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PHASE IA CULTURAL RESOURCES ASSESSMENT SURVEY OF THE PROPOSED EARTHLIGHT SOLAR PROJECT IN WINDSOR LOCKS, CONNECTICUT

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ABSTRACT

This report presents the results of a Phase IA cultural resources assessment survey of 13 acres of land on property owned by Collins Aerospace in Windsor Locks, Connecticut. It will be the site of the proposed Earthlight Solar Center. Heritage Consultants, LLC completed the current Phase IA cultural resources assessment survey on April 15, 2022. 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 project area 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. Pedestrian survey of the project area revealed that 1.04 acres of land fall within areas that contain low slopes and well drained soils; this area retains a moderate/high sensitivity for intact archaeological deposits. It was labeled Sensitivity Area SA-1. The remaining 11.96 acres of land are characterized by wetland areas and previous disturbances; they are not archaeologically sensitive. The moderate/high sensitivity area labeled SA-1 is located outside of the proposed impact areas for the project, and therefore will not need archaeological testing unless the proposed project changes. No further archaeological survey of the project area is recommended.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF PHOTOS

CHAPTER I
INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey of 13 acres of land on property owned by Collins Aerospace in Windsor Locks, Connecticut (Figure 1). This land will be the site of the proposed Earthlight Solar Center. 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 on April 15, 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 proposed project will consist of the construction of a solar facility within approximately 13 acres of land owned by Collins Aerospace in Windsor Locks, Connecticut. The project area is located to the north of Route 20 and to the south of the UTC Aerospace Systems complex. The project area is located adjacent to and surrounds an existing asphalt parking area. The study area is situated at elevations ranging from approximately 33.5 to 48.8 m (110 to 160 ft) NGVD. 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 and files maintained by the CT-SHPO resulted in the identification of three prehistoric period sites, a single historical period site, and a single multi-component site situated within 1.6 km (1 mi) of the project area. These are discussed in Chapter V. The Case Benomi House, 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 1.04 acres of land fall within areas that contain low slopes and well drained soils; this area retains a moderate/high sensitivity for intact archaeological deposits. It was labeled Sensitivity Area SA-1. The remaining 11.96 acres of land are characterized by wetland areas and previous disturbances; they are not archaeologically sensitive. The moderate/high sensitivity area labeled SA-1 is located outside of the proposed impact areas for the project, and therefore will not need archaeological testing unless the proposed project changes. No further archaeological survey of the project area is recommended.

Project Personnel

Key personnel for this project included David R. George, M.A., RPA, (Principal Investigator), Antonio Medina, B.A., (Operations Manager), David Naumec, Ph.D., (Historian), and Sean Buckley, B.A., (GIS Specialist).

CHAPTER II
NATURAL SETTING

Introduction

This chapter provides a brief overview of the natural setting of the region containing the project region in Windsor Locks, Connecticut. Previous archaeological research has documented that specific environmental factors can be associated with both prehistoric and historical 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 Rainbow Brook, Rainbow Pond, and the Farmington River, as well as unnamed streams, ponds, and wetlands. These freshwater sources may have served as resource extraction areas for Native American and historical 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 six major soil types: Hinckley, Scarboro, Sudbury, Udorthents-Urban Land, Walpole, and Windsor soils. A review of them show that Windsor soils are very deep excessively drained, while Ninigret and Tisbury are characterized as moderate to well drained soils; they are the types of soils that are typically correlated with prehistoric and historical use and occupation. Conversely, Sudbury and Walpole soils are described as poorly drained soils while Udorthents-Urban Land have been previously disturbed, and are not typically correlated with prehistoric and historical use and occupation. Descriptive profiles for each soil type are presented below; they were gathered from the National Resources Conservation Service.

<u>Hinckley Soils</u>:

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

Scarboro Series:

The Scarboro series consists of very deep, very poorly drained soils in sandy glaciofluvial deposits on outwash plains, deltas, and terraces. They are nearly level soils in depressions. Slope ranges from 0 through 3 percent. Saturated hydraulic conductivity is high or very high. A typical soil profile is as follows: **Oi**-- 0 to 1 inch (0 to 3 centimeters); slightly decomposed maple leaves and other plant material; **Oa**-- 1 to 8 inches (3 to 20 centimeters); dark brown (10YR3/3) mucky peat; thin platy structure; friable; common fine roots; very strongly acid; abrupt wavy boundary; **A**-- 8 to 14 inches (20 to 36 centimeters); black (N 2/0) mucky fine sandy loam; weak medium granular structure; friable; common fine roots; very strongly acid; abrupt smooth boundary; **Cg1**-- 14 to 19 inches (36 to 48 centimeters); grayish brown (2.5Y 5/2) loamy sand; massive; friable; many fine roots; very strongly acid; abrupt irregular boundary; **Cg2**-- 19 to 22 inches (48 to 56 centimeters); grayish brown (2.5Y 5/2) sand; massive; friable; few fine roots; 10 percent rock fragments; common medium prominent dark brown (7.5YR 3/2) areas of iron depletion and common medium prominent yellowish red (5YR 4/6) masses of iron; very strongly acid; clear wavy boundary; **Cg3**-- 22 to 65 inches (56 to 165 centimeters); grayish brown (2.5Y 5/2) gravelly sand; single grain; loose; 15 percent rock fragments; strongly acid.

Sudbury Soils:

The Sudbury series consists of very deep, moderately well and somewhat poorly drained soils on outwash plains. They are nearly level through strongly sloping soils in slight depressions and on terraces and foot slopes in areas of outwash or glaciofluvial deposits. Slope ranges from 0 through 15 percent. Saturated hydraulic conductivity is moderately high or high in the upper solum and high or very high in the lower solum and substratum. A typical soil profile is as follows: **Ap** -- 0 to 13 inches (0 to 33 centimeters); very dark grayish brown (10YR 3/2) fine sandy loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; very friable; many fine roots; 5 percent gravel; moderately acid; abrupt smooth boundary; **Bw** -- 13 to 19 inches (33 to 48 centimeters); yellowish brown (10YR 5/6) sandy loam; weak medium granular structure; very friable; common grass roots; 10 percent fine gravel; few fine and medium prominent dark reddish gray (5YR 4/2) areas of iron depletion in the lower 3 inches (8 centimeters); moderately acid; abrupt wavy boundary; **2CB** -- 19 to 26 inches(48 to 66 centimeters) ; yellowish brown (10YR 5/4) gravelly coarse sand; single grain; loose; few fine roots; yellowish red (5YR 4/8) coatings on some sand grains; 20 percent gravel; many fine prominent dark reddish brown (2.5YR 3/4) and common coarse prominent reddish yellow (5YR 6/8) masses of iron accumulations; moderately acid; abrupt wavy boundary; **2C** -- 26 to 65 inches (66 to 165 centimeters); light olive brown (2.5Y 5/4) very gravelly coarse sand; single grain; loose; many sand grains coated with strong brown (7.5YR 5/6) and some sand grains slightly cemented, and many pebbles and cobbles coated with black (5YR 2/1); few fine roots; strata of sand and gravel consisting of about 50 percent gravel and some cobbles; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; moderately acid.

Udorthents-Urban Land:

The Udorthents-Urban Land Complex consists of moderately, well drained, to excessively drained soils that have been disturbed by cuffing or filling, and areas that are covered by buildings and pavement. The areas are mostly larger than 5 acres. Udorthents are in areas that have been cut to a depth of 2 feet or more or are on areas with more than 0.6 meters (2 feet) of fill. Udorthents consist primarily of moderately coarse textured soil material and a few small areas of medium textured material. In some areas fill has been used to build up recreational areas and highways.

