State Historic Preservation Office
Department of Economic and Community Development

CONNECTICUT

May 30, 2025

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

Subject: Phase II Intensive Survey of a Proposed Solar Project
Old Maids Lane
Portland and Glastonbury, Connecticut

Dear David George:

The State Historic Preservation Office (SHPO) received the technical memorandum prepared by Heritage Consultants, LLC (Heritage) titled *Phase II National Register Testing and Evaluation of Precontact Era Locus 1 and 2 at the Proposed Solar Center Along Old Maid's Lane in Portland, Connecticut* dated May 13, 2025. The investigation appears to meet the standards set forth in the *Environmental Review Primer for Connecticut's Archaeological Resources*. SHPO understands that the proposed project entails the development of a solar photovoltaic facility at the referenced address with associated infrastructure. The project will require a stormwater discharge permit issued by the Connecticut Department of Energy and Environmental Protection through the authority of the Environmental Protection Agency. As a result, it is subject to review by this office pursuant to Section 106 of the National Historic Preservation Act.

An archaeological reconnaissance survey of the Area of Potential Effect (APE) for the project was previously completed by Heritage in December of 2024. The survey resulted in the identification of two Precontact Period loci (Loci 1 and 2) determined to be eligible for listing on the National Register of Historic Places (NRHP). Locus 1 contained four quartz flakes and two quartz tools recovered from the plowzone while Locus 2 yielded four quartz flakes and two quartz cores recovered from an undisturbed subsoil context. A subsequent Phase II intensive survey of the identified loci was completed by Heritage in May of 2025. The effort entailed the excavation of additional delineation of shovel tests at 5-meter intervals around the initial findspots. During survey, nine additional tests were completed within the Locus 1 area. No additional cultural material or features were recorded. Survey of Locus 2 included the excavation 26 additional shovel tests yielding an additional quartz flake from the plowzone within a single shovel test. Four delineation shovel tests placed at 2.5 -meter intervals around the test containing the single flake. No additional cultural material or features were noted. Heritage determined that the identified loci were not eligible for listing on the NRHP. Based on the information submitted to this office, it is the opinion of SHPO that no additional archaeological examination of the identified loci is warranted prior to construction and there will be no historic properties affected by the proposed project. Finally, SHPO requests two bound copies of the final reports; one will be kept for use in the office and the other will be

transferred to the Thomas J. Dodd Research Center at the University of Connecticut (Storrs) for permanent archiving and public accessibility.

SHPO appreciates the cooperation of all interested parties in the professional management of Connecticut's archeological resources. Do not hesitate to contact Cory Atkinson, Staff Archaeologist and Environmental Reviewer, for additional information at (860) 500-2458 or cory.atkinson@ct.gov.

Sincerely,

Jonathan Kinney
State Historic Preservation Officer

May 13, 2025

Ms. Caitie Cyrus
Project Manager
Verdantas
127 Verdantas
Brownsburg, Virginia

RE: Phase II National Register Testing and Evaluation of Precontact Era Locus 1 and 2 at the Proposed Solar Cetner Along Old Maid's Lane in Portland, Connecticut.

Ms. Cyrus,

Heritage Consultants, LLC (Heritage) is pleased to provide Verdantas with this technical report for the Phase II National Register of Historic Places (NRHP) Testing and Evaluation of precontact era Locus 1 and Locus 2 at the proposed Solar Center (the Project) along Old Maid's Lane in Portland, Connecticut (Figure 1). Phase II National Register of Historic Places (NRHP) testing and evaluation was completed by Heritage in May of 2025. All work associated with this undertaking was performed in accordance with the National Historic Preservation Act of 1966, as amended; the National Environmental Policy Act of 1969, as amended; and the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987). The remainder of this letter reviews the project description, methods employed during the Phase II NRHP testing and evaluation as well as the results of the investigation.

Project Description

The proposed Project will include a solar array, access road, equipment pad, and associated infrastructure (Figure 2). The Project area is situated at elevations ranging between 32 to 79 meters (104.9 to 259.2 feet) NGVD. It is located to the south of Old Maids Lane and to the west of Old County Way in Portland, Connecticut. It is bound by residential development on all sides. At the time of survey, the Project area was characterized by forested land and level topography (Photo 1).

A previously conducted Phase IB cultural resources reconnaissance survey, which was completed by Heritage in December of 2024, resulted in the identification of Locus 1 and Locus 2 (Figure 3). Locus 1 was identified within the north-central portion of the Project area through the excavation of two shovel tests. Those shovel tests yielded 4 precontact era quartz flakes and 2 quartz tools. While the artifacts from Locus 1 were recovered from plowzone soils, the presence of flaked tools suggested the locus may contain additional archaeological data related to precontact era tool production/maintenance and use of the Project area. As a result, Locus 1 was assessed as potentially eligible applying the NRHP criteria of evaluation (36 CFR 60.4 [a-d]). Phase II NRHP testing and evaluation of the locus was recommend prior to construction to ascertain its eligibility for listing on the NRHP applying the criteria of evaluation (36 CFR 60.4 [a-d]).

Locus 2 was identified within the southeastern portion of the Project area. It yielded 4 quartz flakes and 2 quartz cores. All of these artifacts were recovered from subsoil deposits (B-Horizon), indicating that intact precontact archaeological deposits were present in that location. Locus 2 was also assessed as potentially eligible applying the NRHP criteria of evaluation (36 CFR 60.4 [a-d]). Phase II NRHP testing and

evaluation of Locus 2 was also recommend prior to construction to ascertain its eligibility for listing on the NRHP applying the criteria of evaluation (36 CFR 60.4 [a-d]).

Phase II NRHP Methods

The Phase II NRHP testing and evaluation was designed to: 1) delineate the vertical and horizontal boundaries of Locus 1 and Locus 2 as they extend within the Project area; 2) recover a larger sample of artifacts from each locus area; 3) identify and describe any cultural features that may have been present within the loci; and 4) provide a final assessment determination regarding the NRHP eligibility of Locus 1 and 2. Fieldwork for the Project was comprehensive in nature and planning utilized the information gathered during the background research portion of the Project and the previously completed Phase IA cultural resources assessment survey and Phase IB cultural resources reconnaissance survey. The methods used to complete this investigation are described in more detail below.

Field Methods

The Phase II NRHP testing and evaluation efforts at Locus 1 and Locus 2 included pedestrian survey, mapping, photo-documentation, and shovel testing. The subsurface testing methods are explained in more detail below.

Phase II Shovel Testing Methods

During the Phase II shovel testing regime, grids of shovel tests spaced at 5 meter (16.4 foot) intervals were superimposed over the Locus 1 and 2 areas. Any shovel tests that yielded cultural materials were further delineated at 2.5 meter intervals in each cardinal direction until two negative test pits were established in each direction. This was done to define the limits of Locus 1 and Locus 2 within the Project area. Each shovel test measured 50 x 50 centimeter (19.7 x 19.7 inch) in size, and each was excavated until glacially derived C-Horizon or immovable object (e.g., boulders, large tree roots) were encountered. Each shovel test was excavated in 10 centimeter (3.9 inch) arbitrary levels within natural strata, and the fill from each level was screened separately. All shovel test fill was screened through 0.635-centimeter (0.25 inch) hardware cloth. Soil characteristics were recorded in the field using Munsell Soil Color Charts and standard soils nomenclature. Each shovel test was backfilled after it was fully documented.

Laboratory Analysis

Laboratory analysis of cultural material recovered during Phase II testing of Locus 1 and Locus 1, which consisted of precontact era and post-European Contact period cultural material, followed established archeological protocols. To begin the laboratory analysis process, field specimen bag proveniences were first crosschecked against the field notes and the specimen inventories for accuracy and completeness. Following this quality-control process, all recovered material was washed by hand, air-dried, and sorted into basic material categories. The nature and structure of the laboratory analysis was determined by the goals of the project. The artifact analysis consisted of making and recording a series of observations for each recovered specimen. The observations were chosen to provide the most significant information about each specimen. A database was employed to store, organize, and manipulate the data generated by the analytical process. This database was designed specifically for the analysis of the recovered artifacts. The analytical protocols applied to the recovered artifacts are discussed in detail below.

Precontact Era Cultural Material Analysis

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

industries. The protocol, therefore, focused on recording technological characteristics of the recovered lithic artifacts. The lithic artifact database was organized by lithic material group, type, and subtype. The first level described the raw material type of the artifact. Lithic materials were identified utilizing recognized geological descriptions and terminology and were placed into distinct categories based on three factors: texture, color, and translucence. The second analysis level, type, was used to define the general class (e.g., unmodified flake, core, or perform) of lithic artifact, while the last level, subtype, was employed to specify placement within the reduction sequence (e.g., bifacial thinning flake, unifacial reduction flake, bifacial retouch flake, etc.).

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.

Results of Phase II NRHP Testing and Evaluation Locus 1

Locus 1 was identified within the north-central portion of the Project area during the previously conducted Phase IB cultural resources reconnaissance survey (Figure 3). Phase IB Survey of the Locus 1 area resulted in the collection of 4 quartz flakes, 1 utilized quartz tool, and 1 quartz biface. These artifacts originated from the Ap-Horizon (plowzone); however, their presence suggests that the precontact era occupation of this area included purposeful activities, including stone tool reduction and maintenance.

The Phase II investigation of Locus 1 included the excavation of 9 of 20 (45 percent) planned shovel tests to further explore the archaeological deposits previously identified during the Phase IB survey (Figure 4 and 5). The 11 planned but unexcavated test pits fell into areas characterized by an existing gravel road or were previously disturbed from activities related to tree removal (Photo 2). A typical Phase II test pit excavated within Locus 1 during the Phase II NRHP testing exhibited three soil horizons in profile and reached an average depth between 40 and 73 centimeters below surface (cmbs) (15.7 to 28.7 inches below surface [inbs]). The uppermost layer of a typical Phase II shovel test consisted of an Ap-Horizon (plowzone) that ranged from 0 to 18 cmbs (0 to 7 inbs) in thickness and was defined as a layer of dark brown (7.5YR 3/2) sandy loam. The underlying B-Horizon (subsoil) was described as a deposit of strong brown (7.5YR) silt that extended from 18 to 52 cmbs (7 to 20.4 inbs). Finally, the glacially derived C-Horizon consisted of a layer of brown (7.5YR 4/4) very fine sand that reached from 52 cmbs to the base of the shovel test at 73 cmbs (20.4 to 28.7 inbs). This stratigraphy is exemplified in the digital rendition of the profile of STP2 along Transect 3 in Locus 1 (Figure 6).

Despite careful excavation, no additional cultural material or evidence of cultural features was identified within the area of Locus 1 (Figure 5). As a result, the six precontact era artifacts recovered during the Phase IB survey likely represent an ephemeral scatter that has been redeposited as a result of plowing events. Due to the lack of substantial numbers of artifact, intact cultural deposits, and associated cultural features, the precontact era artifact assemblage associated with Locus 1 lack research potential and does not possess the qualities of significance as defined by the NRHP criteria for evaluation (36 CFR 60.4 [a-d]). No additional archaeological examination of the Locus 1 area is recommended prior to Project construction.

Results of Phase II NRHP Testing and Evaluation Locus 2

Locus 2 was identified within the southeastern portion of the Project area during the previously conducted Phase IB cultural resources reconnaissance survey (Figure 3). Phase IB Survey of the Locus 2 area resulted in the collection of 4 quartz flakes and 2 quartz cores, all of which originated from the intact B-Horizon subsoils. This suggested that the precontact era occupation of this area had not been impacted by plowing and any other later forces, and that the deposits were potentially eligible for listing on the NRHP applying the criteria for evaluation (36 CFR 60.4 [a-d]). Phase II testing was recommended.

The investigation of Locus 2 was conducted through the excavation of 26 of 26 (100 percent) planned Phase II shovel tests in the area where cultural materials were recovered (Figure 4 and 7). A typical Phase II test pit excavated within Locus 2 exhibited three soil horizons in profile and reached an average depth between 40 and 66 cmbs (15.7 and 25.9 inbs). The uppermost layer of a typical Phase II shovel test consisted of an Ap-Horizon (plowzone) that ranged from 0 to 26 cmbs (0 to 10.2 inbs) in depth and was described as a layer of very dark grayish brown (10YR 3/2) silty loam with gravel inclusions. The underlying B-Horizon (subsoil) was defined by a deposit of dark yellowish brown (10YR 4/4) sandy loam mixed with gravel inclusions that extended from 26 to 50 cmbs (10.2 to 19.6 inbs). Finally, the glacially derived C-Horizon consisted of a deposit of dark reddish brown (5YR 3/3) medium to coarse sand mixed with gravel and cobble inclusions; it reached from 50 cmbs to the base of the shovel test at 66 cmbs (19.6 to 25.9 inbs). This stratigraphy is exemplified in the digital rendition of the profile of STP2 along Transect 5 in Locus 2 (Figure 8).

During the Phase II shovel testing of Locus 2, only single shovel test yielded additional cultural material (Figure 7). Shovel Test 1 along Survey Transect 4 yielded a single quartz flake from the disturbed Ap-Horizon (plowzone) at a depth of 10 to 20 cmbs (3.9 to 7.8 inbs) (Photo 3 and 4). As a result, six additional shovel tests were excavated around the findspot. Of these, four were placed at 2.5 meter intervals in each cardinal direction, and two were placed at 5 meter intervals to the north and west of the Shovel Test 1 along Survey Transect 4. Despite careful excavation, no additional cultural material or evidence of cultural features was identified within the Locus 2 area. As a result, the six artifacts recovered during the Phase IB and the single artifact recovered during the Phase II investigation are likely the result of an ephemeral scatter or indicative of a single occupation/use event. Due to the lack of substantial artifact deposits and associated cultural features, the precontact era artifact assemblage associated with Locus 2 lack was assessed as not significant applying the NRHP criteria for evaluation (36 CFR 60.4 [a-d]). No additional archaeological examination of the Locus 2 area is recommended prior to Project construction.

Summary and Recommendations

The Phase II NRHP testing and evaluation of Locus 1 and Locus 2 failed to resulted in the identification of any archaeological deposits that are potentially eligible for listing on the NRHP applying the criteria for evaluation (36 CFR 60.4 [a-d]). No additional archaeological examination of the loci of the Project parcel is recommended prior to construction

Sincerely,

David R. George

David R. George, M.A., R.P.A.
Heritage Consultants, LLC

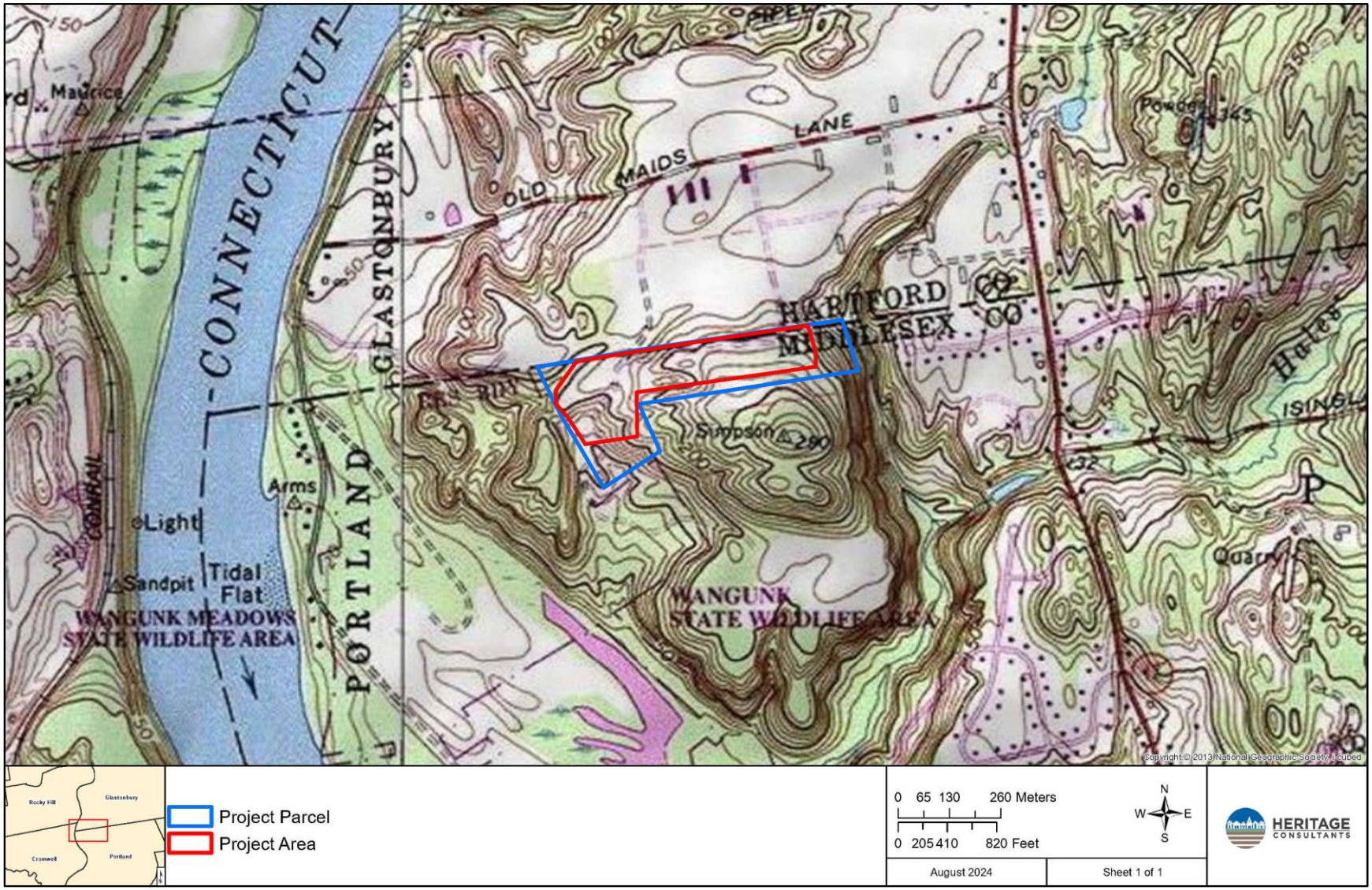

Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle showing the location of the Project parcel in Portland, Connecticut.

