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# PHASE IB CULTURAL RESOURCES RECONNAISSANCE SURVEY OF THE PROPOSED BURLINGTON SOLAR PROJECT FOR BURLINGTON SOLAR ONE, LLC BURLINGTON, CONNECTICUT

PREPARED FOR:

R. R. HILTBRAND ENGINEERS & SURVEYORS
575 NORTH MAIN STREET
BRISTOL, CONNECTICUT 06010

PREPARED BY:

HERITAGE CONSULTANTS

P.O. BOX 310249
NEWINGTON, CONNECTICUT 06131

# ABSTRACT

This report presents the results of a Phase IB cultural reconnaissance survey for the proposed Prospect Street Solar Project in Burlington, Connecticut. Heritage completed the current Phase IB cultural resources reconnaissance survey on behalf of R.R. Hiltbrand Engineers & Surveyors in March of 2020. The area subjected to the Phase IB survey, which was assessed as retaining a moderate/high potential for producing archaeological deposits during a previously completed Phase IA cultural resources assessment survey, measured 12.2 acres in size. A total of 133 of 118 (112 percent) planned shovel tests were excavated throughout this area during the Phase IB Survey, which resulted in the identification of an archaeological site, which was designated as Locus 1 in the field. Locus 1 was subsequently issued number 20-3 from the Connecticut State Historic Preservation Office.

Site 20-3 extended across most of the moderate/high sensitivity area and produced both prehistoric and a single historic period cultural material. The single historic-period artifact was characterized by a wooden spindle fragment that dated from the turn of the twentieth century. Since this component of Site 20-3 was represented by only one artifact and did not contain associated evidence of architectural remains, either buried or on the surface, it was assessed not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional examination of the historic period component of 20-3 is recommended. Site 20-3 also yield a low-density scatter of stone tool manufacturing debris. No cultural features were associated with the lithic debris. This component of Site 20-3 could not be assigned a date or be associated with a cultural affiliation due to lack of diagnostic artifacts. Thus, the prehistoric component of Site 20-3 also was assessed as not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]), and no additional examination of it is recommended prior to construction.

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# CHAPTER I
# INTRODUCTION

This report presents the results of a Phase IB cultural resources reconnaissance survey for a proposed solar project in Burlington, Connecticut (Figure 1). R.R. Hiltbrand Engineers and Surveyors (Hiltbrand) requested that Heritage Consultants, LLC (Heritage) complete the assessment survey as part of the planning process for the proposed Burlington Solar One, LLC Solar Project, which will occupy approximately 15.93 acres of land within a larger 63.93 ac parcel. The proposed 15.93 ac development area, which is hereafter referred to as the project area, is situated to the rear, or northern half, of the large parcel located at Lot 33 Prospect Street Burlington, Connecticut. The project parcel is bordered to the south by a residential street; to the north and east by forest, residential areas, and Wildcat Brook; and to the west by agricultural fields. Heritage recently completed a Phase IA cultural resources assessment of the project parcel and determined that 12.2 acres of the proposed project area retained a moderate/high archaeological sensitivity. Thus, the current Phase IB survey of that acreage was undertaken on behalf of Hiltbrand in March of 2020. All work associated with this project was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources,* which is promulgated by the Connecticut State Historic Preservation Office (Poirier 1987).

**Project Description and Methods Overview**

The proposed solar project will include the installation of rows of solar panels across the entirety of the above-referenced project area. An existing access road extends to the north from Prospect Street, through an existing sand and gravel pit, and terminates at the southern boundary of the project area. This existing access road crosses through areas of low slopes that were characterized by a mixture of forest, fields, and wetlands at the time of survey. The current Phase IB cultural resources reconnaissance survey was completed utilizing pedestrian survey, systematic shovel testing, GPS recordation, and photo-documentation. During survey, Heritage conducted the systematic excavation of shovel tests along parallel survey transects. The shovel tests were situated at 20 m (65.6 ft) intervals along parallel survey transects spaced 20 m (65.6 ft) apart. Each shovel test measured 50 x 50 cm (19.7 x 19.7 in) in size and each was excavated to the glacially derived C-Horizon or until immovable objects (e.g., tree roots, boulders, etc.) was encountered. Each shovel test was excavated in 10 cm (3.9 in) arbitrary levels within natural strata, and the fill from each level was screened separately. All shovel test fill was screened through 0.635 cm (0.25 in) hardware cloth and examined visually for cultural material. Soil characteristics were recorded using Munsell Soil Color Charts and standard soils nomenclature. Each shovel test was backfilled immediately upon completion of the archeological recordation process.

**Project Results and Management Recommendations Overview**

The background research portion of this undertaking, which consisted of a review of historic maps and aerial images of the project area, as well as an examination of files maintained by the Connecticut State Historic Preservation Office, resulted in the identification of one previously identified archaeological site (Site 17-1), as well as one National Register of Historic Properties area, both of which are located within 1.6 km (1 mi) of the project area. Both resources are located to the southeast of the project parcel and construction of the proposed solar facility will not affect either of them. However, their presence in the region demonstrates cultural resources do exist in the vicinity of the project area. These two resources are discussed in detail in Chapter V of this document.

In addition to the cultural resources discussed above, Heritage combined data from the historic map and aerial image analysis, and the pedestrian survey to stratify the project area into zones of no/low and/or moderate/high archaeological sensitivity. Upon completion of the above-referenced analysis and pedestrian survey, it was clear that the much of the larger parcel, excluding the solar array location, consisted of wetlands, areas of standing water, and/or previously disturbed areas in addition to forest areas and agricultural fields. Further, the existing access road through the project parcel consisted of a well-maintained gravel road that crossed through areas containing slopes, previous disturbances, and low-lying areas.

Finally, it was determined that 12.2 acres of the 15.93 acre project area contained low slopes and well drain soils situated in proximity to wetlands and Wildcat Brook to the east. As a result, it was determined that much of this area retained a moderate/high potential to yield intact archaeological deposits. Thus, a Phase IB cultural resources survey was completed to determine whether archaeological deposits were present. As discussed in detail in Chapter VII, the Phase IB survey resulted in the identification of a single archaeological site, 20-3, which yielded one historic period artifact and a low-density scatter of prehistoric stone tool manufacturing debris. Both the historic and prehistoric components of Site 20-3 lacked significant numbers of artifacts, failed to yield cultural features, and did not retain research potential. Thus, both components were assessed as not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional examination of Site 20-3 or the project are is recommended prior to construction of the proposed solar project.

**Project Personnel**

Key personnel for this project included Mr. David R. George, M.A., R.P.A, who served as Principal Investigator for this effort; he was assisted by Ms. Kelsey Tuller, M.A. who supervised the fieldwork portion of the project and who assisted with report preparation. Mr. William Keegan, B.A., and Mr. Stephen Anderson, B.A., provided support services and project mapping. Ms. Christina Volpe, B.A., completed the historic background research of the project and contributed to this report.

**Organization of the Report**

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

# CHAPTER II
# NATURAL SETTING

**Introduction**

This chapter provides a brief overview of the natural setting of the region containing the project area. Previous archaeological research has documented that a few specific environmental factors can be associated with both prehistoric and historic period site selection. These include general ecological conditions, as well as types of fresh water sources and soils present. The remainder of this section provides a brief overview of the ecology, hydrological resources, and soils present within the project area and the larger region in general.

**Ecoregions of Connecticut**

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

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

Dowhan and Craig defined nine major ecoregions for the State of Connecticut. They are based on regional diversity in plant and animal indicator species (Dowhan and Craig 1976). Only one of the ecoregions is germane to the current investigation: Northwest Hills 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.

<u>Northwest Hills Ecoregion</u>

The Northwest Hills ecoregion region consists of a hilly upland terrain characterized by "a moderately hilly landscape of intermediate elevation, with narrow valleys and local areas of steep and rugged topography" (Dowhan and Craig 1976:31). Elevations in the Northwest Hills ecoregion range from 228.6 to 304.8 m (750 to 1,000 ft) above sea level. The bedrock of the region is composed of schists and gneisses deposited during the Paleozoic (Dowhan and Craig 1976; Bell 1985). Soils in these upland areas have developed on top of glacial till in upland locales, and on top of stratified deposits of sand, gravel, and silt in the local valleys (Dowhan and Craig 1976).

**Hydrology in the Vicinity of the Project Area**

The project area is situated within a region that contains several sources of freshwater, including the Farmington River, Wildcat Brook, Whigville Brook, Negro Hill Brook, Copper Mine Brook, Lake Garda, Lake Como, and Monce Pond, 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 several variables, including climate, vegetation, parent material, time, and organisms present (Gerrard 1981). Once archaeological deposits are buried within the soil, they are subject to several 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 project area is presented below. The project area is characterized by the presence of two major soil types. These soil types include Canton and Charlton soils (Figure 2). A review of these soils shows that both consist of well drained loams; they are the types of soils that are typically correlated with prehistoric and historic use and occupation. Descriptive profiles for each soil type are presented below; they were gathered from the National Resources Conservation Service.