Walpole Soils:

The Walpole series consists of very deep, poorly drained sandy soils that have formed in outwash and stratified drift. They are found on nearly level to gently sloping soils in low-lying positions on terraces and plains with slopes ranging from 0 to 8 percent. Typical sequence, depth, and composition of the Walpole Series soil is as follows: **Oe**--0 to 3 cm (0 to 1 in); black (10YR 2/1) moderately decomposed forest plant material; **A**--3 to 18 cm (1 to 7 in); very dark brown (10YR 2/2) sandy loam; weak medium granular structure; very friable; many fine and medium roots; 8 percent gravel; very strongly acid; clear smooth boundary; **Bg**--18 to 53 cm (7 to 21 in); dark grayish brown (2.5Y 4/2) sandy loam; massive; friable; common fine and few medium roots in the upper part of the horizon and few fine roots in the lower part; 10 percent gravel; common medium prominent strong brown (7.5YR 5/6) and common medium prominent yellowish brown (10YR 5/4) and yellowish brown (10YR 5/6) masses of iron accumulation and common medium distinct light brownish gray (10YR 6/2) iron depletions; strongly acid; gradual smooth boundary; **BC**--53 to 63 cm (21 to 25 in); light olive brown (2.5Y 5/4) gravelly sandy loam; massive; friable; 20 percent gravel; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and light brownish gray (10YR 6/2) and dark grayish brown (2.5Y 4/2) iron depletions; strongly acid; clear smooth boundary; **C1**--63 to 104 cm (25 to 41 in); light yellowish brown (2.5Y 6/4) very gravelly loamy sand; single grain; very friable; 30 percent gravel and 5 percent cobbles; common medium distinct strong brown (7.5YR 5/6) and yellowish brown (10YR 5/4) masses of iron accumulation; strongly acid; gradual smooth boundary; and **C2**--104 to 165 cm (41 to 65 in); light brownish gray (10YR 6/2) very gravelly sand, few brown (10YR 5/3) streaks; single grain; loose; 35 percent gravel and 5 percent cobbles; moderately acid.

Windsor Soils:

The Windsor series consists of very deep, excessively drained soils formed in sandy outwash or eolian deposits. They are nearly level through very steep soils on glaciofluvial landforms. Slope ranges from 0 through 60 percent. A typical profile associated with Windsor soils is as follows: **Oe**--0 to 3 cm; black (10YR 2/1) moderately decomposed forest plant material; many very fine and fine roots; very strongly acid; abrupt smooth boundary; **A**--3 to 8 cm; very dark grayish brown (10YR 3/2) loamy sand; weak medium granular structure; very friable; many very fine and fine roots; strongly acid; abrupt wavy boundary; **Bw1**--8 to 23 cm; strong brown (7.5YR 5/6) loamy sand; very weak fine granular structure; very friable; many fine and medium roots; strongly acid; gradual wavy boundary; **Bw2**--23 to 53 cm; yellowish brown (10YR 5/6) loamy sand; very weak fine granular structure; very friable; common fine and medium roots; strongly acid; gradual wavy boundary; **Bw3**--53 to 64 cm; light yellowish brown (10YR 6/4) sand; single grain; loose; few coarse roots; strongly acid; clear wavy boundary; and **C**--64 to 65 cm; pale brown (10YR 6/3) and light brownish gray (10YR 6/2) sand; single grain; loose; few coarse roots; strongly acid.

Summary

The natural setting of the area containing the proposed project area 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. 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 Windsor Locks was also used throughout the historical era, as evidenced by the presence of numerous historical residences and agricultural fields throughout the region; thus, archaeological deposits dating from the prehistoric and historical eras 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 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 in Washington, Connecticut and was occupied between 10,490 and 9,890 years ago (Moeller 1980). In addition to a single large and two small fluted points, the Templeton Site produced a stone tool assemblage consisting of gravers, drills, core fragments, scrapers, and channel flakes, which indicates that the full range of stone tool production and maintenance took place at the site (Moeller 1980). Moreover, the use of both local and non-local raw materials was documented in the recovered tool assemblage, suggesting that not only did the site's occupants spend some time in the area, but they also had access to distant stone sources, the use of which likely occurred during movement from region to region.

Another 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, gravers, and end-scrapers. Based on the types and number of tools present, Jones (1997:77) has hypothesized that the Hidden Creek Site represented a short-term occupation, and that separate stone tool reduction and

rejuvenation areas were present.

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 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±280 and 7,015±160 B.P. (Dincauze 1976).

In addition to Neville points, Dincauze (1976) described two other projectile points styles that are attributed to the Middle Archaic Period: Stark and Merrimac projectile points. While no absolute dates were recovered from deposits that yielded Stark points, the Merrimac type dated from 5,910±180 B.P. Dincauze argued that both the Neville and later Merrimac and Stark occupations were established to take advantage of the excellent fishing that the falls situated adjacent to the site area would have afforded Native American groups. Thus, based on the available archaeological evidence, the Middle Archaic Period is characterized by continued increases in diversification of tool types and resources exploited, as well as by sophisticated changes in the settlement pattern to include different site types, including both base camps and task-specific sites (McBride 1984:96)

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

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

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

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

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 using 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.

<u>Early Woodland Period (ca., 2,700 to 2,000 B.P.)</u>

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 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, 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 Earthlight Solar Project that will occupy approximately 13 acres of land of property owned by Colins Aerospace in the Town of Windsor Locks, Connecticut. This chapter provides an overview of the history of the Town of Windsor Locks with a focus on the proposed project area. Most Connecticut towns, including Windsor Locks, originated as Native American settlements and later became English colonial villages. The area that would become Windsor Locks was an important location on the Connecticut River, situated just south of the Enfield Falls, which limited river traffic for centuries. During the colonial era and into the early years of the United States, Windsor Locks was the eastern part of the Town of Windsor, which primarily functioned as an agricultural hub that focused on tobacco cultivation along with manufacturing centers powered by local waterways. A canal opened along the Windsor side of the falls in 1829. By 1833, the area became known as Windsor Locks, and it was incorporated as a town in 1854. The town's location on the Connecticut River, the construction of the canal, and the proximity of cities such as Hartford and Springfield, Massachusetts allowed the residents to engage in both substantial agricultural and industrial activities through the nineteenth and twentieth centuries. By the late 1940s, the town largely became a suburban area as several important roads were built through town along with Bradley International Airport. Although commercial and industrial development has varied, areas within Windsor Locks retain aspects of its early rural character.

Woodland Period to Seventeenth Century

During the Woodland Period of northeastern North American history (about 3000 to 2500 years ago), the indigenous peoples of the lower Connecticut River Valley 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 such as 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 conduct deer hunts 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 habitations, known as a *weetu* or *wigwam,* were 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 both 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 in the region, from the present-day Massachusetts-Connecticut border to present day Hartford included the Agawam, Poquonock, Tunxis, Podunk, and Suckiaug people. All these groups were closely connected through kinship, culture, language, and trade (DeForest 1852; Lavin 2013). The Native people who resided at present-day Windsor Locks in the years prior to the arrival of the Europeans were known as the Poquonnock (Stiles 1891).

