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PHASE IA CULTURAL RESOURCES ASSESSMENT OF THE
PROPOSED NORTH HAVEN SOLAR ONE PROJECT
IN NORTH HAVEN, CONNECTICUT

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ABSTRACT

This report presents the results of a Phase IA cultural resources assessment survey for a proposed solar center in North Haven, Connecticut. The project area associated will occupy approximately 12.3 acres of land located off of Mill Road. 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 historical maps and aerial imagery depicting the solar facility to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project area to determine its archaeological sensitivity. The results of the survey indicate that 4.16 acres of land are characterized by slopes, wet soils, and signs of dirt bike and ATV trails. No intact archaeological deposits are expected in these locations, and no additional examination of these areas is recommended. In contrast, 8.14 acres of land contains low slopes and well-drained soils. These areas were deemed to possess a moderate/high archaeological sensitivity, and it is recommended that they be subjected to Phase IB cultural resources survey prior to the construction of the proposed solar center.

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CHAPTER I

INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey of the proposed North Haven Solar One Facility in North Haven, Connecticut (Figure 1). Vanasse Hangen Brustlin, Inc., (VHB) requested that Heritage Consultants, LLC (Heritage) complete the Phase IA assessment survey as part of the planning process for the proposed solar center. Heritage completed this investigation in June of 2022. 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 project area is located to the north of Route 20 and to the east of Mill Road and south of Drazen Drive South in North Haven. It is situated at elevations ranging from approximately 22 to 48 m (72.2 to 157.5 ft) NGVD and will be the location of a solar array, a proposed access drive and interconnection route, two stormwater basins, and grading areas along the northwestern, western, and southern boundaries where it contains steep slopes. At the time of the pedestrian survey, the project area was accessed via a gate on Mill Road and vegetation consisted of a mixture of cultivated fields, wetlands, and wooded areas (Figure 2).

The 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 historical maps and aerial imagery depicting the project area in order to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project area in order to determine its archaeological sensitivity.

Project Results and Management Recommendations Overview

The review of historical maps and aerial images depicting the study area, as well as files maintained by the CT-SHPO resulted in the identification of two previously identified archaeological sites, one prehistoric period site and one historical period site situated within 1.6 km (1 mi) of the project area. These are discussed in Chapter V. The Rising Sun Tavern, a Connecticut State Register of Historic Places property, also was identified within 1.6 km (1 mi) of the project area; it too is discussed in Chapter V. Heritage also combined data from historical map and aerial image analyses, as well as subsequent pedestrian survey, to stratify the project area into zones of no/low and/or moderate/high archaeological sensitivity.

Pedestrian survey of the project area revealed that 4.16 acres of land are characterized by slopes, wet soils, and obvious signs of ATV and dirt bike trails. No intact archaeological deposits are expected in these areas, and no additional examination of them is recommended. The remaining 8.14 acres of land contains low slopes and well-drained soils; these areas were determined to possess moderate/high archaeological sensitivity. It is recommended that the moderate/high areas be subjected to Phase IB cultural resources survey prior to the construction of the proposed solar center.

Project Personnel

Heritage Personnel who contributed to the project include David R. George, M.A., RPA, (Principal Investigator); Antonio Medina, B.A. (Field Operations Manager), Cory Atkinson, M.A., RPA (Project Archaeologist), Sean Buckley, B.A. (GIS Specialist), and Barbara Sternal, M.A., (Historian).

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 quite 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: South-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 study area.

South-Central Lowlands Ecoregion

The South-Central Lowlands ecoregion consists of “a rolling area of low average elevation, crossed by several north-trending ridge systems; streams and river systems with broad, well developed flood plains, from which the land surface generally rises to the bases of the ridges” (Dowhan and Craig 1976). Elevations average less than 60 m (200 ft) but can reach approximately 300 m (1,000 ft) in height. The region’s bedrock is sedimentary, consisting of sandstones, basalt, and traprock. Soils vary from “clayey glacial till in the uplands of the region, to sand, gravel, silt, and clay in the lowlands.”

Hydrology in the Vicinity of the Project Area

The project area is situated within a region that contains to multiple sources of freshwater, including the Quinnipiac River, Eightmile Brook, Fivemile Brook, Muddy River, and Watermans Brook, as well as numerous 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 taphonomic and 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 study area. In contrast, acidic soils enhance the preservation of charred plant remains.

A review of the soils within the study area is presented below. The study area is characterized by the presence of eight major soil types. The most ubiquitous soil types found within the region and which cover the majority of the study area include Cheshire and Holyoke (Figure 2). A review of these soils shows that they consist of well-drained loams; they are the types of soils that are typically correlated with prehistoric and historical period use and occupation. Descriptive profiles for each soil type are presented below; they were gathered from the National Resources Conservation Service.

Cheshire Soils (Soil Code 77):

The Cheshire series consists of deep, well drained loamy soils that have formed in supraglacial till on uplands. They are nearly level through very steep soils on till plains and hills and slope ranges from 0 through 60 percent. A typical profile of Cheshire series soils is as follows: **Ap**--0 to 8 inches; dark brown (7.5YR 3/2) fine sandy loam, pinkish gray (7.5YR 6/2) dry; weak medium granular structure; friable; common fine roots; 5 percent gravel; strongly acid; clear wavy boundary; **Bw1**--8 to 16 inches; reddish brown (5YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent gravel; strongly acid; gradual wavy boundary; **Bw2**--16 to 26 inches; reddish brown (5YR 5/4) fine sandy loam; weak medium subangular blocky structure; very friable; few fine roots; 10 percent gravel; strongly acid; clear wavy boundary; and **C**--26 to 65 inches; reddish brown (2.5YR 4/4) gravelly sandy loam; massive; very friable with firm lenses; 20 percent gravel and cobbles; strongly acid.

Holyoke Soils (Soil Code 78):

The Holyoke series consists of shallow, well drained and somewhat excessively drained soils that have formed in a thin mantle of till derived mainly from basalt and red sandstone, conglomerate, and shale. They are nearly level to very steep soils on bedrock controlled ridges and hills with slopes that range from 0 to 60 percent. A typical profile of Holyoke series soils is as follows: **Oe**--0 to 1 cm; black (10YR 2/1) moderately decomposed plant material; **A**--1 to 8 cm; dark brown (10YR 3/3) silt loam; weak medium granular structure; very friable; many fine roots; 10 percent angular gravel; very strongly acid; abrupt wavy boundary; **Bw1**--8 to 20 cm; brown (7.5YR 4/4) silt loam; weak coarse granular structure; very friable; many fine roots; 10 percent gravel; very strongly acid; clear wavy boundary; **Bw2**--20 to 46 cm; yellowish red (5YR 4/6) gravelly silt loam; weak medium subangular blocky structure; friable; common fine roots; 15 percent gravel; very strongly acid; abrupt wavy boundary; and **2R**--46 cm; basalt bedrock.

Summary

The natural setting of the area containing the proposed North Haven Solar One Facility is common throughout the South-Central Lowlands ecoregion. Streams and rivers of this area drain into the Long Island Sound. Further, the landscape in general is dominated by well-drained loamy soil types that contain large amounts of stone and that have formed on glacial substrates, including bedrock and till. Though steep slopes dominate a large amount of the region, the project region might have been well suited to Native American occupation throughout the prehistoric era. This portion of North Haven was also used throughout the historical period as evidenced by the presence of historical residences and agricultural fields throughout the region. Thus, archaeological deposits dating from the last 350 years or so may also be expected near or within the proposed impact areas.

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 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 parcel.

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

The earliest inhabitants of the area encompassing the State of Connecticut, who have been referred to as Paleo-Indians, arrived in the area by ca., 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 three sites, the Templeton Site (6-LF-21) in Washington, Connecticut, the Hidden Creek Site (72-163) in Ledyard, Connecticut, and the Brian D. Jones Site (4-10B) in Avon, Connecticut have been studied in detail and dated using the radiocarbon method (Jones 1997; Moeller 1980; Leslie et al., 2020).