Canton Soils (Soil Code 62C)

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

Charlton Soils (Soil Code 62C)

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

friable; few medium roots; 15 percent gravel and cobbles; very strongly acid; abrupt wavy boundary; and **C** -- 69 to 165 cm; grayish brown (2.5Y 5/2) gravelly fine sandy loam with thin lenses of loamy sand; massive; friable, some lenses firm; few medium roots; 25 percent gravel and cobbles; strongly acid.

**Summary**

The natural setting of the are containing the proposed solar project is common throughout the Northwest Hills ecoregion. Streams and rivers of this area empty either into the Farmington River, which in turn, drains into the Connecticut River, which empties into the Long Island Sound. Further, the landscape in general is dominated by sandy loamy soil types. In addition, moderate hills interspersed with locally steep areas dominate the region. Thus, in general, the project region was well suited to Native American occupation throughout the prehistoric era. As a result, archaeological sites have been documented in the larger project region, and additional prehistoric cultural deposits may be expected within the undisturbed portions of the proposed impact areas. This portion of Burlington also was used throughout the historic era, as evidenced by the presence of numerous historic residence 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 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.

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

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

The Terminal Archaic Period, which lasted from ca., 3,700 to 2,700 BP, is perhaps the most interesting, yet confusing of the Archaic Periods in southern New England prehistory. Originally termed the "Transitional Archaic" by Witthoft (1953) and recognized by the introduction of technological innovations, e.g., broadspear projectile points and soapstone bowls, the Terminal Archaic Period has long posed problems for regional archeologists. While the Narrow-Stemmed Tradition persisted through

the Terminal Archaic and into the Early Woodland Period, the Terminal Archaic is coeval with what appears to be a different technological adaptation, the Susquehanna Tradition (McBride 1984; Ritchie 1969b). The Susquehanna Tradition is recognized in southern New England by the presence of a new stone tool industry that was based on the use of high-quality raw materials for stone tool production and a settlement pattern different from the "coeval" Narrow-Stemmed Tradition.

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

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

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

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

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

<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 most of the prehistoric era, local Native American groups practiced a subsistence pattern based on a mixed economy of hunting and gathering wild plant and animal resources. It is not until the Late Woodland Period that incontrovertible evidence for the use of domesticated species is available. Further, settlement patterns throughout the prehistoric era shifted from seasonal occupations of small co-residential groups to large aggregations of people in riverine, estuarine, and coastal ecozones. In terms of the region containing the proposed project area, a variety of prehistoric site types may be expected. These range from seasonal camps utilized by Archaic populations to temporary and task-specific sites of the Woodland era.

# CHAPTER IV
# HISTORIC OVERVIEW

**Introduction**

As discussed in Chapter I, the project area is located in the town of Burlington, which is situated Hartford County, Connecticut. This chapter presents an overview history of Burlington, as well as some historical details concerning the parcel of landon which the solar facility is proposed.

**Native American History**

The Town of Burlington was formerly part of Bristol, which was divided from Farmington, the first daughter town of Hartford. Both legal and historical tradition holds that when the Hartford colonists purchased land from an Indian sachem known as Sequassen in 1636, they bought a very large area that extended westward to the "Mohawk territory" (Bickford 1982). However, the description of the purchase was so vague that it could be, and sometimes was, argued to extend to the Housatonic River. Notwithstanding such assertions of sovereignty by Sequassen, once the newly constituted General Court decided in 1640 to permit a new settlement at "Tunxis Sepus," the Governor secured an additional deed from the Tunxis Indians. This deed was confirmed by another deed in 1650, in which it was claimed that the land had already been purchased from Sequassen and included a new agreement with the actual Indian residents of the region (Bickford 1982). This sequence of events illustrates the difficulties encountered by the colonists in their efforts to impose English notions of land ownership on a very different culture.

**Colonial Period**

The new settlement at Tunxis received the official name of Farmington in 1645. In addition to these initial purchases, the town was granted areas of land by the General Court between 1645 and 1677, so that its final size measured approximately 15 miles from north to south and 11 miles from east to west. The future site of Burlington comprised the northern and westernmost part of this large area, which was located between the future site of Bristol to the south and uncolonized lands to the north. It was not until 1721 that the area that became known as Bristol and Burlington was divided into five tiers of lots. These lots were known as part of the New Cambridge Society, an ecclesiastical subdivision of Farmington, until Bristol was incorporated and named in 1785. The northern part had developed a further ecclesiastical subdivision in 1774; it was known as West Britain. Prior to that time, West Britain (together with part of Bristol) had been called West Woods, and afterward it became known as Burlington when the town separated from Bristol in 1806 (Crofut 1937). The petition to the General Assembly, which was signed by 33 residents, reported that of the 75 families that lived in the district, 50 were Congregationalists, though there were also a few Episcopalians and so-called Saturday men (Seventh Day Baptists) were present as well. The signing of the petition added £3,500 grand list, over £2,500 of which belonged to Congregationalists who were inconvenienced by traveling to Farmington for church services. The Seventh Day Baptists mentioned in the petition were an interesting phenomenon; they had moved to the area in 1780 from Rhode Island, establishing a congregation with 21 members. In 1800, they built a church in the northern part of the future town; however, the group disbanded sometime after 1807. Finally, a Methodist congregation was organized in the area in 1788 and persisted for many years until after the Civil War (Peck 1906).

**Early National Period (1780-1850)**

The above-referenced survey of lots in 1721 was not completed until 1728, and it was not until 1740 that the first settlers began clearing the forests of the Burlington area. Among the first to settle in Burlington was a man named Colonel John Strong, who was a justice of the peace and prominent citizen of Burlington until his death at the outbreak of the Revolutionary War (Peck 1906). In the early nineteenth century, Barber described Burlington as "diversified with hills and valleys; the soil is a gravelly loam, on granite rocks, yielding grain, particularly rye and oats. The inhabitants are principally engaged in agriculture" (Barber 1836:70). The overall topography is such that the best valleys for settlement were scattered around the edges of the town, encouraging the growth of multiple small villages with closer connections to surrounding towns' villages than to one another, although a central village also was established. The project area is situated to the southeast of Johnnycake Mountain, a feature that presented an obstacle to settlement in the area (Peck 1906). The name of this landform is said to have derived either from the high quality of the local johnnycakes, or from the Indians' having taught the settlers to make them there (Hughes and Allen 1976). Despite the local landscape conditions, a few settlers had moved into the western part of the "West Woods" by 1755, and there is an historical tradition that in 1763 "Nathaniel Bunnell was found frozen to death in the West mountain, standing beside a tree with a gun in his hand" (Peck 1906:6).

During the Revolutionary War, Bristol and Burlington were still part of Farmington, as were several other future towns. As a whole, Farmington participated enthusiastically in the war effort, sending 100 volunteers to Boston after the Lexington and Concord alarms, and raising the Sixtieth Company of the Second Connecticut Regiment in 1775; multiple additional regiments followed throughout the war, as well as important goods and services. There were some Loyalists in town, however, as well as considerable persecution of actual and suspected Loyalists. Most notably, Moses Dunbar of Bristol (then New Cambridge) was executed at Hartford in 1777 for treason (Bickford 1982). After the war, the New Cambridge and West Britain societies (Bristol and Burlington) began to work toward separating from Farmington. By 1785 they had negotiated a level of equality between the two sections that required holding town meetings of Bristol alternately in each jurisdiction. In practice, however, this was an unsatisfactory situation. In 1795, the town meeting and the West Britain society both moved toward separation, but the General Assembly did not grant the request until 1806, when Burlington became its own municipality. The town's population in 1810 was 1,457, slightly more than that of Bristol, but that was the highest number it had in the nineteenth century; in 1900, the population was only 1,218. It was and remained a primarily agricultural town, although the Hartford and Litchfield turnpike (now Route 4) did pass through it (Peck 1906). Technically this was the Farmington and Bristol Turnpike, incorporated in 1801, before Burlington became a separate town. The road formed a more direct connection between the Litchfield and Harwinton Turnpike (chartered in 1698 and ending a short distance into what is now Burlington) and Hartford. Completed in 1805, the road never turned a profit and the company was dissolved in 1819 (Wood 1919).

The Collinsville branch of the New Haven & Northampton Railroad was completed in 1850 along the west bank of the Farmington River, which formed the northernmost section of Burlington's eastern town boundary (Turner and Jacobus 1989). What industry there was focused on parts of town outside of the project area: in the center and center-eastern parts of town, and in the middle southern part of town, where a village known as Whigville appeared and is visible just outside of the project area on an 1855 historic map (Figure 3). Businesses ranging from cloth making to clock manufacturing were established in Burlington, but none of them survived competition with Bristol's clock industry or the Collinsville axe factory located adjacent to the northeastern corner of town. During the Civil War, between 40 and 60 Burlington men served with the Union Army (the exact number is uncertain because

of the practice later in the war of sending substitutes), and 12 died in service (Peck 1906).

Within the 1.6 km (1 mi) of the project parcel is the Hart's Corner Historic District, which was nominated to the National Register of Historic Places in 1987. It includes several farmsteads along the junctions of Monce and Stafford Roads in southeast Burlington, Connecticut. These farms formally belonged to the Hart family, who owned four of the five farmhouses at the junction of Monce and Stafford roads, and acquired the land in the mid eighteenth century. Just outside of the 1.6 km (1 mi) there are two Connecticut State Register of Historic Places property sites, as well as the Jerome William I House a colonial saltbox built in 1742 by William Jerome an early settler of the area. The house was listed on the National Register of Historic Places in 1987.