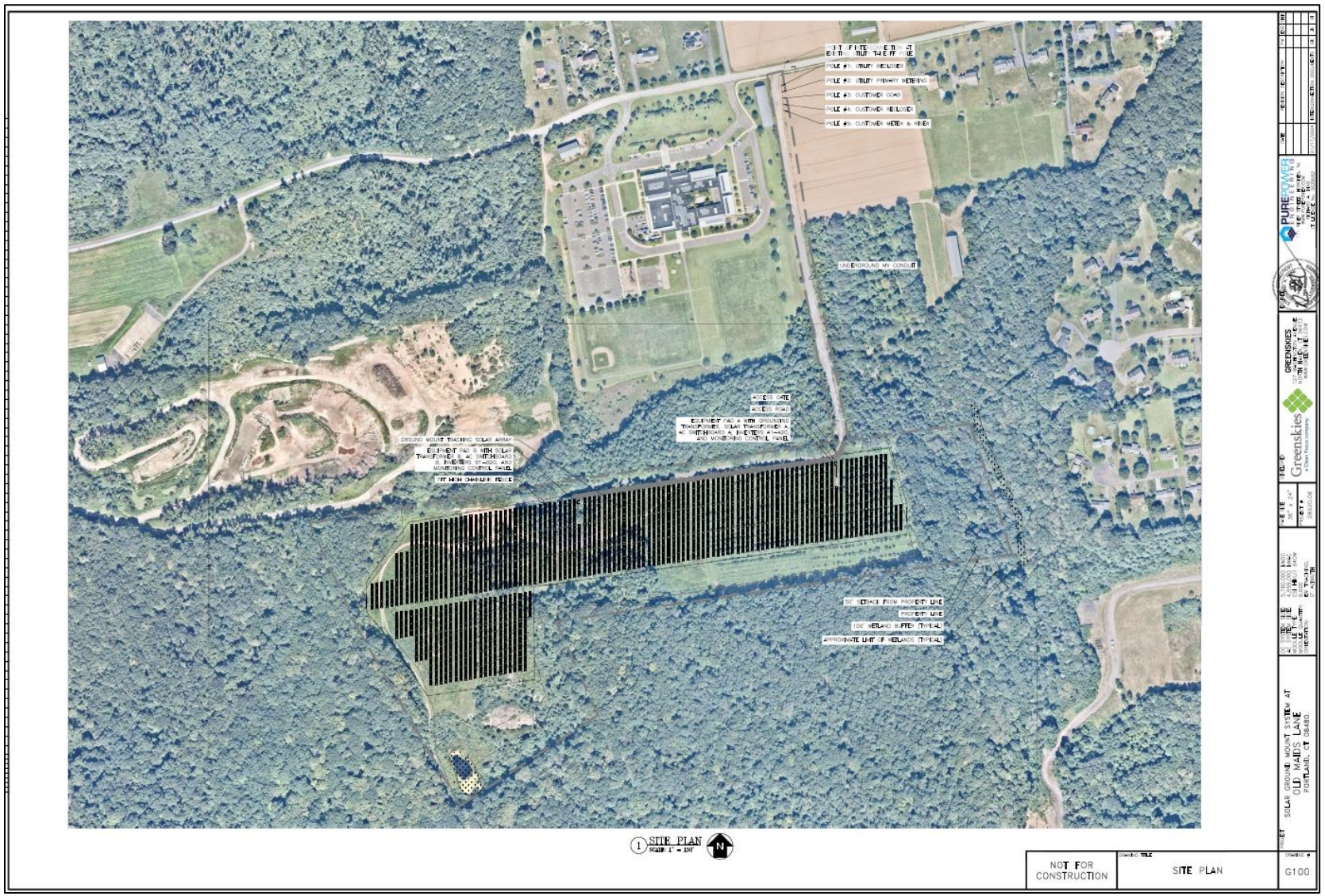

Figure 2. Plans for the solar project in Portland, Connecticut.

Figure 3. Plan view of the results of the previous Phase IB cultural resources reconnaissance survey of the Project area in Portland, Conneticut.

Figure 4. Plan view of the results of the Phase II NRHP testing and evaluation of Locus 1 and 2 within the Project area in Portland, Conneticut.

Figure 5. Plan view of the results of the Phase II NRHP testing and evaluation of Locus 1 within the Project area in Portland, Conneticut.

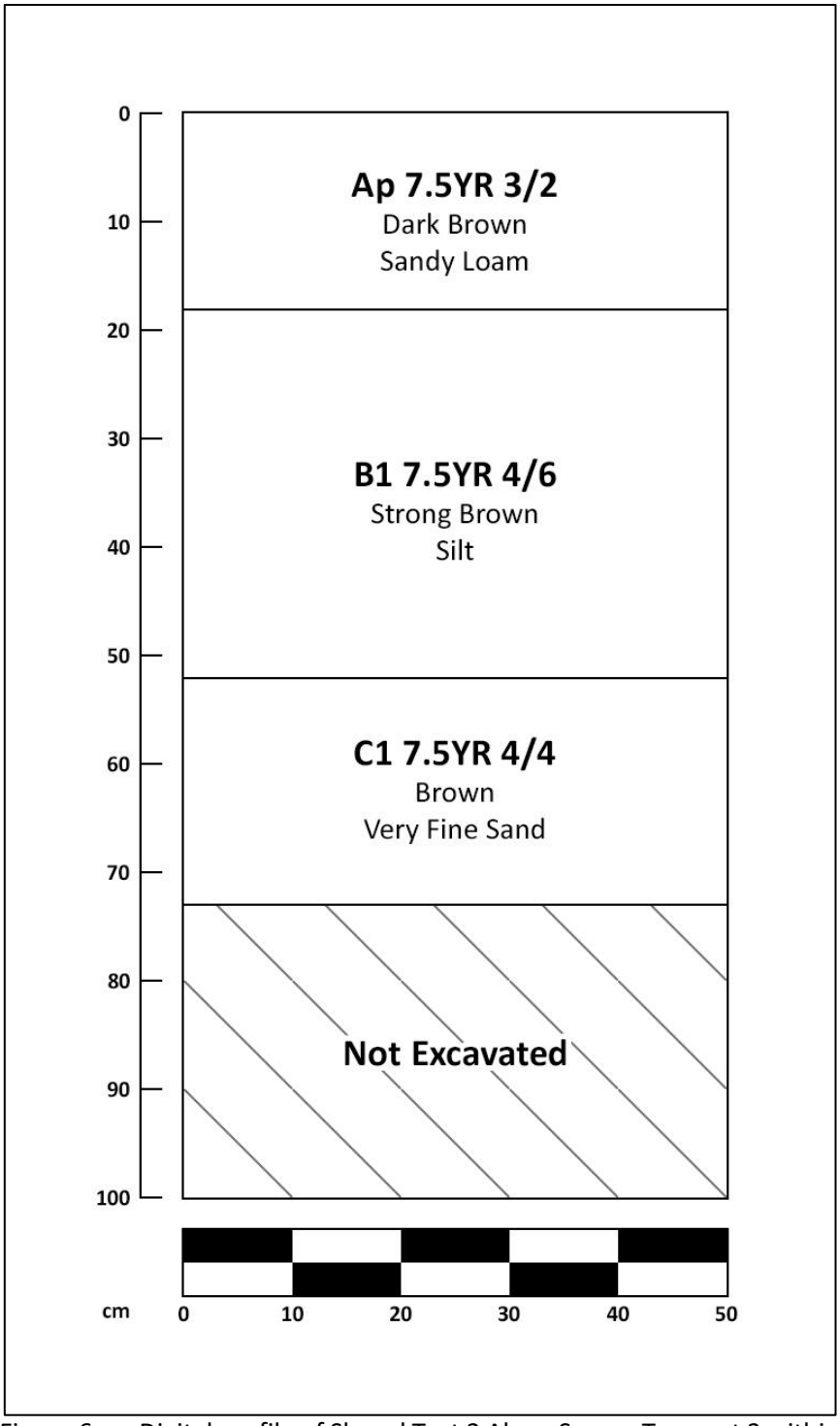

Figure 6. Digital profile of Shovel Test 2 Along Survey Transect 3 within Locus 1.

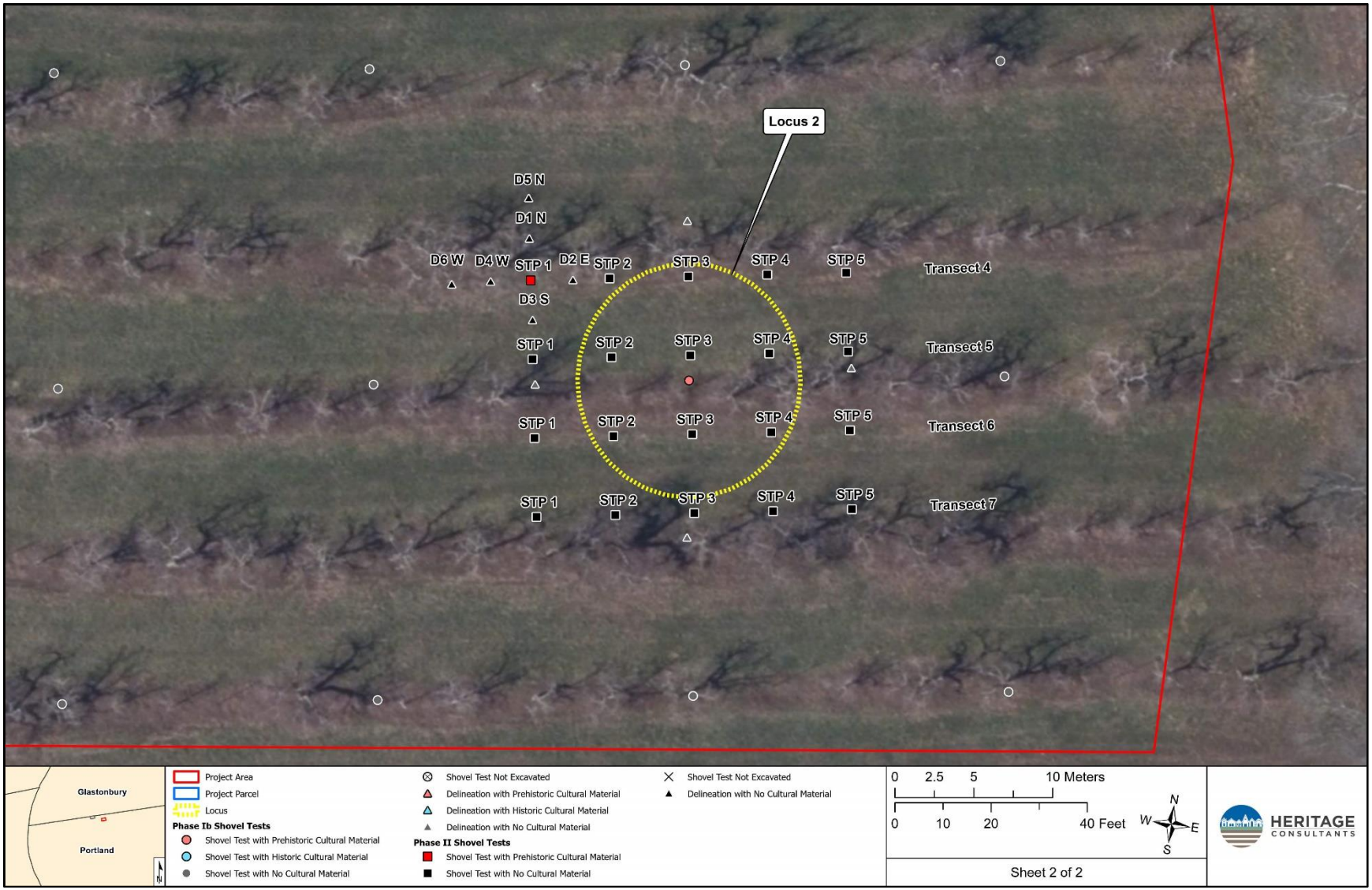

Figure 7. Plan view of the results of the Phase II NRHP testing and evaluation of Locus 2 within the Project area in Portland, Conneticut.

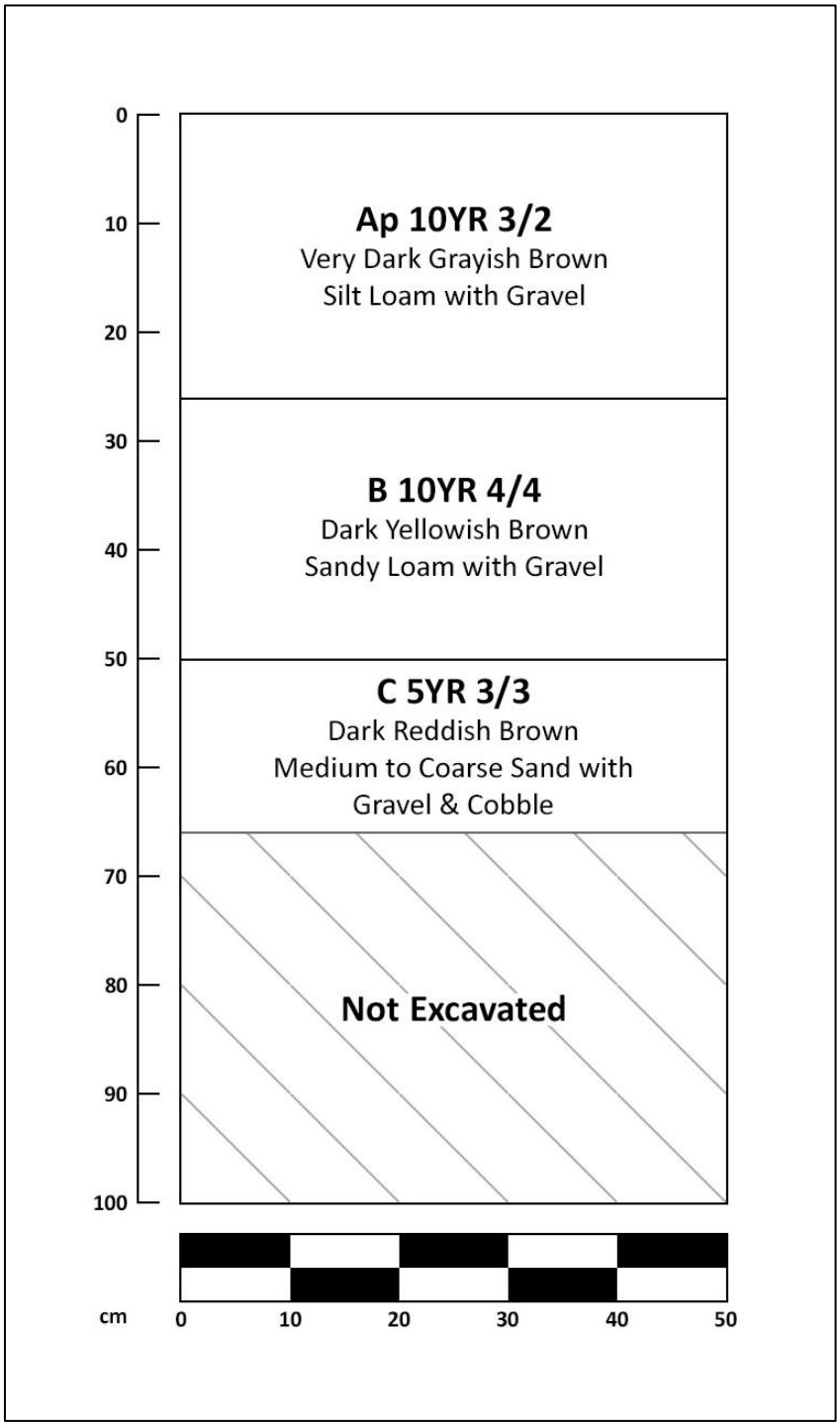

Figure 8. Digital profile of Shovel Test 2 along Survey Transect 5 within Locus 2.