Seventeenth Century through Eighteenth Century

As Native communities maintained oral tradition rather than a written record, most surviving information of the Indigenous people of present-day Hartford County was recorded by European observers who were Dutch or English colonists (Lavin 2013). The earliest Europeans known to have sailed along Long Island Sound and the Connecticut River were the Dutch in 1614. Following that voyage, Captain Adrian Block created a figurative map of the region that clearly depicted the Connecticut River, which the Dutch named the *Versche Rivier* (Fresh River) due to it being a freshwater river. Block and his crew sailed past the site of present-day Windsor as far north as the "Enfield Falls," where they initiated contact and trade with local Native Americans (DeForest 1852; Stiles 1891; Love 1903). It was during this voyage that Dutch traders learned the significance of *wampum,* polished tubular shell beads created from the white *whelk* shell and the purple *quahog* shell (Hauptman & Wherry 2009; McBride 2013). They found they could exchange wampum for valuable furs acquired from Native communities north along the Hudson River.

During this time, the Dutch developed trade relationships with Native communities in the Connecticut River Valley including the Wangunk, Suckiaug, Podunk, and Poquonnock. By the early 1620s, Dutch traders entered an agreement with the Pequot of present-day southeastern Connecticut in which the Pequot supplied wampum and furs in return for European goods. In 1624, the Dutch West India Company formally established New Netherland Colony centered around Manhattan and Hudson River with its eastern bounds extending as far as Cape Cod, which included the Connecticut River (Jacobs 2009). Through their relationship with the Dutch, the Pequot accessed a variety of trade goods they distributed to tributaries and traded with other groups in the region. The Pequot extended their dominance over the Connecticut shoreline, eastern Long Island, and the lower Connecticut River Valley bringing the Native nations in those areas into a tributary relationship under their leadership, including the Poquonnock (Hauptman & Wherry 2009; McBride 2013). In 1633, the Pequot allowed the Dutch to build a fortified trading post, the *Huys de Hoop,* on the Connecticut River at the site of present-day Hartford to further cement both parties' domination over the flow of wampum, fur, and trade goods.

To break from the Pequot, several Connecticut River sachems invited the English to the valley, including the Poquonnock Sachem Attawnot who convinced English colonists from Plimoth to settle his lands at Matianuck in 1633 (Stiles 1891). The Dutch opposed the settlement but were unable to remove the English town, which became known as Windsor. Other English settlements followed at Wethersfield (1634), Hartford (1635), and Saybrook Colony (1635) at the mouth of the Connecticut River (Trumbull 1886; Barry 1985). European interaction resulted in exposure to diseases and epidemics Indigenous people had never before encountered and to which they had no natural immunity. Illnesses such as smallpox, measles, tuberculosis, and cholera devastated Native communities. In the winter of 1633-1634, an epidemic originated in Plimoth Colony and quickly spread to the people of the Connecticut River Valley (Trumbull 1886). The Poquonnock were impacted particularly hard likely due to living in close proximity to the English at Windsor. Tensions between Native and European groups in the region resulted in the death of several English traders in 1634 and 1636, which were 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. The Pequot laid siege to Saybrook Fort at the mouth of the Connecticut River during the winter of 1636-1637 and attacked Wethersfield in April 1637. Connecticut Colony declared war on the Pequot and were joined by Native warriors from the Connecticut River, including the Poquonnock, as well as Mohegans under the Sachem Uncas (Oberg 2006). In May of 1637, English forces led by Captain John Mason of Windsor destroyed the fortified Pequot village at Mistick and in July, they pursued refugees west where the Pequot were defeated in present-day Fairfield and the war soon ended (Stiles 1891; Cave 1996). Pequot territory was considered conquered land claimed by Connecticut Colony while Massachusetts Bay settlers formed New Haven Colony at Quinnipiac in late

1638. In 1652, the Dutch lost the *Huys de Hoop* at Hartford during the First Anglo-Dutch War (Trumbull 1886).

In January of 1639, the Connecticut River towns adopted the "fundamental orders" which outlined the framework for Connecticut Colony, a self-governed colony separate from Massachusetts Bay or Plimoth (Trumbull 1886). The next year, the first colonial land distributions occurred in the northeastern bounds of Windsor in an area known as Pine Meadow, which later became Windsor Locks. Pine Meadow included approximately 100 acres of prime agricultural land and pine forest, and the western section of the future town consisted of a sandy plain. In 1656, the "Old County Road" was laid out from Pine Meadow north along the river valley to Northampton, Massachusetts (Stiles 1891). In 1662, Governor John Winthrop, Jr. obtained a royal charter from King Charles II to legitimize the existence of Connecticut Colony in the English Empire. Windsor developed as an agricultural town with strong maritime ties due to the Connecticut River. The original bounds of the Town of Windsor included the present towns of Windsor Locks, East Windsor, South Windsor, and Ellington (Stiles 1891; Barry 1985).

Throughout the eighteenth century, Windsor's population steadily increased and the town became an important agricultural region that produced a variety of food stores in the fertile Connecticut River Valley. Residents were primarily farmers who grew crops such as corn, rye, oats, and barley while others turned to raising livestock including cattle, sheep, and pigs. Although parts of Windsor excelled in tobacco production, the northeastern section that would become Windsor Locks did not. Windsor farmers sold their products to nearby cities, supplied maritime provisions, and found markets in the southern colonies and Caribbean. Water-powered industry did not develop around Pine Meadow until the late eighteenth century in the form of a sawmill and gristmill (Stiles 1891). Slavery existed in Windsor since the seventeenth century and by the eighteenth century it was primarily practiced by wealthy families, merchants, and ministers but there is little evidence that slavery existed in present-day Windsor Locks. The 1774 Connecticut colonial census recorded a "White" population of 2,082, a "Negro" population of 37, and 6 "Indians" in Windsor although it is unclear if any of these individuals resided in Pine Meadows (Hoadly 1887). During the American Revolution (1775-1783) the nine families living at the Pine Meadow were expected to furnish soldiers and supply food stores for the war effort. After the Revolution, Windsor recovered from wartime economic disruptions thanks to its robust agricultural production and maritime trade. In 1783, a ferry across the Connecticut River was established at present-day Windsor Locks, which linked both the Old County Road and the Springfield Road east of the river. The next year the State passed a gradual manumission law, but slavery was not fully abolished until 1848 (Normen 2013). On January 9, 1788, Connecticut ratified the U.S. Constitution to become the fifth state (Van Dusen 1961).

Nineteenth Century through the Twenty-First Century

At the beginning of the nineteenth century, Windsor had a small population as demonstrated in the 1800 United States Census, which enumerated a total of 2,729 residents, including 40 free people of color and four slaves (U.S. Census Bureau 1800). At that time, the town relied primarily on an agricultural economy that supplied nearby urban areas, provisioned mariners, and was exported as food stores. In the Pine Meadows section of town, corn and rye were important crops, but tobacco never took root (Stiles 1891). The eastern section of Windsor developed differently than surrounding towns due to a canal that the Connecticut River Company constructed beginning in 1827. When the canal opened in 1829, it allowed river traffic to circumvent the Enfield Falls. In 1833, the United States Post Office established a "Windsor Locks" branch, and the name was used thereafter to refer to the Pine Meadow section of town (Stiles 1891). The canal remained a busy thoroughfare until the Hartford & Springfield Railroad opened in 1845. From that point forward, freight was increasingly shipped by rail

and Windsor Locks had a good connection to the state's rail system (Turner and Jacobus 1987). Industrial development occurred along the canal, which also served as a source of water power that benefited by the nearby railroad. In 1831, the first mill was built on the canal and soon after various industries lined the canal banks, including textile mills, paper mills, foundries and machine shops (Stiles 1891). By 1850, the population increased to 3,994, which reflects the impact the canal, railroad, and early industry had in the eastern part of Windsor (U.S. Census Bureau 1850). In 1854, Windsor Locks was established as a distinct Connecticut town and the name itself was derived from the canal locks used to regulate the water level (Stiles 1891; Barry 1985).