**History of the Project Parcel**

The project parcel consists of undeveloped farmland situated on the west side of Prospect Street, which runs from north to south and intersects South Main Street in the north and Jerome Ave in the south. According to an 1855 map of Hartford County, structures in the immediate vicinity of the project parcel included a wagon shop, a school and several houses, one of which was owned by John Hart, and later inherited by his wife (Figures 3 and 4). Recorded as a recipient of land in the third tier of lots, John Hart received 15 rods of land in the 1721 survey, during which time proprietors of Farmington sold off or purchased lands in the Bristol/ Burlington area. John Hart is noted as recipient number 65 and received 15 rods by 40 feet (Peck 1906). In 1869, a school is still identified there near the project parcel on the corner of Prospect Street and Jerome Ave (Figure 4). Several houses and buildings are marked on the map to the east of Prospect Street just outside of the project area, including one owned by Mrs. Nancy Gaylord, a turning shop, and Don E. Peck's, Hoyt Smith's and Darius Peck's residence, each of whom are situated in front of Whigville Brook, which buffers the project parcel and the former residential properties (Peck 1906).

As seen in Figure 4, an excerpt 1934 aerial image, two residential properties are visible outside of the project parcel along Prospect Street, and signs of reforestation in the eastern portion of the project Area were evident. The western portion of the project parcel contains several farming parcels and the Whigville Brook running west to east through the northwestern corner of the project area. Wildcat Brook to the south of the project area and enters the project parcel in a limited capacity for less than 100 m 328 ft) along the southern boundary (Figure 5). The 1951 aerial photograph in Figure 6 indicates that the project parcel continued to transition away from use as farmland, with increased forestation visible on the eastern boundary of the project parcel. Several fields remained in use at that time, and the farm road is clearly visible. The northeast portion of the project parcel, which contains the project area, is covered with thick reforestation as of 1951. The situation was much the same in 1970, as depicted by an aerial photograph taken that year (Figure 7). There appears, however, to be a cleared area for farming within the northwest portion of the project parcel. According to the Town of Burlington's Accessors office, the project parcel was purchased by and used as an earth moving facility for Tilcon Connecticut Inc., in 1970. There is a roadway visible in the aerial photograph of the project parcel in 1970, leading from Prospect Street into what appears to be a sand and gravel pit (Figure 7).

In the 2004 aerial photograph, more typical changes appear: houses and other structures along roads are seen near the project parcel, and patches of thick reforestation are visible within the project area itself (Figure 8). A portion of the former farmland parcel remained cleared in the lower-left hand corner of the image. Also, in the 2004 aerial image appears to be a cluster of small patches indicating further earth moving and clearing with a vehicle path within the project parcel's northern reforested boundary. By 2014, land use within the project parcel included gravel fill and farm clearings. Abutting the project

parcel on the outer northeastern boundary, residential development had made further inroads in the area, including the construction of a residential community immediately adjacent to the project parcel (Figure 9). The 2018 aerial photograph shows that by that date the project parcel was nearly entirely reforested with some areas of the disturbed earth, indicating signs of reforestation abutting the project area (Figure 9).

**Conclusion**

The land use changes occurring over time within project area are limited due to the remote location of the area; reforestation on the large parcel served as a buffer to the residential developments that grew within 1.6 km (1 mi) of the project area. The land has remained free of residential development, and while there has been ground disturbance in the project parcel, the project area has transitioned from farm parcels to complete reforestation.

# CHAPTER V
# PREVIOUS INVESTIGATIONS

**Introduction**

This chapter presents an overview of previous archaeological research completed within the vicinity of the project area in Burlington, Connecticut. This discussion provides the comparative data necessary for assessing the results of the Phase IB survey, and it ensures that the potential impacts to all previously recorded cultural resources located within and adjacent to the project area are taken into consideration. Specifically, this chapter reviews previously identified archaeological sites, National/State Register of Historic Places properties, and inventoried historic standing structures situated in the project region (Figures 10 and 11). The discussions presented below are based on information currently on file at the Connecticut State Historic Preservation Office in Hartford, Connecticut. In addition, the electronic site files maintained by Heritage 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 and National/State Register of Historic Places Properties/Districts in the Vicinity of the Project Area**

A review of data currently on file at the Connecticut State Historic Preservation Office, as well as the electronic site files maintained by Heritage failed to identify any State Register of Historic Places Properties within 1.6 km (1 mi) of the project area (Figures 10 and 11). However, one archaeological site (Site 17-1) and a single National Register of Historic Places listed district (Hart's Corner Historic District) were identified within 1.6 km (1 mi) of the project area. These cultural resources are discussed briefly below.

Site 17-1

Site 17-1, also known as the Bristol Copper Mine, is a historic copper mine located on Jerome Avenue in Bristol, Connecticut. It is located approximately 1.6 km (1 mi) to the southeast of the project area. A large deposit of copper was discovered there in the late eighteenth century by Theophilus Botsford, a local farmer. The resource remained largely in place as the property changed hands several times over the next several decades. Only one of the owners through this period, local blacksmith Luke Gridley, attempted to extract copper for smelting. However, in 1836, the property was purchased and mined by George W. Bartholomew. He subsequently formed the Bristol Mine Company. This company extracted copper ore from the area for nearly a decade before the company went bankrupt. Controlling rights to the Bristol Copper mine were subsequently purchased and sold several times throughout the nineteenth century with several iterations of the business failing. Finally, amid falling copper prices and poor yields, the Bristol mine was permanently closed in 1895 by its final proprietor, Colonel Walter Cutting. The mine filled with water and the equipment was left to deteriorate. The current state of Site 17-1 is unknown, but the proposed solar project will not have any direct or indirect impacts on the Bristol Copper Mine.

Hart's Corner Historic District

The Hart's Corner Historic District, known locally as Hart's Corners, is a National Register of Historic Places listed district that encompasses three historic properties located at the intersection of Monce Road and Stafford Road in the town of Burlington, Connecticut. The three historic properties comprising the district date from the eighteenth and nineteenth centuries and contain seven contributing and two non-contributing buildings. The oldest property is the Hart Property which contains a house, horse barn, cow

barn, slaughterhouse foundation (non-contributing), garage, and a chicken house with incubator. It is located on the west side of Monce Road directly across the street from Stafford Road. The house is a one-and-and-a-half story cape style residence that was constructed in 1794 on a fieldstone foundation with an ell to the rear. The residence has been altered over the years to incorporate a Colonial Revival porch and replacement windows. The horse barn, cow barn, and slaughterhouse were nineteenth century additions to the property, while the garage and chicken house date to the early twentieth century.

The second contributing historic property of the Hart's Corner Historic District, the Franklin Norton House, is located on the eastern side of Monce Road and on the northern side of Stafford Road. The property contains a residence, as well as a modern garage (non-contributing element). The house is a Greek revival style farmhouse that was built in 1850. Although the Norton house has been resided with aluminum siding, the original architectural features have been retained, including a one-and-a-half story ell with a porch, a full pediment with a segmental arch window. The final contributing historic property is located along the eastern side of Monce Road and to the south of Stafford Road. The property consists of a single building, the George Washington Hart House. The George Washington Hart House was constructed in 1874 and is a typical late nineteenth century farmhouse built in the Italianate style. The Hart's Corner Historic district was added to the National Register of Historic Places 1987. It was nominated as a good example of seventeenth and eighteenth century architecture. The district also serves as an important example of an early Connecticut agricultural community. Hart's Corners served as the home of the Hart family, who farmed in Burlington for five generations. The proposed solar will not directly or indirectly impact the Hart's Corner Historic District due its distance from and intervening vegetation between the historic district.

# CHAPTER VI
# METHODS

**Introduction**

This chapter describes the research design and field methodology used to complete the current Phase IB cultural resources reconnaissance survey of the moderate/high sensitivity areas associated with the proposed solar project in Burlington, Connecticut. In addition, the location and point-of-contact for the facility at which all cultural material, drawings, maps, photographs, and field notes generated during survey will be curated is provided below.

**Research Design**

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

**Field Methodology**

Following the completion of all background research, the moderate/high sensitivity area previously identified during the above-referenced Phase IA cultural resources assessment survey was subjected to a Phase IB cultural resources reconnaissance survey utilizing pedestrian survey, photo-documentation, GPS recordation, and systematic shovel testing. The field strategy was designed such that the entirety of the moderate/high sensitivity areas were examined visually and photographed. The pedestrian survey portion of this investigation included visual reconnaissance of the moderate/high sensitivity areas scheduled for impacts by the proposed solar project, as well as photo-documentation of them. The field methodology also included subsurface testing of the moderate/high sensitivity areas, during which shovel tests were excavated at 20 m (65.6 ft) intervals along parallel survey transects spaced a 20 m (65.6 ft) intervals. Finally, the previously identified no/low sensitivity areas were not subjected to shovel testing due to obvious signs of severe disturbance.