Photo 1. Overview of Project area. Photo facing to the east.

Photo 2. Overview of disturbance within Locus 1. Photo facing to the south.

Photo 3. Photo of quartz flake recovered from Locus 2 during the Phase II testing. Side A.

Photo 4. Photo of quartz flake recovered from Locus 2 during the Phase II testing. Side B.

DECEMBER 2024

PHASE IB CULTURAL RESOURCES RECONNAISSANCE SURVEY OF A PROPOSED SOLAR CENTER ALONG OLD MAID'S LANE IN PORTLAND, CONNECTICUT

PREPARED FOR:

verdantas
PEOPLE FOCUSED FUTURE

BROWNSBURG, VIRGINIA

PREPARED BY:

HERITAGE CONSULTANTS

830 BERLIN TURNPIKE
BERLIN, CONNECTICUT 06037

ABSTRACT

This report presents the results of a Phase IB cultural resources reconnaissance survey for a proposed solar center along Old Maid's Lane in Portland, Connecticut. Heritage Consultants, LLC completed a previous Phase IA cultural resources assessment survey of the area and determined that a portion of the proposed project area retained moderate/high archaeological sensitivity. The project area was characterized by an existing orchard on gently sloping topography, with some areas of disturbed soil in the western part of the project area. The subsurface investigation resulted in the recovery of eight post-European Contact period artifacts, including 6 glass shards, a single ceramic sherd, and a single piece of coal. The artifacts have a general date range of late nineteenth through twentieth centuries. All of the post-European contact era artifacts were recovered from disturbed plowzone soils and are likely related to the agricultural use of the landscape. They were classified as unassociated field scatter and do not retain research potential or the qualities of significance 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 post-European Contact period assemblage is recommended.

In addition, the Phase IB investigation resulted in the identification of four precontact era isolated find spots (ISO 1 through 4) and two loci (Locus 1 and 2). The four isolated finds were recovered from both the intact subsoil (B-Horizon) and disturbed plowzone soils. Despite careful examination, no additional cultural material or evidence of cultural features were recovered in these four areas. Therefore, they were determined to lack research potential or eligibility for listing on the National Register of Historic Places applying the criteria for evaluation (36 CFR 60.4[a-d]). No additional archaeological examination of isolated find spots is recommended prior to construction.

Finally, two precontact era loci were identified within the project area. Locus 1 is located within the northwestern portion of the project area; shovel testing in this area resulting in the recovery of four precontact era quartz flakes and two quartz tools. While the artifacts from Locus 1 were recovered from plowzone soils, the presence of flaked tools suggests the area may retain research potential and may be eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). Locus 2 was identified in the southeastern portion of the project area; it yielded 4 quartz flakes and 2 quartz cores, all of which were recovered from intact subsoils (B-Horizon), suggesting that intact precontact era archaeological deposits may be present in this area. Therefore, Locus 2 was assessed as potentially eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). It is recommended that the Locus 1 and Locus 2 areas be avoided during the construction process. If avoidance is not feasible, it is recommended that these areas be subjected to Phase II National Register of Historic Places testing and evaluation prior to construction.

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CHAPTER I
INTRODUCTION

This report presents the results of a Phase IB cultural resources reconnaissance survey of a proposed solar facility along Old Maids Lane in Portland, Connecticut (the Project). The proposed solar array and associated infrastructure will encompass approximately 21 acres of land within a larger 32.88 acre parcel; it is located to the south of Old Maids Lane and to the west of Old County Way in Portland, Connecticut (Figure 1). Verdantas requested that Heritage Consultants, LLC (Heritage) complete the Phase IB cultural resources reconnaissance survey prior to construction. Heritage completed this investigation in November and December of 2024. All work associated with this project was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987) promulgated by the Connecticut State Historic Preservation Office (CT-SHPO).

Project Description and Methods Overview

The proposed Project will include a solar array, access road, equipment pad, and associated infrastructure (Figure 2). The Project area is situated at elevations ranging between 32 to 79 meters (104.9 to 259.2 feet) NGVD. It is located to the south of Old Maids Lane and to the west of Old County Way in Portland, Connecticut. It is bound by residential development on all sides. At the time of survey, the Project area was characterized by forested land and level topography. It was subjected to Phase IB cultural resources reconnaissance survey utilizing pedestrian survey, photo-documentation, GPS recordation, and systematic shovel testing. The pedestrian survey included visual reconnaissance of all areas scheduled for impacts. The subsurface examination was completed through the excavation of shovel tests at 20 meter (65 foot) intervals along survey transects positioned 20 meters (65 feet) apart. Each shovel test measured 50 x 50 centimeter (19.7 x 19.7 inch) in size, and each was excavated until glacially derived C-Horizon or immovable object (e.g., boulders, large tree roots) were encountered. Each shovel test was excavated in 10 centimeter (3.9 inch) arbitrary levels within natural strata, and the fill from each level was screened separately. All shovel test fill was screened through 0.635-centimeter (0.25 inch) hardware cloth. Soil characteristics were recorded in the field using Munsell Soil Color Charts and standard soils nomenclature. Each shovel test was backfilled after it was fully documented.

Phase IB Survey results and Management Recommendations

A total of 113 of 119 (95 percent) of planned shovel tests were excavated throughout the moderate/high sensitivity areas that were identified during a previous Phase IA cultural resources assessment survey. The six (5 percent) planned but unexcavated shovel tests fell into areas defined by disturbances. An additional 20 delineation test pits were excavated to further explore identified precontact era cultural deposits. The subsurface investigation resulted in the recovery of eight post-European Contact period artifacts from six shovel tests within the Project area. The post-European Contact period artifact assemblage included examples of 6 glass shards, a single ceramic sherd, and a 1 piece of coal. They have a general date range of late nineteenth through twentieth centuries. All of the post-European contact era artifacts were recovered from plowzone soils and are likely related to the agricultural use of the landscape. Since the artifacts were recovered in low densities and could not be associated with any below or above-ground features, they were classified as unassociated field scatter. They do not retain research potential or the qualities of significance 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 post-European Contact period assemblage is recommended prior to construction.

The Phase IB fieldwork also resulted in the identification of four precontact era isolated find spots (ISO 1 through ISO-4) and two loci (Locus 1 and 2). The four isolated finds were recovered from both the intact subsoil (B-Horizon) and disturbed plowzone soils; however, despite careful excavation and delineation, no additional cultural material or evidence of cultural features were recovered in association with ISO 1 through ISO-4. Therefore, the four findspots were found to lack research potential. They were 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 archaeological examination of the ISO-1 through ISO-4 is recommended prior to construction of the proposed solar Project.

Phase IB survey also resulted in the recordation of two precontact era loci within the Project area. Locus 1 was identified within the northwestern portion of the Project area through the excavation of two shovel tests. The shovel tests yielded 4 precontact era quartz flakes and 2 quartz tools. While the artifacts from Locus 1 were recovered from plowzone soils, the presence of flaked tools suggests the locus may contain additional archaeological data related to precontact era tool production/maintenance an use of the Project area. As a result, it was determined that Locus 1 may be eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). If avoidance of this area is not feasible, it is recommended that it be subjected to Phase II National Register of Historic Places testing and evaluation prior to construction.

Finally, Locus 2 was identified within the southeastern portion of the Project area. It yielded 4 quartz flakes and 2 quartz cores. All of these artifacts were recovered from subsoil deposits (B-Horizon), indicating that intact precontact archaeological deposits are present there. Thus, it was determined that Locus 2 may retain research potential and may be eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). It is recommended that Locus 2 be avoided during the construction process. If avoidance of Locus 2 is not feasible, it is recommended that it be subjected to Phase II National Register of Historic Places testing and evaluation prior to construction.

Project Personnel

Key personnel who worked on this project included David R. George, M.A., RPA, (Principal Investigator); Brenna Pisanelli, M.A., (Senior Project Manager); Sam Spitzschuh, B.A., (Project Archaeologist), Christopher Brouillette, B.A., (Field Director); William Yerxa, M.A., (Historian); and Tevin Jourdain, B.A., (GIS Specialist).

CHAPTER II
NATURAL SETTING

Introduction

This chapter provides a brief overview of the natural setting of the region containing the proposed Project in Portland, Connecticut. Previous archaeological research has documented that specific environmental factors can be associated with both precontact era and post-European Contact period site selection. These include general ecological conditions, as well as types of fresh water sources present, degree of slopes, and soils situated within a given study area. The remainder of this chapter provides a brief overview of the ecology, hydrological resources, and soils present within 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). Two ecoregions are germane to the current investigation: the North-Central Lowlands Ecoregion and the South-Central Lowlands Ecoregion. A summary of this ecoregion is presented below. It is followed by a discussion of the hydrology and soils found within and adjacent to the Project area.

<u>North-Central Lowlands Ecoregion</u>

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.

South-Central Lowlands Ecoregion

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

Hydrology of the Study Region

The Project area is located within close proximity of several streams, ponds and wetlands. The major fresh water in proximity to the Project area is the Connecticut River to the west and Hales Brook to the east. Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were focal points for precontact era occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources. These water sources also provided the impetus for the construction of water powered mill facilities during the eighteenth and nineteenth centuries.

Soils Comprising the Project Area

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

A total of five soil types were identified within the Project area (Figure 3). Udorthents soils dominate the western portion of the Project, whereas Charlton-Chatfield complex soils dominate the eastern portion. Some Manchester soils are present on the northeastern boundary, and Hartford soils are present in the northwest of the Project area. A small amount of Hinckley soils exist along the western boundary. When well drained soils such as Charlton-Chatfield complex, Manchester, Hartford, and Hinckley soils remain undisturbed and are situated on less than eight percent slopes, they are generally well correlated with precontact era and post-European Contact period site locations and are considered to have higher archaeological sensitivity. Meanwhile, Udorthents soils are considered disturbed and retain a low sensitivity to produce intact archaeological evidence. Below is a summary of each specific soil type identified within the Project area.

Udorthents, Smoothed

Udorthents, smoothed soils are a well-drained to moderately well drained, disturbed soil area that has had two or more feet of the original soil surface altered by filling, excavation or grading activities. Udorthents, smoothed soils commonly occur on leveled land and fill landforms.

Charlton-Chatfield Soils

The Charlton series consists of very deep, well drained soils formed in loamy melt-out till. They are nearly level to very steep soils on moraines, hills, and ridges. Slope ranges from 0 to 60 percent. A typical profile associated with Charlton soils is as follows: **Oe**--0 to 4 cm; black (10YR 2/1) moderately

decomposed forest plant material; **A**--4 to 10 cm; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; 5 percent gravel; very strongly acid; abrupt smooth boundary; **Bw1**--10 to 18 cm; brown (7.5YR 4/4) fine sandy loam; weak coarse granular structure; very friable; many fine and medium roots; 5 percent gravel; very strongly acid; clear wavy boundary; **Bw2**--18 to 48 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; common fine and medium roots; 10 percent gravel and cobbles; very strongly acid; clear wavy boundary; **Bw3**--48 to 69 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; massive; very friable; few medium roots; 15 percent gravel and cobbles; very strongly acid; abrupt wavy boundary; and **C**--69 to 165 cm; grayish brown (2.5Y 5/2) gravelly fine sandy loam with thin lenses of loamy sand; massive; friable, some lenses firm; few medium roots; 25 percent gravel and cobbles; strongly acid.

The Chatfield series consists of well drained soils formed in loamy melt-out till. They are moderately deep to bedrock. They are nearly level to very steep soils on bedrock-controlled hills and ridges. Slope ranges from 0 to 70 percent. A typical profile associated with Chatfield soils is as follows: **Oi**--0 to 3 cm, slightly decomposed leaf, needle, and twig litter; extremely acid, pH 4.2; **A**--3 to 5 cm, very dark gray (10YR 3/1) fine sandy loam, gray (10YR 5/1), dry; weak fine subangular blocky structure; friable; many fine and medium roots throughout; 5 percent mixed gravel and cobbles; very strongly acid, pH 4.5; abrupt smooth boundary; **Bw1**--5 to 33 cm, strong brown (7.5YR 5/6) gravelly fine sandy loam; weak fine subangular blocky structure; friable; common fine roots throughout and common medium roots throughout; 15 percent mixed gravel and cobbles; very strongly acid, pH 4.5; abrupt wavy boundary; **Bw2**--33 to 76 cm, strong brown (7.5YR 5/6) gravelly fine sandy loam; moderate medium subangular blocky structure; friable; few fine roots throughout; 20 percent mixed rock fragments; very strongly acid, pH 4.5; abrupt irregular boundary; and **2R**--76 cm; fractured slightly-weathered schist bedrock.

Manchester Soils

The Manchester series consists of very deep, excessively drained soils formed in sandy and gravelly glacial outwash and stratified drift. They are nearly level to steep soils on outwash plains, terraces, kames, deltas and eskers. Slope ranges from 0 to 45 percent. A typical soil profile is as follows: **Ap**--0 to 9 inches; dark brown (7.5YR 3/2) gravelly sandy loam; weak medium granular structure; very friable; many fine and common medium roots; 20 percent gravel; strongly acid; clear smooth boundary; **Bw**--9 to 18 inches; reddish brown (5YR 4/3) gravelly loamy sand; very weak fine and medium granular structure; very friable; few fine roots; 25 percent gravel; strongly acid; clear wavy boundary and **C**--18 to 65 inches; reddish brown (5YR 4/4) very gravelly sand; single grain; loose; 50 percent gravel; very strongly acid.

Hartford Soils

The Hartford series consists of very deep, somewhat excessively drained soils formed in sandy glacial outwash. They are nearly level to strongly sloping soils on plains and terraces. Slope ranges from 0 to 8 percent. A typical profile associated with Hartford soils is as follows: **Ap--**0 to 8 inches; dark reddish brown (5YR 3/4) sandy loam; weak coarse granular structure; very friable; many fine roots; 5 percent gravel; strongly acid; clear smooth boundary; **Bw1--**8 to 20 inches; yellowish red (5YR 4/6) sandy loam; weak fine granular structure; very friable; few fine roots; 5 percent gravel; strongly acid; clear wavy boundary; **Bw2--**20 to 26 inches; reddish brown (5YR 4/4) loamy sand; single grain; loose; 10 percent gravel; strongly acid; clear wavy boundary; and **2C--**26 to 65 inches; reddish brown (5YR 4/4) stratified sand and gravel; single grain; loose; 35 percent gravel; strongly acid.

Hinckley Soils

Hinckley series consists of very deep, excessively drained soils formed in glaciofluvial materials. They are nearly level through very steep soils on outwash terraces, outwash plains, outwash deltas, kames, kame

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

Summary

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

CHAPTER III
PRECONTACT ERA SETTING

Introduction

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

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

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

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

The Hidden Creek Site (72-163) is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut (Jones 1997). While excavation of the Hidden Creek Site produced evidence of Terminal Archaic and Woodland Period components (see below) in the

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Stone tool assemblages associated with Late Woodland occupations, especially village-sized sites, are functionally variable and they reflect plant and animal resource processing and consumption on a large scale. Finished stone tools recovered from Late Woodland sites include Levanna and Madison projectile points; drills; side-, end-, and thumbnail scrapers; mortars and pestles; nutting stones; netsinkers; and celts, adzes, axes, and digging tools. These tools were used in activities ranging from hide preparation to plant processing to the manufacture of canoes, bowls, and utensils, as well as other settlement and subsistence-related items (McBride 1984; Snow 1980). Finally, ceramic assemblages recovered from Late Woodland sites are as variable as the lithic assemblages. Ceramic types identified include Windsor Fabric

Impressed, Windsor Brushed, Windsor Cord Marked, Windsor Plain, Clearview Stamped, Sebonac Stamped, Selden Island, Hollister Plain, Hollister Stamped, and Shantok Cove Incised (Lavin 1980, 1988a, 1988b; Lizee 1994a; Pope 1953; Rouse 1947; Salwen and Ottesen 1972; Smith 1947). These types are more stylistically diverse than their predecessors with incision, shell stamping, punctation, single point, linear dentate, rocker dentate stamping, and stamp and drag impressions common (Lizee 1994a:216).