During the Civil War, industries in Windsor Locks were well positioned to transition from a peacetime to wartime economy while both corn and rye crops grown in town were needed for the war effort. William Muir and Company was a awarded a U.S. War Department Model 1861 Rifle-Musket contract and produced the arms at the Denslow and Chase machine shop on the Windsor Locks canal. Foundries near the canal produced various war materials while textile companies produced Union Army uniforms (Stiles 1891; Niven 1965). After the war, industrial manufacturing remained important, along with textiles, paper goods, and even rubber products were produced at the mills along the canal. Labor needs for both industry and agriculture resulted in a modest population increase in Windsor Locks from 2,154 residents in 1870 to 3,062 people in 1900 (Connecticut 2022a).

During the early twentieth century, the Town of Windsor Locks, became a mix of an agricultural and suburbanized landscape with an industrialized canal region. During the World Wars I and II, Windsor Locks manufacturers on the canal mainly produced textile related war materials that included telephone cords made by the Montgomery Company (Windsor Locks 1976; Stansfield 2003). In early 1941, the State purchased farmland in Windsor Locks that was, in turn, leased to the U.S. Army and developed into a defensive air base prior to the country entering the war. In 1947, the property was returned to the State of Connecticut and soon after became a commercial airport (Palshaw 2011). Hundreds of Windsor Locks residents served in both conflicts. After World War II, the town changed significantly as urban populations moved into surrounding towns. The suburban trend was facilitated by the widespread adoption of the automobile by the American middleclass and new highway construction. The Federal Highway Acts of 1944 and 1956 funded the construction of Interstate 91 which ran through the southwestern part of Windsor Locks and was completed in the late 1950s (Connecticut 2022b). Residential development increased although manufacturing remained along the canal. As agriculture declined, farmers turned to dairying, fruits, and vegetables or went out of business. Through the late twentieth century industrialization subsided and the last of the canal area manufacturers, the Montgomery Company, closed in 1989. The trend towards suburbanization continued in Windsor Locks due to its proximity to Hartford and Springfield. The town experienced population decline, falling from 15,080 residents in 1970 to 12,358 in 1990 due to deindustrialization (Connecticut 2022a; Table 1).

In the twenty-first century, Windsor Locks remains an important suburban landscape, yet pockets of town retained it rural characteristics. Overall, the population increased, although the town only reached 1970 population levels in 2010 (Table 1). As of 2010, the U.S. Census enumerated 12,498 people living in Windsor Locks, of which 10,728 identified as "white," 605 as "black or African American", 667 as "Asian," 576 as "Hispanic or Latino" and 15 as "American Indian and Alaska Native" (United States Census Bureau 2012). By 2020, the population of the Town of Windsor Locks had increased slightly to 12,613 people (United States Census Bureau 2022). In 2021, four of the top five employers continued to be manufacturers and one health care company (AdvanceCT 2021).

Table 1: Population of Windsor Locks, Connecticut 1970-2010 (Connecticut 2022a)

Town	1970	1980	1990	2000	2010
Windsor Locks	15,080	12,190	12,358	12,043	12,498

History of the Project Area

The proposed Earthlight Solar Project is located on property owned by Collins Aerospace in Windsor Locks, Connecticut. It is situated to the south of Bradley International Airport, to the west of Hamilton Road, and to the north of Rainbow Brook in the western section of town. This parcel is in a former agricultural area that was actively farmed from the time of first European settlement to ca., 1950. Rainbow Brook runs through the project area and empties into the Farmington River to the south. Hamilton Road and Rainbow Road are the most prominent roadways in the vicinity of the project area, both of which appear on both the 1855 Woodford Map and 1884 Hyde & Company Map. Although several houses are depicted along Rainbow Road, there are no structures depicted within the project area as of the late nineteenth century (Figures 2 and 3).

Aerial photography taken in 1934 documents half of the project area as being wooded and an equal amount of acreage under cultivation as cleared fields are evident. The fields are generally situated in the center of the project area (Figure 4). Aerial photos taken in 1951 document the existence of Bradley Airport, which was constructed in 1941 and was being used as a commercial airport a decade later. A road appears to have been laid out from what appears to be cleared fields in the south of the project area, north towards Bradley airport and outside the northern bounds of the project area (Figure 5). A 2019 aerial image documents the disappearance of all agricultural fields but the continued existence of wooded areas. One former agricultural field was turned into a parking lot while the other appears to be used for industrial use (Figure 6).

Conclusions

The historical investigation of the Earthlight Solar Project in Windsor Locks indicates that the location of the area of impact is unlikely to be associated with any significant historical resources. Due to the landscape mainly consisting of forested land and agricultural fields, there is the possibility of encountering remains of outbuildings, stonewalls, or other evidence of historic farming. The historical record does not indicate that the proposed project will impact the locations of any known historical residences or associated archaeological deposits that would be considered historically significant.

CHAPTER V
PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previous archaeological research completed within the vicinity of the project area in Windsor Locks, 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 7 and 8). The discussions presented below are based on information currently on file at the Connecticut State Historic Preservation Office (CT-SHPO) in Hartford, Connecticut. In addition, the electronic site files maintained by Heritage were examined during this investigation. Both the quantity and quality of the information contained in the original cultural resources survey reports and State of Connecticut archaeological site forms are reflected below.

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

A review of data currently on file at the CT-SHPO, as well as the electronic site files maintained by Heritage resulted in the identification of three prehistoric period sites, a single historical period site, and a single multi-component site situated within 1.6 km (1 mi) of the project area. The Benomi Case House State Register of Historic Places property also was identified within 1.6 km (1 mi) of the project area (Figures 7 and 8). A discussion of all cultural resources identified in the search area are provided below and provide a cultural context for the project area; however, none of them will be impacted by the proposed solar project due to distance from the site.

Site 40-19

Site 40-19, which is situated to the north of the proposed project area, was recorded as the Bradley Field German POW Camp (Field Site A-1). The site was identified in September 2006 by Nathan Workman of R. Christopher Goodwin & Associates, Inc., who recorded the site on October 18 of that year. The survey resulted in the identification of the foundation remains of Building 843 (Guard Tower) and a light density sheet midden of early to mid-twentieth century architectural and domestic material from the German POW camp established on Deuce Drive in East Granby, Connecticut in 1944. The site was closed in 1945 and the buildings, including three barracks, a mess hall, a general services building, an infirmary, a recreation building, a supply building, a gate house, a guard house, and four guard towers, were dismantled. Artifacts recovered from the site area includes whiteware sherds, stoneware sherds, yellowware sherds, wire nails, modern window glass shards, drain tile brick fragment, and machine-made bottle glass shards. All of the cultural material was observed in disturbed contexts and therefore the site was not recommended for further study.

Site 164-38

Site 164-38 is a multi-component archaeological site encompassing the Rainbow Road Historic Site (W1-2) and the Rainbow Road Prehistoric Site (W1-2), located at 287 Rainbow Road in Windsor, Connecticut. The site was tested by Catherine Labadia on May 26, 1998 through the excavation of six shovel test pits, and recorded by Aaron Palermo of Heritage Consultants, LLC, in February 2007. Testing of the site area resulted in the recovery of examples of brick, glass, nails, copper rivets, a religious medallion, slag,

creamware, and kaolin pipe fragments from the historical component, as well as 1 quartz flake, 1 chert flake, and a single core fragment from the prehistoric component. It was determined that the historical artifacts represent late eighteenth through early twentieth century cultural material, as well as a prehistoric camp from an unknown time period. Site 164-38 was not assessed applying the criteria for evaluation as defined by the National Register of Historic Places (36 CFR 60.4 [a-d]).