During survey, each shovel test measured 50 x 50 cm (19.7 x 19.7 in) in size and each was excavated until the glacially derived C-Horizon was encountered or until large buried objects (e.g., boulders) prevented further excavation. Each shovel test was excavated in 10 cm (3.9 in) arbitrary levels within natural strata, and the fill from each level was screened separately. All shovel test fill was screened through 0.635 cm (0.25 in) hardware cloth and examined visually for cultural material. Soil characteristics were recorded in the field using Munsell Soil Color Charts and standard soils nomenclature. Each shovel test was backfilled immediately upon completion of the archaeological recordation process. Finally, when identified, all positive shovel tests were delineated using an approach whereby additional shovel tests were excavated in the cardinal directions at 10 m (32.8 ft) intervals around the positive shovel tests.

**Curation**

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

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

# CHAPTER VII
# RESULTS OF THE INVESTIGATION & MANAGEMENT RECOMMENDATIONS

**Introduction**

This chapter presents the results of the Phase IB cultural resources reconnaissance survey of the project area associated with the proposed Burlington Solar One, LLC solar projectcent in Burlington, Connecticut. The Phase IB investigation was completed on behalf Hiltbrand in March of 2020 by personnel representing Heritage. All fieldwork was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources, which* promulgated by the Connecticut State Historic Preservation Office (Poirier 1987). The Phase IB cultural resources reconnaissance survey results and management recommendations for identified cultural resources are presented below.

**Results of the Phase IB Cultural Resources Reconnaissance Survey of the Project Area**

As discussed in Chapter I of this report, the moderate/high sensitivity areas for cultural resources encompasses 12.2 acres of land. The survey area is located within a forested zone that bordered to the south by a sand and gravel operation; to the north and east by forests, residential areas, and Wildcat Brook; and to the west by agricultural fields. Access to the development area will be from Prospect Street and through and existing sand and gravel pit. The neighborhood around the project parcel is residential in character and contains mainly single-family homes and an apartment complex to the west.

The current Phase IB survey effort consisted of pedestrian survey, subsurface testing, and GPS recordation, and photo-documentation of the project area. The subsurface testing regime associated with the Phase IB cultural resources reconnaissance survey resulted in the excavation of 133 of 118 (112 percent) planned shovel tests measuring 50 x 50 cm (19.7 x 19.7 in) in size throughout the area containing the proposed solar project. This effort resulted in the identification of a single archaeological site, 20-3. This site is described below.

<u>Site 20-3</u>

Sirte 20-3 was identified during Phase IB survey of the proposed solar project and it extends across most of the eastern portion project area (Figures 12 through 17). Phase IB survey of this area resulted in the recovery of both historic period and prehistoric artifacts from five shovel tests placed at 20 m (65.6 ft) intervals along survey transects spaced 20 m (65.6 ft) apart. Once it was clear that the area contained archaeological deposits, additional delineation shovel tests were excavated at 10 m (32.8 ft) intervals in the cardinal directions of the positive shovel tests containing prehistoric cultural material. The shovel test that yielded the historic period artifact, which was determined to be of relatively recent vintage, was not delineated.

A typical shovel test excavated within the Site 20-3 reached to a maximum excavated depth of 73 cmbs (28.7 inbs) and it exhibited three soil horizons in profile. The A-Horizon I extended from 0 to 18 cmbs (0 to 7.0 inbs) and was described as a deposit of dark brown (7.5YR 3/2) fine sandy silt. It was underlain by the B1-Horizon, a subsoil layer of brown (7.5YR 5/4) sandy silt that ranged in depth from 18 to 63 cmbs (7.0 to 24.8 inbs). Finally, the glacially derived C-Horizon was characterized as a layer of light yellowish brown (2.5Y 6/4) coarse sand and gravel that was excavated to a maximum depth of 73 cmbs (28.7 inbs).

As mentioned above, Phase IB survey of 20-3 resulted in the recovery of a single historic period and a low-density scatter of prehistoric artifacts. The historic period artifact was recovered from Shovel Test 4 on Transect 11 and it consisted of a wooden spindle that appeared to date from the turn of the twentieth century. It represented an incidental inclusion in the site area. Thus, this component of Site 20-3 lacked research potential and was assessed as not eligible for listing on the National Register of Historic Places applying the criteria for evaluation (36 CFR-60.4 [a-d]). No additional examination of the historic period component of Site 20-3 is recommended.

The prehistoric cultural material recovered during Phase IB survey of Site 20-3 consisted of a single quartz secondary thinning flake recovered from the B-Horizon in Shovel Test 8 along Transect 9, 1 quartz secondary thinning flake recovered from the A-Horizon of Shovel Test 6 along Transect 12, 1 chert secondary thinning flake recovered from the B-Horizon of Shovel Test 1 along Transect 15, and 2 quartz secondary thinning flakes recovered from the B-Horizon of Shovel Test 1 along Transect 15. Despite delineation testing at 10 m (32.8 ft) intervals in the cardinal directions around these shovel tests, no additional prehistoric cultural material was recovered from Site 20-3. In addition, no cultural features were identified in association with the prehistoric artifacts. Due to the low density of artifacts revered and the lack of cultural features, the prehistoric component of Site 20-2 was deemed to lack research potential and the qualities of significance applying the National Register of Historic Places criteria for evaluation (36 CFR-60.4 [a-d]). No additional examination of the prehistoric component of Site 20-3 is recommended prior to construction of the proposed solar project.

**Management Recommendations**

Heritage completed the current Phase IB cultural resources reconnaissance survey on behalf of Hiltbrand in March of 2020. A total of 133 of 118 (112 percent) planned shovel tests excavated throughout the project area associated with the solar project resulted in the identification of Site 20-3, which contained both historic and prehistoric period artifacts. The Phase IB survey of the site area revealed that both components of Site 20-3 lacked substantial numbers of artifacts and evidence of cultural features. Thus, neither component is considered eligible for listing applying the National Register of Historic Places criteria for evaluation (36 CFR-60.4 [a-d]) and no additional archaeological examination of the site are is recommended prior to construction.

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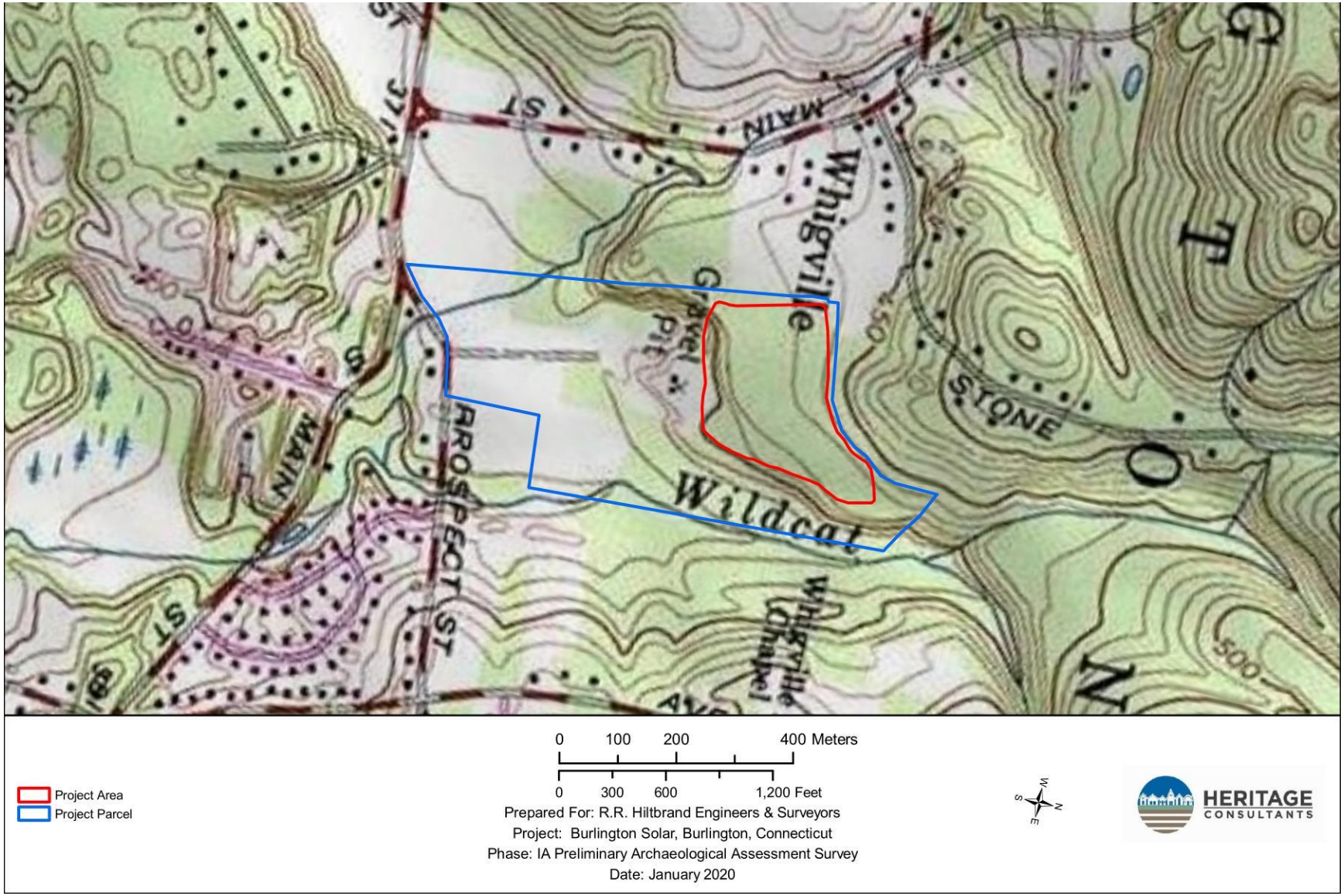


Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project area in Burlington, Connecticut.