Summary of Connecticut Precontact Period

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

CHAPTER IV
POST-EUROPEAN
CONTACT OVERVIEW

Introduction

The proposed Project encompasses approximately 21 acres of land within a larger 32.88 acre parcel in the Town of Portland, Connecticut. This chapter provides a brief overview of Middlesex County followed by a history of Portland and data more specific to the project parcel and Project area. Most Connecticut towns, including Portland, originated as Indigenous settlements and later became English colonial villages. Originally called *Wangunk* by the people of the same name, the area was settled by Europeans in the 1690s and was incorporated as the town of Portland in 1841. With a strong history connected to the maritime culture of the Connecticut River, which abuts the town to the west, Portland was an important port during the eighteenth and nineteenth centuries. Currently, Portland is a largely residential town that capitalizes on its small-town heritage and proximity to the Connecticut River.

Middlesex County

Middlesex County was incorporated in 1785 with land taken from Hartford County and New London County (Beers 1884). Located in south-central Connecticut, it is bounded to the north by Hartford and New London Counties, to the west by New Haven County, to the east by New London County, and to the south by Long Island Sound. Bisected by the Connecticut River, the County is also the location of the city of Middletown, incorporated in 1651 and named in 1653. Other important population centers in Middlesex County include Portland and Cromwell (Connecticut 2021). The landscape varies from coastal lowlands and river basins to higher elevations in the interior. Important bodies of water associated with Middlesex County include the Salmon River, Coginchaug River, Mattabesset River, Millers Pond, and Pocotopaug Lake. The shoreline also has many smaller unnamed rivers, harbors, islands, and inlets.

Woodland Period to Seventeenth Century

During the Woodland Period of northeastern North American history (ca., 3000 to 500 years ago) the Indigenous peoples who resided between the Housatonic River and east to the Hammonasset River were part of the greater Algonquian culture of northeastern North America (Lavin 2013). They spoke local variations of Southern New England Algonquian (SNEA) languages and resided in extended kinship groups on lands they maintained for a variety of horticultural and resource extraction purposes (Goddard 1978). Native people in the region practiced subsistence activities including hunting, fowling, and fishing, along with the cultivation of various crops, the most important of which were maize, squash, and beans. They supplemented these foods seasonally by collecting shellfish, fruits, and plants during warmer periods, and gathering nuts, roots, and tubers during colder times (Lavin 2013).

In addition, these communities came together in large groups to hunt deer in the fall and winter. Indigenous peoples lived with their immediate or extended families in large settlements often concentrated along rivers and/or wetlands. Some villages were fortified by wooden palisades. Their 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. Indigenous communities commonly traded among both their immediate neighbors and often maintained long-distance networks as well (Lavin 2013). The Native people who resided in present-day Portland were known as the Wangunks. Their neighbors to the south were the Hammonassets; they

were bordered to the east and southeast by the Mohegans and Uncas, and the Podunks and Sicaogs to the north (De Forest 1852).

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 Middletown was recorded by European observers (Lavin 2013). The earliest Europeans known to have entered Long Island Sound and the Connecticut River along present-day Middlesex County were the Dutch around 1614. During that voyage Captain Adrian Block created a figurative map of the region that depicted the shoreline including the Pawcatuck, Mystic, Pequot (Thames), and Connecticut Rivers. Block's 1614 map identified Native nations in the region and placed the Mohegan homeland on the landscape. The Dutch established trade relationships with Native people of the area and by the early 1620s they entered an agreement with the Pequot of present-day southeastern Connecticut in which the Pequot would provide wampum and furs for European goods. Through their relationship with the Dutch, the Pequot had steady access to a variety to valuable European trade goods they could distribute to tributaries and/or trade 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 all the Native nations in those areas into a tributary relationship under their leadership (Hauptman and Wherry 2009; McBride 2013).

To break from the Pequot, several Connecticut River sachems invited the English to the valley who settled Windsor in 1633, Wethersfield in 1634, and both Hartford and Saybrook by 1635 (Van Dusen 1961). Increased European interaction resulted in exposure to diseases and epidemics Indigenous people had never encountered and to which they had no natural immunity. Illnesses such as smallpox, measles, tuberculosis, and cholera devastated Native communities. In 1633, an epidemic spread through the region impacting the Pequot and people further west (Lavin 2013). Tensions between Native and European groups in the Connecticut River resulted in the death of English traders between 1634 and 1636 which were blamed on the Pequot. In retaliation, English forces from Massachusetts Bay destroyed Pequot and Niantic villages on the Pequot (Thames) River in August of 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 of 1637 further upriver. Connecticut Colony declared war on the Pequot and were joined by Native warriors from the Connecticut River and Mohegans under the Sachem Uncas (Oberg 2006). In May 1637, English allied forces destroyed the fortified Pequot village at Mistick and pursued Pequot refugees west towards present-day Fairfield (Cave 1996). After the war, the Connecticut English claimed Pequot lands as conquered lands for their growing colony.

In January of 1639, the "fundamental orders" were adopted which outlined the framework for Connecticut Colony, a self-governed colony separate from Massachusetts Bay or Plimoth (Trumbull 1886). The colonization of Middletown, of which Portland was originally a part, began in the 1650s when settlers from Hartford and Wethersfield migrated down the Connecticut River. Land was granted to William Cornwell and Robert Webster as early as 1653. By 1654 there were 30 families, many of whom had purchased land from Sowheag, the head of the Mattabasetts, on the west side of the river and from the Wangunks on the east side. In 1672, the town of Middletown purchased a tract of land on the eastern side of the Connecticut River from leaders of the Wangunk tribe and it was not until 1686 that the first inhabitant of Portland was recorded (Bayne 1884). Initial settlers began travelling east of the Connecticut River into what is now Portland beginning around 1690 to use brownstone resources (Triassic sandstone), build ships, and establish farms. In 1714, this area was established as the parish of East Middletown and a separate town by the name of Chatham in 1767, which at the time included East Hampton and Middle Haddam (Portland 2016).

Slavery existed in Middletown, which then included present-day Portland, and was primarily practiced by wealthy families, merchants, and ministers in larger towns. The 1774 Connecticut colonial census recorded a "White" population of 4,680 and "Black" population of 198 in Middletown but ignored Native inhabitants (Hoadly 1887). During the American Revolution (1775-1783), Portland played an important role in recruiting soldiers, offering food stores, and providing a variety of military goods for the war effort. The shipyards at Portland produced several warships, including the *Trumbull*, a 700 ton, 36 gun ship, and the *Bourbon*, a 900 ton, 40 gun ship (Beers 1884). After the Revolution, Portland recovered from wartime economic disruptions thanks to its robust agricultural production and maritime trade. In 1784, the State passed a gradual manumission law, but slavery was not fully abolished until 1848 (Normen 2013). On January 9, 1788, Connecticut ratified the U.S. Constitution to become the fifth state (Van Dusen 1961).

Nineteenth Century through the Twenty-first Century

Early industry in Portland included shipbuilding. The S. Gildersleeve & Sons shipbuilding company located in Portland constructed 135 vessels between 1821 and 1844 (Connecticuthistory.org 2021). Additionally, the extractive economy based on brownstone quarries grew. Following the Revolutionary War, the town of Portland sold quarry land and rights to individuals and companies in an attempt to resolve remaining war debts. By the 1840s, three companies, Shaler and Hall, Middlesex Quarry Co., and Brainerd Brothers, operated the quarries in town (Roth 1981). It was not until 1841 that Portland was incorporated. Like many Connecticut towns, Portland also directly provided men during the Civil War. From Portland, 192 men served in the Union army (Hines 2002). The town's location along the Connecticut River made it ideally located for shipbuilding to support the Union as well (Nivens 1965). The Gildersleeve Yard in Portland produced the US Navy gunship *Cayuga*, along with additional gunships to fulfil government contracts. The post-war economy of Portland grew, based solidly on an extractive economy, as well as the continuance of agriculture, especially tobacco. The extraction of Portland brownstone reached its peak in 1880, at which time Portland had 4,100 residents with the majority of adult males in town (1,500 men) working in the quarry. This included immigrants from Ireland and Sweden; the need for workers prompted the construction of housing for quarrymen and their family in town (Roth 1981).

In addition, Portland became connected to other points in the state with the establishment of the Boston, & New York Air Line Rail, meant to link New York to Boston, which prompted the construction of the first bridge over the Connecticut River between Middletown and Portland in 1876 (McDougall 2004; Turner and Jacobus 1989). The rail line included a stop in Portland. The Portland Passenger Bridge was constructed in 1896 as 1,300-foot long draw bridge, constructed by the Berlin Iron Bridge Company, further linking the town with Middletown and points west of the Connecticut River (Warner 2011).

By the early twentieth century, challenges and opportunities shaped the Town of Portland. Unfortunately, the flood of the Connecticut River in 1936 inflicted heavy damage upon the region. The flood filled the quarry in Portland with water, ultimately bringing production to a halt. It is estimated that throughout the years as an active quarry over 10 million cubic yards of stone was removed (Roth 1981). The subsequent Hurricane of 1938 also brought devastation to the area. The nearby city of Middletown had losses in excess of $1 million and the hurricane caused an estimated $100,000,000 in damage in Connecticut, killing 85 individuals (Van Dusen 1961). Despite these challenges, the growth of automobile culture and suburbanization led to the growth of Portland. The construction of the Arrigoni Bridge spanning the Connecticut River, and replacing the Portland Passenger Bridge, between Middletown and Portland in 1938, helped to facilitate the growth of Portland (McDougall 2004). As the first half of the century progressed, Portland's population rose significantly, almost doubling during the

period of 1900 to 1960 (Table 1; Connecticut 2022c). By the mid-twentieth century, the trend toward post-war suburban living brought more permanent residents to industrial towns and cities, further boosting the regional population. This suburban trend was facilitated by the widespread adoption of the automobile by the American middle class and new highway construction. In 1953, Route 9 was proposed as an intrastate expressway linking the Hartford area with the shoreline (DeLuca 2020). Once constructed, Route 9 paralleled the Connecticut River, west of Portland, providing greater transportation connectivity throughout Middlesex County and the state, increasing the growth of Portland and the City of Middletown.

Changes continued in Portland through the twenty-first century as the population continued to grow. As of 2023, the town's largest employers were Birdon, Specialty Lighting Group, and Airex Rubber Products Corporation. Key industries include local government, construction, and accommodation and food services (AdvanceCT and CTData Collaborative 2023). Despite its population growth, Portland retains aspects of rural landscape along with its suburban sections. Strategic growth is anticipated for Portland. The town's Plan of Conservation and Development from 2016 states that Portland seeks to "maintain its character as a small New England Town" while also developing its riverfront area and promoting business development (Portland 2016:3).

Table 1: Population of Portland, Connecticut 1790-2020 (Connecticut 2022a-d, Connecticut 2021)

Town	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900
Portland, Middlesex County	…	…	…	…	…	…	2,836	3,657	4,693	4,157	4,687	3,856
	1910	**1920**	**1930**	**1940**	**1950**	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2020**
	3,425	3,644	3,930	4,321	5,186	7,496	8,812	8,383	8,418	8,732	9,508	9,384

History of the Project Area

The proposed project parcel and Project area are situated in the town of Portland in Middlesex County, Connecticut. The 1859 Middlesex County map by Walling shows that the Glastonbury Turnpike (Route 17) to the east of the project parcel was in place by that time (Figure 4). Old Maids Lane in Glastonbury, which is to the north of the project parcel, was also mapped at this time. The wetlands to the southwest are labeled on the 1859 map as "Wangunk Meadow." According to the 1859 Middlesex County map, nearby residences on Glastonbury Turnpike at that time belonged to Mrs. N. Polly, N. Simpson, G. Andrews, and A. Mattison.

Beers' subsequent 1874 map indicates a similar layout of the local area as that of the 1859 map. The residences of W. Hale, W. N. Simpson, G. Andrus, and A. Matson appear on Beers' 1874 map. Andrus and Matson likely represent the same residents as Andrews and Mattison from the previous map, with alternative spellings (Figure 5). The nearest resident to the project area, W. N. Simpson, likely refers to William N. Simpson, who was 45 years at the time of the 1870 federal census (United States Census Bureau [USCB] 1870). He was likely a farmer, supporting the idea that this area served an agricultural purpose in the nineteenth century.

The earliest available aerial photography of the project parcel dates from 1934. This aerial image confirms the interpretation of the 1859 and 1874 maps, and it depicts the local landscape as containing primarily forests and agricultural fields. The project parcel appears to contain an orchard with rows of trees in its eastern portion, while the western part of the parcel was forested during the early twentieth century. The immediate vicinity of this field was characterized by forests, with nearby fallow fields along the roads to the north and east as well as several tobacco barns (Figure 6). An aerial photo taken in 1951

depicts a landscape that had not changed significantly, apart from the northwestern portion of the project area being cleared (Figure 7). Likewise, a subsequent 1970 aerial image shows a nearly identical landscape to that of 1951 (Figure 8). Aerial photography from 1990 shows major landscape disturbances in the vicinity of the project area and the western portion of the parcel, although the eastern part of the project parcel remained as an intact orchard. The land in the west of the parcel appears to have been quarried, and another patch of land is quarried to the northwest of the parcel. In addition, most of the modern suburban roads off of the Glastonbury Turnpike had been constructed by that time, including Old County Way directly to the east of the project parcel (Figure 9). A subsequent 2004 aerial image shows a largely similar landscape to 1990, although the quarry to the northwest was expanded (Figure 10). Aerial photography from 2019 shows the project parcel in its essentially modern state. Today, Nayaug Elementary School is present to the north of the parcel, replacing a former agricultural field. The gravel quarry to the west of the parcel has begun to be reclaimed by grass and some trees. The eastern portion of the project parcel has retained the same land use since at least the 1934 aerial survey, and appears to remain an orchard on agricultural land. The surrounding environment also continues to be forested, with agricultural fields to the north, and residential buildings on the roads to the east (Figure 11).

Conclusions

The documentary review suggests that the Project area is located on lands that contained agricultural fields. As a result, there is the possibility of encountering evidence of post-European Contact period farming activities that may be important as a component of a rural historic landscape. In addition, proximity of the Connecticut River suggests the possibility of cultural resources related to post-European Contact period riverine activities.

CHAPTER V
PREVIOUS INVESTIGATIONS

Introduction

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

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

A review of data currently on file at the CT-SHPO, as well as the electronic files maintained by Heritage resulted in the identification of one post-European Contact period archaeological site (54-156) within 0.8 kilometers (0.5 miles) of the proposed Project (Figure 12). In addition, a single State Register of Historic Places property and no National Register of Historic Places properties were identified within 0.8 kilometers (0.5 miles) of the Project area (Figure 13). These resources are reviewed below and provide the context with which to assess the Project area for containing additional intact cultural resources.

Site 54-156

Site 54-156, which is also known as the Riverside Woods Site, is a post-European Contact period site in Glastonbury, Connecticut (Figure 12). The site was historically a nineteenth century house and farmstead. The house has been demolished and the surrounding areas have been used to cultivate tobacco. This site was tested by Public Archaeology Laboratory, Inc., (PAL), in 2016, which yielded some eighteenth and nineteenth century domestic and architectural debris. The Riverside Woods Site was not assessed applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]), although it was noted to retain research potential. The site is located approximately 0.5 kilometers (0.31 miles) to the north of the Project area and will not be impacted by the proposed construction.

Old Maids Farm-Tobacco Shed

The Old Maids Farm Tobacco Shed is an outbuilding of the nearby Old Maids Farm, historically known as the Captain Noah Tryon Farmstead (Figure 13). The farm is located at 1099 Tryon Street in Glastonbury, Connecticut and it was owned by the Tryon family in the nineteenth century. The portion of the property within the 0.8 kilometer (0.5 mile) buffer of the project parcel contains the tobacco shed, which was constructed in ca., 1880 in a vernacular style. The shed is considered architecturally significant as an excellent example of typical Connecticut tobacco sheds of the era, and it incorporates multiple ventilation systems in its construction. The shed is associated with the nearby 1840s residence on the property that is beyond the project buffer. The Old Maids Farm Tobacco Shed is located approximately 0.44 kilometers (0.27 miles) to the northwest of the Project area and will not be impacted by the proposed construction.

CHAPTER VI
METHODS

Introduction

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

Research Design

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

Field Methods

Following the completion of all background research, the development area was subjected to a Phase IB cultural resources reconnaissance survey utilizing pedestrian survey, photo-documentation, GPS recordation, and systematic shovel testing. The field strategy was designed such that the entirety of the moderate/high sensitivity areas) was examined visually and photographed. The pedestrian survey portion of this investigation included visual reconnaissance of all of the development area. The subsurface examination was completed through the excavation of shovel tests at 20 meter (65.6 foot) intervals along survey transects positioned 20 meters (65.6 feet) apart. Each shovel test measured 50 x 50 centimeter (19.7 x 19.7 inch) in size, and each was excavated until glacially derived C-Horizon or immovable object (e.g., boulders, large tree roots) were encountered. Each shovel test was excavated in 10 centimeter (3.9 inch) arbitrary levels within natural strata, and the fill from each level was screened separately. All shovel test fill was screened through 0.64 centimeter (0.25 inch) hardware cloth. Soil characteristics were recorded in the field using Munsell Soil Color Charts and standard soils nomenclature. Each shovel test was backfilled after it was fully documented.

