farmstead a little further to the south. All of the project area was cleared field, except for what was possibly a wide ditch along the northeastern edge of it. In fact, most of the vicinity was cleared fields, with some areas of woods, especially along the course of the stream. In aerial photographs, the presence or absence of tobacco tenting varies depending on the season and on whether a given field was being left fallow. The 1941 aerial shows how much the locations of farm outbuildings could change: none of the buildings visible within the project area in the 1934 aerial photograph were still present, though the locations of nearby farmsteads were consistent (Figure 6; USGS 1941).

After 1950, although East Windsor saw further substantial population increases beginning from that year, its population only reached 10,482 residents as of 2010 (Keegan 2012). Some of this growth may be related to the construction of Interstate 91, since the section on the east side of the river opened in 1959 (Oglesby 2014). During the later twentieth and early twenty-first centuries, East Windsor saw modest industrial development. In 2018, 9.6 percent of its 7,032 jobs were in the manufacturing sector; a far larger proportion, approximately 20 percent, were in a sector identified in an economic profile document as “Administrative and Waste Service.” Nonetheless, as of 2014 the town’s largest employers were in retail, health care, auto sales, farming, and metal working, suggesting a very mixed economy (CERC 2019). The town’s 2016 planning document, like many of its era for similar towns, called for the continuing improvement of certain focused areas of commercial and industrial development, as well as village areas. At the same time, it also displayed a preference for the support of low-density residential and agricultural uses in the majority of the town’s area, and also the preservation of open space and cultural and historical resources. The location of the project area, in the southeasternmost section of the town, was within the large area designed as rural residential (East Windsor 2016).

The appearance of the project area in the 1963 aerial photograph is consistent with this modest population growth, in that there were no signs of housing development in the vicinity. The locations of the buildings nearest the project area also had not changed (Figure 7; USGS 1963). By the time of the 2016 aerial photograph, however, some housing had been built to the north and to the east of the project area. One of the tobacco barns on the south side of Middle Road was still standing, immediately adjacent to the project area. Still, the areas to the west and south, like the project area itself, remained agricultural fields, and there were also still some wooded areas. The blindingly white fields to the west of the project area are evidence that shade tobacco was still being cultivated in this general area, though not on the project area itself. The marks on the field that comprises the project area did not have the distinctive appearance generally given by the presence of the rows of posts required for the stringing up of the tenting (Figure 8; CT ECO 2019).

Conclusions

The documentary record indicates that the northern edge of the project area may contain archaeological remains associated with two tobacco sheds and a small house or barn that were located partly or entirely on the project area. Elsewhere on the parcel, the 1855 map of Hartford County suggested that there was a house located somewhere to the south of Middle Road. This map was not accurate enough to locate this building with any precision, so it may or may not have been within the project area. It is also possible that there were other outbuildings on the parcel for which documentary evidence does not exist, as well as evidence of past farming activities, such as walls or fences. Finally, although Horatio Thrall and his family were written up in a genealogy, this seems to have had more to do with their colonial heritage than with their actual social or economic status during the nineteenth century; it also has not been confirmed, via direct research into the property’s ownership history, that this particular field belonged to the Thralls.

CHAPTER V

PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previous archaeological research completed within the vicinity of the project area in East Windsor, 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 project area are taken into consideration. Specifically, this chapter reviews previously identified archaeological sites and National/State Register of Historic Places properties situated in the project region (Figures 9 and 10). The discussions presented below are based on information currently on file at the Connecticut State Historic Preservation Office in Hartford, Connecticut. In addition, the electronic site files maintained by Heritage were examined during the course of 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 Properties/Districts in the Vicinity of the Project Area

A review of data currently on file at the Connecticut State Historic Preservation Office, as well as the electronic site files maintained by Heritage failed to detect any previously identified archaeological sites or National/State Register of Historic Places properties situated within 1.6 km (1 mi) of the project area (Figures 9 and 10). Though no archaeological sites have been previously identified in the area, the natural setting discussed in Chapter II suggests Native Americans may have once inhabited the area, and sites may yet be discovered. In addition, the larger project region has been in use as agricultural land since East Windsor's settlement and there may be evidence of this historic occupation in the project area.

CHAPTER VI

METHODS

Introduction

This chapter describes the research design and field methodology used to complete the Phase IA cultural resources assessment survey of the project area in East Windsor, Connecticut. The following tasks were completed during this investigation: 1) study of the region's prehistory, history, and natural setting, as presented in Chapters II through IV; 2) a literature search to identify and discuss previously recorded cultural resources in project region; 3) a review of historic maps, topographic quadrangles, and aerial imagery depicting the project area in order to identify potential historic resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project area in order to determine their archaeological sensitivity. These methods are in keeping with those required by the Connecticut State Historic Preservation Office in the document entitled: *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987).

Research Framework

The current Phase IA cultural resources assessment survey was designed to assess the archaeological sensitivity of the project area, as well as to visually examine the development area for any previously unidentified cultural resources during pedestrian survey. The undertaking was comprehensive in nature, and project planning considered the distribution of previously recorded cultural resources located within the project region, as well as a visual assessment of the project area. The methods used to complete this investigation were designed to provide coverage of all portions of the project area. The fieldwork portion of this undertaking entailed pedestrian survey, photo-documentation, and mapping (see below).

Archival Research & Literature Review

Background research for this project included a review of a variety of historic maps depicting the proposed project area; 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 National and State Register of Historic Places 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 area, and to provide a natural and cultural context for the project region. This information then was used to develop the archaeological context of the project area, and to assess its sensitivity with respect to the potential for producing intact cultural resources.

Background research materials, including historic 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 project, and they provided valuable data related to the project region, as well as data concerning previously identified archaeological sites and National and State Register of Historic Places properties within the general vicinity of the project area.

Field Methodology and Data Synthesis

Heritage also performed fieldwork for the Phase IA cultural resources assessment survey of the project area associated with the solar project in East Windsor, Connecticut. This included pedestrian survey, photo-documentation, and mapping of the area containing the proposed solar center. During the completion of the pedestrian survey, representatives from Heritage photo-documented all potential areas of impact using digital media.

CHAPTER VII

RESULTS OF THE INVESTIGATION & MANAGEMENT RECOMMENDATIONS

Introduction

This chapter presents the results of the Phase IA cultural resources assessment survey of the project area in East Windsor, Connecticut. 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 prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the project region; 3) a review of readily available historic maps and aerial imagery depicting the project area in order to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the project items in order to determine their archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report.

Results of Phase IA survey

The project area measures approximately 350 m (1,150 ft) in width from north to south by 356 m (1,170 ft) in width from east to west. At the time of survey, it was characterized by open, fallow farmland, all of which area well to excessively drained (Figures 11 through 15). This project area is situated elevations ranging from 57.9 to 64 m (190 to 210 ft) NGVD, and it contains 25 acres of land. The predominant soil types located throughout the project area are Haven and Enfield sandy loams, which are found on slopes of 0 to 8 percent. As discussed in Chapter II of this report, this soil type is well-to excessively drained and contains small to medium sized stones throughout. The project area lies to the west of an existing powerline corridor, which will presumably serve as the interconnect for the proposed solar facility. Pedestrian survey also revealed the presence of a tobacco shed in the northern part of the parcel of land containing the proposed solar center and adjacent to Middle Road. This shed remains in use for drying tobacco and it is in good condition with most original elements present. A review of aerial image in Figures 4 through 8 reveal that this particular building was constructed sometime between 1934 and 1941. It will not be impacted by the proposed project and no additional recordation of it is necessary. Other tobacco-related buildings once existed on the project parcel and partially within the footprint of the solar center (see Figure4), but these were demolished prior to 1941.

Overall Sensitivity of the Proposed Project area

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 historic maps, aerial images, and data regarding previously identified archaeological sites, and National and State Register of Historic Places properties to stratify the project items into zones of no/low and/or moderate/high archaeological sensitivity. In general, historic 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 prehistoric 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 prehistoric 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 prehistoric 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 prehistoric 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 prehistoric 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 prehistoric archaeological sites.

In addition, the potential for a given area to yield evidence of historic period archaeological deposits is based not only on the above-defined landscape features but also on the presence or absence of previously identified historic period archaeological resources as identified during previous archaeological surveys, recorded on historic period maps, or captured in aerial images of the region under study. In this case, proposed project items that are situated within 100 m (328 ft) of a previously identified historic 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 historic period archaeological sensitivity.

The combined review of historic maps, aerial images, land deeds, and pedestrian survey indicates that the 25 acre project area contains low slopes and well drained soils situated in proximity to Pecks Brook to the east. Soils found throughout the project area are mainly attributed to the Haven and Enfield series, which consists of sandy loam that generally extends to ca., 65 cm (26 in) below surface. While agricultural pursuits on the property have formed a plow zone deposit, a review of soils in the area indicates that intact B-Horizons deposits are likely within the solar center area. Based on the totality of the information available, including landscape type, well-drained soil types, use of the area for farming over the years, proximity to freshwater, it is the professional opinion of Heritage that the proposed development area retains a moderate sensitivity for yielding archaeological deposits. As a result, it is recommended that a systematic Phase IB cultural resources survey of the development area be conducted, but that shovel testing intervals may be 30 m (100 ft) spaced along survey transect spaced 30 m (100 ft).

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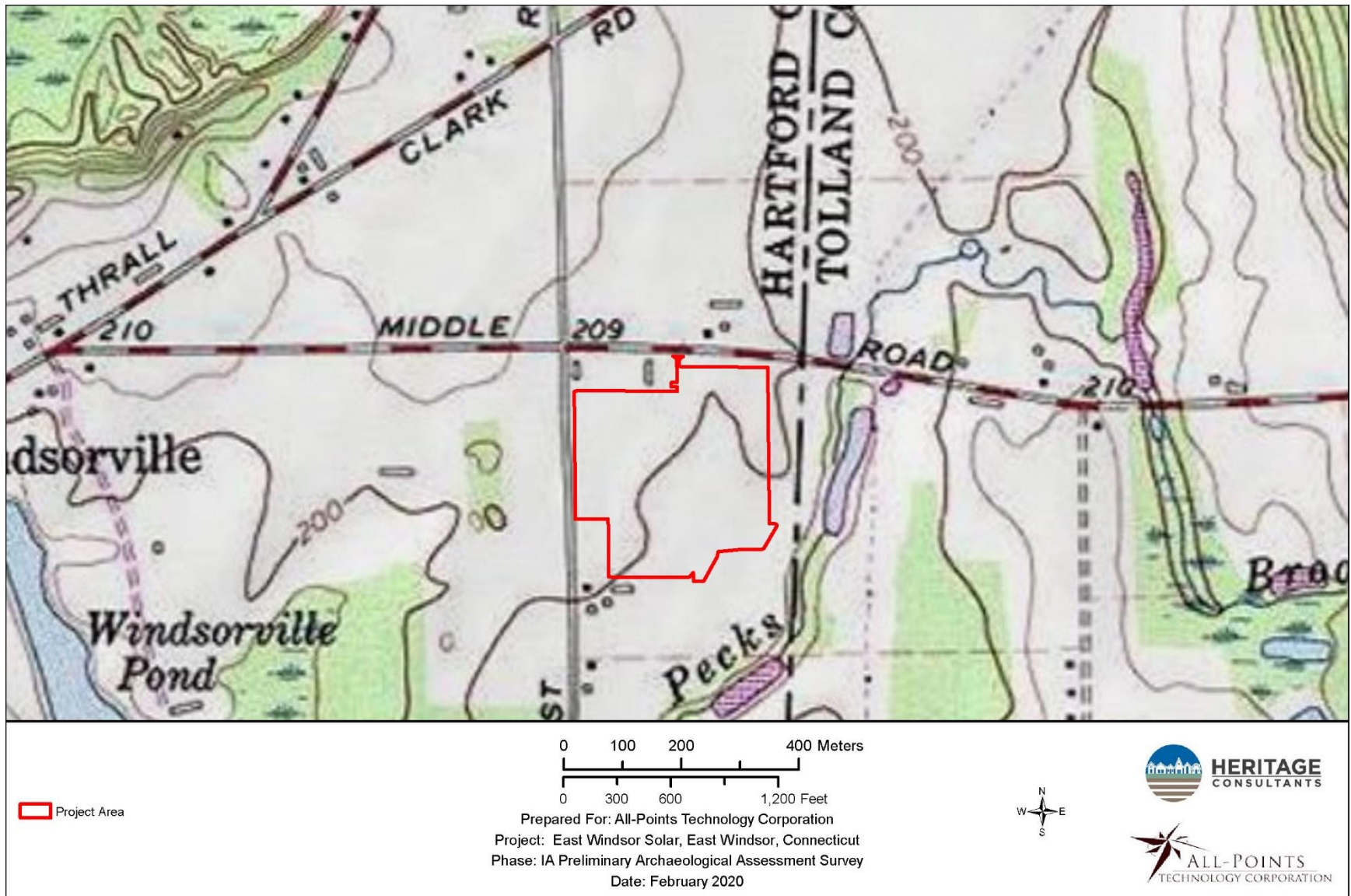


Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project parcel in East Windsor, Connecticut.