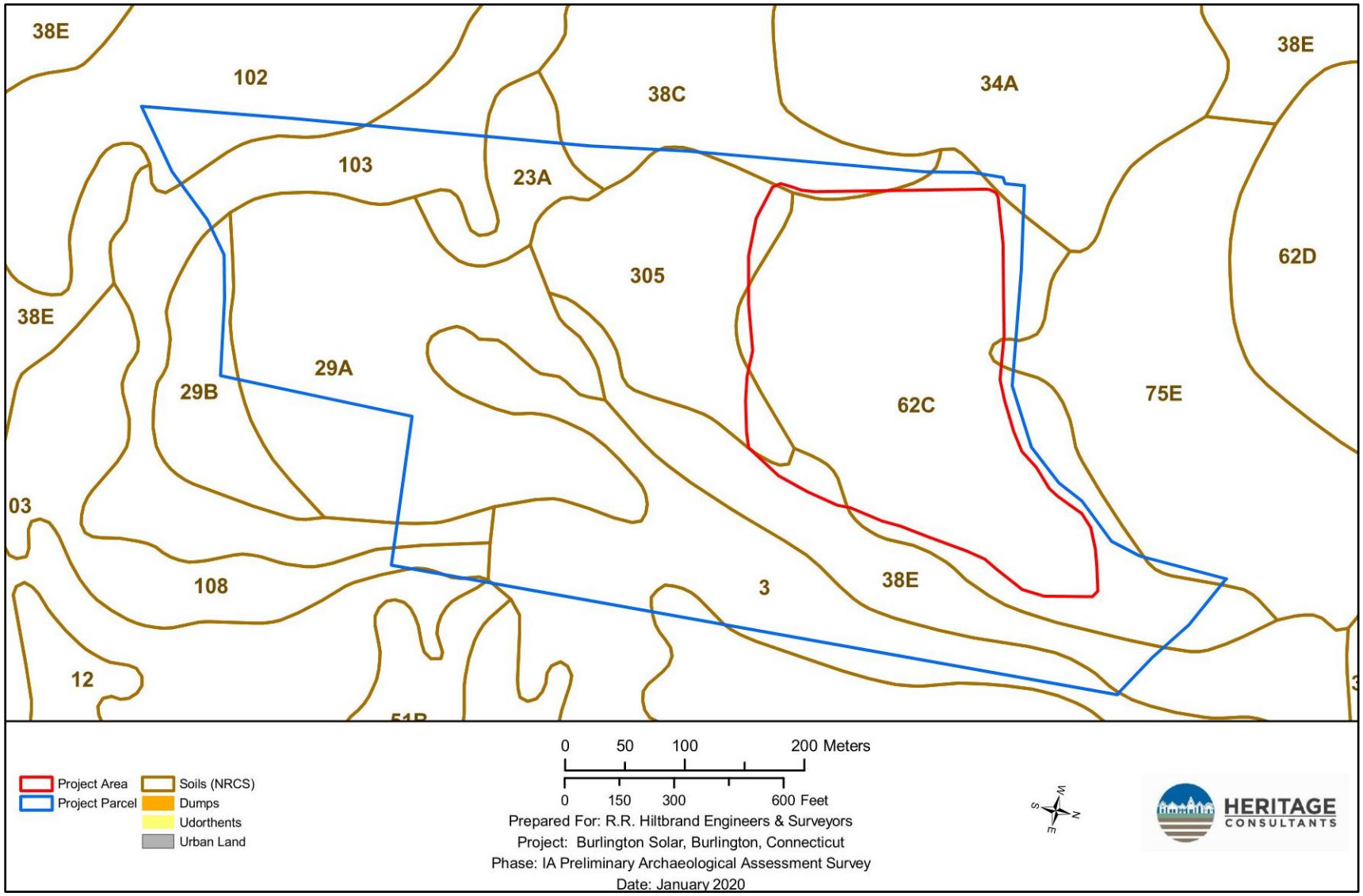


Figure 2. Map of soil located in the vicinity of the project area in Burlington, Connecticut.

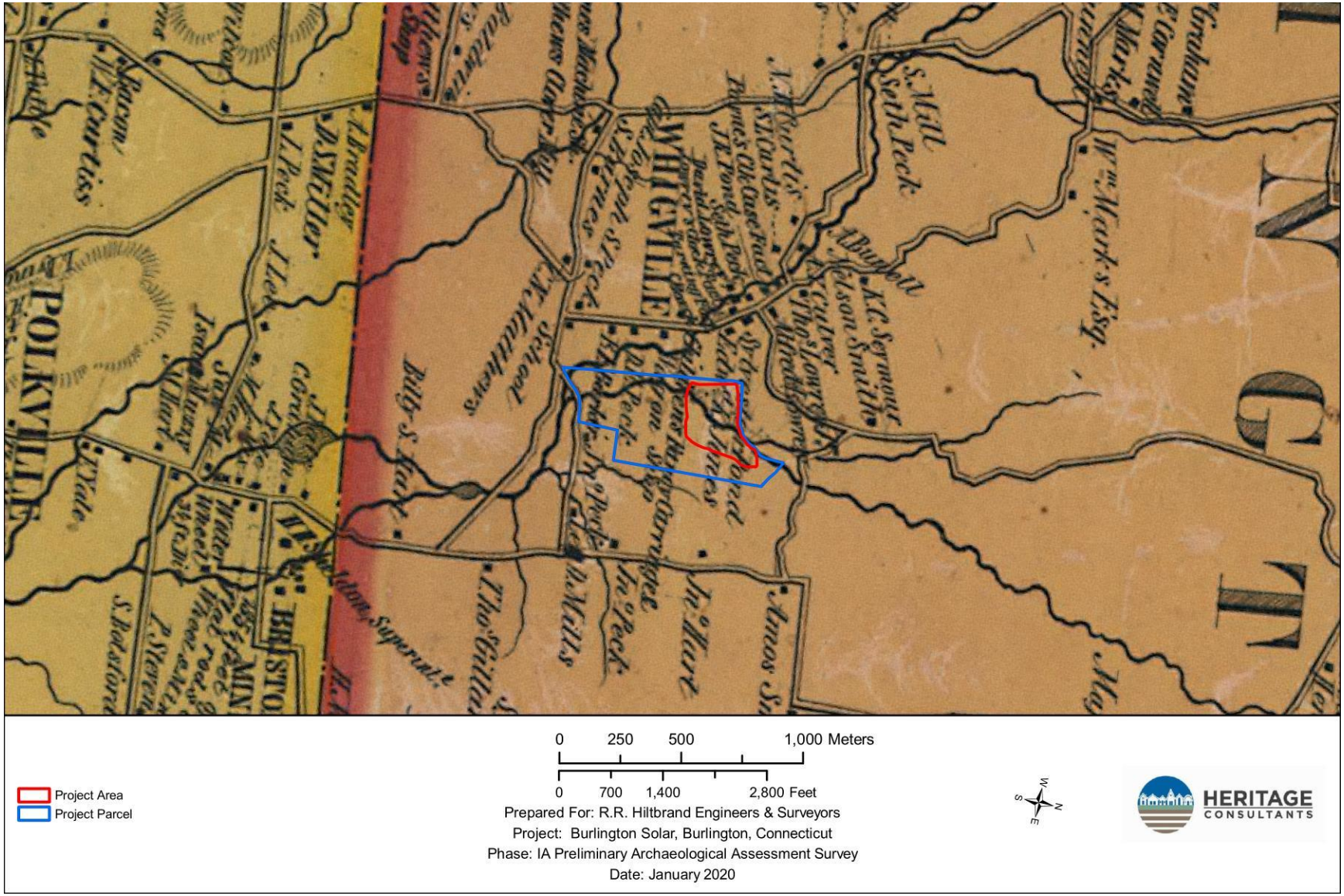


Figure 3. Excerpt from an 1855 historic map showing the location of the project area in Burlington, Connecticut.


Figure 4. Excerpt from an 1869 historic map showing the location of the project area in Burlington, Connecticut.