Post-European Contact Period Cultural Material Analysis

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

Precontact Era Cultural Material Analysis

The lithic analysis protocol used during completion of the Phase II Intensive Archaeological Survey effort was a “technological” or “functional” one designed to identify precontact reduction trajectories and lithic industries. The protocol, therefore, focused on recording technological characteristics of the recovered lithic artifacts. The lithic artifact database was organized by lithic material group, type, and subtype. The

first level described the raw material type of the artifact. Lithic materials were identified utilizing recognized geological descriptions and terminology and were placed into distinct categories based on three factors: texture, color, and translucence.

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

Curation

Following the completion and acceptance of the Final Report of Investigations, all cultural material, drawings, maps, photographs, and field notes will be curated with: Dr. Sarah Sportman, Office of Connecticut State Archaeology, Box U-1023, University of Connecticut, Storrs, Connecticut 06269

CHAPTER VII
RESULTS & MANAGEMENT RECOMMENDATIONS

Introduction

This chapter presents the results of the Phase IB Cultural Resources Reconnaissance Survey of the proposed Project area in Portland, Connecticut. The Project area encompasses approximately 21 acres of land. As in Chapters I and IV, Phase IB survey included pedestrian survey, augmented by systematic shovel testing and photo-documentation throughout the limits of the development area (Figure 14). The results of the Phase IB survey effort are presented below.

Results of Phase IB Cultural Resources Reconnaissance Survey

As stated earlier, the proposed Project will consist of a solar array and associate infrastructure of land along Old Maid's Lane in Portland, Connecticut. The parcel is situated at associated elevations ranging between 32 to 79 meters (104.9 to 259.2 feet) NGVD. At the time of survey, the area was characterized by forested land with level to gently sloping topography (Photos 1 through 7). A previously conducted Phase IA cultural assessment survey determined that the Project area retained moderate/high archeological sensitivity. The results of the Phase IB survey are discussed below.

A total of 113 of 119 (95 percent) planned shovel tests were excavated throughout Project area (Figure 14). The six (5 percent) planned but unexcavated shovel tests fell into areas defined by previous disturbance. An additional 20 delineation test pits were excavated to further explore identified precontact era Native American cultural deposits (see below). A typical shovel test excavated during the Phase IB investigation extended to an average depth of 59 centimeters below surface (cmbs) (23.2 inches below surface [inbs]) and exhibited up to three soil horizons in profile. The uppermost soil horizon was characterized as an Ap-Horizon (plowzone) that extended from the ground surface to 20 cmbs (0 to 7.9 inbs); it consisted of a layer of dark brown (7.5 YR 3/2) fine sandy loam mixed with gravel. The underlying B-Horizon (subsoil) reached from 20 to 40 cmbs (7.9 to 15.8 inbs) and was defined by a deposit of reddish brown (5YR 4/3) sandy loam mixed with gravel. Finally, the glacially derived C-Horizon was defined by a deposit of reddish brown (5YR 4/4) medium sand with gravel and cobbles; it was encountered at 40 cmbs (15.8 inbs) and extended to the bottom of the shovel test at 59 cmbs (23.2 inbs). This stratigraphy can be seen within the digital profile of Transect 5; STP 2 (Figure 15).

The Phase IB shovel testing results in the recovery of eight artifacts dating from the post-European Contact period. This material included 6 unidentified colorless, aqua, and bright green bottle glass shards; 1 plain whiteware shard, and 1 piece of coal (Photo 9). The post-European Contact period artifacts were exclusively recovered from plowzone (Ap-Horizon) soils and are likely related to the past agricultural use of the landscape. Figure 14 shows that they were collected from various locations across the project area and were not recovered in significant concentrations or in association with any above or below ground cultural features such as foundation, privies, etc. As a result, the post-European Contact period materials were classified as unassociated low density field scatter. These items in and of themselves do not retain research potential or the qualities of significance for listing to the National Register of Historic Places applying the criteria for evaluation (36 CFR 60.4[a-d]). No additional examination of the post-European Contact period assemblage is recommended prior to Project construction.

In addition, the Phase IB subsurface examination resulted in the identification of four precontact era Native American isolated find spots (ISO-1 through ISO-4) and two loci (Locus 1 and 2) across the Project area (Figure 14). As seen in Table 2 below, the recovered Native American artifacts included examples of quartz lithic debitage, cores, and flaked tools. Each Isolated Find and Loci are discussed in detail below.

Table 3: Precontact era Native American artifacts recovered from the Project area.

Area	Locus	Soil Horizon	Artifact Class	Material	Description	Total
Project Area	ISO 1	B	Debitage	Quartz	Primary reduction flake	1
	ISO 1 Total					**1**
	ISO 2	Ap	Flaked Tool	Quartz	Biface	1
	ISO 2 Total					**1**
	ISO 3	B	Debitage	Quartz	Flake	1
	ISO 3 Total					**1**
	ISO 4	Ap	Debitage	Quartz	Angular Debris	1
	ISO 4 Total					**1**
	Locus 1	Ap	Debitage	Quartz	Flake	4
			Flaked Tool	Quartz	Biface	1
			Debitage Tool	Quartz	Utilized Flake	1
	Locus 1 Total					**6**
	Locus 2	B	Core	Quartz	Core	2
			Debitage	Quartz	Flake	4
	Locus 2 Total					**6**

Isolated Find 1 (ISO-1)

ISO-1 was identified within the southeastern portion of the Project area (Figure 14). At the time of survey, this area was comprised of an orchard with slightly sloping topography. ISO-1 was identified within Shovel Test 9 along Survey Transect 5. This shovel test was excavated to 62 cmbs (24.4 inbs) and exhibited three soil horizons in profile and was consistent with the typical stratigraphy observed throughout the Project area as discussed above. The excavation of Shovel Test 9 along Survey Transect 5 resulted in the recovery of a single quartz primary reduction flake collected from the B-Horizon (subsoil) (Photo 10). As a result, four delineation test pits were excavated at 10 meter (32.8 feet) intervals in each cardinal direction of the initial test pit. Despite careful excavation, no additional cultural material or evidence of cultural features was recovered. Therefore, the single artifact was classified as an isolated find spot and determined to lack research potential or the eligibility for listing on the National Register of Historic Places applying the criteria for evaluation (36 CFR 60.4[a-d]). No additional archaeological examination of the ISO-1 area is recommended prior to construction of the proposed solar Project.

Isolated Find 2 (ISO-2)

ISO-2 was identified within the northeastern portion of the Project area (Figure 14). At the time of survey, this area was also comprised of an orchard with slightly sloping topography. ISO-2 was identified within Shovel Test 4 along Survey Transect 2. This shovel test was excavated to 46 cmbs (18.1 inbs) and exhibited three soil horizons in profile and was consistent with the typical stratigraphy observed throughout the Project area as discussed above. The excavation of Shovel Test 4 along Survey

Transect 2 resulted in the recovery of a single quartz biface, which was collected from the Ap-Horizon (plowzone) (Photo 10). As a result, four delineation test pits were excavated at 10 meter (32.8 feet) intervals in each cardinal direction of the initial test pit. Despite careful excavation, no additional cultural material or evidence of cultural features were recovered. Therefore, this single artifact was also classified as an isolated find spot. It too lacks research potential and is not eligible for listing on the National Register of Historic Places applying the criteria for evaluation (36 CFR 60.4[a-d]). No additional archaeological examination of the ISO-2 area is recommended prior to construction of the proposed solar Project.

Isolated Find 3 (ISO-3)

ISO-3 was identified within the northeastern portion of the Project area on slightly sloping topography and within the orchard mentioned above(Figure 14). It was identified within Shovel Test 3 along Survey Transect 2. This shovel test was excavated to 60 cmbs (23.6 inbs) and exhibited three soil horizons in profile; it too was consistent with the typical stratigraphy observed throughout the Project area. The excavation of Shovel Test 3 along Survey Transect 2 resulted in the recovery of a single quartz flake collected from the B-Horizon (subsoil) (Photo 10). As a result, four delineation test pits were excavated at 10 meter (32.8 feet) intervals in each cardinal direction of the initial test pit. Despite careful excavation, the only additional cultural material or evidence of cultural features that was recovered was a single fragment of coal from the delineation to the south. Therefore, the single quartz artifact was classified as an isolated find spot and determined to lack research potential or eligibility for listing on the National Register of Historic Places applying the criteria for evaluation (36 CFR 60.4[a-d]). No additional archaeological examination of the ISO-3 area is recommended prior to construction of the proposed solar facility.

Isolated Find 4 (ISO-4)

ISO-4 was identified within the northeastern portion of the Project area (Figure 14). At the time of survey, this area was also comprised of an orchard with slightly sloping topography. ISO-4 was identified within Shovel Test 2 along Survey Transect 1. This shovel test was excavated to 66 cmbs (26 inbs) and exhibited four soil horizons in profile and was consistent with the typical stratigraphy observed throughout the Project area as discussed above with the exception of also having a B2-Horizon that was described as a Strong Brown (7.5YR 5/6) medium to coarse sand. The excavation of Shovel Test 2 along Survey Transect 1 resulted in the recovery of a single example of angular quartz debris; it was collected from the Ap-Horizon (plowzone) (Photo 10). As a result, three delineation test pits were excavated at 10 meter (32.8 feet) intervals in each cardinal direction of the initial test pit. The fourth delineation shovel test would have fallen outside the Project boundary. Despite careful excavation, no additional cultural material or evidence of cultural features was recovered from the ISO-4 area. Therefore, the single quartz artifact was classified as an isolated find spot and determined to lack research potential or eligibility for listing on the National Register of Historic Places applying the criteria for evaluation (36 CFR 60.4[a-d]). No additional archaeological examination of the ISO-4 area is recommended prior to construction of the proposed solar Project.

Locus 1

Locus 1 was identified within the north-central portion of the Project area (see Figure 14). At the time of survey, this area was also comprised of an orchard with slightly sloping topography. Locus 1 was first identified within Shovel Test 13 along Survey Transect 1. This shovel test extended to a depth of 33 cmbs (13 inbs) and exhibited three soil horizons in profile. The stratigraphy observed within Shovel Test 13 along Survey Transect 1 was consistent with a typical shovel test from the Project area discussed above. The archaeological examination of Locus 1 was accomplished through the excavation of the

original survey shovel test and two delineation shovel tests, which were excavated at 10 meter (32.8 foot) intervals to the south and east of Shovel Test 13 along Survey Transect 1. Delineations were not placed to the north and west due to the presence of the Project boundary and existing road.

Phase IB Survey and delineation of the Locus 1 area resulted in the collection of 4 quartz flakes, 1 utilized quartz tool, and 1 quartz biface. All of these artifacts originated from the Ap-Horizon (Photo 11); however, their presence suggests that the precontact era occupation of this area included purposeful activities, including stone tool reduction and maintenance. The results of the Phase IB survey suggest that Locus 1 could contain additional archaeological data related to precontact era tool production/maintenance and use of the Project area. As a result, it was determined that Locus 1 may be eligible for listing on the National Register of Historic Places applying the criteria of evaluation (36 CFR 60.4 [a-d]). If avoidance of this area is not feasible, it is recommended that it be subjected to Phase II National Register of Historic Places testing and evaluation prior to construction.

Locus 2

Locus 2 was identified within the southeastern portion of the Project area (see Figure 14). At the time of survey, this area was also comprised of an orchard with slightly sloping topography. Locus 2 was first identified within Shovel Test 2 along Survey Transect 5. This shovel test extended to a depth of 59 cmbs (23 inbs) and exhibited three soil horizons in profile. The stratigraphy observed within Shovel Test 2 along Survey Transect 5 was consistent with a typical shovel test from the Project area discussed above. The archaeological examination of Locus 2 was accomplished through the excavation of the original survey shovel test and four delineation shovel tests, which were excavated at 10 meter (32.8 foot) intervals in each cardinal direction of the initial test pit.

Phase IB Survey and delineation of the Locus 2 area resulted in the collection of 4 quartz flakes and 2 quartz cores, all of which originated from the intact B-Horizon (Photo 12). This suggests that the precontact era occupation of this area has not been impacted by plowing and any other later forces. The archaeological deposits within Locus 2 do not appear to be disturbed and may contain other temporally or functionally diagnostic tools and research potential. As a result, the Locus 2 area was assessed as potentially significant applying the National Register of Historic Places applying the criteria for evaluation (36 CFR 60.4[a-d]). It is recommended that Locus 2 either be avoided during construction or that it be subjected to Phase II examination to determine if it is eligible for listing on National Register of Historic Places.

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APPENDIX A

FIGURES

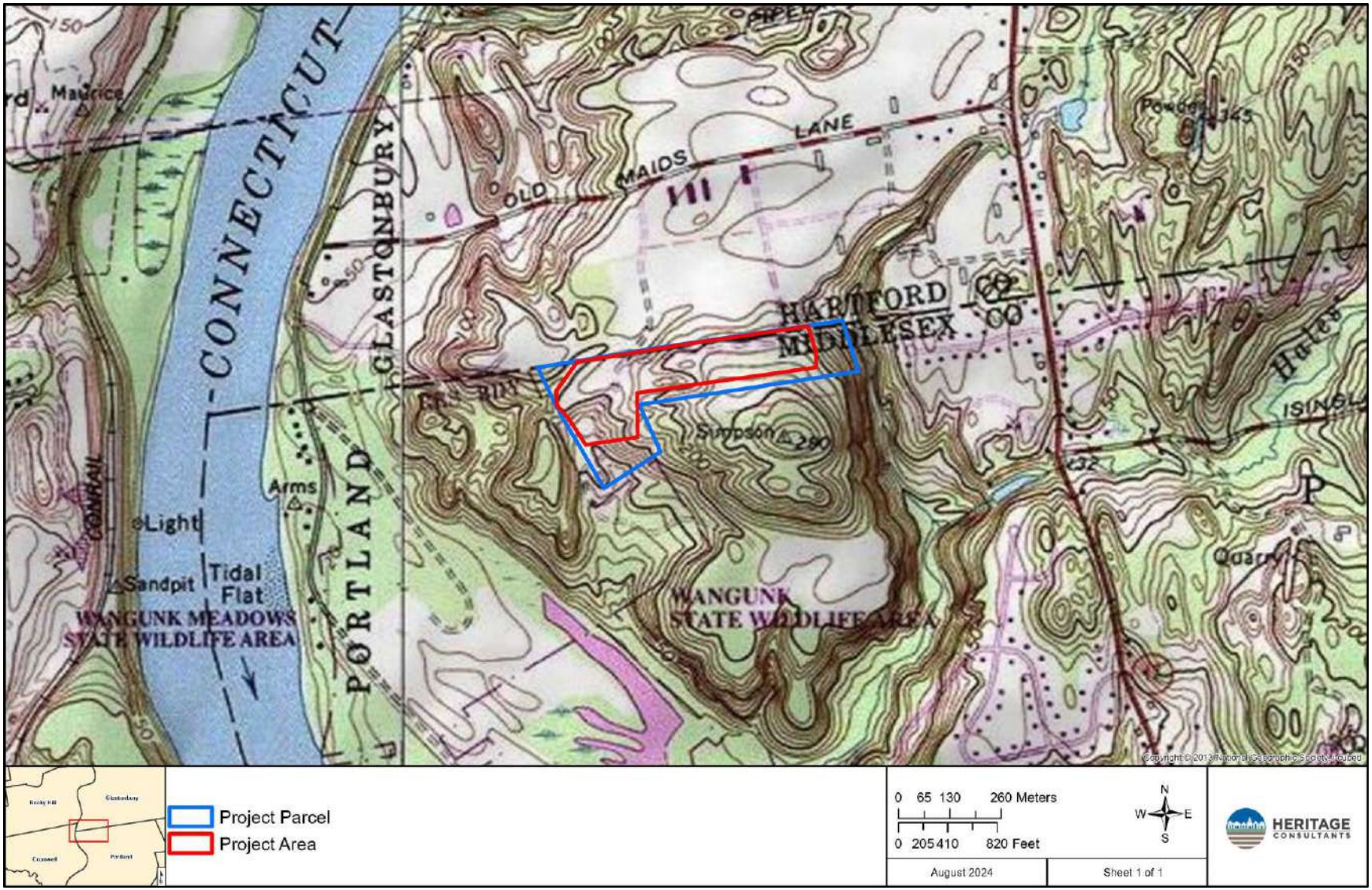

Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project parcel in Portland, Connecticut.