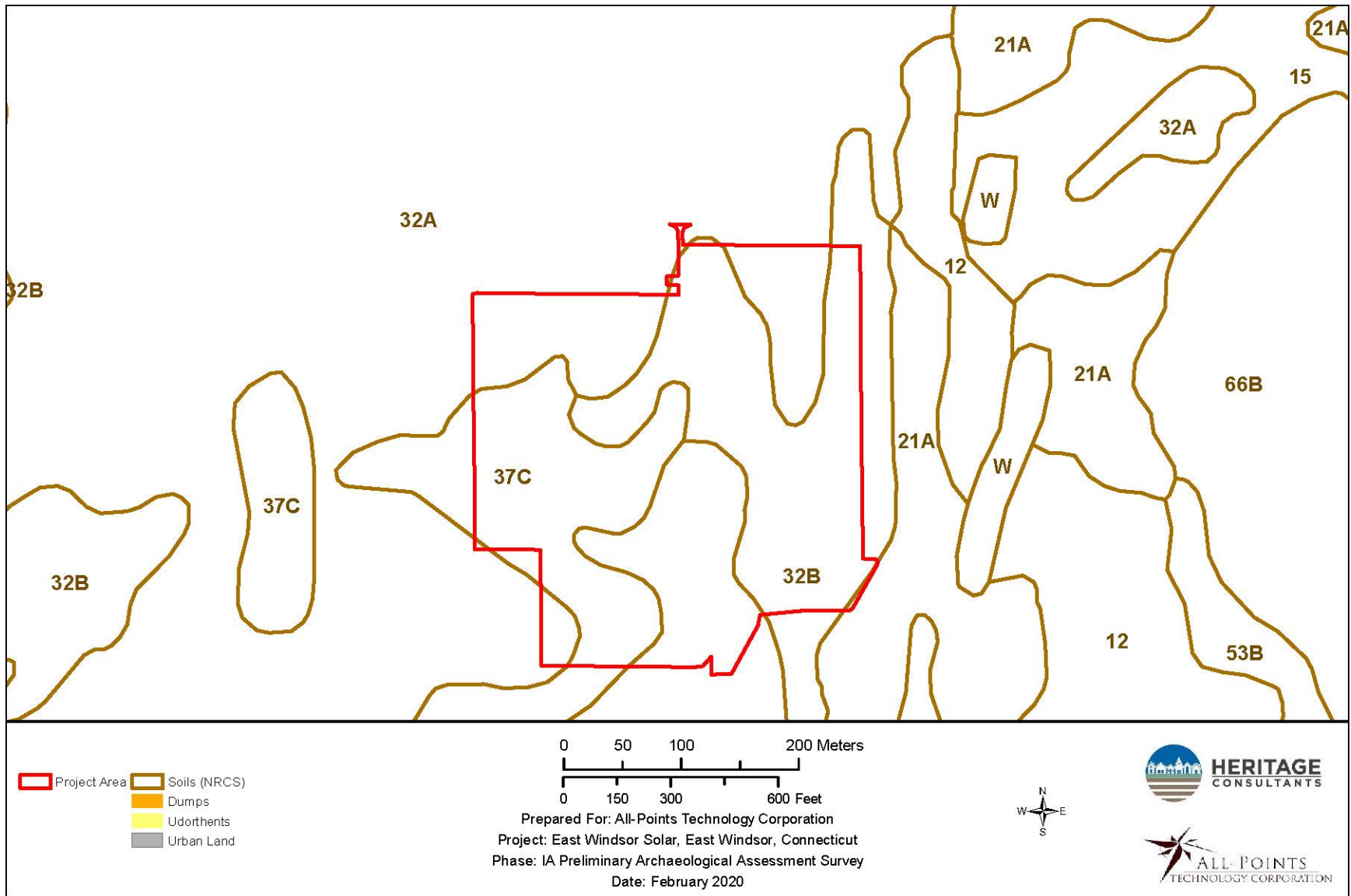


Figure 2. Map of soils located in the vicinity of the project parcel in East Windsor, Connecticut.



Figure 3. Excerpt from an 1855 historic map showing the location of the project parcel in East Windsor, Connecticut.



Figure 4. Excerpt from an 1869 historic map showing the location of the project parcel in East Windsor, Connecticut.

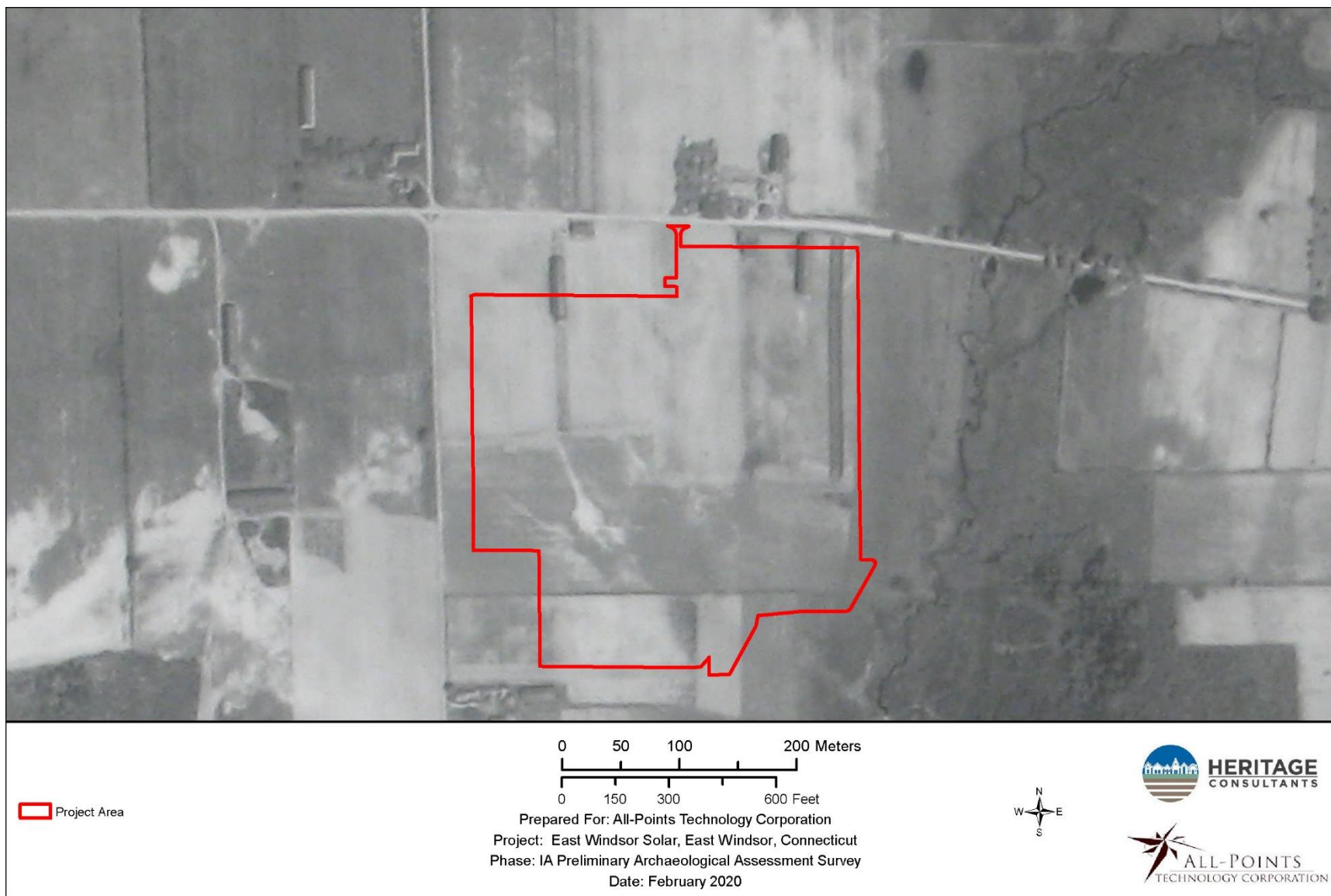


Figure 5. Excerpt from a 1934 aerial photograph showing the location of the project parcel in East Windsor, Connecticut.

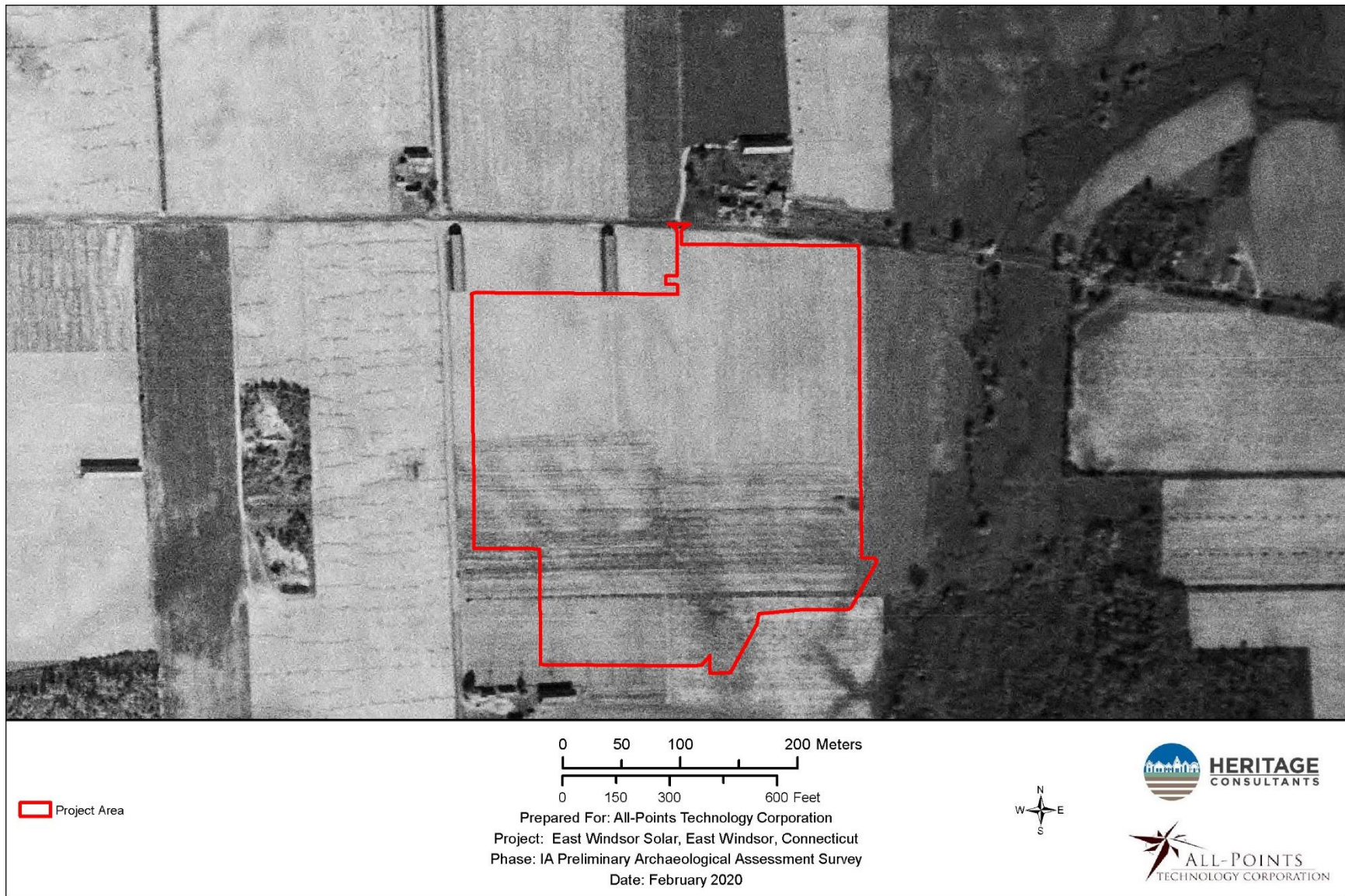


Figure 6. Excerpt from a 1941 aerial photograph showing the location of the project parcel in East Windsor, Connecticut.

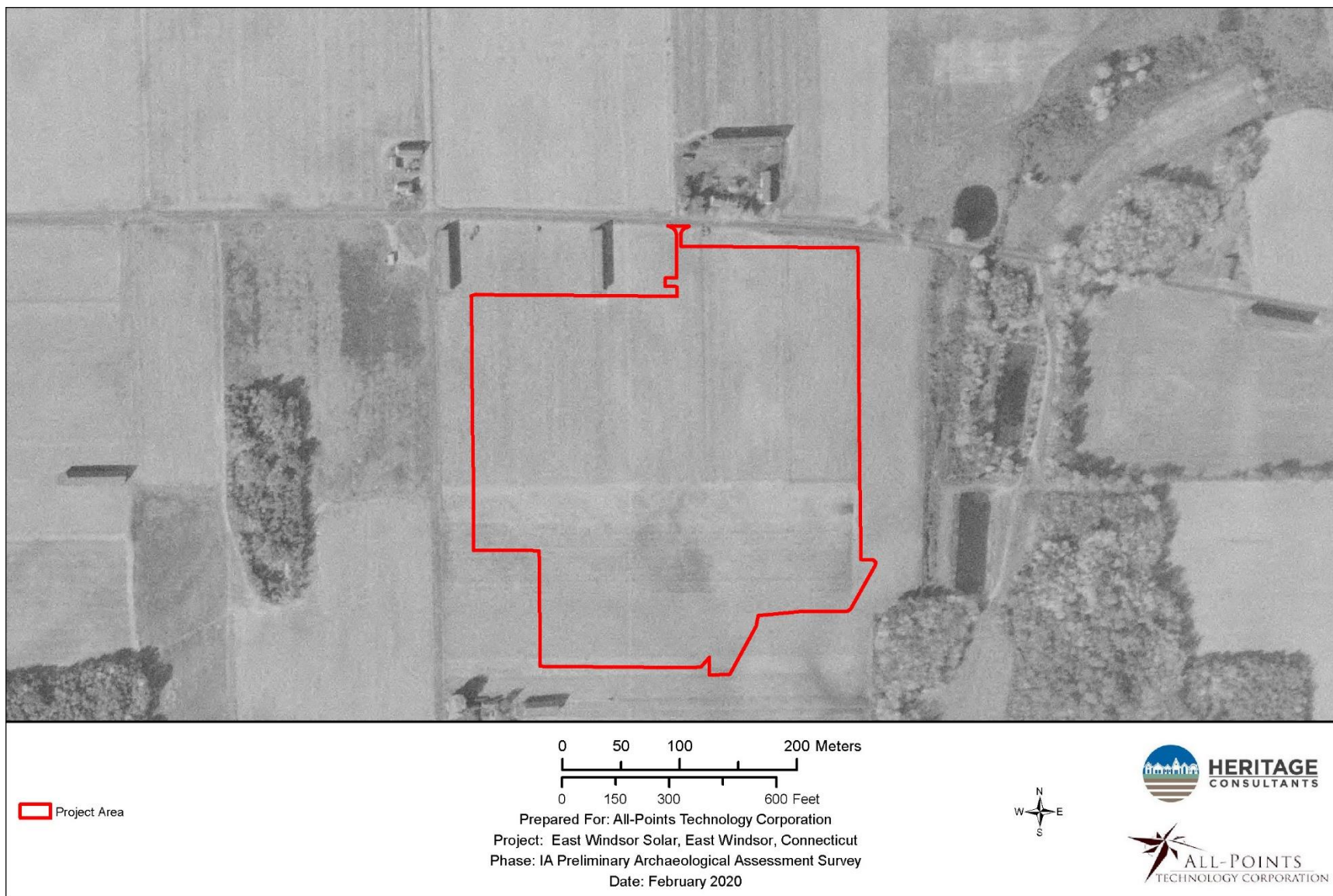


Figure 7. Excerpt from a 1963 aerial photograph showing the location of the project parcel in East Windsor, Connecticut.