The Templeton Site (6-LF-21) is in Washington, Connecticut and was occupied between 10,490 and 9,890 years ago (Moeller 1980). In addition to a single large and two small fluted points, the Templeton Site produced a stone tool assemblage consisting of 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 Hidden Creek Site (72-163) is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut (Jones 1997). While excavation of the Hidden Creek Site produced evidence of Terminal Archaic and Woodland Period components (see below) in the upper soil horizons, the lower levels of the site yielded artifacts dating from the Paleo-Indian era. Recovered Paleo-Indian artifacts included broken bifaces, side-scrapers, a fluted preform, 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.

The Brian D. Jones Site (4-10B) was identified in a Pleistocene levee on the Farmington River in Avon, Connecticut; it was buried under 1.5 m (3.3 ft) of alluvium and was situated within 5 km (3.1 mi) of the current Nod Road project area (Leslie et al., 2020). It is possible that the proposed project area also was utilized during the Paleo-Indian Period. The Brian D. Jones Site was identified by Archaeological and Historical Services, Inc., in 2019 during a survey for the Connecticut Department of Transportation preceding a proposed bridge construction project. It is now the oldest known archaeological site in Connecticut at $\pm 12,500$ years old. The site also provides a rare example of a Paleo-Indian site on a river rather than the more common upland areas or on the edges of wetlands. Ground-penetrating radar survey revealed overbank flooding and sedimentation that resulted in the creating of a stable ancient river levee with gentle, low-energy floods. Archaeological deposits on the levee were therefore protected. Soil vibracores were extracted to accurately plot the sedimentology of the site. These cores are still undergoing analysis (Leslie et al., 2020:1).

Excavations at the Brian D. Jones Site revealed 44 soil anomalies, 27 of which were characterized as cultural features used as hearths and post holes, among other uses. One hearth has been dated thus far ($10,520 \pm 30$ 14C yr BP; charred Pinus; 2-sigma 12,568 to 12,410 CAL BP) (Leslie et al., 2020: 4). Further radiocarbon testing will be completed in the future. Artifact concentrations surrounded these features and were separated in two stratigraphic layers represented two temporally discrete Paleoindian occupations. The recovered lithic artifacts are fashioned from Normanskill chert, Hardyston jasper, Jefferson/Mount Jasper rhyolite, chalcedony, siltstone, and quartz. They include examples of a fluted point base, preforms, channel flakes, pièces esquillées, end scrapers, side scrapers, grinding stones, bifaces, utilized flakes, graters, and drilled stone pendant fragment. Lithic tools numbered over 100, while toolmaking debris was in the thousands. The channel flakes represent the production of spear points used in hunting. Scrapers, perforators, and grinding stones indicate animal butchering, plant food grinding, the production of wood and bone tools, and the processing of animal skins for clothing and tents. Other collected cultural materials included charred botanicals and calcined bone. Botanicals recovered in hearth features included burned remains of cattail, pin cherry, strawberry, acorn, sumac, water lily, and dogwood. In addition, pieces of ochre were recovered during the excavations; these, in combination with the drilled pendant fragment, are the earliest evidence of personal adornment and artistic expression identified in Connecticut (Sportman and Leslie 2020). Approximately 15,000 artifacts were collected in total. Analysis is ongoing by Archaeological and Historical Services, Inc., and planned to be completed by 2022. The Brian D. Jones Site was fully excavated, and bridge construction proceeded by the Connecticut Department of Transportation.

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 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).

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 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 increased numbers of ceramic types and forms. (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 much 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 in North Haven, 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

HISTORICAL OVERVIEW

Introduction

The project area is located in the town of North Haven, in New Haven County, Connecticut. Originally part of New Haven Colony, the town of North Haven was incorporated in 1786. While this town began as an agrarian community, it has developed into a suburban center with a substantial amount of commercial development. This chapter presents an overview history of the town of North Haven, as well as data more specific to the location of the project area.

Woodland Period to Seventeenth Century

During the Woodland Period of northeastern North American history (about 3,000 to 2,500 years ago), the Indigenous peoples who resided in what is now Connecticut were part of the greater Algonquian culture of northeastern North America (Lavin 2013). They spoke local variations of Southern New England Algonquian (SNEA) languages and resided in extended kinship groups on lands they maintained for a variety of horticultural and resource extraction purposes (Goddard 1978). Native people in the region practiced subsistence activities including hunting, fowling, and fishing, along with the cultivation of various crops, the most important of which were maize, squash, and beans. They supplemented these foods seasonally by collecting shellfish, fruits, and plants during warmer periods, and gathering nuts, roots, and tubers during colder times (Lavin 2013). Additionally, these communities came together in large groups to hunt deer in the fall and winter. Indigenous peoples lived with their immediate or extended families in large settlements, often concentrated along rivers and/or wetlands. Some villages were fortified by wooden palisades. Their habitation, known as a *weetu* or *wigwam*, was generally constructed of a tree sapling frame and covered in reed matting during warm months, and tree bark throughout the winter. These varied in size from a small, individual dwelling, to an expansive “long house,” which could accommodate several families. Native communities commonly traded among their immediate neighbors and often maintained long-distance networks as well (Lavin 2013). At the time of the arrival of Europeans, some of the prominent Native nations within the present-day bounds of New Haven County included the Paugussett, Quinnipiac, Tunxis, and Wangunk people. All of these groups were closely connected through kinship, culture, language, and trade. The area that is now North Haven was part of the Quinnipiac homeland, which ran along the shoreline from parts of West Haven to New Haven, East Haven, Branford, North Branford, Guilford, and Madison but also included the towns of Wallingford, Hamden, Woodbridge, Bethany, and parts of Prospect and Cheshire (De Forest 1852; Lavin 2013).

As Native communities maintained oral tradition rather than a written record, most surviving information of the Indigenous people of present-day Connecticut was recorded by European observers, who were Dutch or English colonists (Lavin 2013). The earliest Europeans known to have entered Long Island Sound, the Connecticut River, and the western Connecticut shoreline were the Dutch around 1611 (Rockey 1892). The Dutch established trade relationships with Native people of the area, among which included the Pequot in what is now southeastern Connecticut and likely the Quinnipiac and Paugussett in present-day New Haven County. By 1624, the Dutch West India Company formally established the colony of New Netherland centered around Manhattan and the Hudson River, but its eastern bounds extended as far as Cape Cod, which included present-day New Haven County (Jacobs 2009). Through their relationship with the Dutch, the Pequot had steady access to a variety of European trade goods. They extended their dominance over the Connecticut shoreline, eastern Long Island, and the lower Connecticut River Valley,

bringing all the Native nations in those areas, including the Quinnipiac, into a tributary relationship under their leadership (Hauptman & Wherry 2009; McBride 2013).

Increased European interaction resulted in exposure to diseases and epidemics Indigenous people had never encountered and to which they had no natural immunity. Illnesses such as smallpox, measles, tuberculosis, and cholera devastated Native communities. In 1633, one epidemic spread through the region impacting the Pequot and may have affected the Quinnipiac as well. Tensions between Native and European groups laying claim to the Connecticut River resulted in the death of several English traders between 1634 and 1636, which colonists blamed on the Pequot. In retaliation, English forces from Massachusetts Bay destroyed Pequot and Nehantic villages on the Pequot (Thames) River in August 1636, which began the Pequot War. Connecticut Colony declared war on the Pequot and were joined by Native warriors from the Connecticut River and Mohegans under the Sachem Uncas (Oberg 2006). Numerous clashes took place until 1637, when English forces pursued Pequot refugees west through present-day New Haven County. In July 1637, the Pequot were defeated in present-day Fairfield and the war soon came to an end. After the war, the Connecticut English claimed Pequot territory as conquered lands for their newly established colony (Cave 1996).