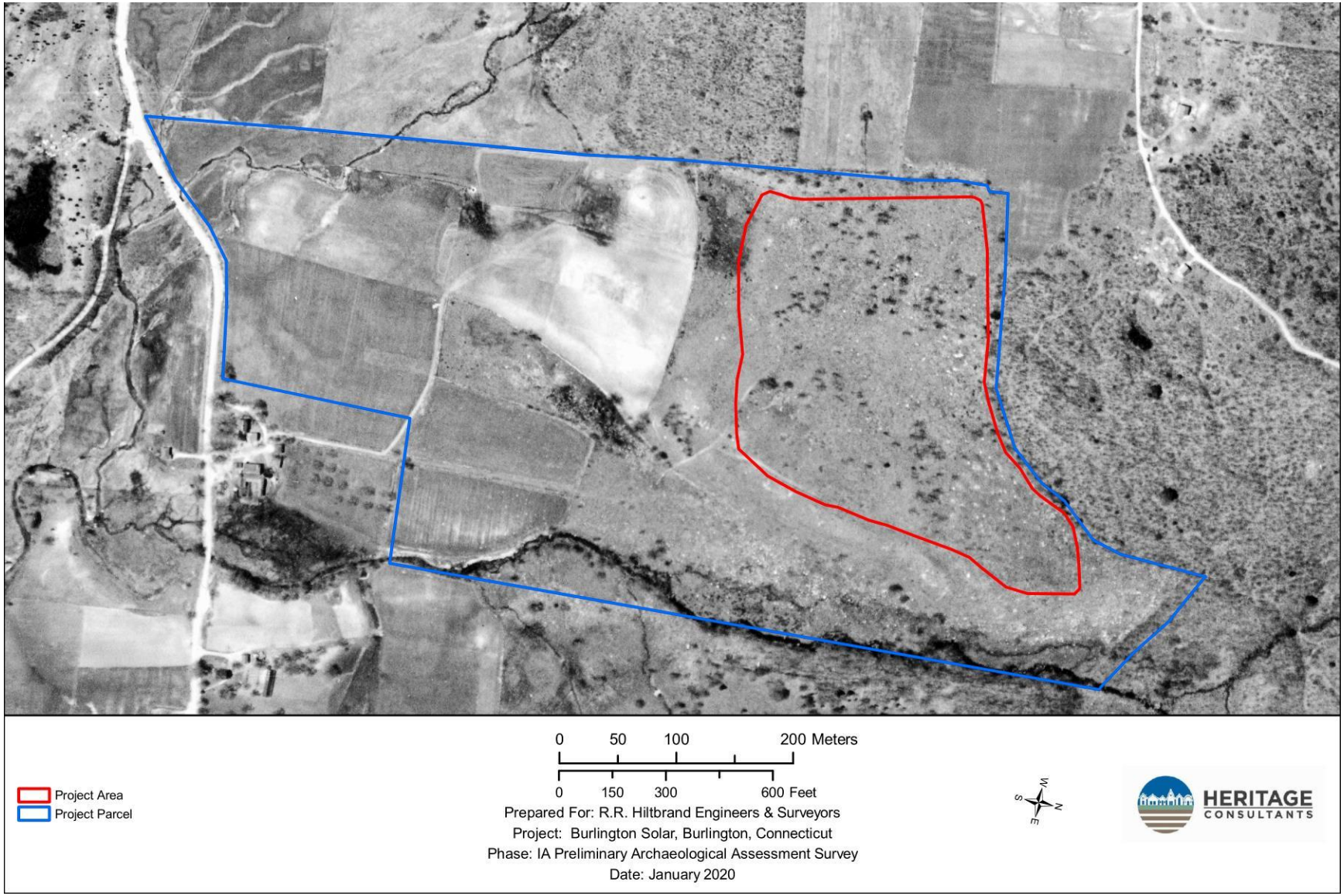


Figure 5. Excerpt from a 1934 aerial photograph showing the location of the project area in Burlington, Connecticut.

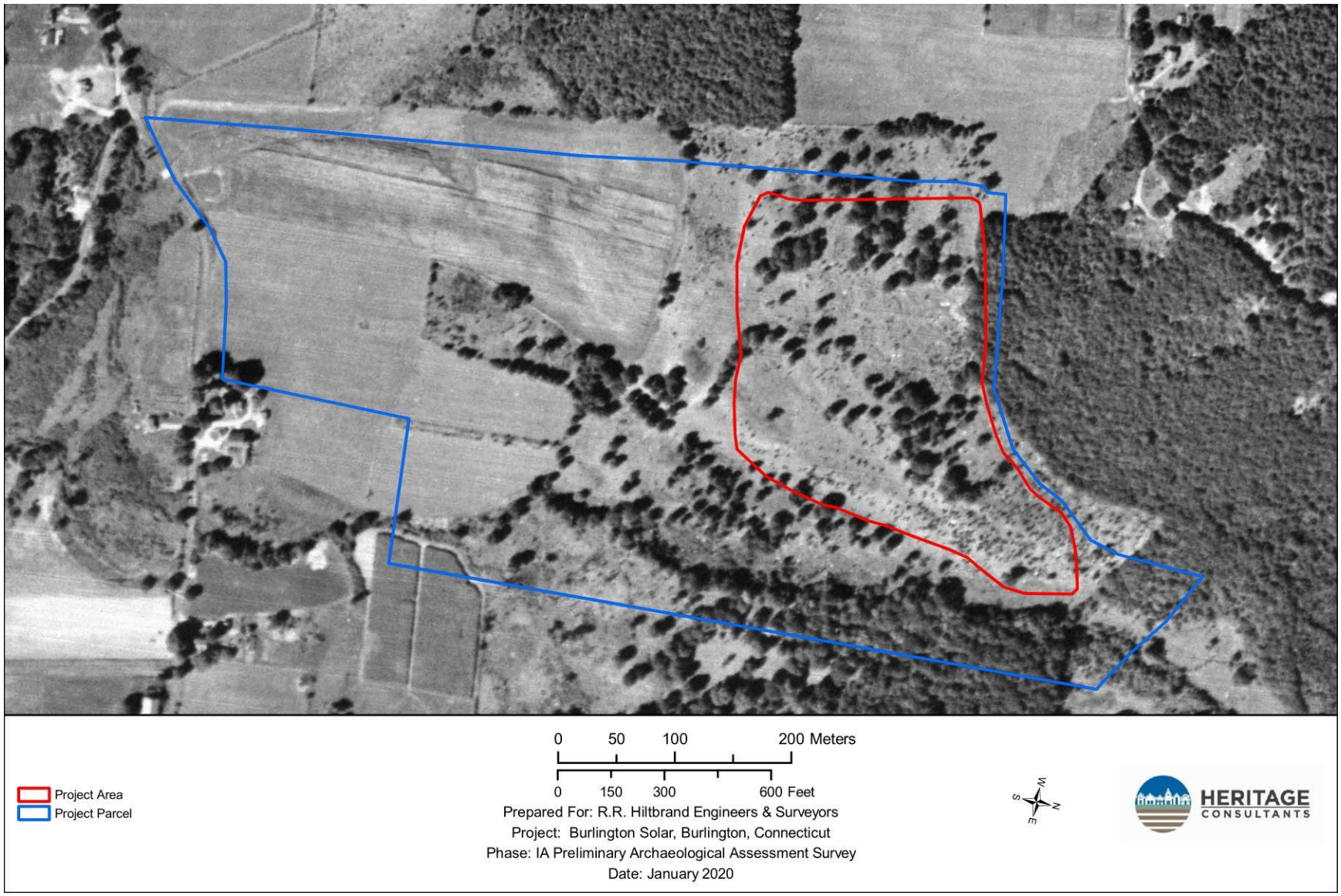


Figure 6. Excerpt from a 1951 aerial photograph showing the location of the project area in Burlington, Connecticut.