Site 164-45

The Keegan Prehistoric Site (W1-14), or Site 164-45, was recorded by Aaron Palermo of Heritage Consultants, LLC, in February 2007 following testing by Catherine Labadia on May 28, 1998. A total of six shovel test pits were excavated in the site area in Windsor, Connecticut; they resulted in the recovery of numerous quartzite and argillite flakes. It was determined that Site 164-45 was a prehistoric camp site dating from an unknown period of time. Site 164-45 has not been assessed applying the criteria for evaluation as defined by the National Register of Historic Places (36 CFR 60.4 [a-d]).

Site 164-46

Site 164-46 is known as the Rainbow Road Prehistoric Site (W1-15), and it was identified during testing by Catherine Labadia on May 29, 1998. A total of six shovel test pits were excavated within a property located off of Rainbow Road in Windsor, Connecticut and a single quartz flake was recovered. Aaron Palermo of Heritage Consultants, LLC recorded the site in February 2007. He identified it as a possible camp site from an unknown prehistoric period. Site 164-46 has not been assessed applying the criteria for evaluation as defined by the National Register of Historic Places (36 CFR 60.4 [a-d]).

Site 164-53

Site 164-53 was recorded as the Cedar Drive Prehistoric Site (W1-50) in February of 2007. This site was recorded by Aaron Palermo of Heritage Consultants, LLC, following testing of the area by Catherine Labadia on June 11, 1998. Labadia excavated six shovel test pits within the site areas, which was situated off of Cedar Drive in Windsor, Connecticut and recovered fire-cracked rock, pieces of calcined bone, and numerous lithic flakes. These finds were interpreted as a camp site from an unknown prehistoric time period. Site 164-53 was not assessed applying the criteria for evaluation as defined by the National Register of Historic Places (36 CFR 60.4 [a-d]).

Benomi Case House

The Benomi Case House is located at 436 Rainbow Road in Windsor, Connecticut. It was recorded for listing on the National Register of Historic Places on April 15, 1981 by Michael K. O'Leary, a planning consultant for the Town of Windsor. The house was built in ca., 1834 by Benomi Case; it was constructed in the Greek Revival Style. This brick residence has two stories and measured five bays in width by four bays in depth. The windows in the house, which are symmetrically placed, have six over six sashes and are bordered with cut-stone lintels and sills. The Benomi Case House has a gable roof with a box cornice underneath, which today clad in asphalt shingles. The gable ends of the roof contain rectilinear windows with geometric tracery. A one-story masonry ell with a garage addition was added to the northern façade of the house. In addition, there is a nineteenth century shed that is considered to be a contributing element to the property. Benomi's son Otis inherited the property, then when Otis passed away in 1870, the house was sold to Manley Snow. The Snow family continued to own the property for nearly 100 years. This continual ownership likely contributed to the excellent maintenance of the house, which still retains its original decorative elements, form, and materials.

CHAPTER VI
METHODS

Introduction

This chapter describes the research design and field methods used to complete the Phase IA cultural resources assessment survey of the project area in Windsor Locks, 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 historical maps, topographic quadrangles, 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. 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 areas 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 house lots. 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 historical maps depicting the proposed project parcel; 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 historical 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 proposed solar project.

Field Methodology and Data Synthesis

The field methods for this project included pedestrian survey, photo-documentation, and mapping of the area containing the proposed solar project. During the completion of the pedestrian survey, a representative from Heritage photo-documented all potential areas of impact using digital media. The

proposed project area was assessed for archaeological sensitivity through the analysis of the existing conditions of the project area and its natural setting. Photographs were taken throughout the project parcel. The photos used in this report were approved for use by Collins Aerospace.

CHAPTER VII
RESULTS OF THE INVESTIGATION & MANAGEMENT RECOMMENDATIONS

Introduction

This chapter presents the results of the Phase IA cultural resources assessment survey of a project area associated with the proposed Earthlight Solar Center in Windsor Locks, 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 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.

Determining Archaeological Sensitivity

The field data associated with soils, slopes, aspect, distance to water, and previous disturbance collected during the pedestrian survey and presented above was used in conjunction with the analysis of historical maps, aerial images, and data regarding previously identified archaeological sites and National/State Register of Historic Places properties to stratify the project area into zones of no/low and/or moderate/high archaeological sensitivity. In general, historical 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 eight 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 historical period archaeological deposits is based not only on the above-defined landscape features but also on the presence or absence of previously identified historical period archaeological resources as identified during previous archaeological surveys, recorded on historical 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 historical 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 historical period archaeological sensitivity.

Results of Phase IA Survey and Management Recommendations

The proposed project will consist of the construction of the proposed Earthlight Solar Center within approximately 13 acres of land owned by Collins Aerospace in Windsor Locks, Connecticut. The project area is located to the north of Route 20 and to the south of the UTC Aerospace Systems complex. The project area is situated at elevations ranging from approximately 33.5 to 48.8 m (110 to 160 ft) NGVD. A review of the area revealed that it contains Windsor, Ninigret, and Tisbury soils, which are well-drained soils, as well as areas of Sudbury and Walpole soils which are described as poorly drained soils. Finally, Udorthents-Urban Land soils, which have been previously disturbed, were noted within an existing parking lot area.

Pedestrian survey of the project area was completed by Heritage personnel on April 15, 2022, and photographs were taken showing its current conditions (Figure 9 and Photos 1 through 10). Visual examination of the project area revealed that 1.04 acres of land fell within areas that contain low slopes and well drained soils in undisturbed contexts. This area was determined to retain a moderate/high sensitivity for intact archaeological deposits and was labeled Sensitivity Area SA-1 (Figure 9 and Photo 8). Sensitivity Area SA-1 is located outside of but immediately adjacent to the proposed impact area for the project (shown as green polygons in Figure 9), and therefore will not need archaeological testing unless the proposed project changes such that it will expand into Sensitivity Area SA-1.

The remaining 11.96 acres of the project area are characterized by wetland areas, steep slopes, and previous disturbances. Buried utilities were visible in the western section of the project area, with wetland and steep slopes to their east. Previous construction, Udorthents-Urban Land soils, and disturbances were also noted in the central portion of the project area, and steep slopes followed by wetlands were identified during pedestrian survey to the east. Collins Aerospace reported to Heritage personnel that the areas of low slopes and well-drained soils in the south-central portion of the project area contain hidden buried utilities, and therefore are previously disturbed (Photo 4). The remaining 11.96 acres of the project area outside of Sensitivity Area SA-1 were determined to lack archaeologically sensitivity and no further survey of them is recommended.