Massachusetts Bay veterans of the Quinnipiac Campaign reported on the rich lands west of the Connecticut River and by September 1637, men were sent to survey the coast for settlement. Land near Quinnipiac Harbor and the nearby Quinnipiac River was selected as the site of a future colony. In April 1638, a company of 300 English settlers under the leadership of the Reverend John Davenport arrived at Quinnipiac. They negotiated with the Quinnipiac Sachem Momaugin for land upon which they could settle and soon after founded New Haven Colony. Lands were reserved on the east side of the river for the Quinnipiac. The settlement expanded rapidly as English planters acquired rights to land along the coast from other Quinnipiac and Paugussett Sachems (Rockey 1892). In the same year as the treaty between Momaugin and the settlers from Massachusetts, members of the New Haven Colony signed an agreement with Montowese, a Quinnipiac sachem from further north. This agreement transferred to the English an area called Totoket, which consisted of land located on both sides of the Quinnipiac River, as far east as what is now the town of Branford, as far north as the town of Cheshire, and as far west as the town of Woodbridge. In exchange, the natives received some goods, a small reservation, and hunting rights to the Totoket area (Crofut 1937; De Forest 1852). This deed was renewed in 1645, and in 1681 Montowese's sister and others received an unspecified sum of money to clear the town's title to this tract (Davis 1870). Continued colonial encroachments forced natives to relinquish more of their land. Some members of the Quinnipiac tribe moved north to what are now Waterbury and Farmington as well as west to New York. Others continued to live in local villages or moved to cities (Grant-Costa 2021).

Eighteenth through Twenty-first Century

Situated to the south of Wallingford and to the north of East Haven, the town of North Haven is bisected by the Quinnipiac River, which flows through the area in a southwest direction toward Long Island Sound. North Haven's earliest settler arrived in 1640 and the town developed into a small farming community called Northeast Village. By 1716, the community consisted of 40 households and 200 to 300 people, mostly farmers. The town's waterways were the site of various mills, as well as a mode of transport to ship lumber downstream to New Haven (Thorpe 1892a). Much of this lumber was also used in shipbuilding, as the Quinnipiac River was wide enough to support large ocean-going ships (Iverson n.d.). Brickmaking became a prominent industry in North Haven after 1720, when locals began using abundant clay deposits found along the riverbanks to supply brickyards (Thorpe 1892a). At that time, the Quinnipiac River continued to draw Indigenous people to the area seasonally for fishing and fowling

along its banks (Barber 1836). As the century wore on, Northeast Village grew and in 1786, the parish incorporated as the town of North Haven (Thorpe 1892a). As of 1790, North Haven had 1,236 residents (Connecticut 2022a).

By the early nineteenth century, North Haven was producing a significant amount of goods for the New Haven market. These included vegetables, hay, and most of the 4,500,000 bricks the town produced annually (Barber 1836). North Haven was also home to several distilleries at that time (Thorpe 1892b). The village of Clintonville, which was situated at the northeast corner of North Haven, hosted several industries, including Clintonville Agricultural Works, which produced corn shellers, horse rakes, and other farm implements (Hill 1918). The arrival of the railroad in town in 1839 connected North Haven to New York City, which helped to bolster these industries. In 1870, a second rail line was built through the town and ran from New Haven to Middletown (Turner and Jacobus 1986). At the end of the century, North Haven's population had grown to 1,862 residents (Connecticut 2022b). While farming and brick-making were still prominent industries, the town was also manufacturing paper cards, tin spoons, and carriage woodwork (Connecticut 1890).

Throughout the twentieth century, North Haven continued to steadily develop and became more suburbanized. Much of the early population growth was due to an influx of immigrants. North Haven saw a considerable number of arrivals from Italy, who presumably came to work on farms and in the brick industry (Iverson n.d.). By 1950, the town had 9,444 residents (Connecticut 2022c). During the 1950s and 1960s, the population of North Haven increased dramatically due to the suburbanization trend facilitated by the rise of the automobile. The construction of highways also had a large effect on North Haven as Interstate 91 runs through the town. North Haven's population more than doubled over the 20 years since 1950 and by 1970, the town had 22,194 residents (Connecticut 2022c, 2022d).

As of the early twenty-first century, growth had stalled in North Haven and the population had mostly stabilized. The town was considered a suburban community with significant industrial and commercial zones. As of 2021, North Haven had 23,722 inhabitants. Manufacturing was the largest employment sector, followed by retail (AdvanceCT and CTData Collaborative 2021). Factories in town produced various items, including surgical equipment, paper boxes, tools, medical devices, steel, sporting goods, and printed circuit boards (Connecticut 2021). Though town officials encourage new commercial ventures, they intend to maintain the suburban character of North Haven (North Haven 2017).

History of the Project Area

During the nineteenth century, the project area was located in southeastern North Haven on what is now Mill Road to the west of Pine River (now Muddy River); this area was fairly rural at that time. An excerpt from Whiteford's 1852 map indicated that the project area was surrounded by a network of roads with numerous houses scattered along them (Figure 4). The project area itself likely consisted of agricultural or wooded land. The closest buildings appear to have been a house to the southwest of the project area on present-day Roarke Road and a house to the north on Mill Road that was owned by J. Pierpont. Two years prior, in 1850, Jason Pierpont was listed in the census as a 30-year-old farmer that lived with his wife and children on his father Philemon's farm (United States Census Bureau [USCB] 1850). Jason and Philemon were likely related to James Pierpont, who was an early settler in North Haven. Several members of the Pierpont family lived to the north of the J. Pierpont house (Foerster n.d.). The federal census indicated that as of 1860, Jason and his family were still living on the same farmstead (USCB 1860).

In 1861, the former Pierpont land to the north of what is now Patten Road was sold to Dr. Daniel A. Patten, who named the estate “Riverside.” In the twentieth century, much of this land became Hansen Park, a natural preserve with hiking trails (Foerster n.d.). In 1863, Jason was drafted to fight in the Civil War and his father Philemon died in 1865 (Find a Grave 2022; National Archives and Records Administration, Washington, D.C. [NARA], Consolidated Enrollment Lists, 1863-1865 [Civil War Union Draft Records]; Record Group: 110, Archive Volume Number: 3 of 4). An excerpt from Beers’ 1868 map of North Haven indicated that the Jason Pierpont family had moved on from their former homestead by that time and as of 1870, Jason was recorded as living with his family in Waterbury (Figure 5; UCSB 1870).

According to Beers’ 1868 map, the project area continued to be surrounded by farms. The house to the southwest of the project area was owned by J. Hull and the former Pierpont house to the north of the project area was owned by S. F. Linsley (Figure 5). This was possibly Solomon F. Linsley, a prominent builder who was active from 1865 until his death in 1901. Linsley was born in 1830 in Northford, a section of North Branford, Connecticut (North Haven Historical Society and Museums n.d.). By 1860, Linsley had moved to New Haven and working as a carpenter (USCB 1860). In 1861, he enlisted to fight in the Civil War as a private, but eventually was promoted to second lieutenant. During his time in service, Linsley built a number of buildings in Portsmouth, Virginia in the style of log cabins to be used as barracks for Union troops (North Haven Historical Society and Museums n.d.). He was captured by Confederate troops in 1865 in North Carolina and was briefly detained before being released a few weeks later (Hines 2002).

After the war ended in 1865, Linsley settled in North Haven, possibly on Mill Road, and worked as an architect (North Haven Historical Society and Museums n.d.). According to the federal census, in 1870, Solomon F. Linsley was a carpenter who lived with his wife, daughter, and a farmhand on his 100-acre farm where he raised rye and “Indian corn” (USCB 1870). Though not reflected in the census, at that time Linsley was a prominent builder in North Haven, though he also worked in numerous other towns. His work mainly consisted of simple rectangular designs and his smaller houses oftentimes were adorned with decorative woodwork. The length of his possible tenure at the house on Mill Road is unknown but, in 1884, Linsley moved into a house that he designed at 184 Maple Avenue in North Haven. The house (which still stands) was indicative of his style at the time, with its carved woodwork along the eaves of the roof. During the 1880s, Linsley constructed his most monumental works, namely Memorial Hall (Town Hall), his only major building made of brick, and Center School. Linsley was responsible for constructing the most important public and residential buildings in North Haven through the rest of the century. He was especially prolific during the 1890s until his death in 1901. 33 of his designs are still standing today and all are privately owned (North Haven Historical Society and Museums n.d.).