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

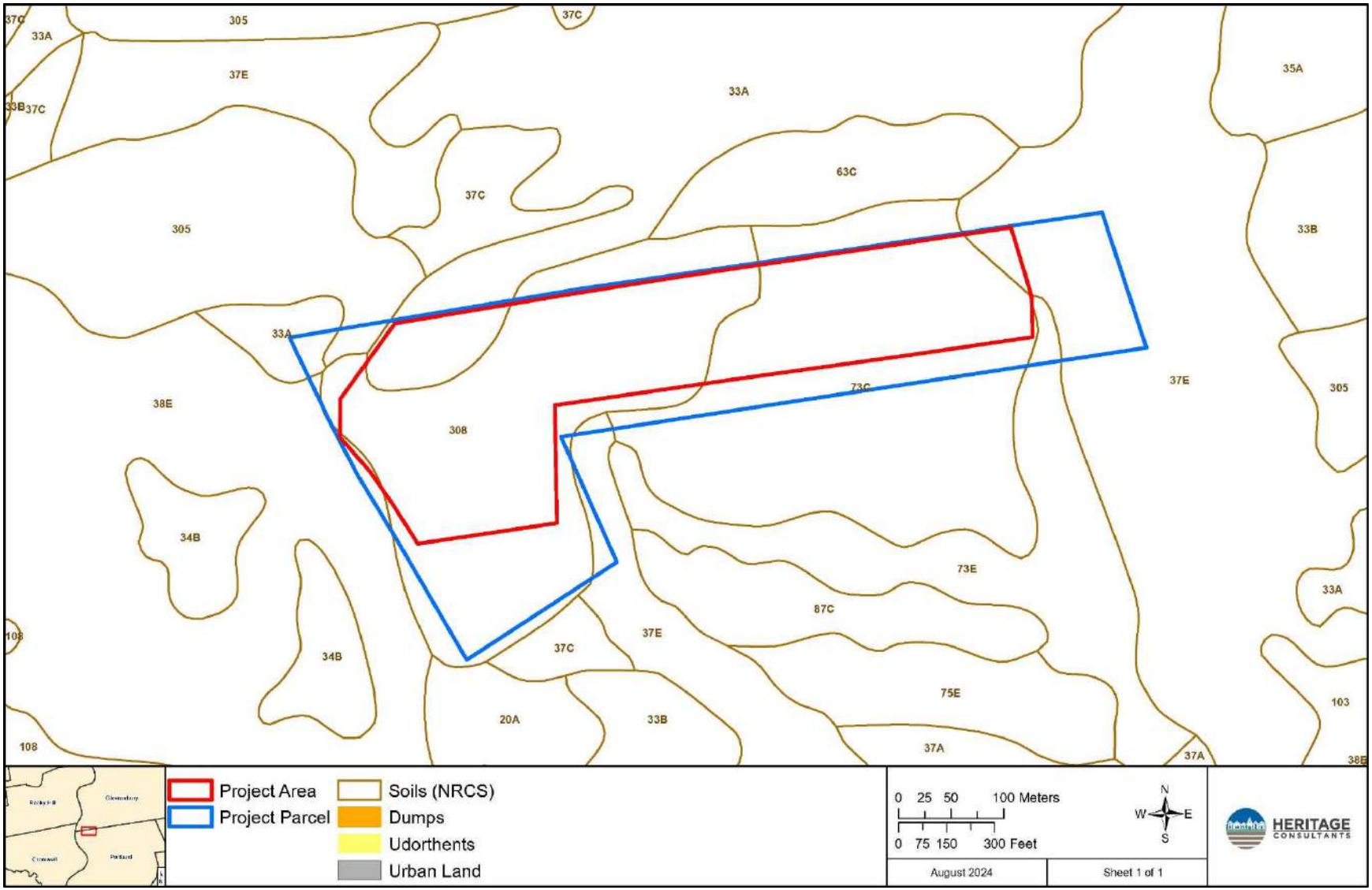

Figure 3. Digital map depicting the soil types present in the vicinity of the project parcel in Portland, Connecticut.

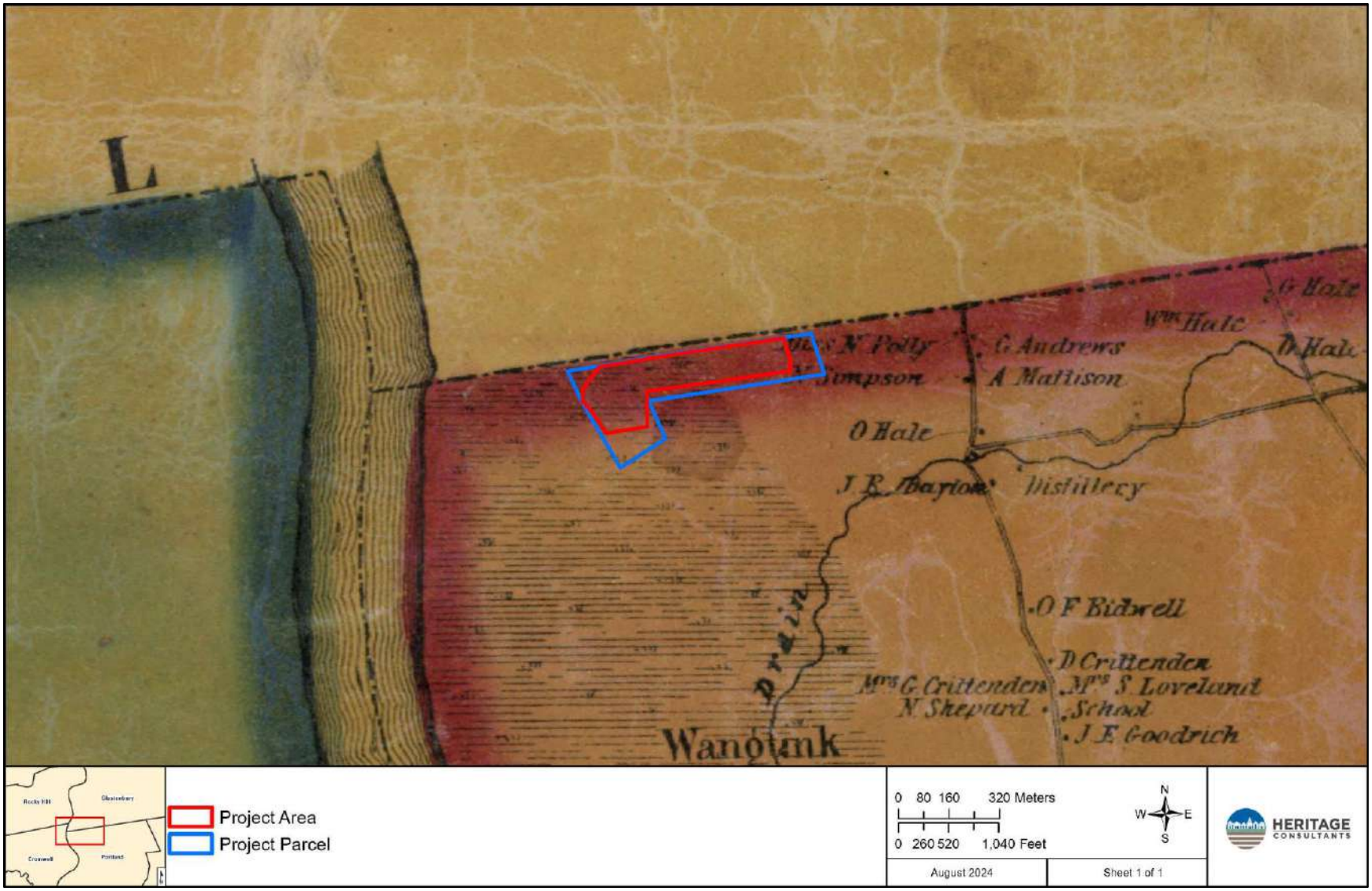

Figure 4. Excerpt from an 1859 map showing the location of the project parcel in Portland, Connecticut.

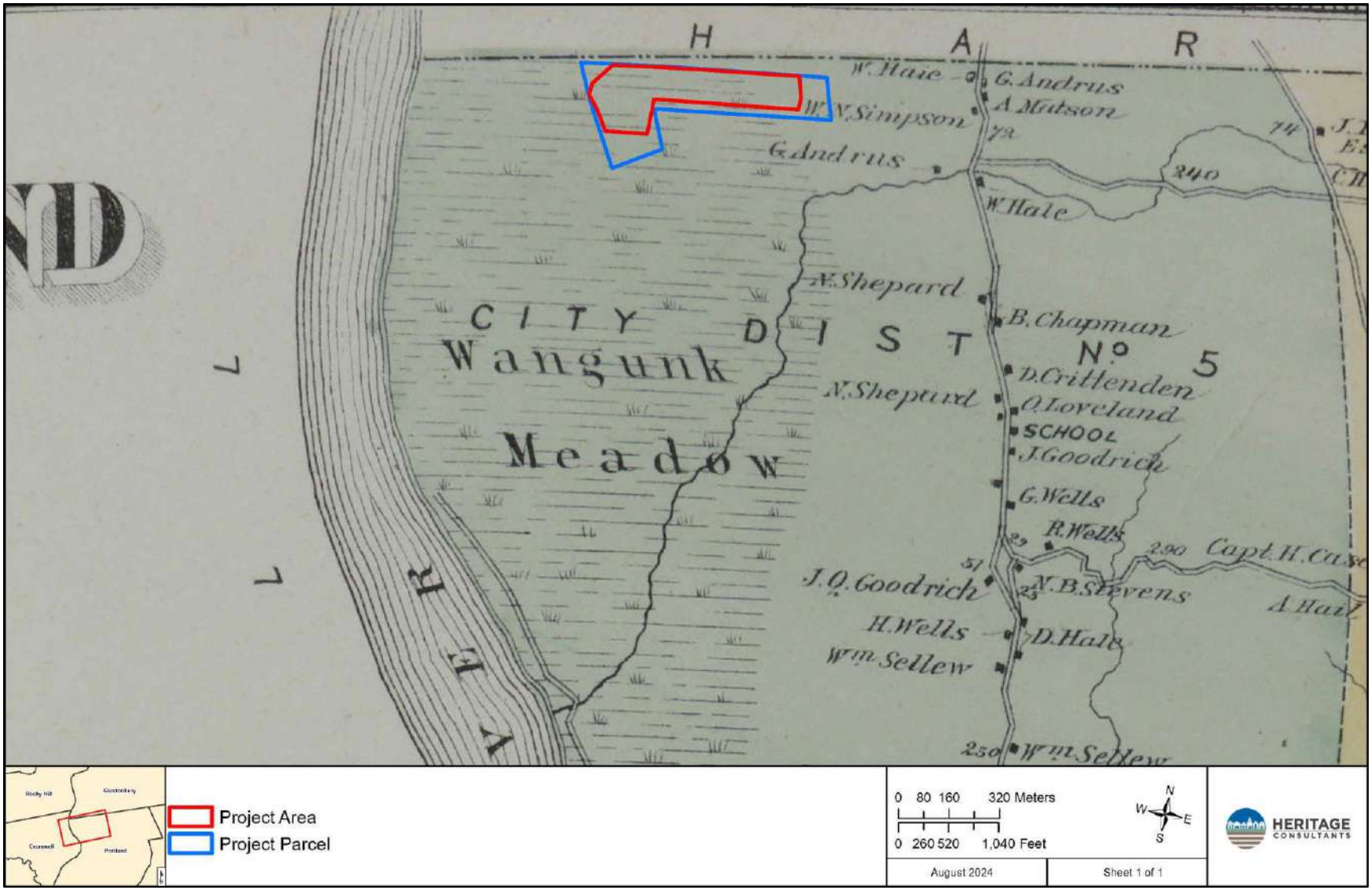

Figure 5. Excerpt from an 1874 map showing the location of the project parcel in Portland, Connecticut.

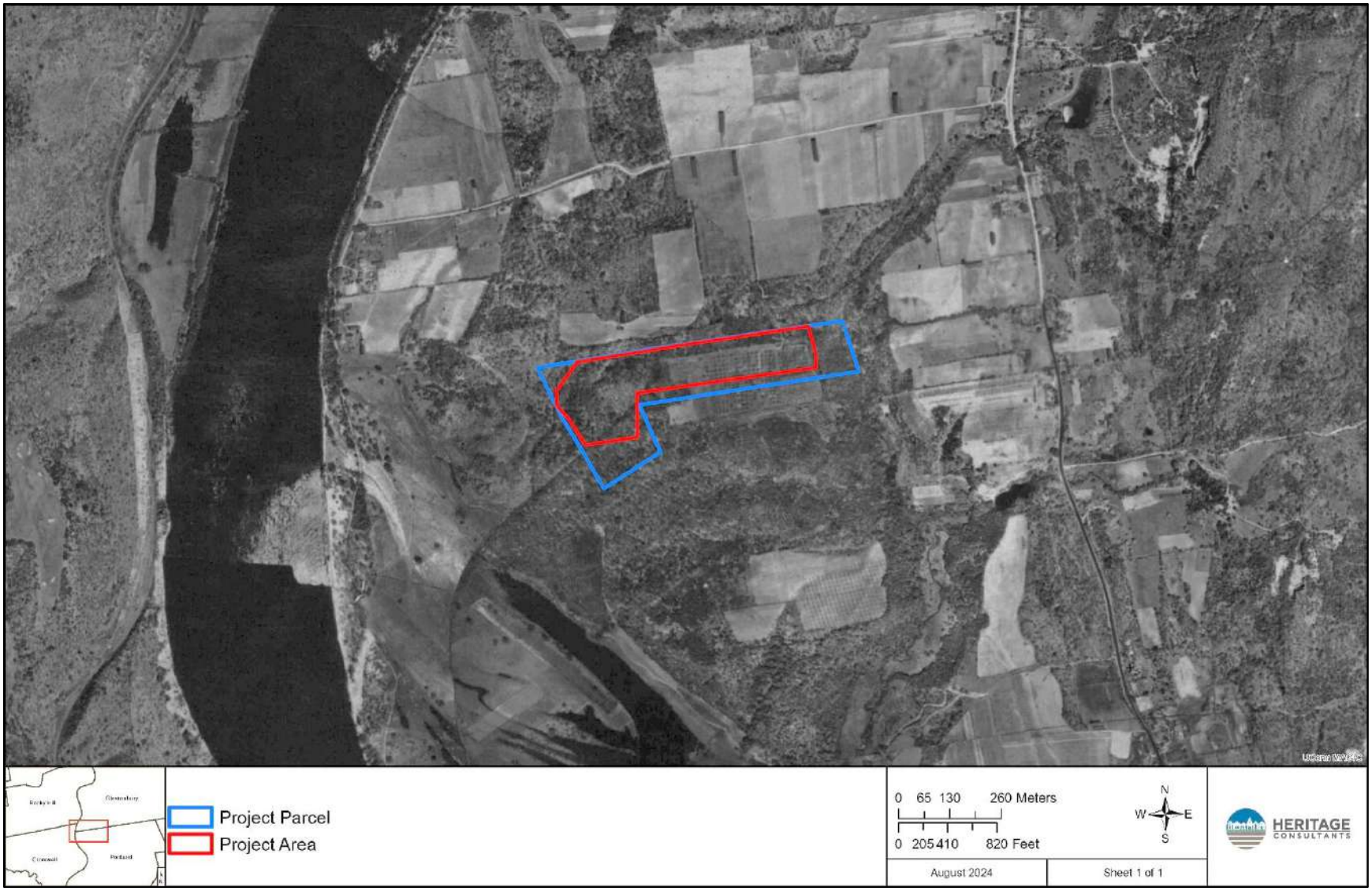

Figure 6. Excerpt from a 1934 aerial photograph showing the location of the project parcel in Portland, Connecticut.