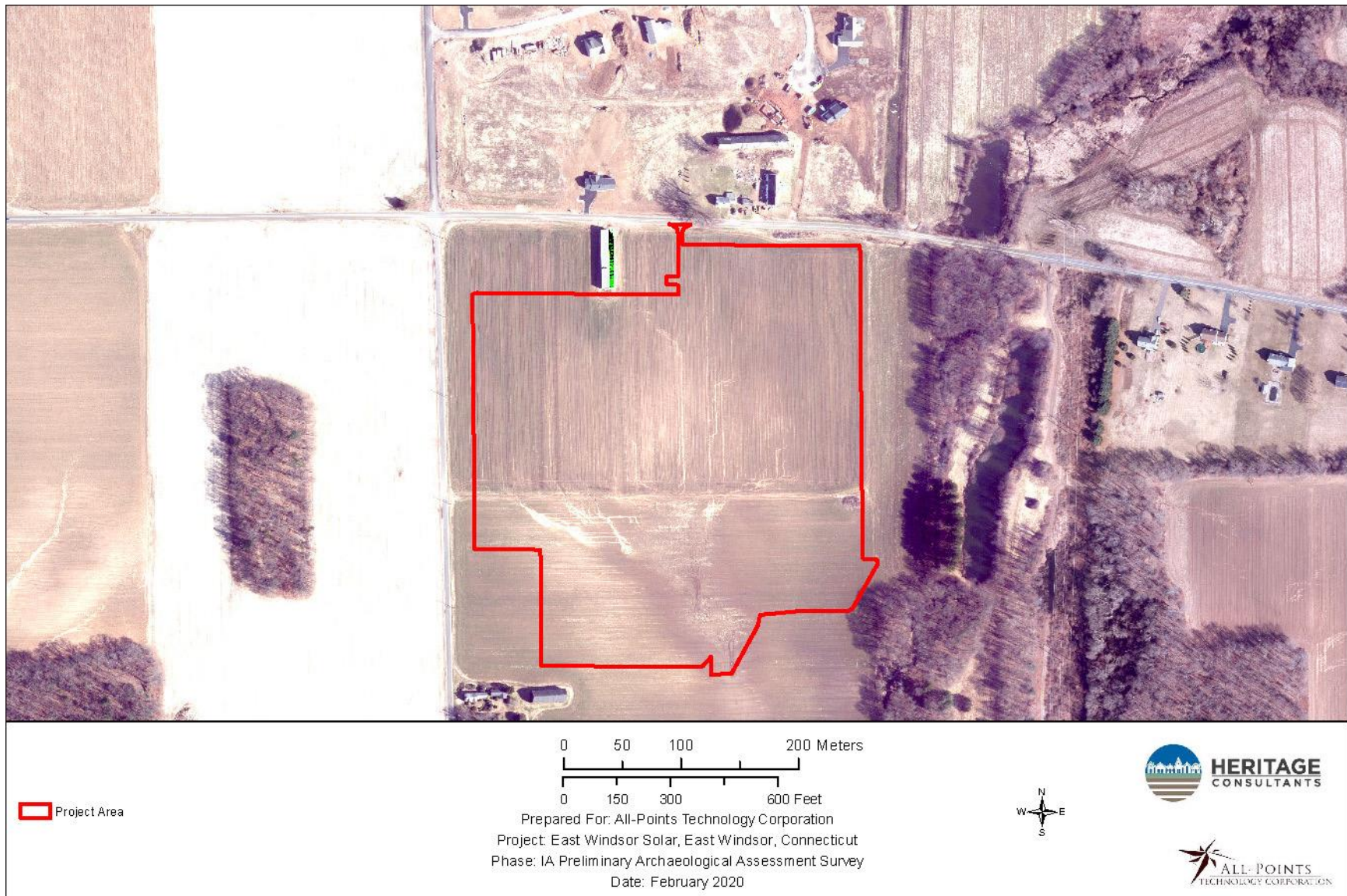


Figure 8. Excerpt from a 2019 aerial photograph showing the location of the project parcel in East Windsor, Connecticut.

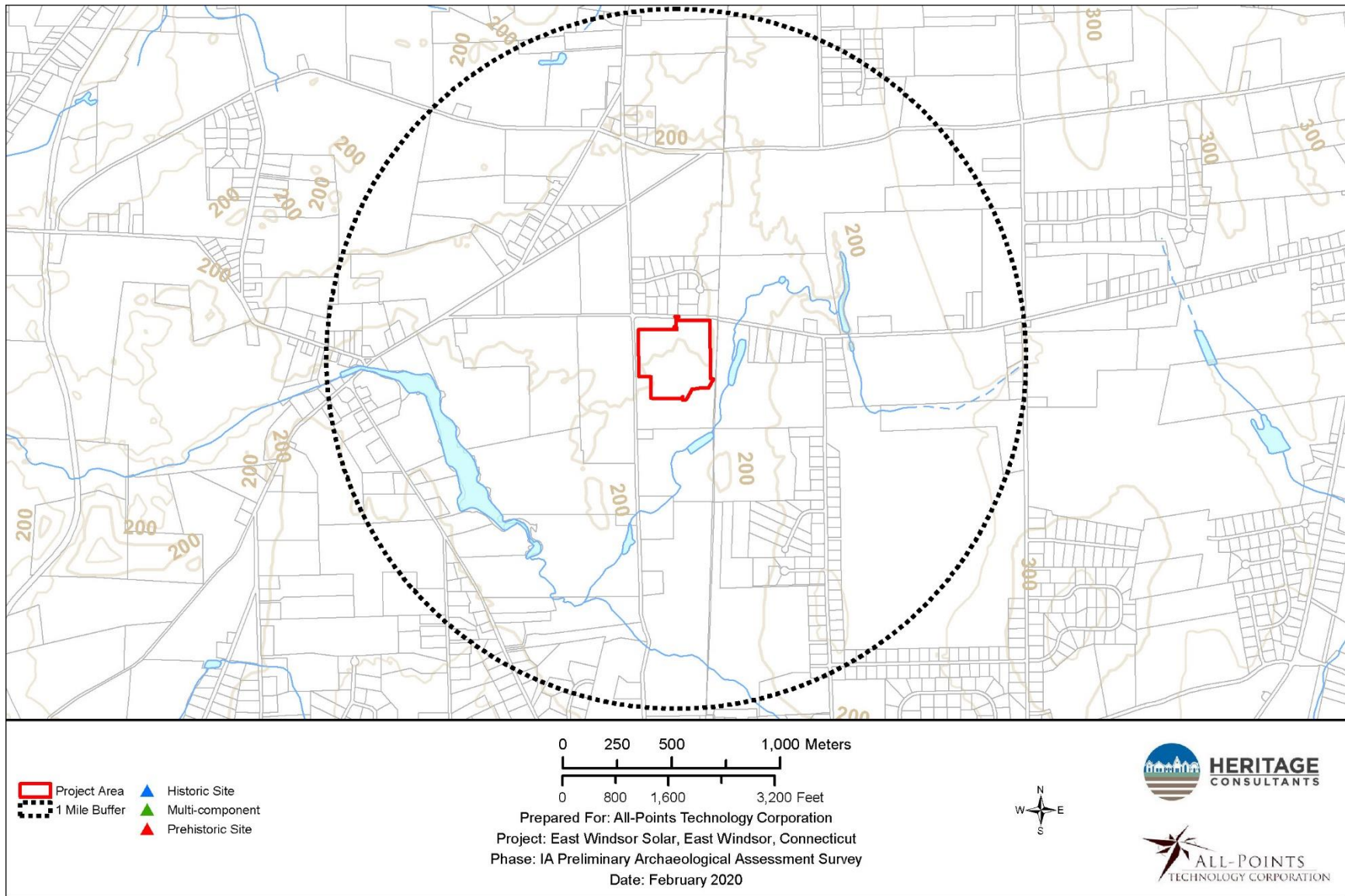


Figure 9. Digital map showing the location of previously identified archaeological sites in the vicinity of the project parcel in East Windsor, Connecticut.

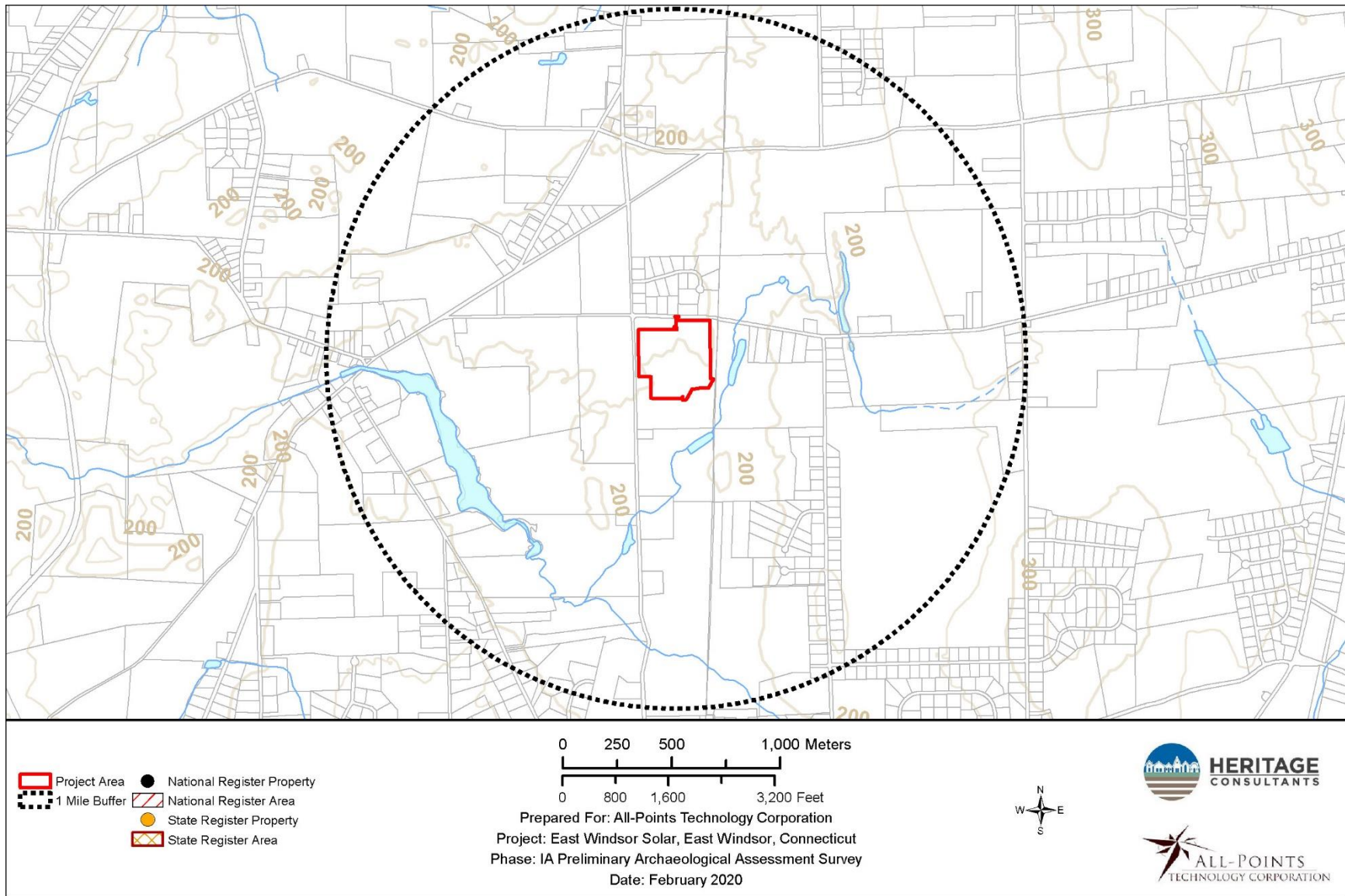


Figure 10. Digital map depicting the locations of previously identified National/State Register of Historic Places properties in the vicinity of the project parcel in East Windsor, Connecticut.



Figure 11. Overview photo of the project area facing northeast.



Figure 12. Overview photo of the project area facing east.



Figure 13. Overview photo of the project area facing southeast.



Figure 14. Overview photo of the project area facing south.



Figure 15. Photo of the tobacco shed near the development are facing northwest.

MAY 2020

PHASE IB CULTURAL RESOURCES RECONNAISSANCE SURVEY
OF THE PROPOSED EAST WINDSOR SOLAR ONE
SOLAR CENTER IN EAST WINDSOR, CONNECTICUT

PREPARED FOR:



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ABSTRACT

This report presents the results of a Phase IB cultural resources assessment survey for the proposed East Windsor Solar One Center in East Windsor, Connecticut. The project area associated with this solar center encompasses approximately 25 acres of land and will be accessed from Middle Road, which is located to the north. A previously completed Phase IA cultural resources reconnaissance survey determined that the proposed development area retained a moderate sensitivity for yielding intact archaeological deposits because it contains low slopes, well drained soils, and is located close to Pecks Brook to the east. It was recommended that a Phase IB cultural resources survey be conducted across the project area prior to construction of the solar center. The phase IB survey was completed in May 2020. A total of 112 of 112 (100 percent) planned shovel test pits were excavated and resulted in the identification of two positive shovel tests that were designated as Locus 1 and Locus 2. An additional 16 delineation shovel tests and one judgmentally placed shovel test were excavated around the two positive shovel tests. Locus 1 yielded a single quartz reduction flake, and Locus 2 also yielded a single quartz reduction flake. No cultural features or soil anomalies were identified in association with the lithic debris within Locus 1 or Locus 2, and the prehistoric components could not be assigned a date or cultural affiliation due to the absence of temporally diagnostic artifacts. Loci 1 and 2 were assessed as not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No impacts to cultural resources are expected by the construction of the solar facility, and no additional archaeological examination of the project area is recommended.