During the twentieth and early twenty-first centuries, the region containing the project area slowly transformed from a rural region to a suburban landscape. This is evidenced by a series of aerial photographs taken of the town. Fairchild’s 1934 aerial showed the project area in a rural landscape to the east of Muddy Brook (Figure 6). To the west were railroad tracks running northeast to southwest. The project area was the site of an orchard and just to the north were several farm-related buildings along an unpaved farm road. These buildings included a ca. 1830 house, possibly the former S. F. Linsley domicile. Few changes took place over the following years and as of 1951, the project area was surrounded by agricultural fields (Figure 7). Significant reforestation was visible along Muddy Brook and to the west of the railroad tracks. At that time, the project area continued to be comprised of an orchard

and farm-related buildings were present to the north. Though there were a few new buildings across the street from the project area, generally, little new construction had taken place.

Over the subsequent decades, much of the landscape was altered and by 1990, large sections of the former farmland had been developed into residential housing, especially to the north, west, and south of the project area (Figure 8). Several new streets were present as well, including South Drazen Drive to the north of the project area. The ca. 1830 house was still extant on Mill Road and three additional houses had been built to the east of it. Several new buildings were also across the street from the project area on Mill Road. At that time, the orchard was gone and the project area itself consisted of a cleared field with unpaved farm roads. As of 2019, many of the remaining cleared fields within the area had become reforested and a number of commercial properties had been built (Figure 9). A total of four houses, including the ca. 1830 house, were present to the north of the project area, but little construction had taken place to the east and south of it. Between the project area and Muddy Brook were some cleared fields with unpaved roads or trails surrounded by forest. At that time, the project area was also a cleared field with trees along its borders.

Conclusions

The historical investigation indicates that the project area likely belonged to the ca. 1830 house at 168 Mill Road just to the north and was traditionally used as agricultural fields. There is the possibility of encountering remains of historical outbuildings, stonewalls, or other evidence of historic farming within the project area. The documentary record does not indicate that it is on the location of any known historical residences; however, in the nineteenth century, the house at 168 Mill Road and adjacent land possibly belonged to the prominent Pierpont family as well as architect Solomon F. Linsley.

CHAPTER V

PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previous cultural resources research completed within the vicinity of the project area in North Haven, 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, National/State Register of Historic Places properties, and inventoried historic standing structures over 50 years old situated in the project region (Figures 10 and 11). The discussions presented below are based on information currently on file at the CT-SHPO in Hartford, Connecticut. In addition, the electronic site files maintained by Heritage also 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, National/State Register of Historic Places Properties/District, and Inventoried Historic Standing Structure 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 identified two previously identified archaeological sites within 1.6 km (1 mi) of the project area (Sites 101-13 and 101-24) (Figure 10). In addition, the Rising Sun Tavern, which is a National/State Register of Historic Places Properties, is located approximately 1,125 meters (3,691 feet) of the project area (Figure 11). The identified cultural resources are described below.

Site 101-13

Site 101-13, which is also known as the Hunter Site, was situated on private land 100 m (328 ft) to the south of the junction of Clintonville Road and Country Way in North Haven, Connecticut. It was recorded by the Connecticut Archaeological Society (CAS) in March 1979. This Late Archaic Period prehistoric camp site was surface collected by Sonnazaro, who recovered a single Fox Creek Fishtail projectile point, quartz small-stemmed points and one broken flint side-notched projectile point. At the time of its recording, the Hunter Site was destroyed and thus, it will not be impacted by the proposed North Haven One Solar Project.

Site 101-24

Site 101-24 was identified at milepost 3.1 along the Algonquin Gas pipeline in North Haven, Connecticut. The nineteenth to twentieth century site was recorded in January of 1991 by Kevin McBride of PAST, Inc., in Storrs, Connecticut. Artifacts recovered from the site included examples of shell, brick fragments, window glass shards, slag, coal ash, and lamp glass shards. This site is believed to be associated the M. Matthews House as listed on the 1868 Beers map of North Haven. Site 101-24 has not been assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). It will not be impacted by the proposed North Haven One Solar Project.

Rising Sun Tavern

The Rising Sun Tavern, which is also known as the Half Mile House, as well as Todd's Tavern, is located on a small residential lot approximately 1000 m (3,281 ft) to the southwest of the proposed project parcel; it fronts on Old Tavern Lane. The structure, which was constructed in ca. 1760 was listed on the National Register of Historic Places in August of 1979. It is considered significant as an excellent example

of an eighteenth century Connecticut tavern and for its Georgian architectural style. The tavern is a two-and-a-half-story wood frame Georgian farmhouse; it features a gabled roof, two brick end chimneys, and a clapboarded exterior. The main facade measures five bays in width and is characterized by sash windows set symmetrically around the center entrance. The entrance is framed by pilasters, which rise to a corniced entablature. The interior of the building follows a typical center hall plan, with a single-run staircase in the central hall, and four chambers, two on either side, on each floor. A single-story kitchen ell extends to the rear of the main block. The Rising Sun Tavern is well enough away from the project area that it will not be directly impacted by the proposed construction.

Summary and Interpretations

The review of previously completed research in the vicinity of the project area and the analysis of cultural resources recorded nearby, indicates that the larger project region contains prehistoric Native American deposits. Archaeological sites occupied within the study region date from as early as the Late Archaic Period (ca., 4,500 years ago), suggesting that additional archaeological sites may be situated within the vicinity of the project area. In addition, historic residences from the Colonial Period and later also exist in the project region, as well as to the north of the project area. Therefore, additional historical cultural resources may be located 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 parcel in North Haven, Connecticut. The following tasks were completed during this investigation: 1) study of the region's prehistory, history, and natural setting; 2) a literature search to identify and discuss previously recorded cultural resources in the area encompassing the project parcel; 3) a review of historical maps, topographic quadrangles, and aerial imagery depicting the project parcel in order to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project parcel in order to determine its 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 identify and assess the archaeological sensitivity of the project areas, as well as to visually examine the project items and record any previously unidentified cultural resources during pedestrian survey. The undertaking was comprehensive in nature, and project planning took into consideration the distribution of previously recorded cultural resources located within the project region, as well as the 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, National and State Register of Historic Places, and inventoried historic standing structures 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 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.

Field Methodology and Data Synthesis

Heritage performed fieldwork for the Phase IA cultural resources assessment survey of the project area with the proposed solar project in North Haven, Connecticut. This included pedestrian survey, photo-documentation, and mapping. 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 North Haven, Connecticut, as well as management recommendations for treatment of the proposed impacted areas associated with the North Haven Solar One Project. As stated in the introductory section of this report, the investigation involved 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 archaeological and cultural resources in the project region; 3) a review of readily available historical maps and aerial imagery depicting the project area in order to identify potential historical resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the project area to determine its archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report.

Overall Sensitivity of the Proposed Facility

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 historical maps, aerial images, and data regarding previously identified archaeological sites and National and State Register of Historic Places properties, and inventoried historic standing structures to stratify the proposed project parcel into zones of no/low, moderate, and/or high archaeological sensitivity. In general, historical period archaeological sites are relatively easy to identify on the 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.). Prehistoric archaeological sites are less often identified during pedestrian survey because they are buried and predicting their locations relies more on the analysis and interpretation of the 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, moderate, and/or high archaeological potential by analyzing landform types, slope, aspect, soils contained within them, and distance from water. In general, areas located less than 300 m (1,000 ft) from a freshwater source, which 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 containing 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 regarding their potential to contain prehistoric archaeological sites.