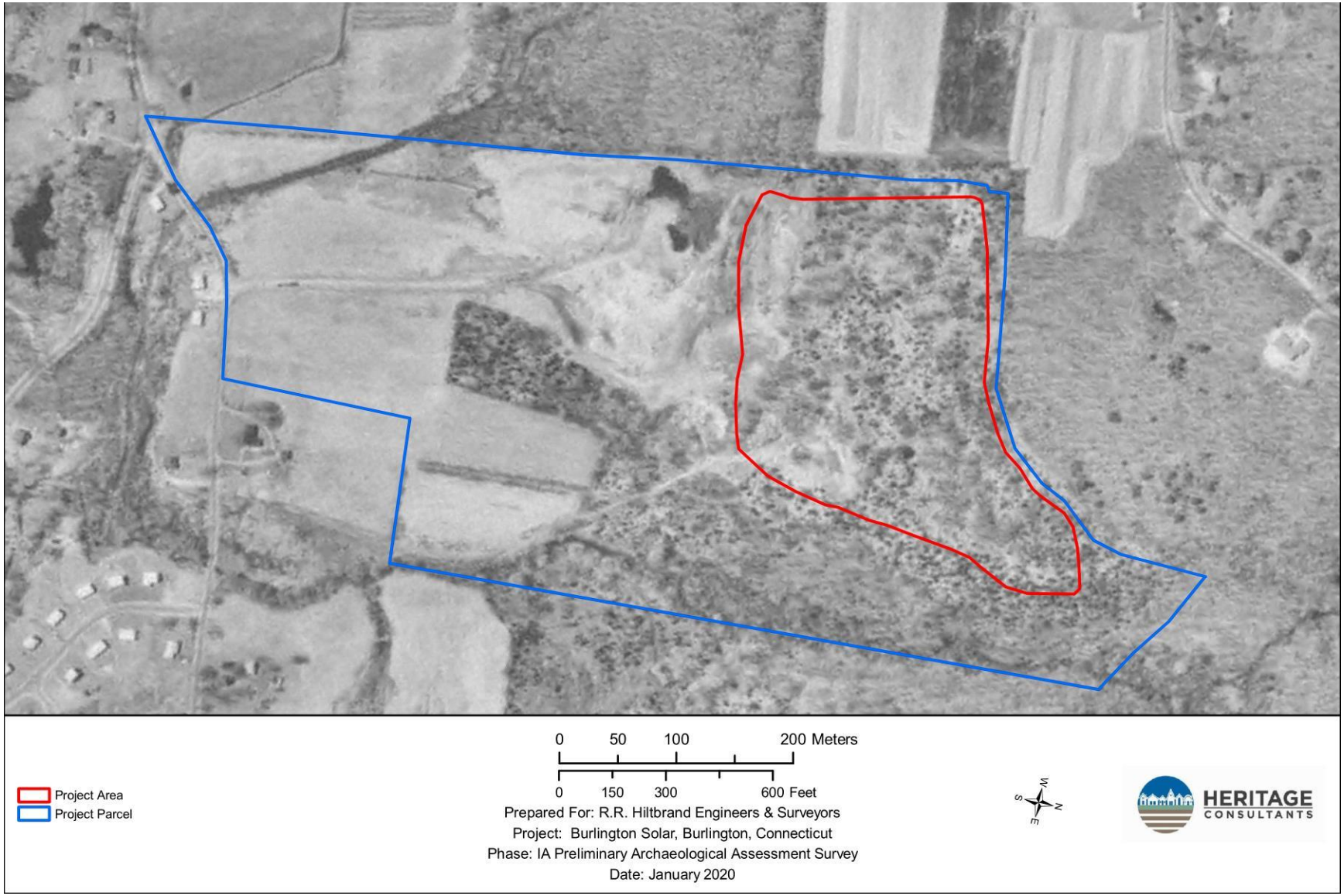


Figure 7. Excerpt from a 1970 aerial photograph showing the location of the project area in Burlington, Connecticut.


Figure 8. Excerpt from a 2004 aerial photograph showing the location of the project area in Burlington, Connecticut.

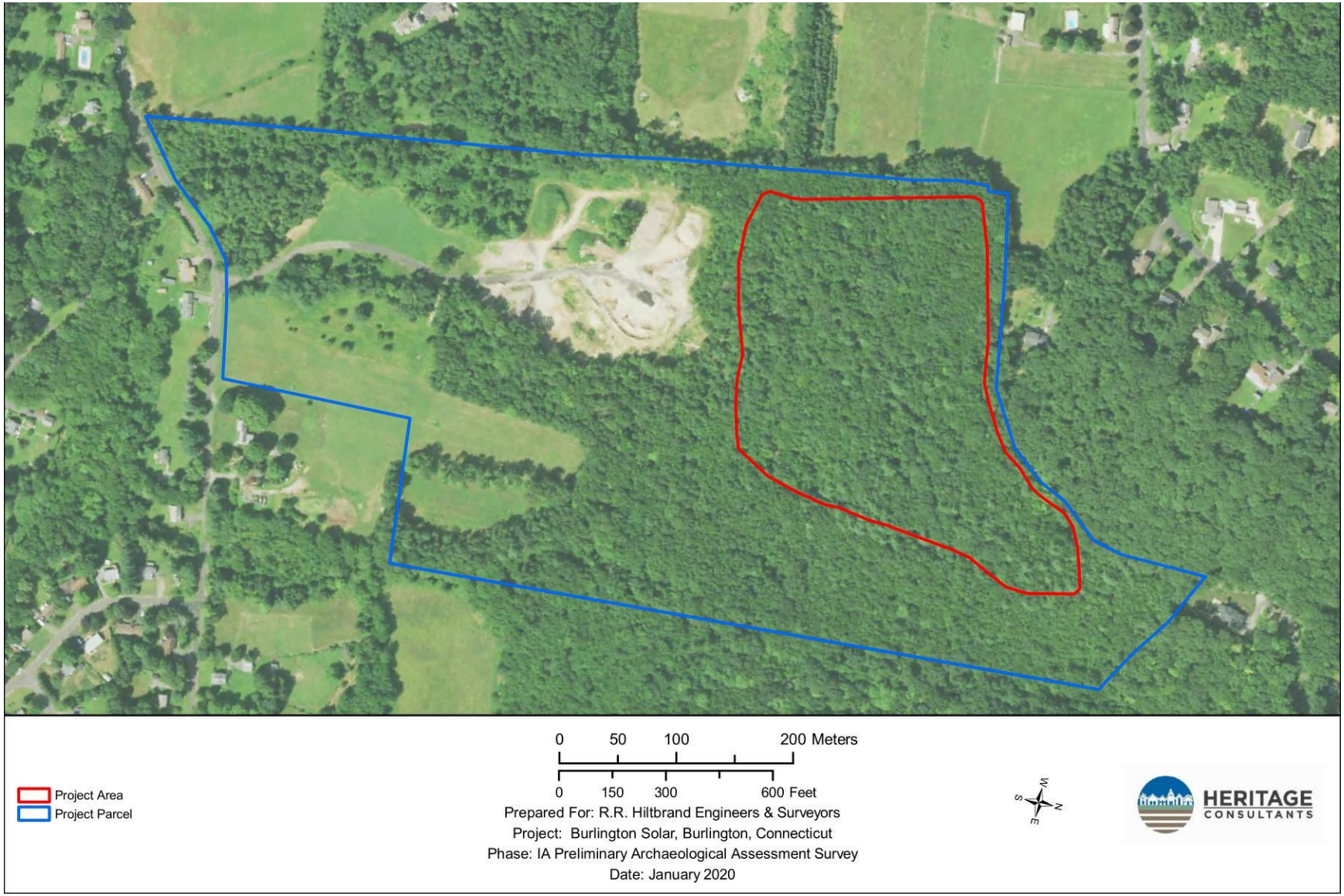


Figure 9. Excerpt from a 2018 aerial photograph showing the location of the project area in Burlington, Connecticut.

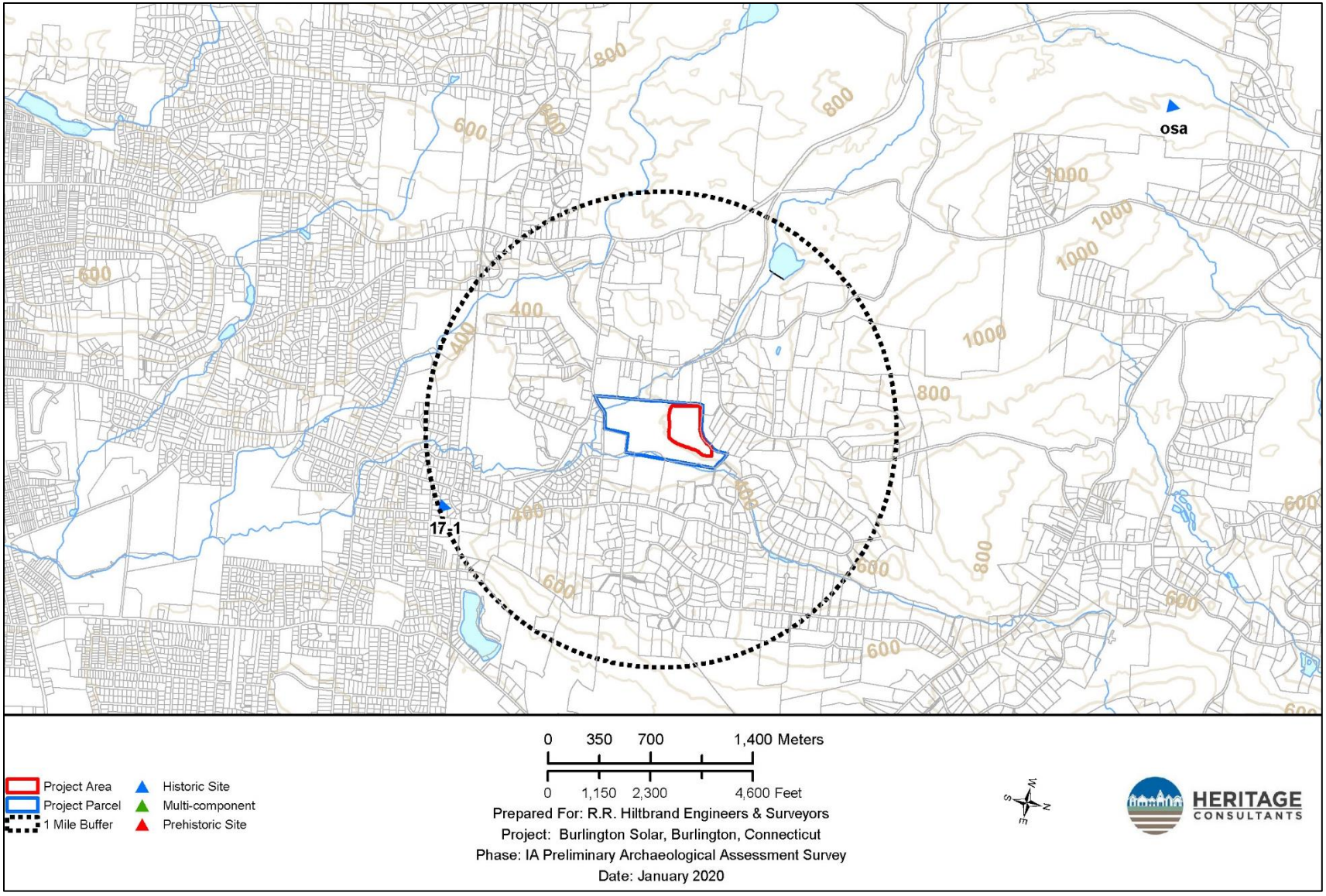


Figure 10. Digital map showing the location of previously identified archaeological sites in the vicinity of the project area in Burlington, Connecticut.