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CHAPTER I

INTRODUCTION

This report presents the results of a Phase IB cultural resources reconnaissance survey of the proposed East Windsor Solar One Center in East Windsor, Connecticut (Figure 1). All-Points Technology Corporation (All-Points), operating on behalf of East Windsor Solar One, LLC, requested that Heritage Consultants, LLC (Heritage) complete the reconnaissance survey as part of the planning process for the proposed solar center, which will occupy approximately 25 acres of land to the south of Middle Road. The project area is bounded by a recently built housing subdivision to the north, a wooded area containing Peck's Brook to the east, farm fields to the south and East Road and farm roads to the east. Heritage completed the fieldwork for this investigation in May of 2020. 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 project area will contain a solar center that will include the installation of rows of solar panels spaced at 3.47 m (11.4 ft) intervals across the above-referenced project area. The project area, which is located within a large agricultural field, is situated at elevations ranging from 57.9 to 64 m (190 to 210 ft) NGVD. The Phase IB cultural resources reconnaissance survey was completed utilizing pedestrian survey, systematic shovel testing, GPS recordation, and photo-documentation. During the survey, Heritage conducted the systematic excavation of shovel tests along parallel survey transects. The shovel tests were situated at 30 m (98.4 ft) intervals along 11 parallel survey transects extending from north to south and spaced 30 m (98.4 ft) apart. Each shovel test measured 50 x 50 cm (19.7 x 19.7 in) in size and each was excavated to the glacially derived C-Horizon or until immovable objects (e.g., tree roots, boulders, etc.) 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 cm (0.25 in) hardware cloth and examined visually for cultural material. Soil characteristics were recorded using Munsell Soil Color Charts and standard soils nomenclature. Each shovel test was backfilled after being recorded.

Project Results and Management Recommendations Overview

The review of historic maps and aerial images of the project area, files maintained by the CT-SHPO, as well as pedestrian survey of the development area, failed to detect any previously identified archaeological sites or National/State Register of Historic Places properties within 1.6 km (1 mi) mile of the project area. This is likely due to a lack of professional surveys in this area rather than an actual absence of cultural resources. Heritage also combined data from the historic map and aerial image analysis, and the pedestrian survey to stratify the project area into zones of no/low and/or moderate/high archaeological sensitivity. Upon completion of the above-referenced analysis and pedestrian survey, it was determined that the project area contains low slopes and well-drained soils in proximity to Pecks Brook to the east. As a result, it was determined that the project area retained a moderate potential to contain intact archaeological deposits buried beneath the existing plow zone. As a result, a Phase IB cultural resources survey was recommended prior to construction of the proposed solar center.

A total of 112 of 112 (100 percent) planned shovel test pits were excavated and resulted in the identification of two positive shovel tests that were designated as Locus 1 and Locus 2. An additional 16 delineation shovel tests and one judgmentally placed shovel test were excavated around the two positive shovel tests. Locus 1 yielded a single quartz reduction flake, and Locus 2 also yielded a single quartz reduction flake. No cultural features or soil anomalies were identified in association with the lithic debris within Locus 1 or Locus 2, and the prehistoric components could not be assigned a date or cultural affiliation due to the absence of temporally diagnostic artifacts. Loci 1 and 2 were assessed as not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No impacts to cultural resources are expected by the construction of the solar facility, and no additional archaeological examination of the project area is recommended.

Project Personnel

Heritage Personnel who contributed to the project include Mr. David R. George, M.A., R.P.A., (Principal Investigator); Ms. Renée Petruzelli, M.A., R.P.A. (Project Archaeologist); Mr. Cory Atkinson, M.A., (Field Director); Mr. Stephen Anderson, B.A., (Geographic Information Specialist), and Dr. Kristen Keegan, (Senior Historian).

CHAPTER II

NATURAL SETTING

Introduction

This chapter provides a brief overview of the natural setting of the region containing the project area in East Windsor, Connecticut. Previous archaeological research has documented that specific environmental factors can be associated with both prehistoric and historic 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 project area. The remainder of this chapter provides a brief overview of the ecology, hydrological resources, and soils present within the project area 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 one of the ecoregions is germane to the current investigation: North-Central Lowlands ecoregion. A summary of this ecoregion is presented below. It is followed by a discussion of the hydrology and soils found in and adjacent to the project area.

North-Central Lowlands Ecoregion

The North-Central Lowlands ecoregion consists of a broad valley located between 40.2 and 80.5 km (25 and 50 mi) to the north of Long Island Sound (Dowhan and Craig 1976). It is characterized by extensive floodplains, backwater swamps, and lowland areas situated near large rivers and tributaries. Physiography in this region is composed of a series of north-trending ridge systems, the easternmost of which is referred to as the Bolton Range (Bell 1985:45). These ridge systems comprise portions of the terraces that overlook the larger rivers such as the Connecticut and Farmington Rivers. The bedrock of the region is composed of Triassic sandstone, interspersed with very durable basalt or “traprock” (Bell 1985). Soils found in the upland portion of this ecoregion are developed on red, sandy to clayey glacial till, while those soils situated nearest to the rivers are situated on widespread deposits of stratified sand, gravel, silt, and alluvium resulting from the impoundment of glacial Lake Hitchcock.

Hydrology in the Vicinity of the Project area

The project area is situated within a region that contains several sources of freshwater, including Pecks Brook, Ketch Brook, and Windsorville Pond, as well as unnamed streams, ponds, and wetlands. These freshwater sources may have served as resource extraction areas for Native American and historic populations. Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were focal points for prehistoric occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources.

Soils Comprising the Project area

Soil formation is the direct result of the interaction of many variables, including climate, vegetation, parent material, time, and organisms present (Gerrard 1981). Once archaeological deposits are buried within the soil, they are subject to various diagenic and taphonomic 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. In contrast, acidic soils enhance the preservation of charred plant remains.

A review of the soils within the project area is presented below. The project area is characterized by the presence of three major soil types: Haven, Enfield, and Manchester soils (Figure 2). A review of these soils shows that they consist of well drained sandy loams; they are the types of soils that are typically correlated with prehistoric and historic use and occupation. Descriptive profiles for each soil type are presented below; they were gathered from the National Resources Conservation Service.

Haven Soils:

A typical profile associated with Haven soils is as follows: **Oi**--0 to 2 inches (0 to 5 centimeters); slightly decomposed plant material derived from loose pine needles, leaves and twigs. **Oa**-- 2 to 3 inches (5 to 8 centimeters); black (5YR 2/1) highly decomposed plant material; **A**--3 to 6 inches; dark grayish brown (10YR 4/2) loam; weak fine and medium granular structure; friable; many fine and coarse roots; very strongly acid; abrupt smooth boundary; **Bw1**-- 6 to 13 inches (15 to 33 centimeters); brown (7.5YR 4/4) loam; weak fine and medium subangular blocky structure; friable; common fine roots; many fine pores; very strongly acid; clear wavy boundary. **Bw2**-- 13 to 22 inches (33 to 56 centimeters); strong brown (7.5YR 5/6) loam; weak fine and medium subangular blocky structure; friable; common fine roots; many fine pores; 5 percent fine gravel; very strongly acid; gradual wavy boundary; **BC**-- 22 to 31; yellowish brown (10YR 5/6) gravelly loam; weak medium and fine subangular blocky structure; friable; few fine roots; common fine pores; 20 percent fine gravel; very strongly acid; clear wavy boundary; and **2C**-- 31 to 65 inches; yellowish brown (10YR 5/4) to brownish yellow (10YR 6/6) stratified gravelly sand; single grained; loose; 30 percent fine gravel; very strongly acid.

Enfield Soils:

A typical profile associated with Enfield soils is as follows: **Ap**--0 to 7 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; friable; many very fine and fine roots; 5 percent fine gravel; strongly acid; abrupt smooth boundary; **Bw1**--7 to 16 inches; strong brown (7.5YR 5/6) silt loam; weak medium subangular blocky structure; friable; common very fine and many fine roots; 5 percent fine gravel; strongly acid; clear wavy boundary. **Bw2**--16 to 25 inches; light olive brown (2.5Y 5/4) silt loam; weak medium subangular blocky structure; friable, few very fine and common fine roots; 5

percent fine gravel; strongly acid; abrupt wavy boundary; and **2C**--25 to 60 inches; brown (10YR 5/3) very gravelly sand; single grain; loose; stratified; 45 percent gravel and 5 percent cobbles; strongly acid.

Manchester Soils:

A typical profile associated with Manchester soils is as follows: **Ap**--0 to 9 inches; dark brown (7.5YR 3/2) gravelly sandy loam; weak medium granular structure; very friable; many fine and common medium roots; 20 percent gravel; strongly acid; clear smooth boundary; **Bw**--9 to 18 inches; reddish brown (5YR 4/3) gravelly loamy sand; very weak fine and medium granular structure; very friable; few fine roots; 25 percent gravel; strongly acid; clear wavy boundary; and **C**--18 to 65 inches; reddish brown (5YR 4/4) very gravelly sand; single grain; loose; 50 percent gravel; very strongly acid.

Summary

The natural setting of the area containing the proposed East Windsor Solar One solar center is common throughout the North-Central Lowlands ecoregion. Streams and rivers of this area empty into the Connecticut River, which in turn, drains into the Long Island Sound. Further, the landscape in general is dominated by sandy loamy soil types with some wetland soils intermixed. In addition, low slopes dominate the region. Thus, in general, the project region was well suited to Native American occupation throughout the prehistoric era. This portion of East Windsor was also used throughout the historic era, as evidenced by the presence of numerous historic residences and agricultural fields throughout the region; thus, archaeological deposits dating from the prehistoric and historic era may be expected near or within the proposed project area.

CHAPTER III

PREHISTORIC SETTING

Introduction

Prior to the late 1970s and early 1980s, few systematic archaeological surveys of large portions of the state of Connecticut had been undertaken. Rather, the prehistory of the region was studied at the site level. Sites chosen for excavation were highly visible and were located in areas such as the coastal zone, e.g., shell middens, and Connecticut River Valley. As a result, a skewed interpretation of the prehistory 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 prehistoric 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 prehistoric 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 prehistory of Connecticut. The remainder of this chapter provides an overview of the prehistoric setting of the region encompassing the project area.

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., 12,000 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 numerous surface finds of Paleo-Indian projectile points throughout the State of Connecticut, only two sites, the Templeton Site (6-LF-21) in Washington, Connecticut and the Hidden Creek Site (72-163) in Ledyard, Connecticut, have been studied in detail and dated using the radiocarbon method (Jones 1997; Moeller 1980). The Templeton Site (6-LF-21) is located 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 graters, 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.

The only other Paleo-Indian site studied in detail in Connecticut is the Hidden Creek Site (72-163) (Jones 1997). The Hidden Creek Site is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut. 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, graters, 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.

While archaeological evidence for Paleo-Indian occupation is scarce in Connecticut, it, combined with data from the West Athens Road and King's Road Site in the Hudson drainage and the Davis and Potts Sites in northern New York, supports the hypothesis that there was human occupation of the area not long after ca. 12,000 B.P. (Snow 1980). Further, site types currently known suggest that the Paleo-Indian settlement pattern was characterized by a high degree of mobility, with groups moving from region to region in search of seasonally abundant food resources, as well as for the procurement of high-quality raw materials from which to fashion stone tools.

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, 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 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, finds of these projectile points have 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.

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

By the onset of the Middle Archaic Period, essentially modern deciduous forests had developed in the region (Davis 1969). It is at this time that increased numbers and types of sites are noted in Connecticut (McBride 1984). The most well-known Middle Archaic site in New England is the Neville Site, which is located in Manchester, New Hampshire and studied by Dincauze (1976). Careful analysis of the Neville Site indicated that the Middle Archaic occupation dated from between ca., 7,700 and 6,000 years ago. In

fact, Dincauze (1976) obtained several radiocarbon dates from the Middle Archaic component of the Neville Site. The dates, associated with the then-newly named Neville type projectile point, ranged from 7,740 \pm 280 and 7,015 \pm 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 \pm 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 m² (5,383 ft²). 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 Terminal Archaic Period (3,700 to 2,700 B.P.)

The Terminal Archaic Period, 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 prehistory. 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 Period has long posed problems for regional archeologists. 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 the use of Orient Fishtail projectile points (McBride 1984:119; Ritchie 1971).

In addition, it was during the late Terminal Archaic Period 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 still was 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 it has been 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.

Careful archaeological investigations of Early Woodland sites in southern New England have 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 indicates 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 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 diverse stylistically 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 Prehistory

In sum, the prehistory of Connecticut spans from ca., 12,000 to 350 B.P., and it is characterized by numerous changes in tool types, subsistence patterns, and land use strategies. For the majority of the prehistoric era, local Native American groups practiced a subsistence pattern based on a mixed economy of hunting and gathering wild 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 prehistoric era 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 containing the proposed project area, a variety of prehistoric site types may be expected. These range from seasonal camps utilized by Archaic populations to temporary and task-specific sites of the Woodland era.

CHAPTER IV

HISTORIC OVERVIEW

Introduction

As Chapter I indicates, the project area consists of approximately 25 acres of land located on level ground in the southeastern quarter of the town of East Windsor, which is in Hartford County, Connecticut. The project area is situated immediately adjacent to the border with the town of Ellington (in Tolland County, and to the east of the project area). The adjacent roads are Middle Road to the north and East Road to the west. A watercourse known as Pecks Brook also passes to the south and east of the project area parcel. The remainder of this chapter provides an overview history of the town of East Windsor, as well as data specific to the project area.

Native American History of East Windsor

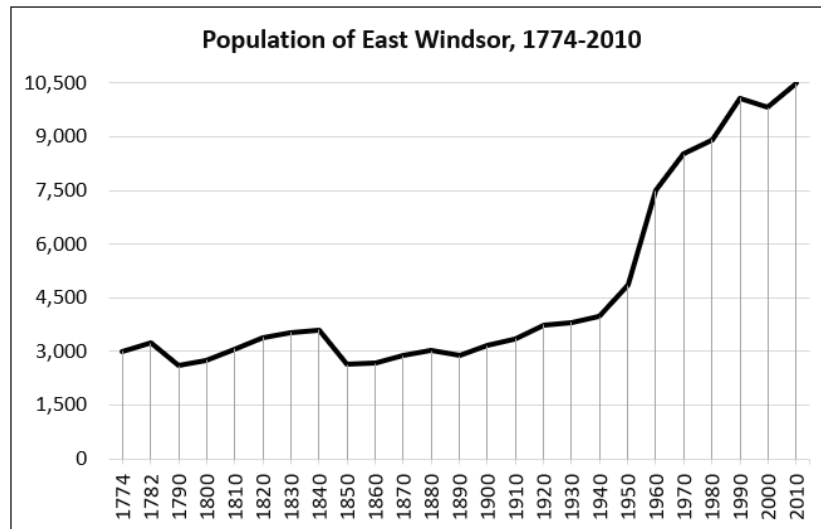
East Windsor was formerly part of the town of Windsor and is also the parent town of both present towns of South Windsor and Ellington. The Native Americans who lived in the Windsor area on the west bank of the Connecticut River were known to the colonists as the Poquonocks; a road and a village in Windsor still bear that name (Stiles 1891). The Native Americans who lived on the east side of the Connecticut River in the areas that included the present South Windsor were known to the colonists as the Podunks. Multiple Podunk villages were recorded along the bank of the river, and upland camps and seasonal villages have been found throughout the area. The primary Podunk village site during the contact period appears to have been situated beside the Connecticut River near the border between South Windsor and East Hartford (Goodwin 1886, 1879; Spiess 1937). These lands were claimed by the sachem Aramamet, under the English colonists' convenient understanding of land ownership by an individual sovereign; he also claimed parts of the future Hartford and Windsor lands on the river's west side (Stiles 1892). At the time of King Philip's War in 1675-1676, the Podunks were believed to be quite numerous, and to their misfortune they took the side of King Philip. Many of them fled from colonial retribution and the loss of their land, although a few nonetheless remained behind. The last mention of a Podunk Native American in the colonial records was in 1722, but local records mentioned small numbers as late as 1745 and even 1879 (Spiess 1937; Goodwin 1879; De Forest 1852).