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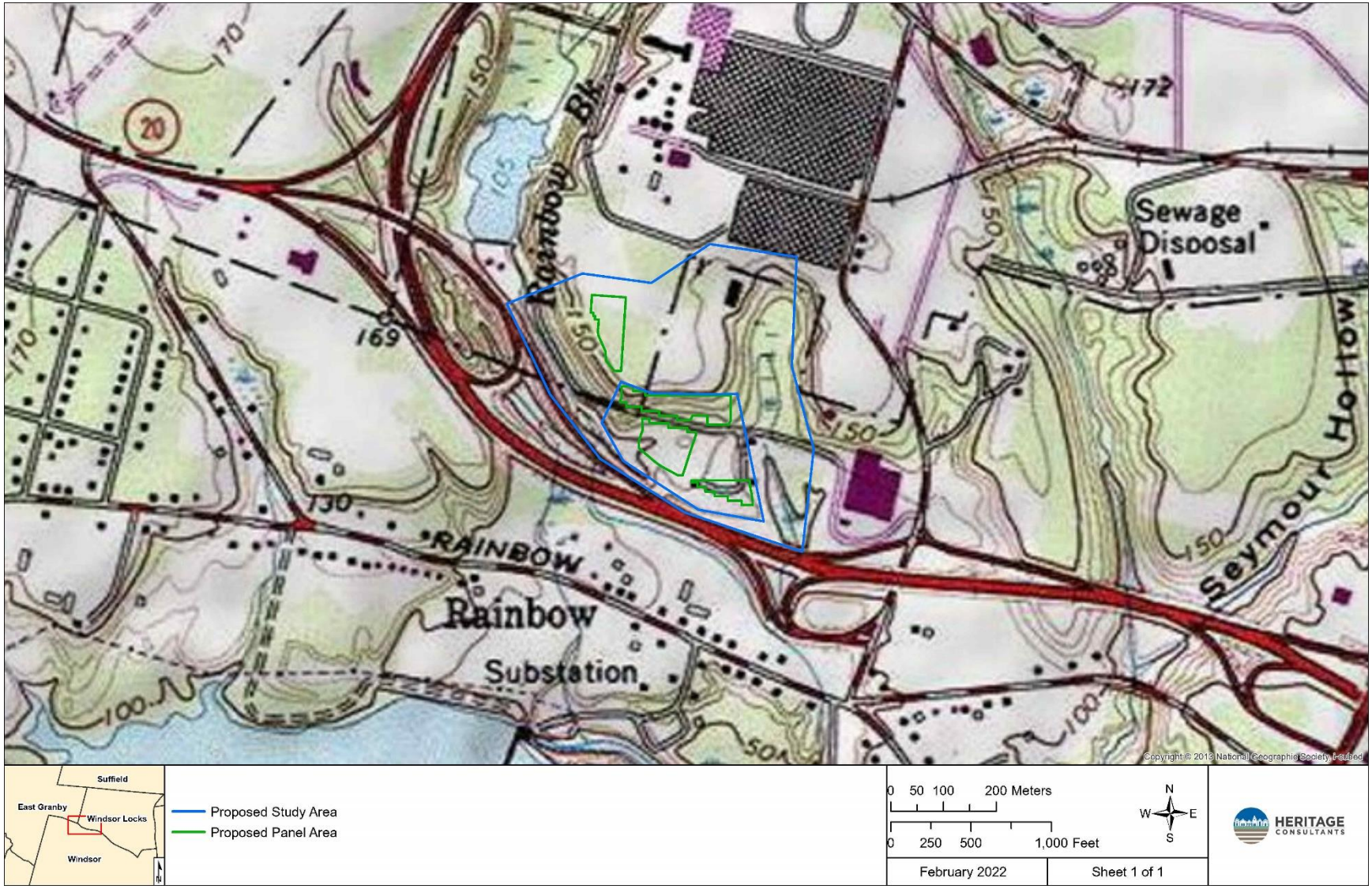

Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project area in Windsor Locks, Connecticut.

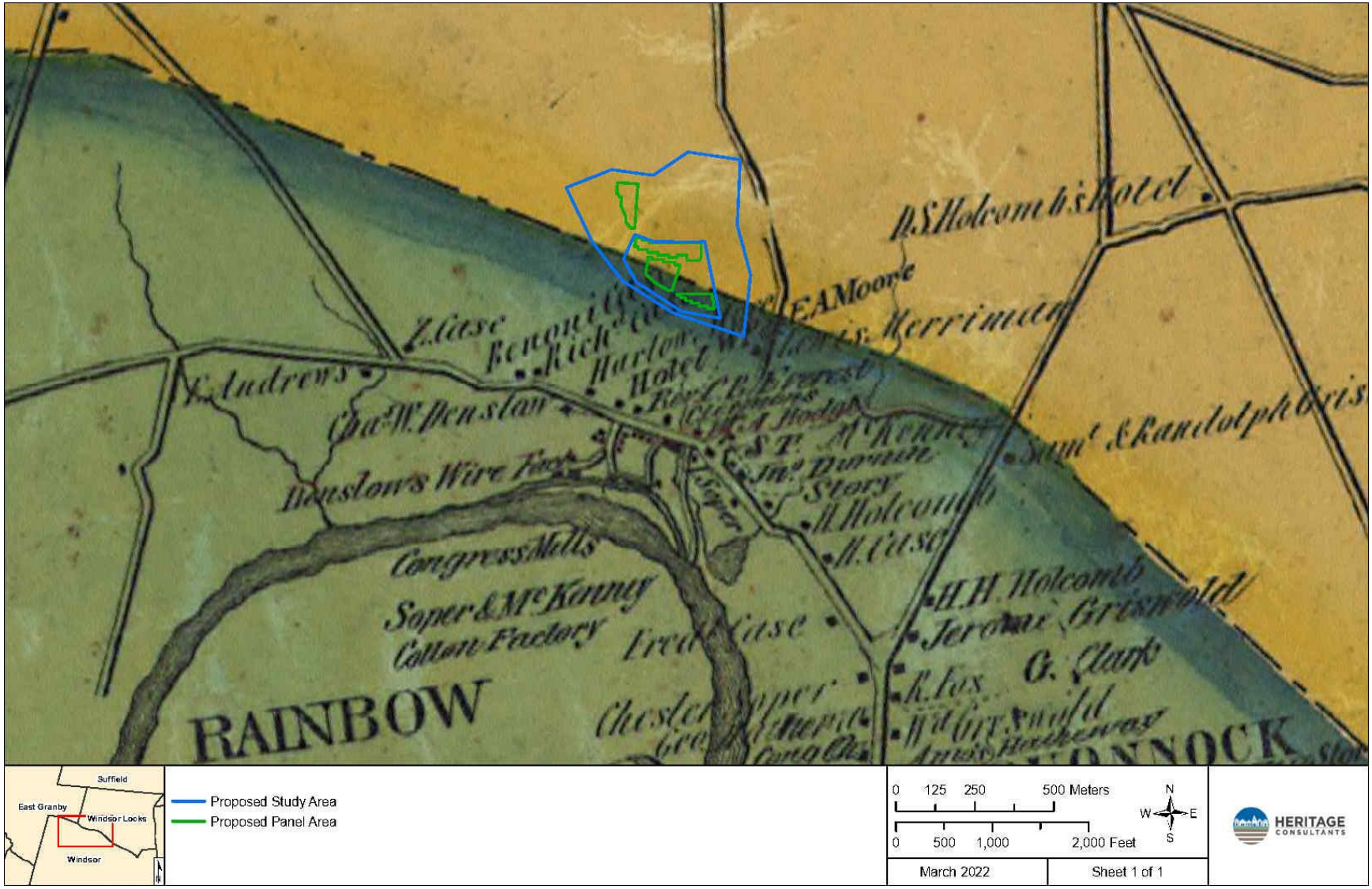

Figure 2. Excerpt from an 1855 historical map showing the location of the project area in Windsor Locks, Connecticut.