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

Results of Phase IA Survey and Management Recommendations

Heritage personnel conducted a pedestrian survey of the proposed project area in June of 2022. The pedestrian survey was supplemented by mapping and photo-documentation (Figure 10 and Photos 1 through 6). As seen in the attached photos, the project area is mostly characterized by relatively even topography and low slopes and well drained soils that are typically correlated with prehistoric and historical use and occupation. Elevations in the area range from 16 to 46 m (52 to 150 ft) NGVD. The predominant soil types located noted throughout the project parcel include Cheshire and Holyoke soils, which are well-drained loamy soils. The project area currently consists of a mixture of cultivated fields, wetlands, and wooded areas.

The results of the pedestrian survey indicate that 4.16 acres of land can be classified as retaining no/low archaeological sensitivity because these areas are characterized by slopes, wet soils, and signs of modern motorcycle and ATV trails. No intact archaeological deposits are expected in these areas and no additional archaeological examination of them is recommended. The remaining 8.14 acres of land are characterized by low slopes and well-drained soils. These areas have been deemed to possess a moderate/high archaeological sensitivity. It is recommended that the moderate/high sensitive areas be subjected to Phase IB cultural resources survey prior to the construction of the proposed solar center to ensure that no intact archaeological deposits are impacted by the proposed construction.

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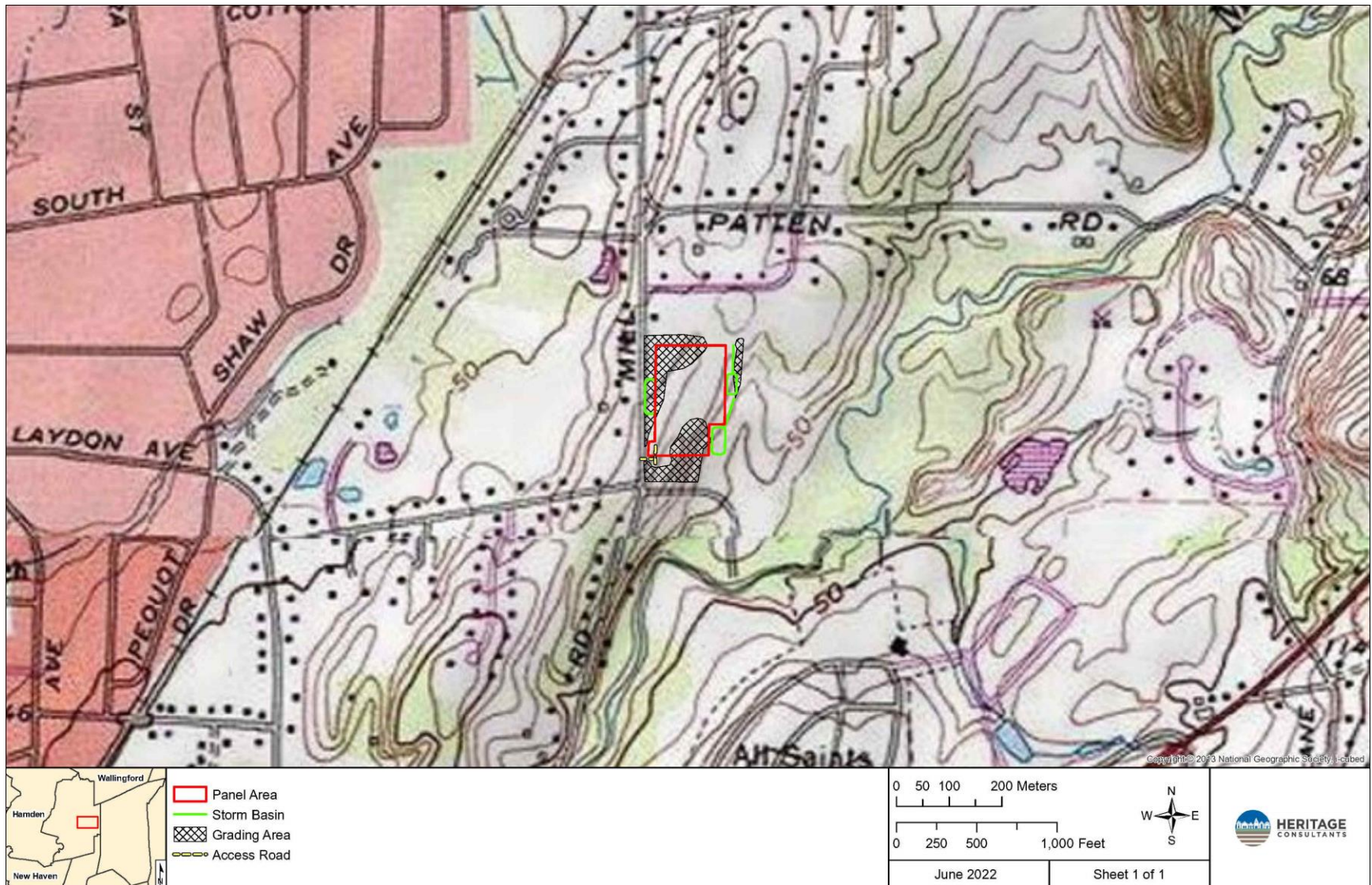


Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the proposed North Haven One Solar Facility in North Haven, Connecticut.



CP-1 **N. HAVEN SOLAR ONE**
 SCALE: 1" = 80'

General Notes	
SYSTEM SPECIFICATIONS	
DC SYSTEM SIZE	2,499.1 kW
AC SYSTEM SIZE	1,625.0 kW
MODULE QUANTITY	4628
MODULE POWER	540 W
TILT	25°
AZIMUTH	180°
NOTES	INTERCONNECTION ON MILL ROAD

No.	Revision/Issue	Date

Prep. Name and Address

VEROGY
 150 TRIUMPH STREET
 HARTFORD, CT 06103

Project Name and Address

NORTH HAVEN SOLAR ONE
 700 MIDDLETOWN AVE.
 NORTH HAVEN, CT
 41.376707, -72.836827

Project	NORTH HAVEN SOLAR ONE	Sheet	CP-1
Date	08/24/2021		
Drawn By	BJP		

Figure 2. Project plans showing the proposed North Haven One Solar Facility in North Haven, Connecticut.