History of the Town of East Windsor

Hartford County was the site of one of the two earliest loci of colonial settlement in Connecticut, with three of its towns dating from the 1630s. It extends southward from the Massachusetts border and flanks the Connecticut River. The earliest colonial development of the region depended on the agricultural and transportation advantages of the river and its valley; areas further from the Connecticut River valley were colonized later and usually grew more slowly through the early nineteenth century. Thereafter, the main source of differentiation in Hartford County towns' development was, first, whether they had significant levels of industrialization, and, later, whether they had significant levels of suburbanization. East Windsor, located on the east bank of the Connecticut River, had the expected agricultural and transport advantages, with only modest early industrial development. Its suburbanization began early in the twentieth century, then increased exponentially later in the century. The following discussion outlines the history of East Windsor in more detail and discusses the presence or absence of historical resources in the vicinity of the project items.

Windsor was one of three colonial communities planted near each other on the Connecticut River in the 1630s, the others being Hartford and Wethersfield. Initially the colonists settled on the west side of the

river, but eventually they claimed a wide area on both sides of it. Colonists began moving permanently to the eastern and northern Windsor territory in 1680, after King Philip's War (1675-1676) had reduced both their fears and the numbers of the Native Americans living there (Crofut 1937). The town's initial area was exceptionally large, and over time it was divided into the towns of East Windsor, South Windsor, Ellington, Windsor Locks, and part of Bloomfield (Barry 1985). Its population spread out across the landscape in search of agricultural land, cultivating the higher-quality areas first. According to a census taken in 1762, the whole town of Windsor had 4,019 residents. In 1768, the section on the east side of the Connecticut River became the separate town of East Windsor, and as of 1774, the new town of East Windsor had 2,999 residents, and then 3,237 residents as of 1782 (see the population chart



below; Keegan 2012; Barry 1985). East Windsor (still including South Windsor) sent as many as 400 men to fight in the Revolutionary War; in addition, East Windsor contained a great deal of excellent agricultural land whose products must have fed many soldiers during the war. In 1786, the town of Ellington separated from East Windsor (Barry 1985; Tarbox 1886; Destler 1973).

During the first 50 years of the new United States, Windsor and its municipal offspring remained agricultural in economy, their populations slowly rising but staying below 4,000 people through 1840, when the census reported only 3,600 residents in East Windsor. In 1845, South Windsor was created out of East Windsor, and as of the 1850 federal census both towns had populations of under 3,000 people (Keegan 2012; see the population chart above). Interestingly, and perhaps significantly in terms of their economic history, East Windsor and South Windsor were entirely bypassed by the turnpike system that developed between ca., 1790 and 1850, under which private companies undertook to build and/or improve roads in order to speed the movement of people and goods. Often, though not always, the presence of such roads did indeed foster the development of commerce and industry (Wood 1919). It is likely that instead of turnpikes, the Connecticut River was used for commercial transport by residents of these towns. This river access also encouraged some early industrial development. As of the federal census of industry taken in 1850, East Windsor had 13 firms making products worth at least \$500.00 per year, two of them steam-operated textile manufacturers employing a total of 210 men and 115 women; the remainder employed between 21 people and one person, including three cigar-makers (U.S. Census 1850).

In the 1855 map of Hartford County, both roads adjacent to the project area (presently known as East Road, to the west, and Middle Road, to the north) were present (Figure 3; Woodford 1855). Although the small manufacturing village of Windsorville was not far to the west, the project area was situated in a rural zone. The map depicted two buildings labeled with the name Horatio Thrall within 152 m (500 ft) of the project area, one on the north side of Middle Road and one to the south of Middle Road and a short distance to the east of the project area. A third building, labeled with the name Julius Osborne, was mapped a little over 152 m (500 ft) to the south of the project area. The map of the town published in 1869 showed only one building labeled with the name H. Thrall, located to the north of Middle Road. A building to the south of the project area was labeled with the name J. Osborn, and a new building was depicted between it and the project area, labeled with the name C. Clark (Figure 4; Baker & Tilden 1869).

Horatio Thrall (1791-1869) was a farmer born in Ellington; he moved to East Windsor after 1850, and eventually died at South Windsor. He was a member of a Thrall family that had been in Hartford County since the seventeenth century. He married Sibyl Clark (c. 1800-1878/1879) in East Windsor. Seven of their eight children lived to adulthood; sons Norman, Reuben, Edwin, and Moses stayed in East Windsor, and Russell and Carlos moved to Ellington and became locally prominent (Cutter 1913:2:904). The federal census of 1850 listed Horatio already living in East Windsor, aged 58, and owning a farm worth \$5,000.00. His household consisted of his wife "Sybal" (aged 52), three sons, and one daughter, ranging in age from 8 to 22 years. The family's neighbors, including Charles Clark and Julius Osborn, were also middle-aged, but with smaller families and owned farms valued at \$2,000.00 each. According to the agricultural census taken in 1850, the Thrall family owned 50 acres of improved land, one horse, three milch cows (from which they produced butter and cheese), and two teams of oxen, along with 17 sheep. Only some of their neighbors also kept sheep; the Clark and Osborn families did not. The Thrall family grew corn, oats, hay, and potatoes, and their two closest neighbors also grew rye. None of the three families grew tobacco, although the census return shows that many East Windsor families did (United States Census 1850a, 1850b). In the 1860 census, the Thrall family had four unmarried sons at home, aged between 18 and 29. Neither they nor the Clarks, who had two live-in servants in their household, gave a value for their farm; the Osborn family was not listed (United States Census 1860).

In the 1870 census, the widowed Sybil Thrall owned \$2,910.00 in real estate and \$2,400.00 in personal estate. Her unmarried son Reuben (age 40) worked as a house carpenter and claimed \$1,500.00 in personal estate. Her son Moses (age 37) had married Adelaide (age 28) and they had one young son. He reported owning \$4,000.00 in real estate and \$1,111.00 in personal estate, indicating that he had secured ownership of much of the family farm. The household also included a German teenager who worked as a farm laborer. Another family on the same census page was headed by an Irish woman. These were the only foreign-born people on this census page. According to the form, Sybil's son Edwin Thrall and his young family lived a few doors away. According to the 1870 agricultural census, almost every farmer in East Windsor was growing tobacco by that year, including both Moses and Edwin Thrall (United States Census 1870a, 1870b). Moses and Adelaide Thrall were still in East Windsor in the 1880 census, with three children and a boarding farm laborer, although it is less clear that they were still living at or near the project area. The agricultural schedule showed that their farm included 60 tilled acres (24 ha), 18 acres (7 ha) of woodland, and 25 acres (10 ha) of mown meadow. Like their neighbors, they grew tobacco, grains, and hay, and produced butter and eggs from their animals (United States Census 1880a, 1880b). These agricultural patterns suggest a mix of cash-crop and subsistence farming and appear to have been typical of the town's farmers.

This shift to tobacco-growing was consistent with the report that by the 1890s, East Windsor's agricultural emphasis had shifted from food and feed crops such as rye, corn, and hay to the growing of tobacco. The distilleries that once made use of the rye had also closed. Windsorville, previously known as Ketch Mills, had previously had a gin distillery that burned down in the 1840s, to be replaced by a woolen textile mill (Stiles 1891:745-746). It is not certain when nineteenth-century railroad service came to East Windsor and South Windsor. No railroad was shown on the 1869 map (Baker & Tilden). In 1880, the Connecticut Central Railroad, a 20 mile track going from East Hartford to South Windsor and up to Springfield, Massachusetts, was leased by the New York & New England Railroad; the same line had also been leased in 1876 by the Connecticut Valley Railroad (Turner and Jacobus 1989). At whatever time it was built, however, its population effects in East Windsor appear to have been limited. As the population chart above shows, East Windsor had 3,158 residents as of 1900 and 4,859 residents as of 1950 (Keegan 2012). While this shows a continuing growth trend during the first half of the twentieth century, it was not a spectacular one. In economy, these nineteenth and twentieth century towns were, and to some extent still are, focused on agriculture. According to a 1932 assessment of the towns' economic activity, East Windsor's main industries included only agriculture and textiles (Connecticut 1932). The "agriculture" category certainly included tobacco, though it was not specifically mentioned.

Tobacco growing in Connecticut goes back to the colonial era. Although it was not the overwhelmingly important activity that it was in more southern colonies, it was an important cash crop in the Connecticut River valley by ca., 1700. In 1810, cigar making began at East Windsor and Suffield, and by 1830 a new way of curing tobacco for cigar wrappers called "sweating" was discovered by an East Windsor company. After that, all or most of the industry shifted to producing for cigars, and high profit margins encouraged farmers to try their hand at growing it from the Housatonic valley to New Haven and as far north as Vermont and Maine. By the late nineteenth century, competition and overproduction had brought about a gradual decrease of acreage, until only the "best lands in the immediate vicinity of the Connecticut River continued to be used," presumably because those lands produced the highest yield (McDonald 1936:5, 14). An improvement in tobacco production, which occurred in 1896, was the development of a method for growing "shade tobacco," and consisted simply of building light cloth tents on poles over the plants. This caused the tobacco leaves to take on a more attractive color, and the technique rapidly spread throughout the market. It resulted in significant increases in the grower's profit base (McDonald 1936). These tents, and the associated barns for drying or "curing" the tobacco, are clearly visible in the 1941 aerial photograph mentioned above.

The 1934 aerial photograph showing the project area seems to have been taken at a point in time when the tobacco shade tents were not in place (Figure 5; Fairchild 1934). On and around the project area, however, there were a half-dozen of the long, narrow tobacco drying sheds, which were normally placed in tobacco fields. Because of its setback from Middle Road, two tobacco sheds were only partly within the northern end of the project area. The image also shows that a small house or barn was within the project area. The historic Horatio Thrall farmstead was present on the north side of Middle Road; to the south, the historic Charles Clark farmstead was also still there, as was the Julius Osborn farmstead a little further to the south. The entirety of the project area was cleared field, except for what was possibly a wide ditch along the northeastern edge of it. In fact, most of the vicinity was cleared fields, with some areas of woods, especially along the course of the stream. In aerial photographs, the presence or absence of tobacco tenting varies depending on the season and on whether a given field was being left fallow. The 1941 aerial shows how much the locations of farm outbuildings could change: none of the buildings visible within the project area in the 1934 aerial photograph were still present, though the locations of nearby farmsteads were consistent (Figure 6; USGS 1941).

After 1950, although East Windsor saw further substantial population increases beginning from that year, its population only reached 10,482 residents as of 2010 (Keegan 2012). Some of this growth may be related to the construction of Interstate 91 since the section on the east side of the river opened in 1959 (Oglesby 2014). During the later twentieth and early twenty-first centuries, East Windsor saw modest industrial development. In 2018, 9.6 percent of its 7,032 jobs were in the manufacturing sector; a far larger proportion, approximately 20 percent, were in a sector identified in an economic profile document as “Administrative and Waste Service.” Nonetheless, as of 2014 the town’s largest employers were in retail, health care, auto sales, farming, and metal working, suggesting a very mixed economy (CERC 2019). The town’s 2016 planning document, like many of its era for similar towns, called for the continuing improvement of certain focused areas of commercial and industrial development, as well as village areas. At the same time, it also displayed a preference for the support of low-density residential and agricultural uses in most of the town’s area, and the preservation of open space and cultural and historical resources. The location of the project area, in the southeasternmost section of the town, was within the large area designed as rural residential (East Windsor 2016).

The appearance of the project area in the 1963 aerial photograph is consistent with this modest population growth, in that there were no signs of housing development in the vicinity. The locations of the buildings nearest the project area also had not changed (Figure 7; USGS 1963). By the time of the 2016 aerial photograph, however, some housing had been built to the north and to the east of the project area. One of the tobacco barns on the south side of Middle Road was still standing, immediately adjacent to the project area. Still, the areas to the west and south, like the project area itself, remained agricultural fields, and there were also still some wooded areas. The blindingly white fields to the west of the project area are evidence that shade tobacco was still being cultivated in this general area, though not on the project area itself. The marks on the field that comprises the project area did not have the distinctive appearance generally given by the presence of the rows of posts required for the stringing up of the tenting (Figure 8; CT ECO 2019).

Conclusions

The documentary record indicates that the northern edge of the project area may contain archaeological remains associated with two tobacco sheds and a small house or barn that were located partly or entirely on the project area. Elsewhere on the parcel, the 1855 map of Hartford County suggested that there was a house located somewhere to the south of Middle Road. This map was not accurate enough to locate this building with any precision, so it may or may not have been within the project area. It is also possible that there were other outbuildings on the parcel for which documentary evidence does not exist, as well as evidence of past farming activities, such as walls or fences. Finally, although Horatio Thrall and his family were written up in a genealogy, this seems to have had more to do with their colonial heritage than with their actual social or economic status during the nineteenth century; it also has not been confirmed, via direct research into the property’s ownership history, that this particular field belonged to the Thralls.