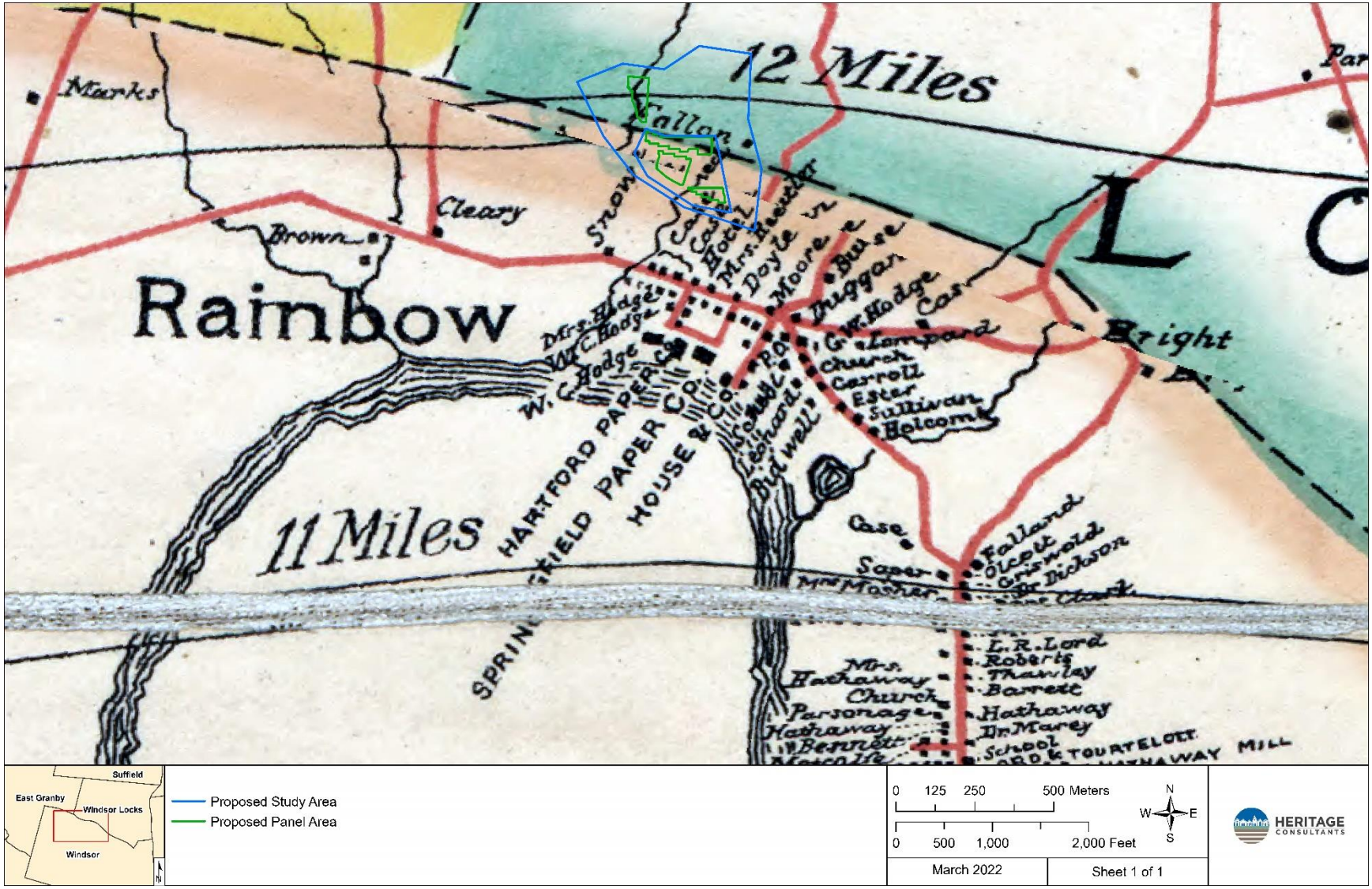

Figure 3. Excerpt from an 1884 historical map showing the location of the project area in Windsor Locks, Connecticut.

Figure 4. Excerpt from a 1934 aerial photograph showing the location of the project area in Windsor Locks, Connecticut.

Figure 5. Excerpt from a 1951 aerial photograph showing the location of the project area in Windsor Locks, Connecticut.

Figure 6. Excerpt from a 2019 aerial photograph showing the location of the project area in Windsor Locks, Connecticut.

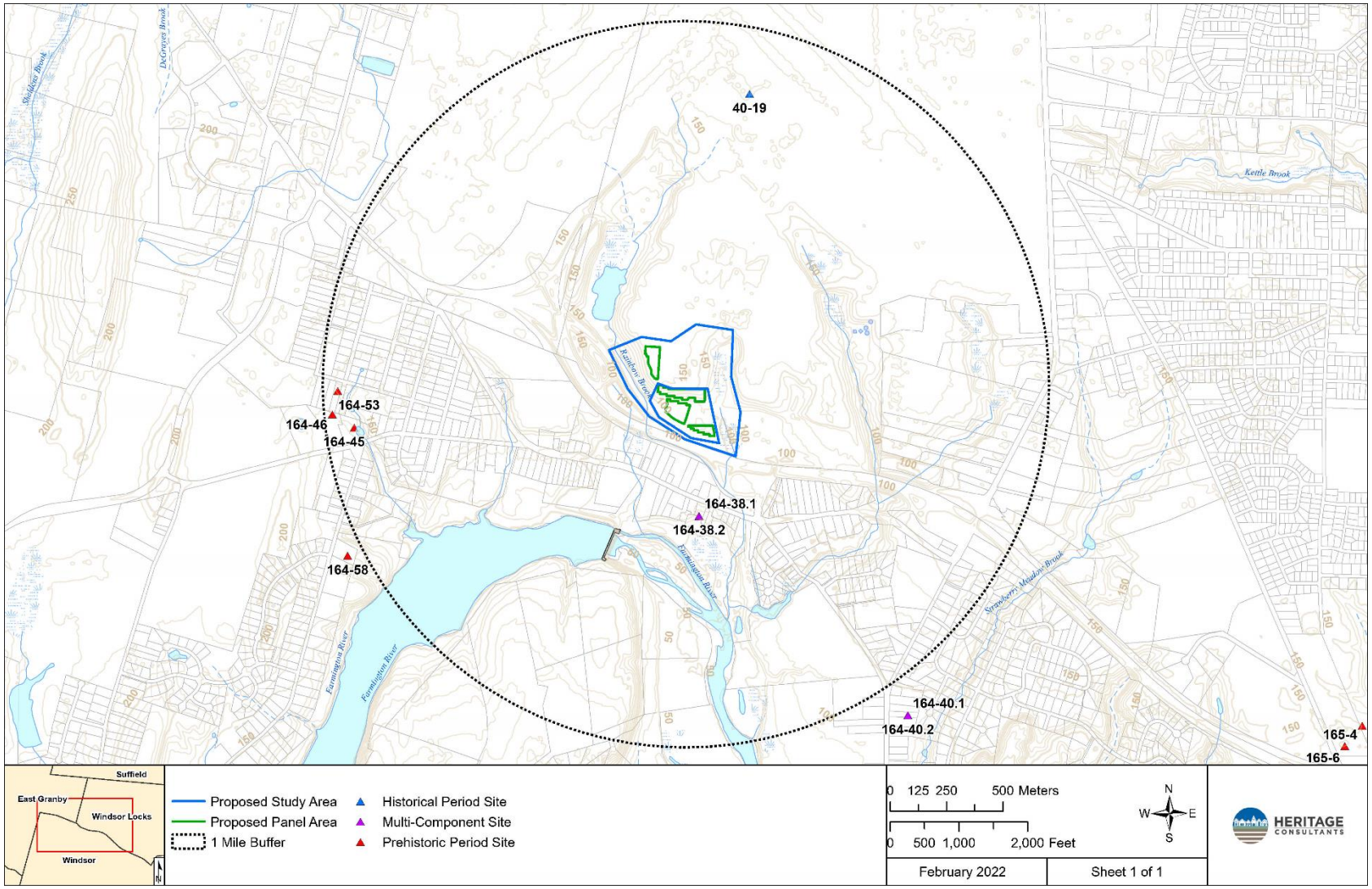

Figure 7. Digital map showing the location of previously identified archaeological sites in the vicinity of the project area in Windsor Locks, Connecticut.