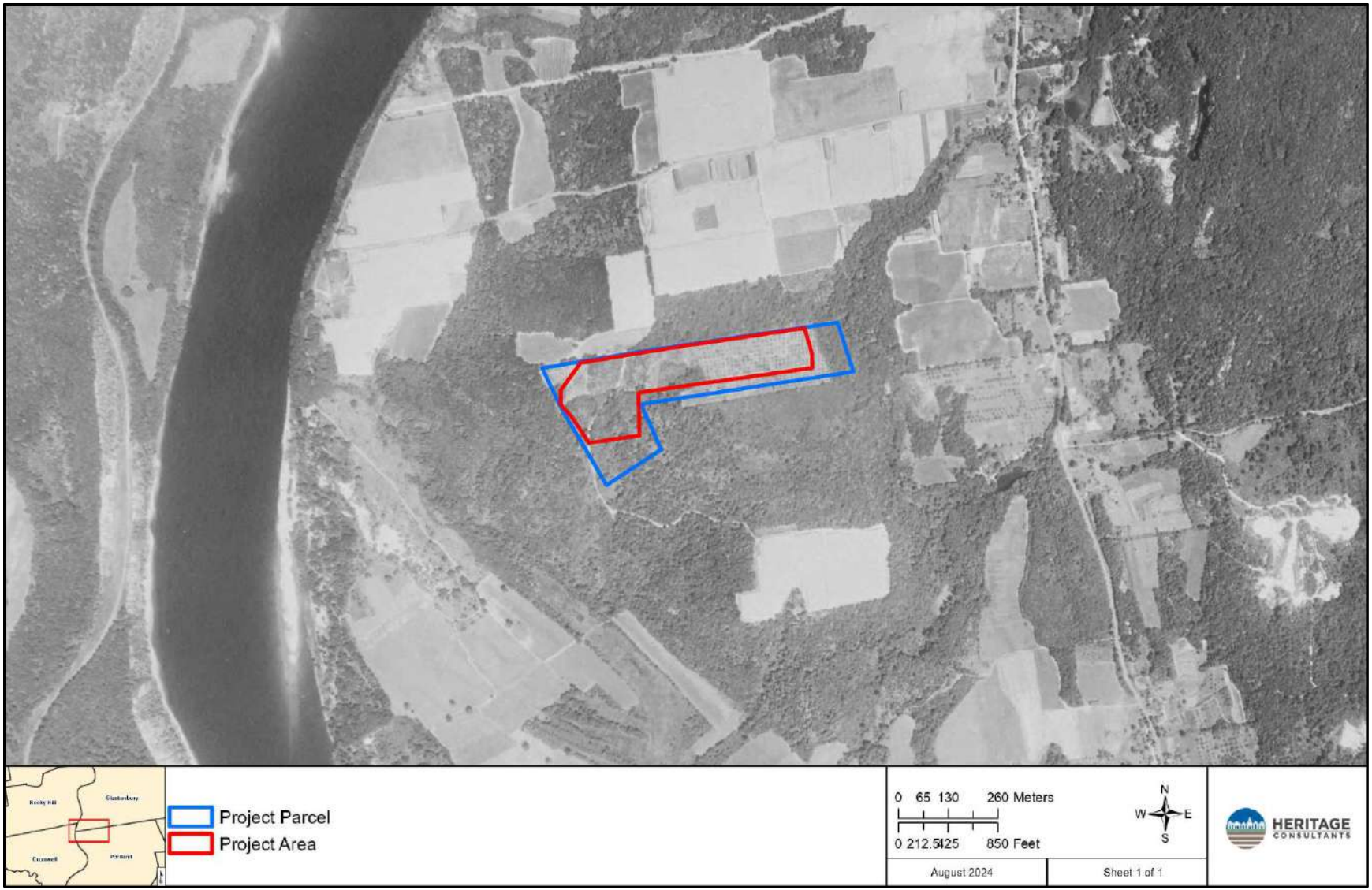

Figure 7. Excerpt from a 1951 aerial photograph showing the location of the project parcel in Portland, Connecticut.

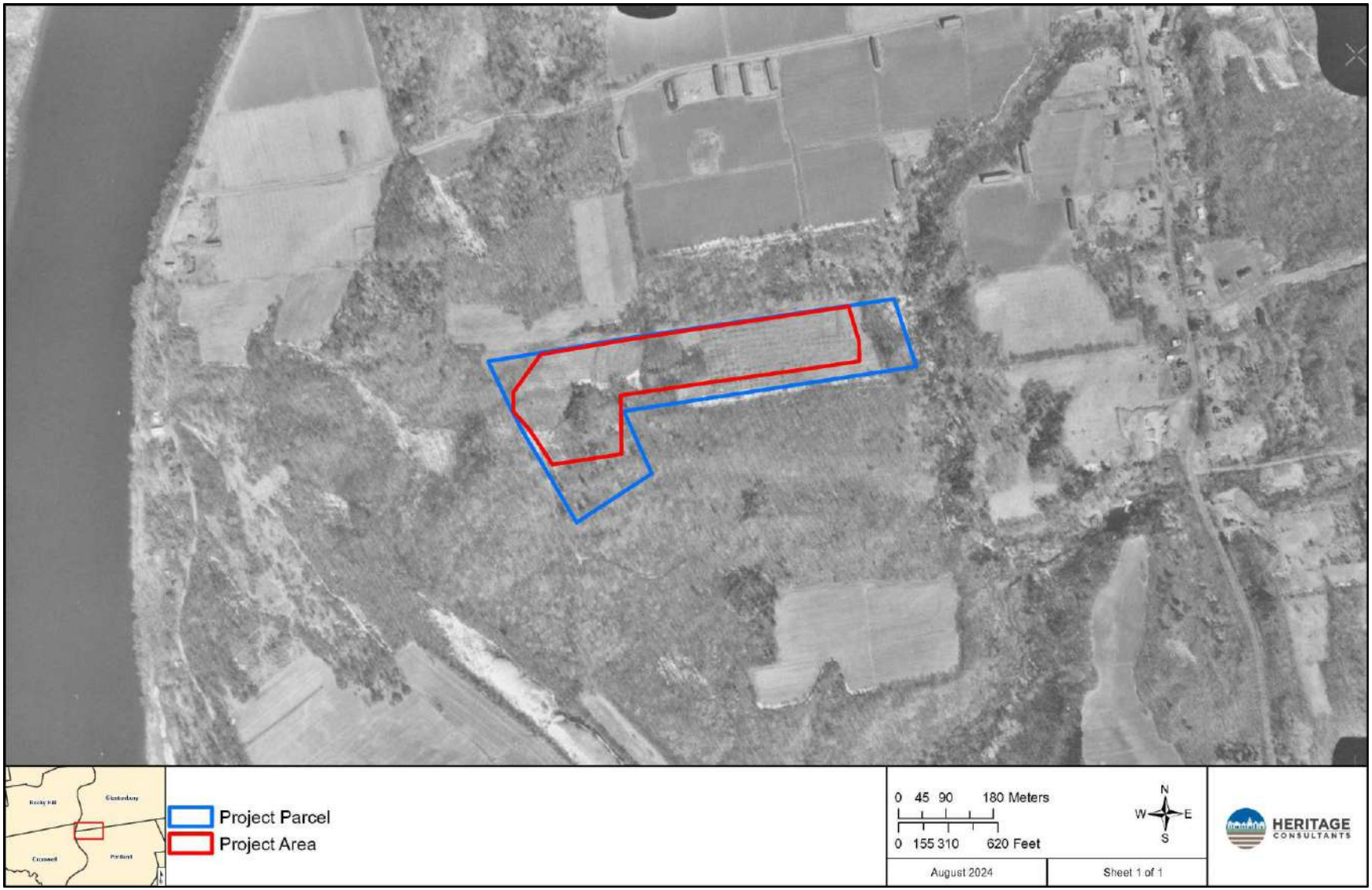

Figure 8. Excerpt of a 1970 aerial photograph showing the location of the project parcel in Portland, Connecticut.

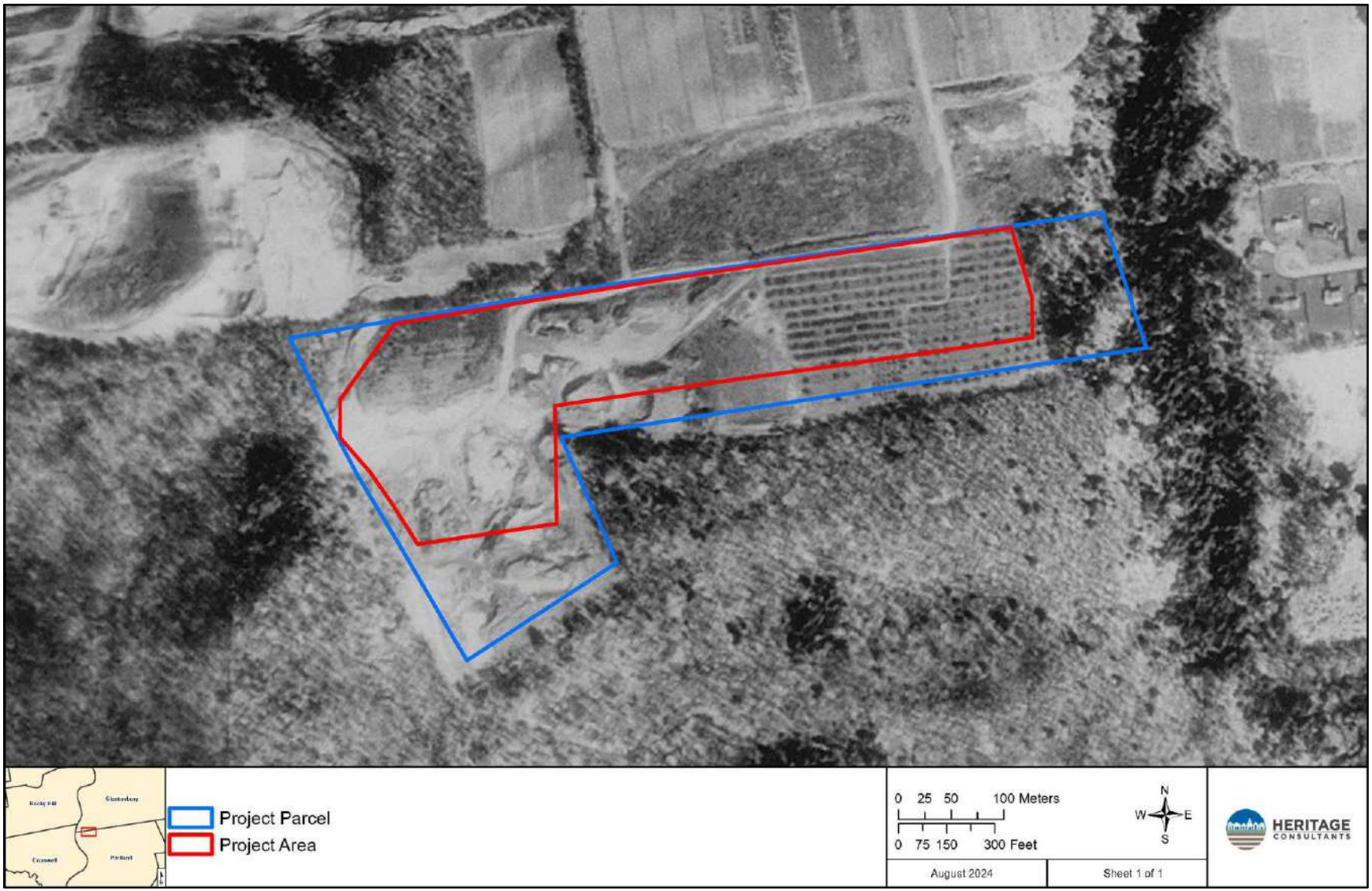

Figure 9. Excerpt of a 1990 aerial photograph showing the location of the project parcel in Portland, Connecticut.

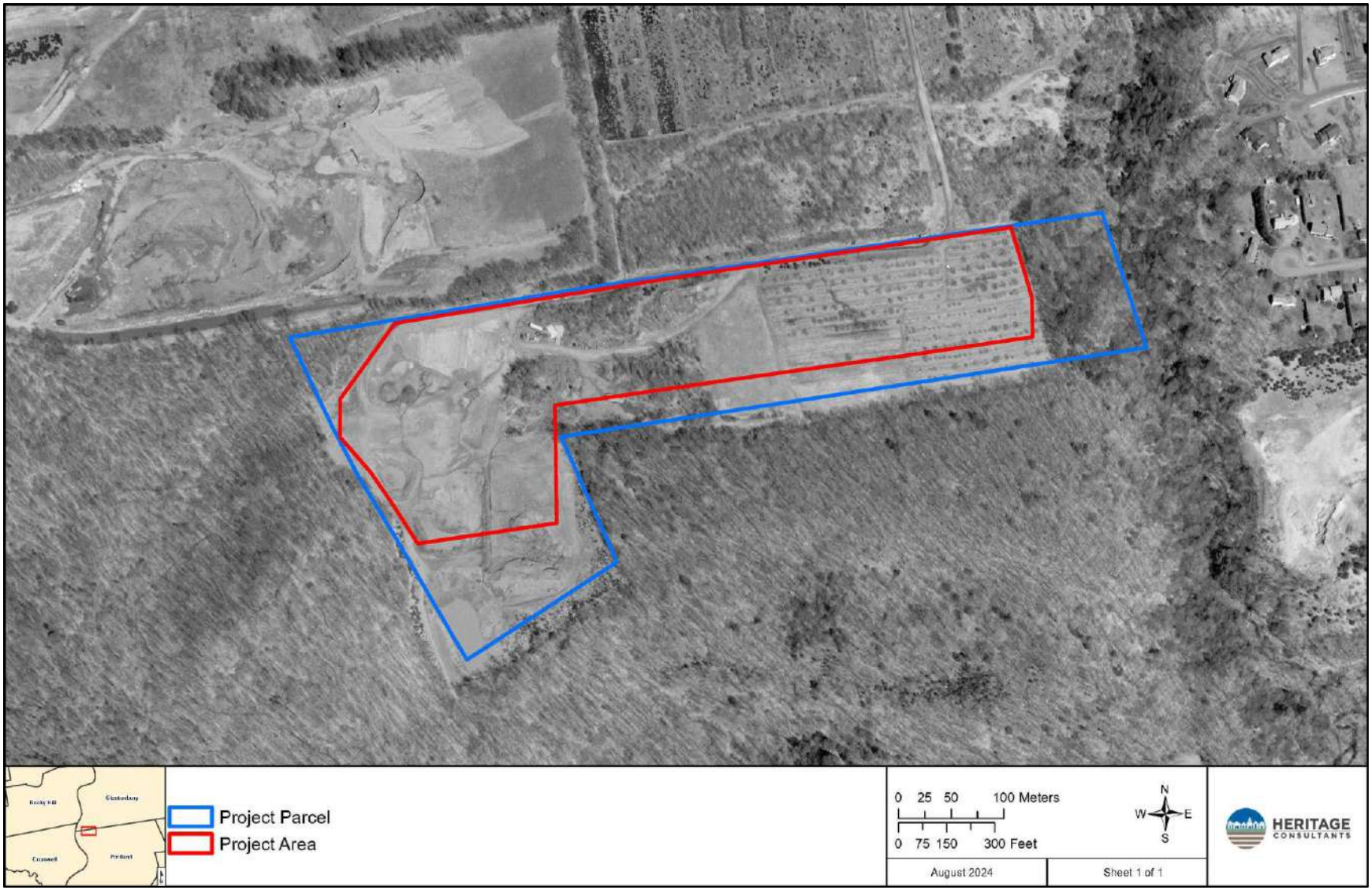

Figure 10. Excerpt of a 2004 aerial photograph showing the location of the project parcel in Portland, Connecticut.

Figure 11. Excerpt of a 2019 aerial photograph showing the location of the project parcel in Portland, Connecticut.

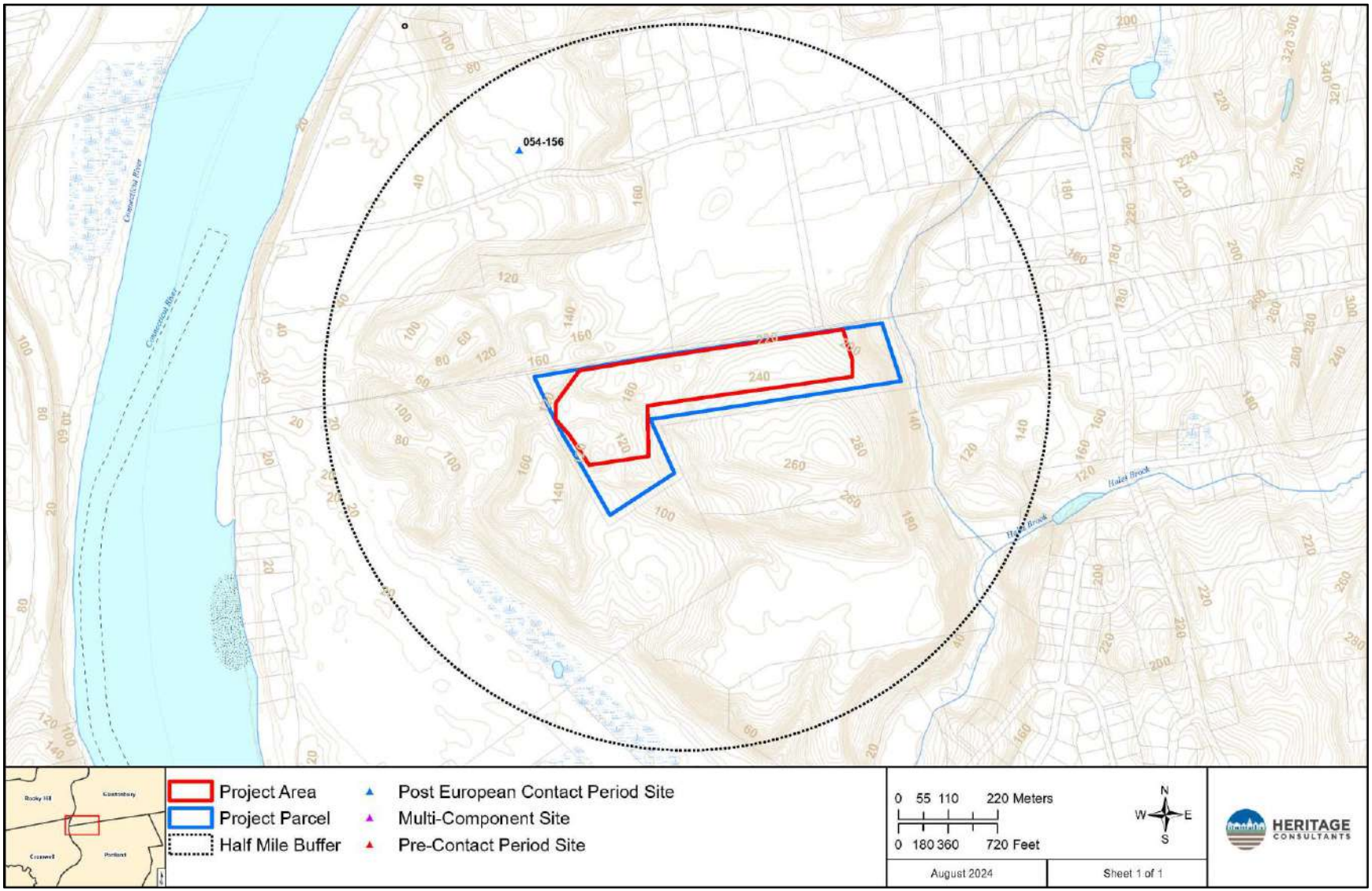

Figure 12. Digital map depicting the locations of the previously identified archaeological sites in the vicinity of the project parcel in Portland, Connecticut.