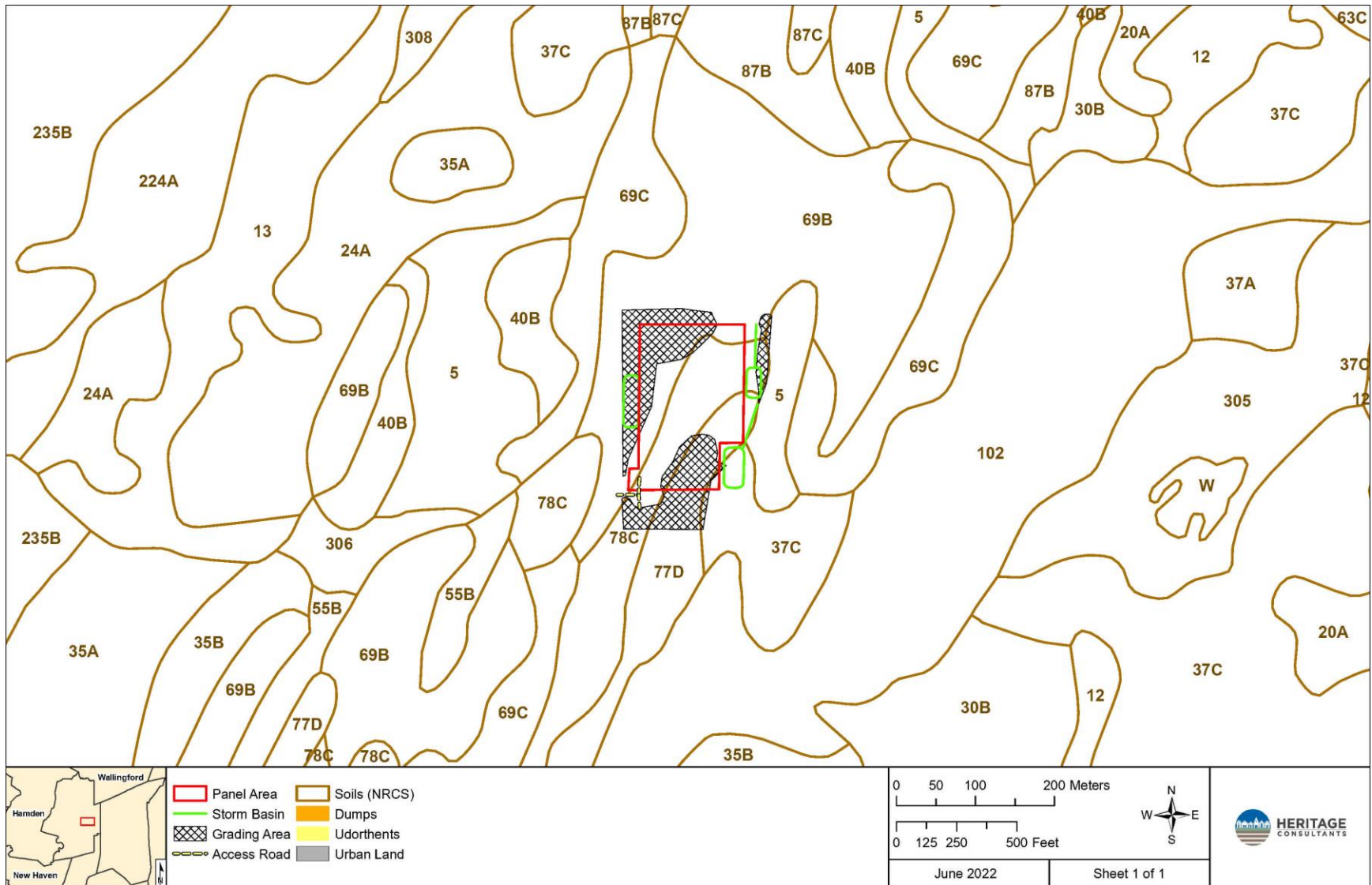


Figure 3. Map of soils showing the location of the proposed North Haven One Solar Facility in North Haven, Connecticut.



Figure 4. Excerpt from an 1852 historical map showing the location of the proposed North Haven One Solar Facility in North Haven, Connecticut (Whiteford 1852).



Figure 5. Excerpt from an 1868 historical map showing the location of the proposed North Haven One Solar Facility in North Haven, Connecticut (Beers 1868).



Figure 6. Excerpt from a 1934 aerial image showing the location of the proposed North Haven One Solar Facility in North Haven, Connecticut (Fairchild 1934).

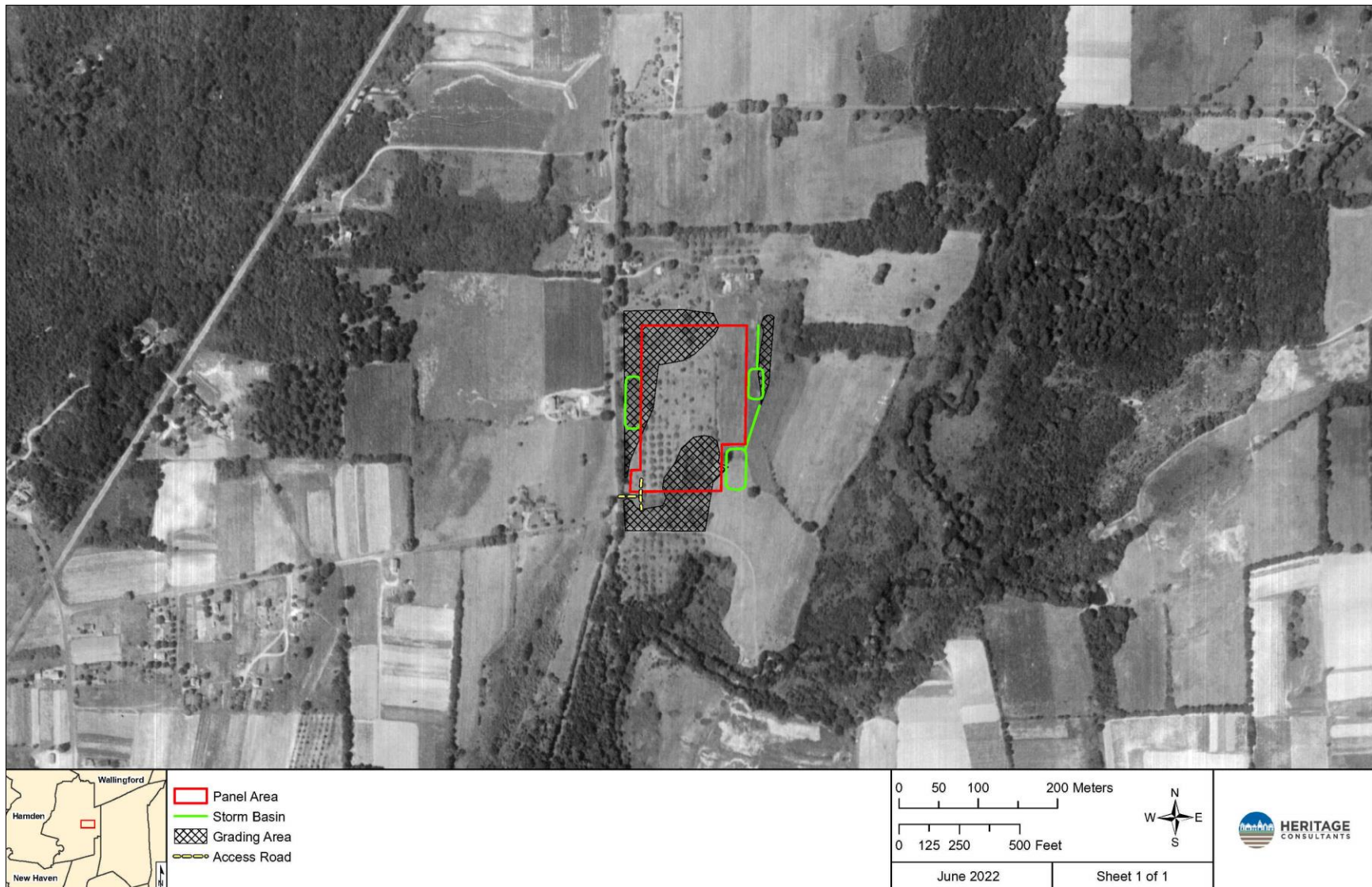


Figure 7. Excerpt from a 1951 aerial image showing the location of the proposed North Haven One Solar Facility in North Haven, Connecticut (United States Department of Agriculture 1951).



Figure 8. Excerpt from a 1990 aerial image showing the location of the proposed North Haven One Solar Facility in North Haven, Connecticut (Natural Resources Conservation Service 1990).