CHAPTER V

PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previous archaeological research completed within the vicinity of the project area in East Windsor, Connecticut. This discussion provides the comparative data necessary for assessing the results of the Phase IB survey, and it ensures that the potential impacts to all previously recorded cultural resources located within and adjacent to the project area are taken into consideration. Specifically, this chapter reviews previously identified archaeological sites, National/State Register of Historic Places properties, and inventoried historic standing structures situated in the project region (Figures 9 and 10). The discussions presented below are based on information currently on file at the Connecticut State Historic Preservation Office 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 Properties/Districts in the Vicinity of the Project Area

A review of data currently on file at the Connecticut State Historic Preservation Office, as well as the electronic site files maintained by Heritage failed to detect any previously identified archaeological sites or National/State Register of Historic Places properties situated within 1.6 km (1 mi) of the project area (Figures 9 and 10). Though no archaeological sites have been previously identified in the area, the natural setting discussed in Chapter II suggests Native Americans may have once inhabited the area, and sites may yet be discovered. In addition, the larger project region has been in use as agricultural land since East Windsor's settlement and there may be evidence of this historic occupation in the project area.

CHAPTER VI

METHODS

Introduction

This chapter describes the research design and field methods used to complete the current Phase IB cultural resources reconnaissance survey of the proposed East Windsor Solar One Center in East Windsor, 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 prehistoric and historic cultural resources located within the previously identified moderate sensitivity project area. Fieldwork for the project was comprehensive in nature and project planning considered the distribution of previously recorded archaeological sites located near the project parcel, as well as an assessment of the natural qualities of the project area. The methods used to complete this investigation were designed to provide complete and thorough coverage of all portions of the moderate sensitivity areas. This undertaking entailed pedestrian survey, systematic subsurface testing, detailed mapping, and photo-documentation.

Field Methods

Following the completion of all background research, the moderate sensitivity area previously identified during the Phase IA cultural resources assessment survey 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 the moderate sensitivity area was examined visually and photographed. The pedestrian survey portion of this investigation included visual reconnaissance of the moderate/high sensitivity areas scheduled for impacts by the proposed solar project, as well as photo-documentation of them. The field methods also included subsurface testing during which shovel tests were excavated at 30 m (98.4 ft) intervals along 11 parallel survey transects spaced at 30 m (98.4 ft) intervals extending from north to south (Figure 11).

During survey, each shovel test measured 50x 50 cm (19.7 x 19.7 in) in size and each was excavated until the glacially derived C-Horizon was encountered or until large buried objects (e.g., boulders) prevented further excavation. 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 cm (0.25 in) hardware cloth and examined visually for cultural material. Soil characteristics were recorded in the field using Munsell Soil Color Charts and standard soils nomenclature. Each shovel test was backfilled after it was recorded. Finally, when identified, all positive shovel tests were delineated by excavating additional shovel tests in the cardinal directions at 10 m (32.8 ft) intervals around the positive shovel tests.

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 & MANAGEMENT RECOMMENDATIONS

Introduction

This chapter presents the results of the Phase IB cultural resources reconnaissance survey of the East Windsor Solar One, LLC project area in East Windsor, Connecticut. The goals of the investigation included completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously recorded cultural resources in the region encompassing the project area; 3) a review of readily available historic maps and aerial imagery depicting the project area in order to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the project parcel; and 5) subsurface examination of the moderate/high archaeologically sensitive areas identified during the previously completed Phase IA cultural resources assessment survey (Heritage Consultants, LLC 2020).

The proposed solar center will occupy approximately 25 acres of land located to the south of Middle Road. The project area is surrounded by a recently built housing subdivision to the north, a wooded area containing Peck's Brook to the east, farm fields to the south and East Road and farm roads to the east. The project area, which is located within a large agricultural field, is situated at elevations ranging from 57.9 to 64 m (190 to 210 ft) NGVD. The field methods used to complete this project included pedestrian survey and photo-documentation augmented subsurface testing during which shovel tests were excavated at 30 m (98.4 ft) intervals along 11 parallel survey transects spaced at 30 m (98.4 ft) intervals extending from north to south through the project area

Results of the Phase IB survey

A total of 112 of 112 (100 percent) planned shovel test pits were excavated throughout the project area, resulting in the identification of two prehistoric cultural resources loci. They were designated as Locus 1 and Locus 2 (Figure 11). Locus 1 was identified in the northeastern quadrant of the project parcel and Locus 2 was discovered in the southeastern portion of the project area. Both loci are described below.

Locus 1

As mentioned above, Locus 1 was identified during subsurface testing in the northeastern portion of the project. It was identified within Shovel Test 4 along Transect 9 of the project area. A typical shovel test excavated within the Locus 1 area exhibited three soil horizons in profile and reached to a depth of 70 cmbs (27.5 inbs). The uppermost soil horizon (Ap-Horizon; plow zone) extended from 0 to 40 cmbs (0 to 15.7 inbs) and was described as a deposit of dark brown (7.5YR 3/4) silty fine sand. It was underlain by a layer of subsoil (B-Horizon) that ranged in depth from 40 to 60 cmbs (15.7 to 23.6 inbs) and was described as a dark yellow brown (10YR 4/6) medium sand and gravel. Finally, the glacially derived C-Horizon reached from 60 to 72 cmbs (23.6 to 28.3 inbs) and was classified as a layer of yellowish red (5YR 4/6) medium sandy gravel.

Phase IB survey of Locus 1 resulted in the collection of a single quartz flake, which was recovered from the disturbed plow zone deposit. Despite delineation testing at 10 meter (32.8) intervals in the cardinal directions around the original positive shovel test, no additional prehistoric cultural material or evidence

of prehistoric cultural features was recovered from Locus 1. Due to the low density of artifacts recovered and the lack of cultural features, it was determined that the prehistoric component of Locus 1 lacks research potential and the qualities of significance applying the National Register of Historic Places criteria for evaluation (36 CFR-60.4 [a-d]). No additional examination of the prehistoric component of Locus 1 is recommended prior to construction of the proposed solar project.

Locus 2

Locus 2 was identified during subsurface testing of the southeastern portion of the project area. It was identified within Shovel Test 11 along Transect 9 of the project area. A typical shovel test excavated within the Locus 2 area exhibited three soil horizons in profile and reached to a depth of 75 cmbs (30 inbs). The Ap-Horizon(plow zone) extended from 0 to 35 cmbs (0 to 14 inbs) and was described as a deposit of dark brown (7.5YR 3/4) silty fine sand. It was underlain by a layer of subsoil (B-Horizon) that ranged in depth from 35 to 55 cmbs (14 to 22 inbs) and was described as a dark yellow brown (10YR 4/6) medium sand and gravel. Finally, the glacially derived C-Horizon reached from 55 to 75 cmbs (22 to 30 inbs) and was classified as a layer of yellowish red (5YR 4/6) medium sandy gravel.

Phase IB survey of Locus 2 also resulted in the collection of a single quartz flake; it too was recovered from the disturbed plow zone deposit. Despite delineation testing at 10 meter (32.8) intervals in the cardinal directions around the original positive shovel test, no additional prehistoric cultural material or evidence of prehistoric cultural features was recovered from Locus 2. Due to the low density of artifacts recovered and the lack of cultural features, it was determined that the prehistoric component of Locus 2 lacks research potential and the qualities of significance applying the National Register of Historic Places criteria for evaluation (36 CFR-60.4 [a-d]). No additional examination of the prehistoric component of Locus 2 is recommended prior to construction of the proposed solar project.

Management Recommendations

No cultural features or soil anomalies were identified in association with the lithic debris recovered from Locus 1 or Locus 2, and the components could not be assigned a date or cultural affiliation due to the absence of temporally diagnostic artifacts. The prehistoric components were assessed as not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No impacts to cultural resources are expected by the construction of the solar facility, and no additional archaeological examination of the project area is recommended.

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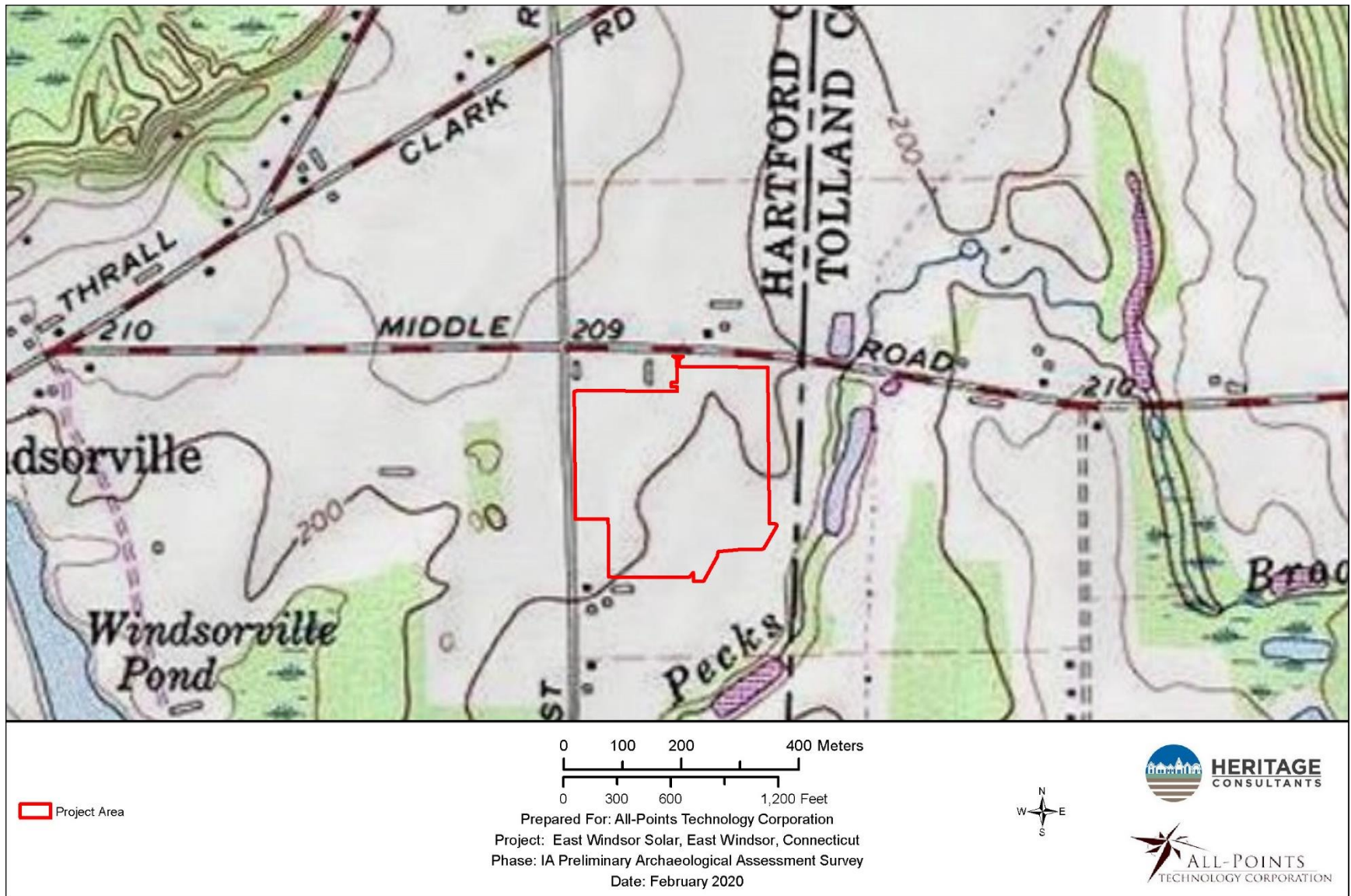


Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project parcel in East Windsor, Connecticut.

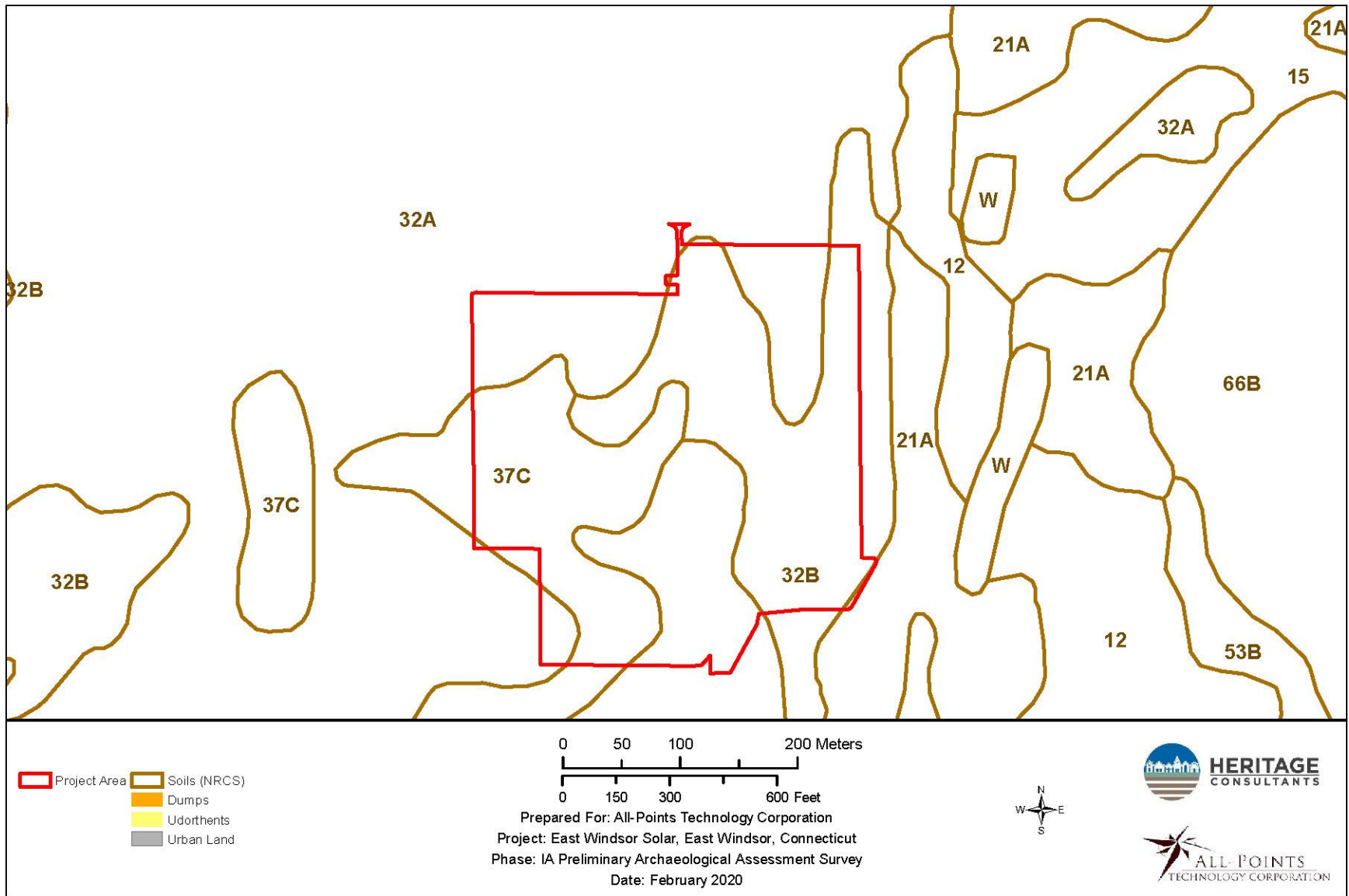


Figure 2. Map of soils located in the vicinity of the project parcel in East Windsor, Connecticut.