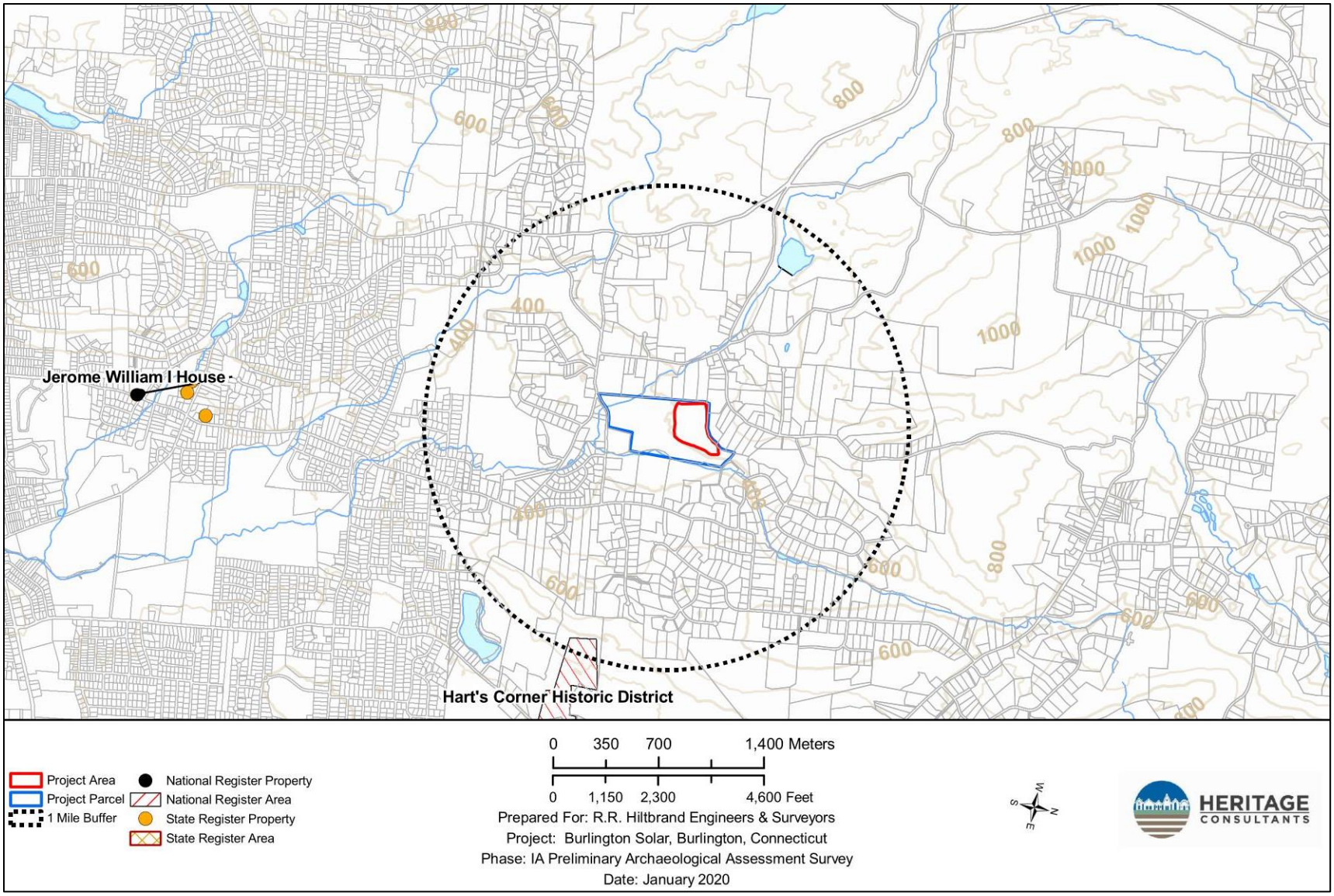


Figure 11. Digital map depicting the locations of previously identified National/State Register of Historic Places in the vicinity of the project area in Burlington, Connecticut.

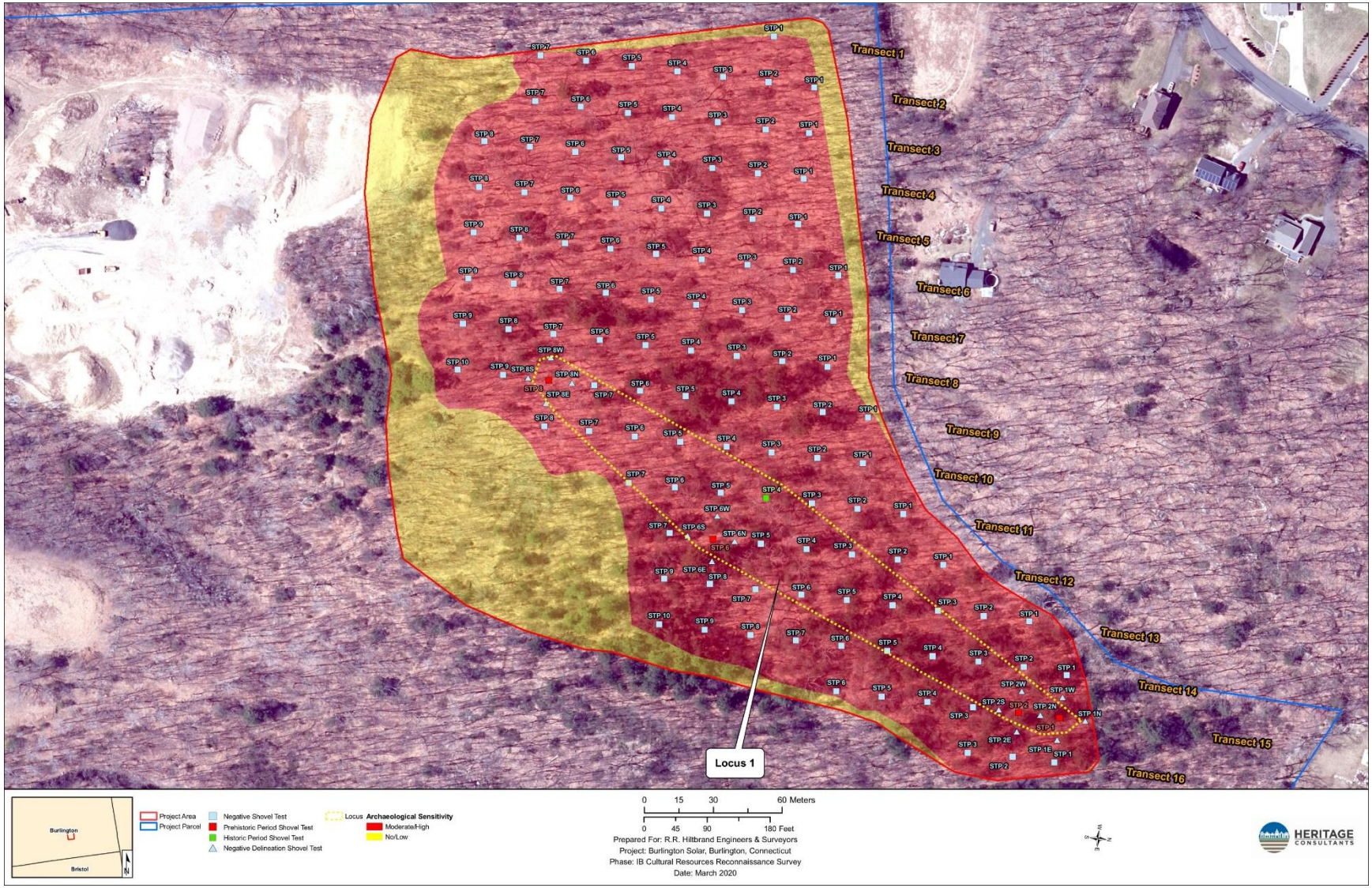


Figure 12. Except from aerial photograph showing the location of shovel tests excavated throughout project area in Burlington, Connecticut.

Figure 13. Overview photo from the north-central project area boundary facing south.

Figure 14. Overview photo from near the center of the project area facing northwest.

Figure 15. Overview photo from near the center of the project area facing southeast.

Figure 16. Overview photo from near the center of the project area facing northeast.

Figure 17. Overview photo from the eastern boundary of the project area facing southwest.