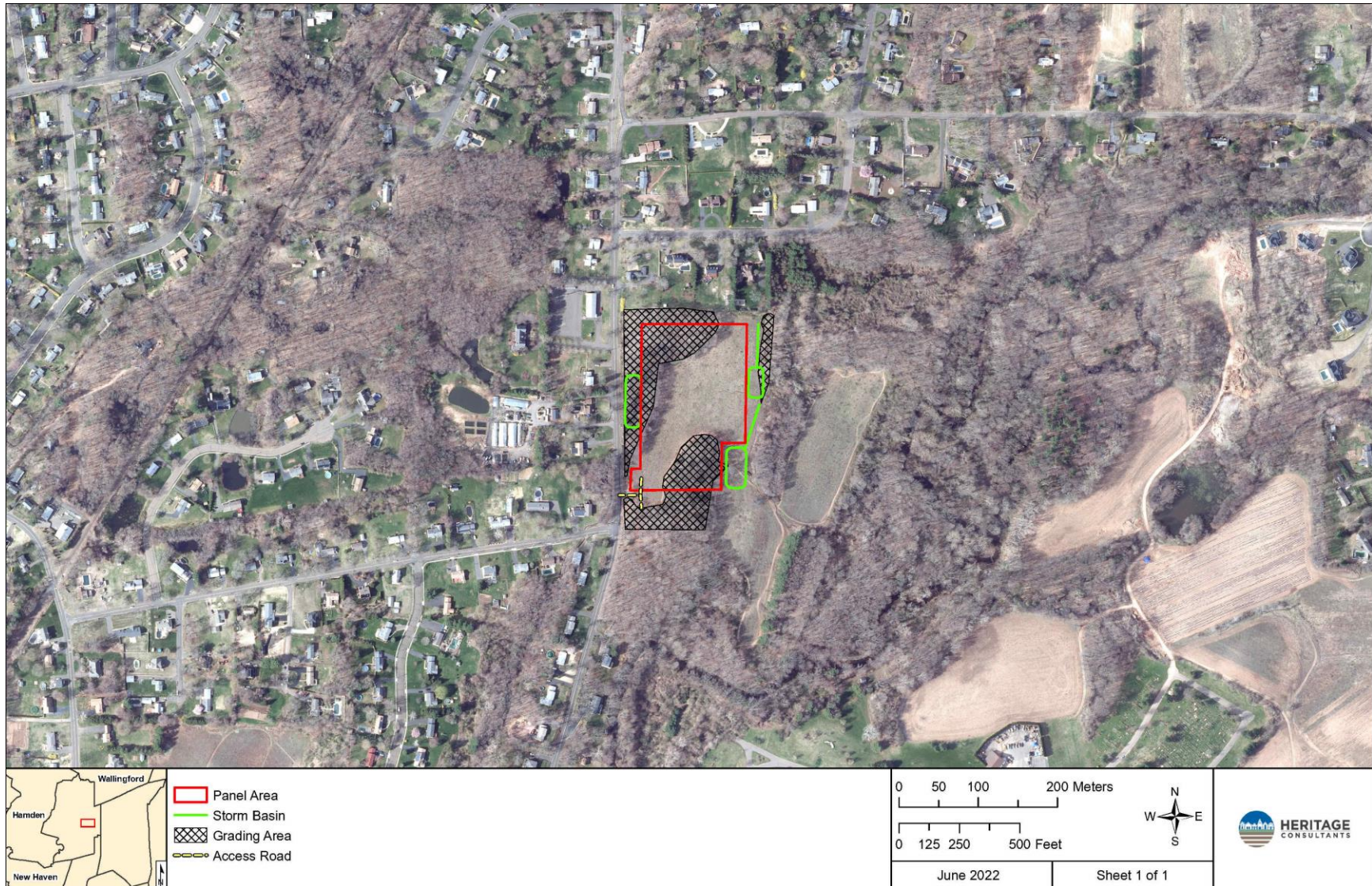


Figure 9. Excerpt from a 2019 aerial image showing the location of the proposed North Haven One Solar Facility in North Haven, Connecticut (Connecticut Environmental Conditions Online 2019).

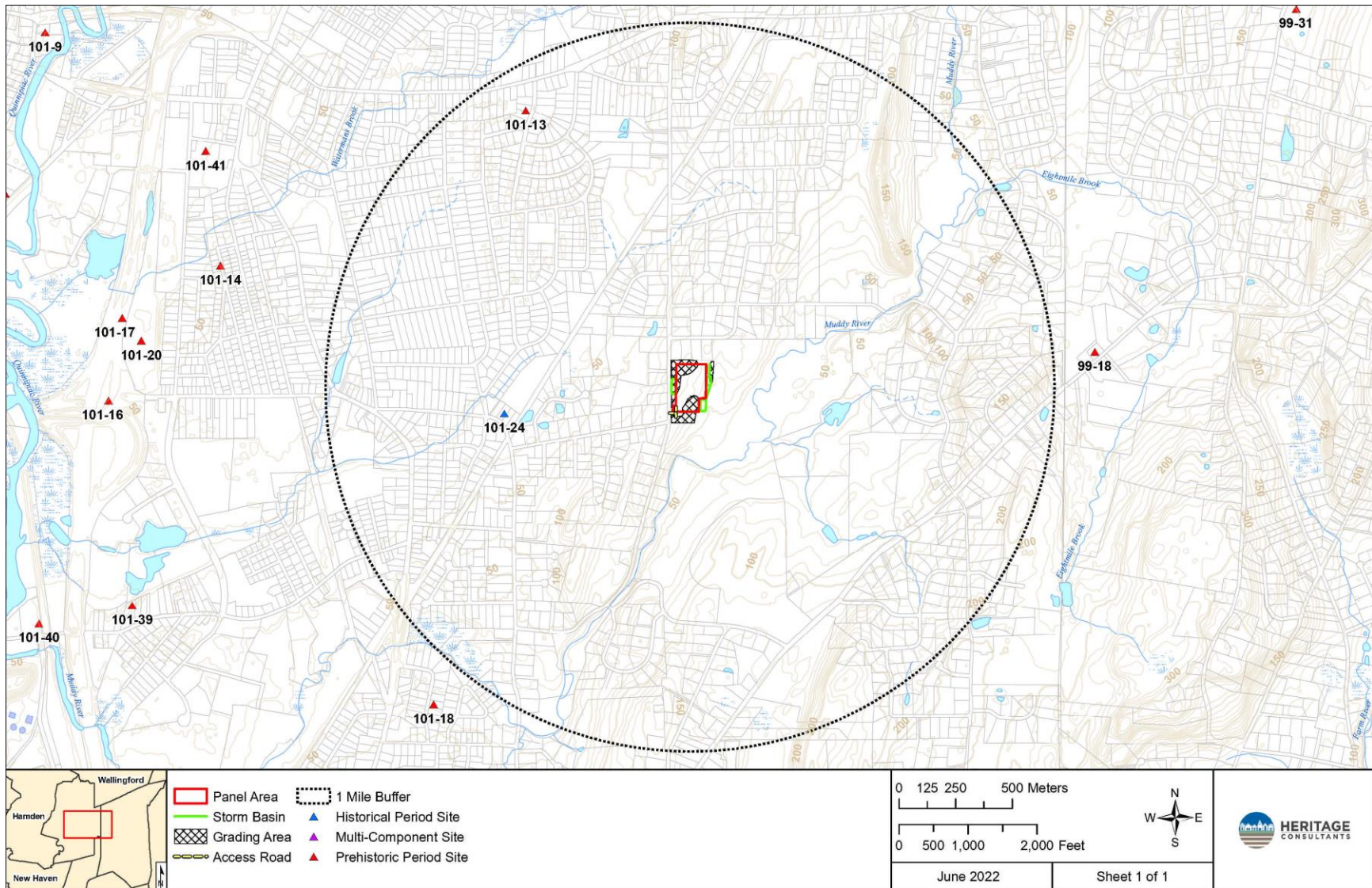


Figure 10. Digital map showing the location of previously identified archaeological sites in the vicinity of the proposed North Haven One Solar Facility in North Haven, Connecticut.