Figure 3. Excerpt from an 1855 historic map showing the location of the project parcel in East Windsor, Connecticut.



Figure 4. Excerpt from an 1869 historic map showing the location of the project parcel in East Windsor, Connecticut.

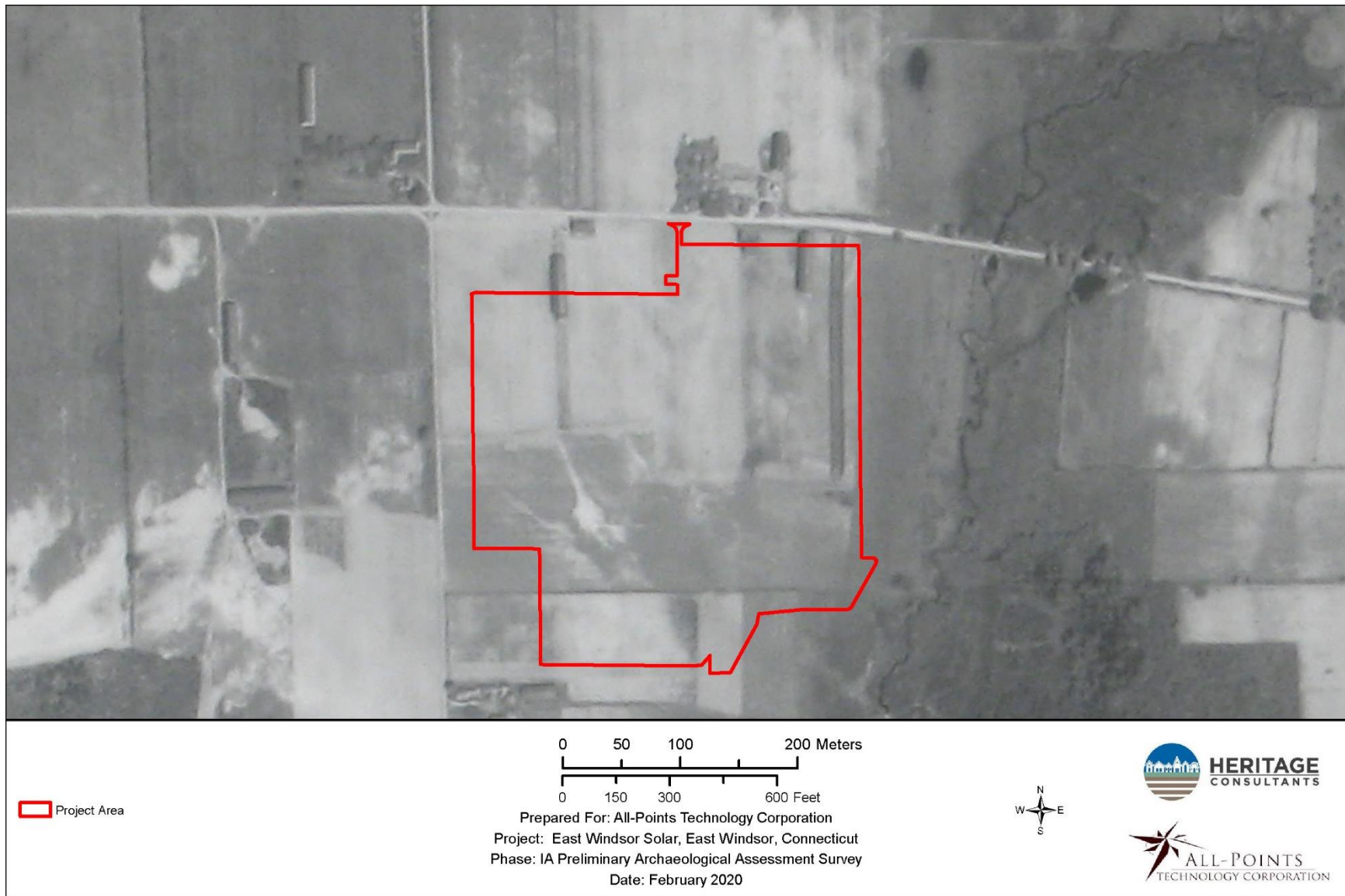


Figure 5. Excerpt from a 1934 aerial photograph showing the location of the project parcel in East Windsor, Connecticut.

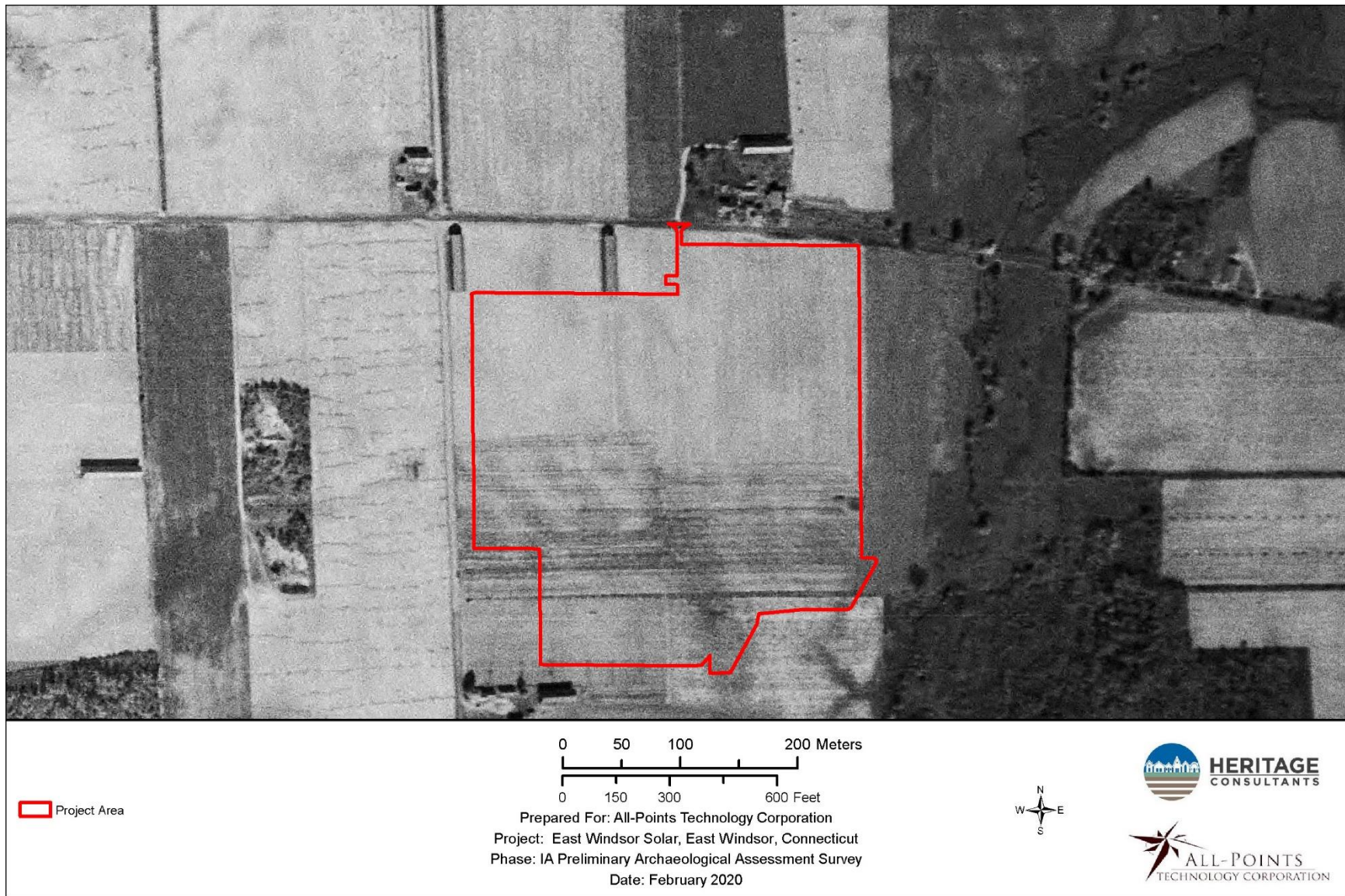


Figure 6. Excerpt from a 1941 aerial photograph showing the location of the project parcel in East Windsor, Connecticut.

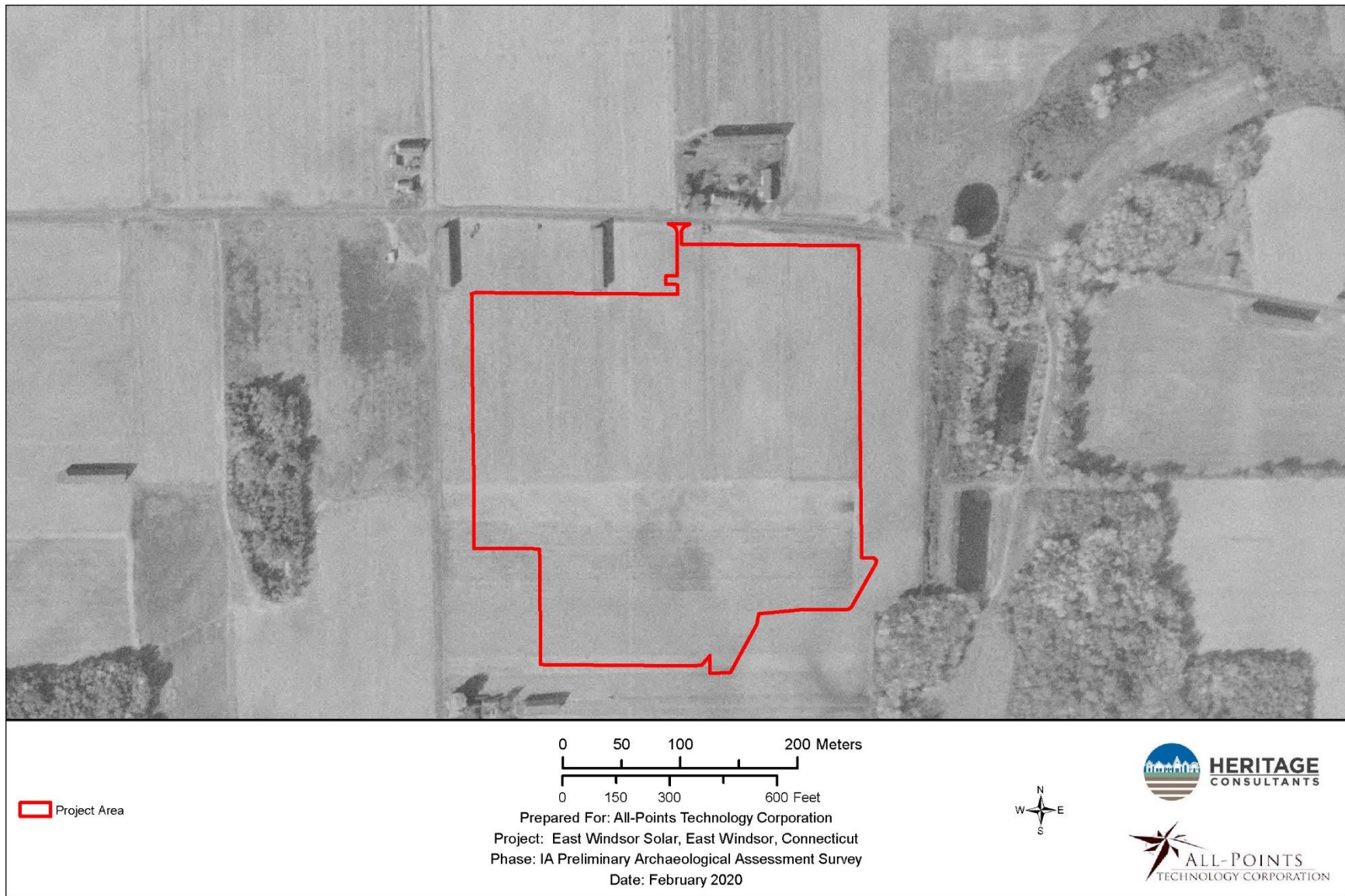


Figure 7. Excerpt from a 1963 aerial photograph showing the location of the project parcel in East Windsor, Connecticut.