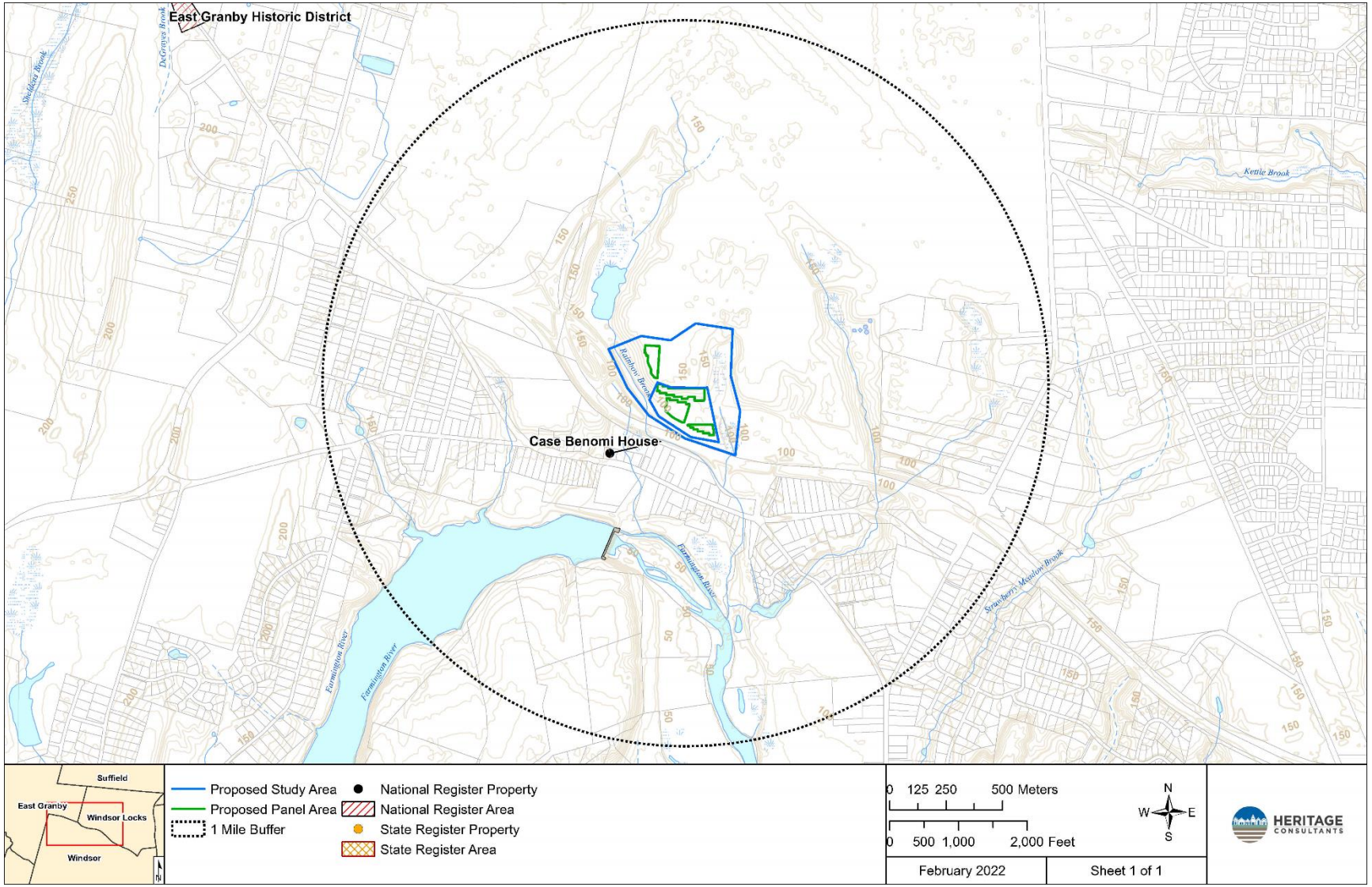

Figure 8. Digital map depicting the locations of previously identified National/State Register of Historic Places properties in the vicinity of the project area in Windsor Locks, Connecticut.

Figure 9. Digital map depicting the locations of no/low and moderate/high archaeological sensitivity and photo locations in the project area in Windsor Locks, Connecticut.

Photo 1. Overview photo from northwestern boundary of project area facing southeast.

Photo 2. Overview photo of utilities in the northwestern corner of the project area facing south.

Photo 3. Overview photo of the central portion of the project area facing east along the gravel road. Note steep slopes on the left side of the photo.

Photo 4. Overview photo of the central portion of the project facing west.

Photo 5. Overview photo of the central portion of the project area facing east along the powerline corridor. Steep slopes are visible.

Photo 6. Overview photo from the southeastern portion of the project area facing northwest. A push pile is visible in the background of the photo, at right.

Photo 7. Overview photo of the southeastern corner of the project area facing northwest, showing wetlands.

Photo 8. Overview of Sensitivity Area SA-1 facing north.

Photo 9. Overview of the northeastern corner of the project area facing south.

Photo 10. Overview of central parking lot in the project area facing south.

Department of Economic and Community Development

State Historic Preservation Office

June 15, 2022

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

Subject: Phase IA Cultural Resource Reconnaissance Survey
Earthlight Solar
Route 20
Windsor Locks, Connecticut
ENV-22-0818

Dear Mr. George:

The State Historic Preservation Office (SHPO) has reviewed the cultural resource reconnaissance survey prepared by Heritage Consultants, LLC (Heritage), dated May 2022. 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 within an approximately 13 acre parcel. The parcel is bordered to the north by the UTC Areospace Systems facility, to the west by a utility corridor, to the south by State route 20, and to the east by paved parking area. Access is to be through existing paved roads. The submitted report is well-written, comprehensive, and meet the standards set forth in the *Environmental Review Primer for Connecticut's Archaeological Resources*.

Five previously recorded archaeological sites are located within 1 mile of the project area; however, none will be impacted by the undertaking. One property listed on the National Register of Historic Places (NR), the Benomi Case House (NR# 88001497) is located within one mile of the project area; however, it will not be impacted by the proposed undertaking.

The Phase IA consisted of archival research and literature review, including review of historical maps, aerial imagery, soil maps, and SHPO's files of previously recorded resources, and pedestrian survey and photo documentation. Following a pedestrian survey, it was determined that approximately 1.04 acres of the project area, located in southeastern portion of the project area (Sensitivity Area SA-1) was characterized as containing undisturbed, well drained soils with low slopes, indicating a moderate to high potential to yield intact archaeological deposits. SA-1

is not proposed to be subjected to ground disturbance as part of the project. The remaining 11.96 areas were characterizes as having steep slopes, disturbed soils, and or wetlands, and unlikely to contain significant, intact archaeological deposits.

As a result of the information submitted, SHPO concurs with the findings of the report that additional archeological investigations of the project area is 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,

Jonathan Kinney
State Historic Preservation Officer