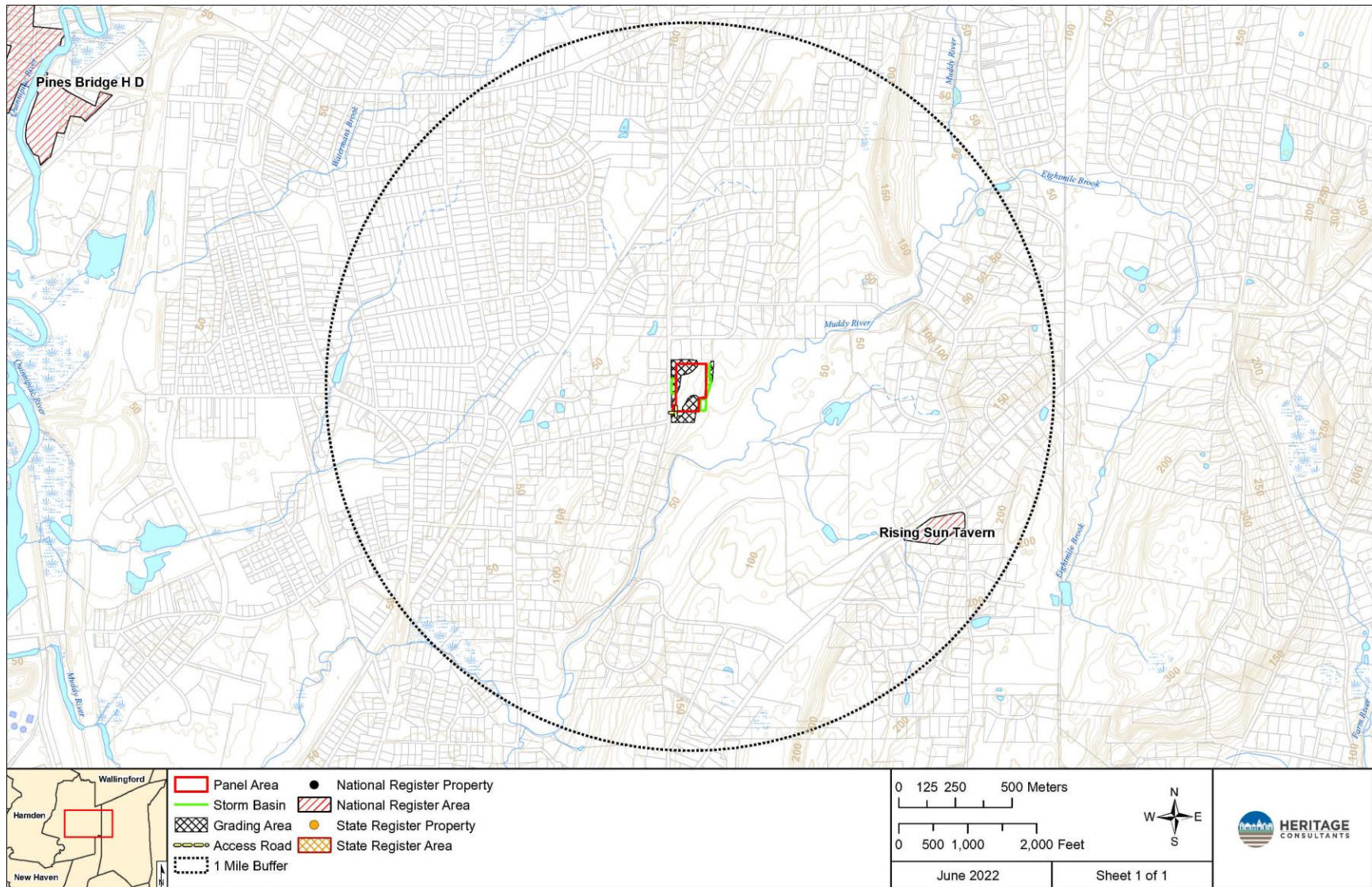


Figure 11. Digital map depicting the locations of previously identified National/State Register of Historic Places properties in the vicinity of the proposed North Haven One Solar Facility in North Haven, Connecticut.

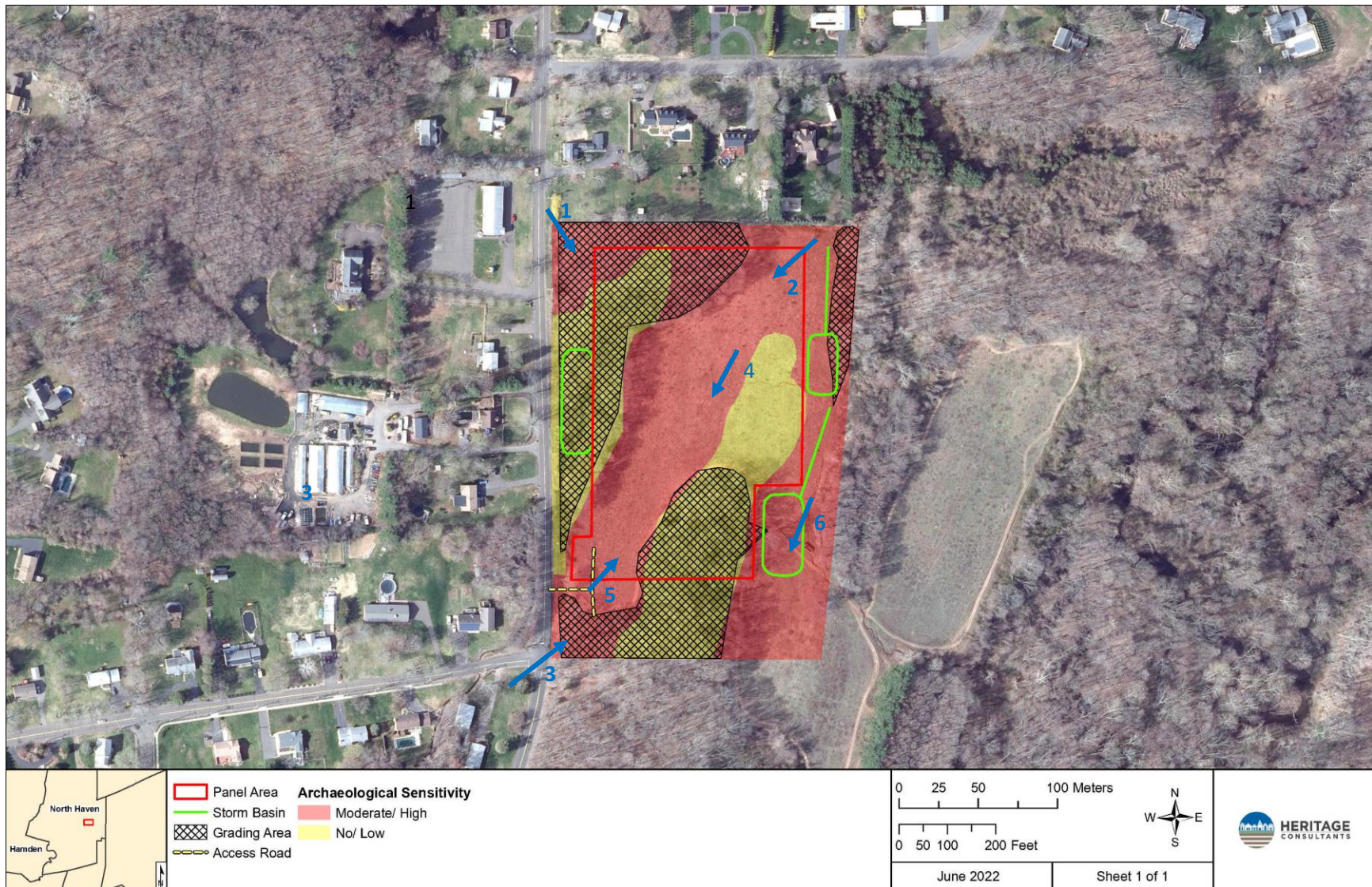


Figure 12. Excerpt from a 2019 aerial photograph depicting areas of no/low and moderate/high archaeological sensitivity and direction arrows of photographs taken during pedestrian survey of the project area of the proposed North Haven Solar One Facility in North Haven, Connecticut.



Photo 1. Overview from northwestern corner of project area facing southeast.



Photo 2. Overview photo from northeast corner of project area facing southwest.



Photo 3. Overview photo taken from southwest corner of project area facing northeast.



Photo 4. Overview photo from center of project area facing southwest.



Photo 5. Overview photo from southern portion of moderate/high sensitivity area facing north.



Photo 6. Overview photo from southeastern boundary of moderate/high sensitivity area facing south.