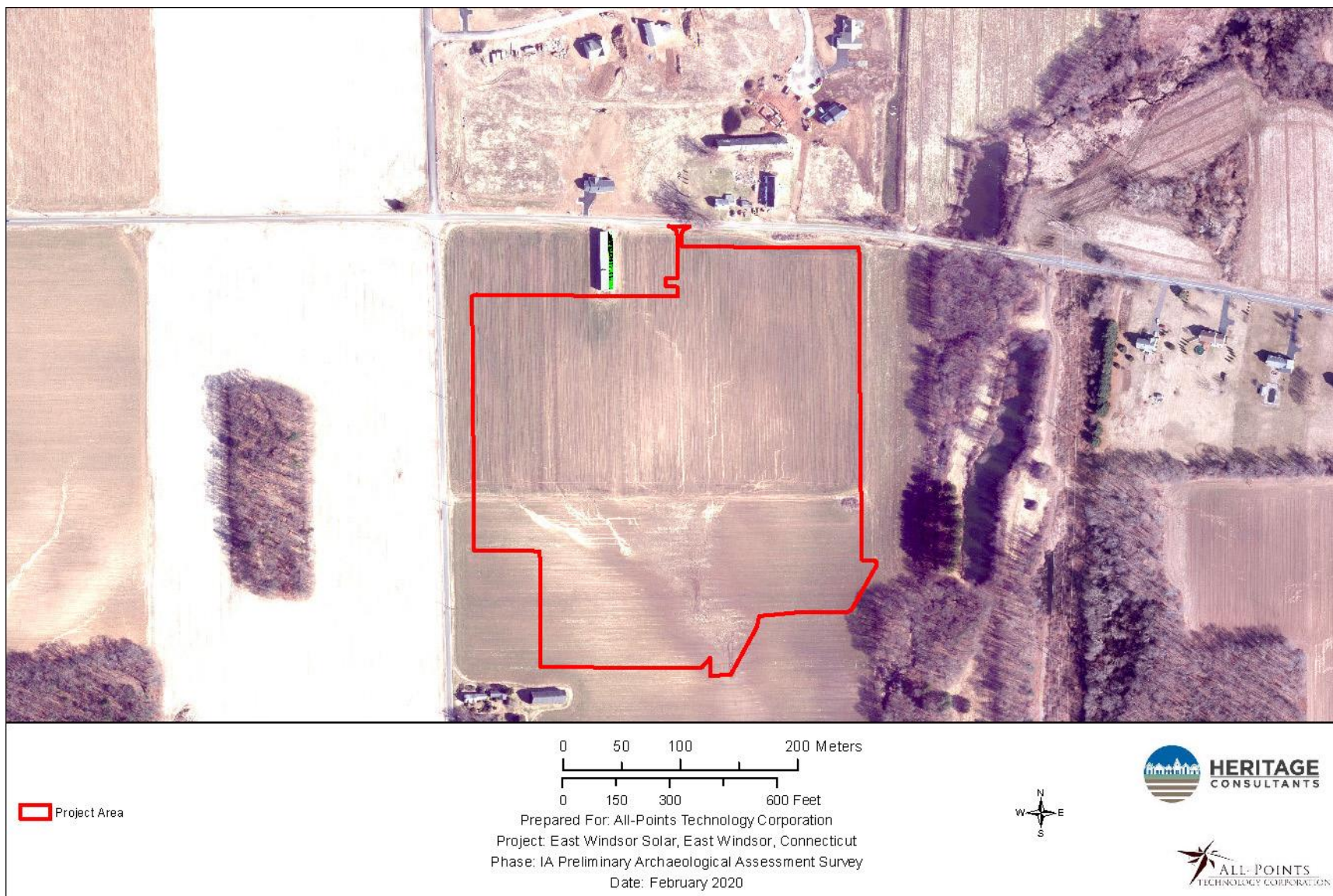


Figure 8. Excerpt from a 2019 aerial photograph showing the location of the project parcel in East Windsor, Connecticut.

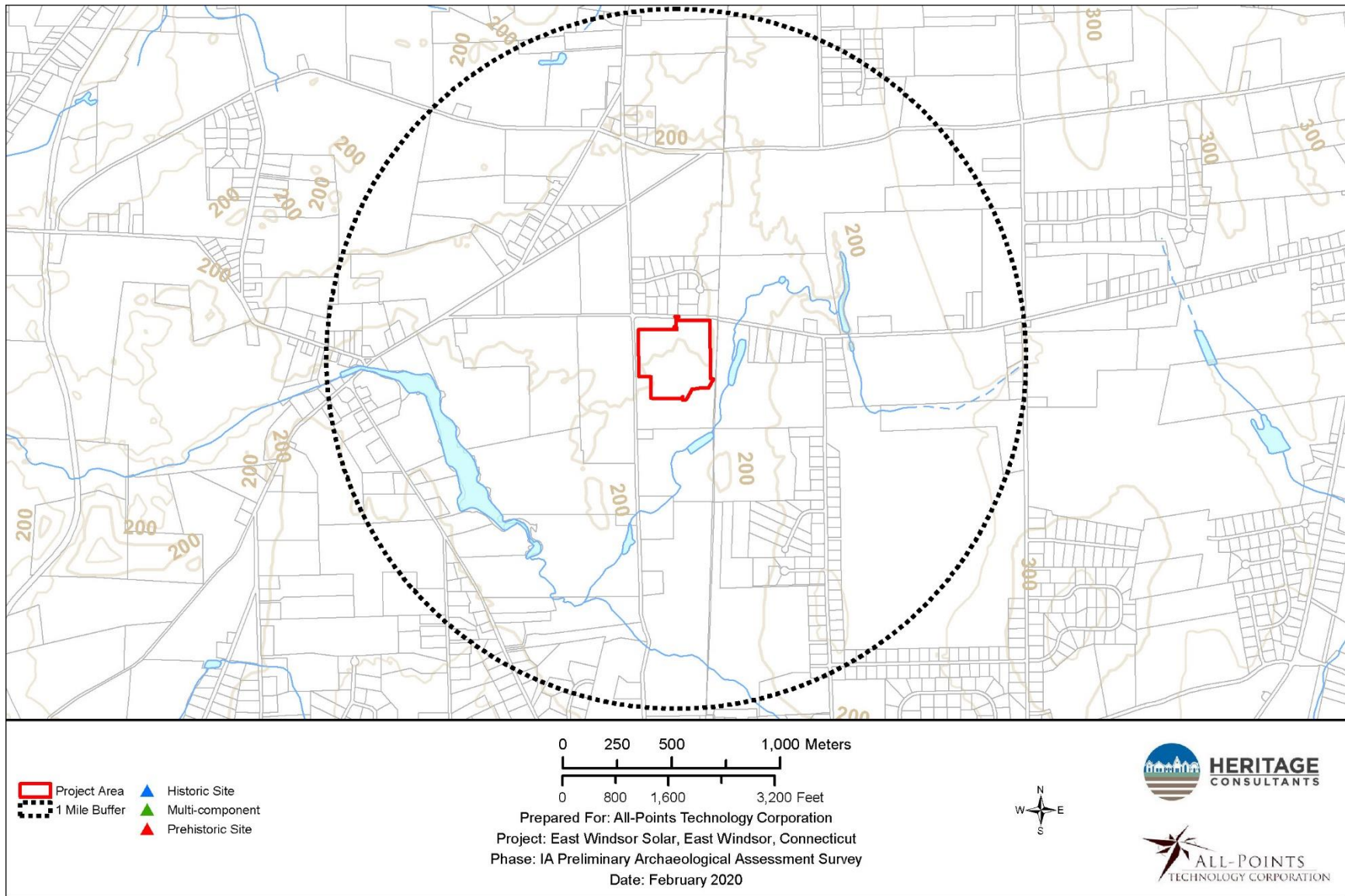


Figure 9. Digital map showing the location of previously identified archaeological sites in the vicinity of the project parcel in East Windsor, Connecticut.

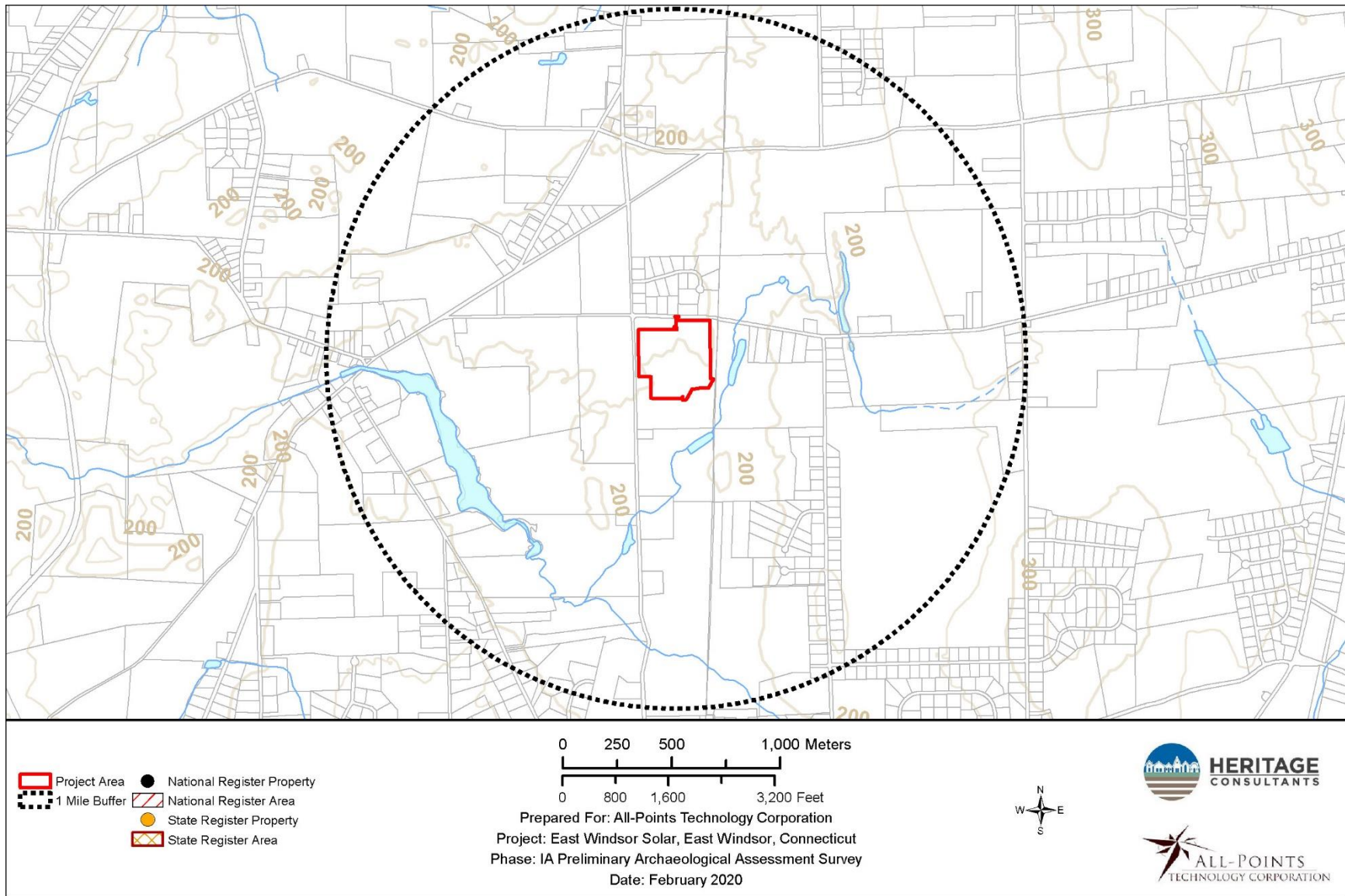


Figure 10. Digital map depicting the locations of previously identified National/State Register of Historic Places properties in the vicinity of the project parcel in East Windsor, Connecticut.

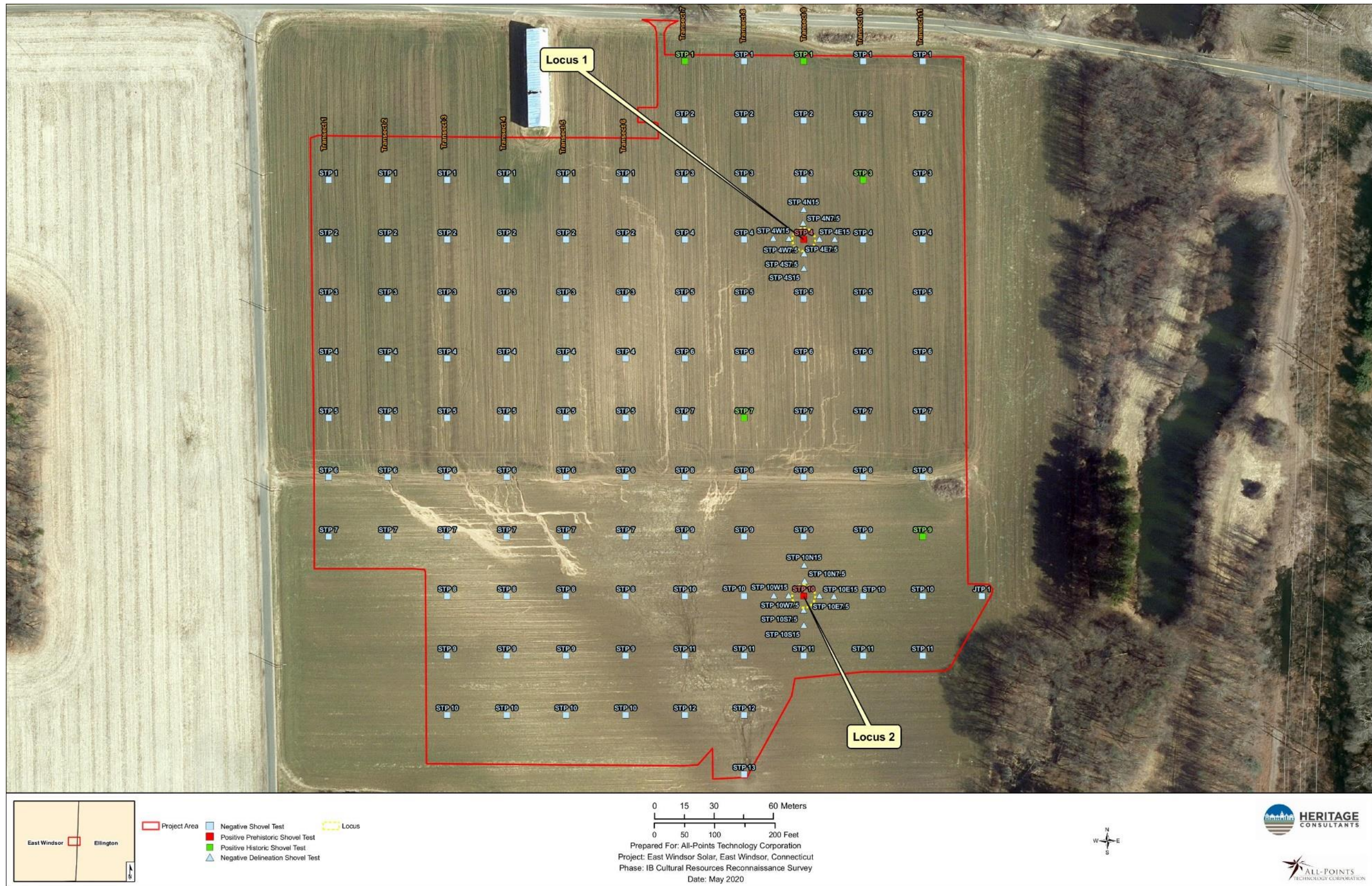


Figure 11. Excerpt from a 2019 aerial photograph depicting positive and negative shovel tests in East Windsor, Connecticut



Figure 12. Overview photo of the project area facing northeast.



Figure 13. Overview photo of the project area facing east.



Figure 14. Overview photo of the project area facing southeast.



Figure 15. Overview photo of the project area facing south.



Figure 16. Photo of the tobacco shed near the development area facing northwest.