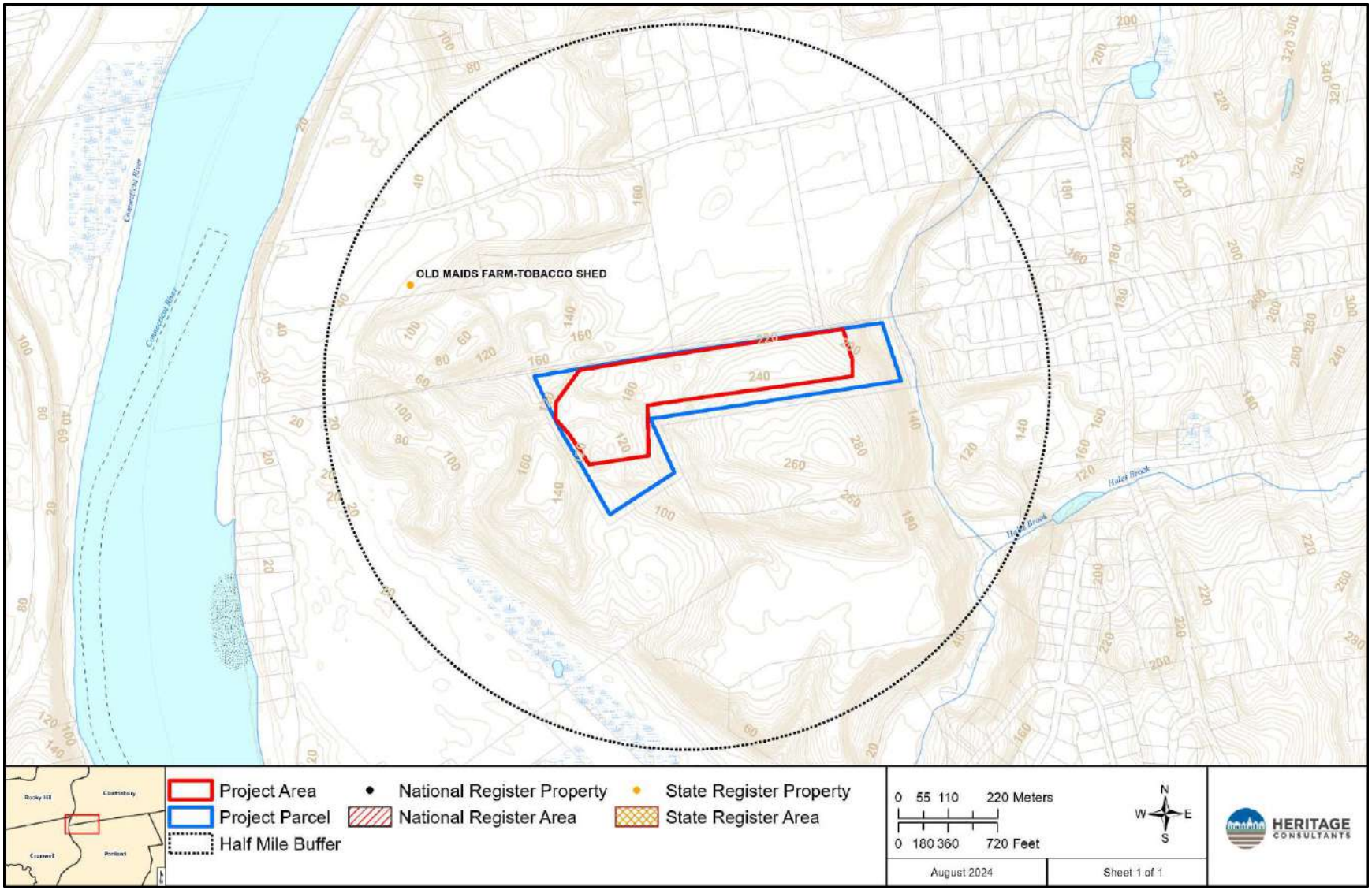

Figure 13. Digital map depicting the locations of the previously identified National Register of Historic Places and State Register of Historic Places properties in the vicinity of the project parcel in Portland, Connecticut.

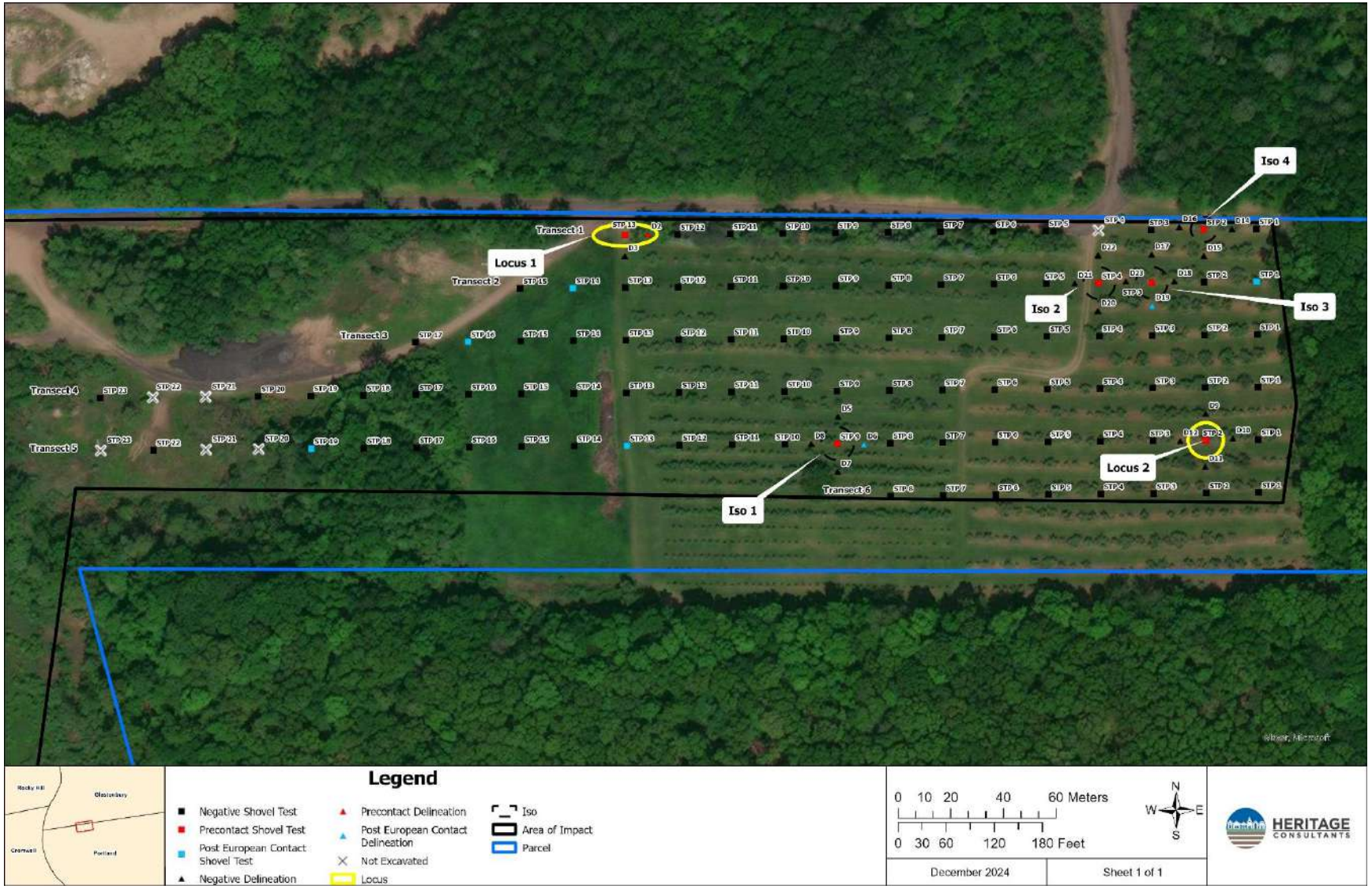

Figure 14. Digital map depicting the locations of the previously identified National Register of Historic Places and State Register of Historic Places properties in the vicinity of the project parcel in Portland, Connecticut.

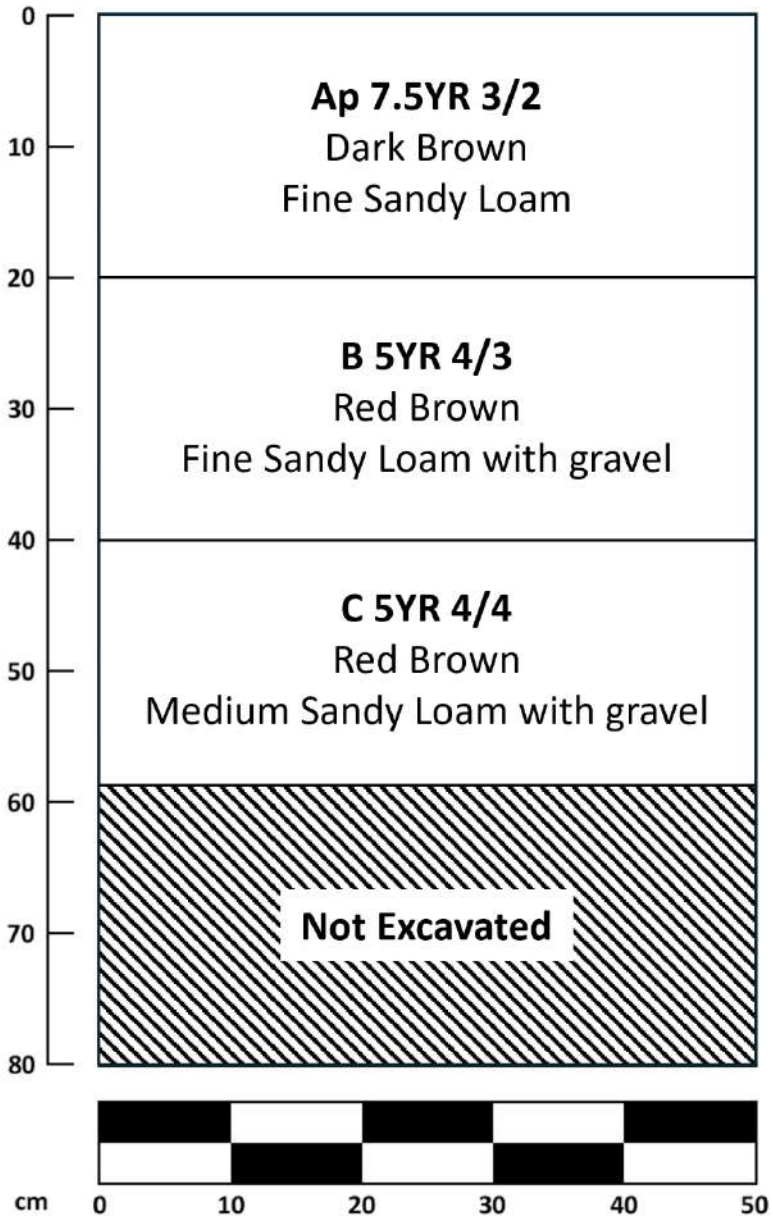

Figure 15. Digitization of the soil profile shown in the north wall of Transect 5 Shovel Test Pit 2.

APPENDIX B

PHOTOS

Photo 1. Overview of Project area, photo taken from northeast corner. Photo facing to the southwest.

Photo 2. Overview of Project area taken from east side. Photo taken facing north.

Photo 3. Overview of Project area, photo taken from northeast corner. Photo facing north.

Photo 4. Overview of Project area, photo taken from center of northern boundary. Photo facing south.

Photo 5. Overview of Project area, photo taken from western edge of high sensitivity area. Photo facing east.

Photo 6. Overview of Project area with crew excavating a shovel test pit. Photo taken from close to center of northern boundary. Photo facing north.

Photo 7. Overview of Project area, photo taken from western boundary. Photo facing east.

Photo 8. Shovel test pit profile of north wall of Transect 5 STP 2. Photo taken facing north.

Photo 9. Post-European contact era artifacts recovered from the Project area. A) Whiteware rim sherd; B) Contact molded glass shard; C) Machine made glass heel shard.

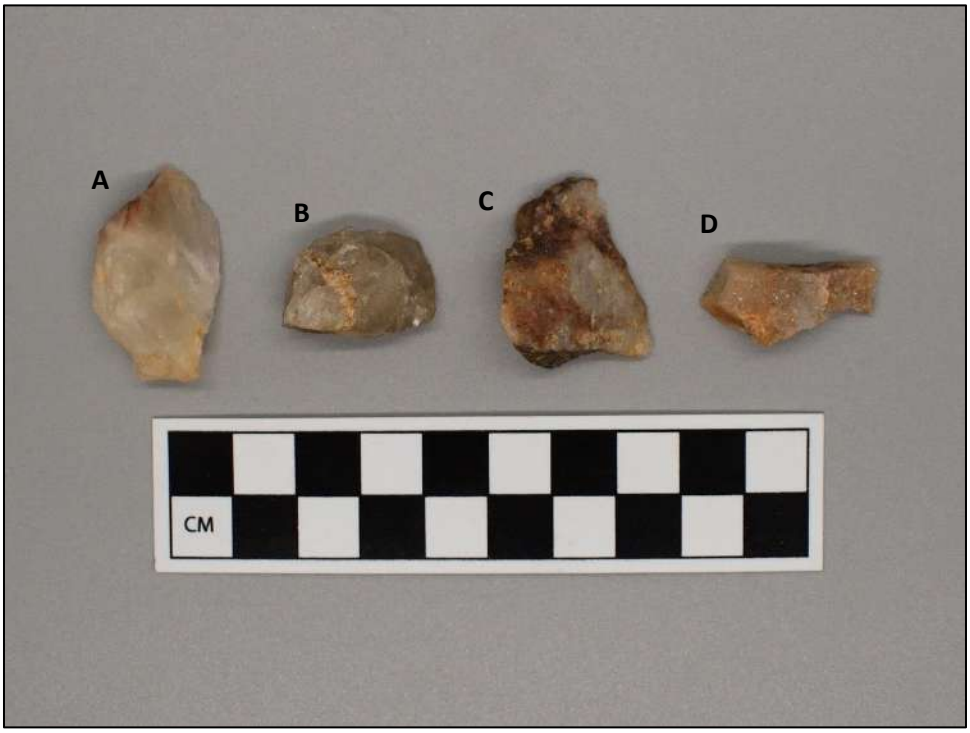

Photo 10. Pre-European contact era artifacts recovered from Isolated Find Spots 1-4. A) Quartz primary reduction flake; B) Quartz biface fragment; C) Quartz flake; D) Quartz debitage.

Photo 11. Pre-European contact era artifacts recovered from Locus 1. A) Quartz flake; B) Quartz biface fragment; C) Quartz flake; D) Quartz flake; E) Quartz flake fragment; F) Utilized Quartz flake.

Photo 12. Pre-European contact era artifacts recovered from Locus 2. A) Quartz flake; B) Quartz flake; C) Quartz flake; D) Quartz flake; E) Quartz core; F) Quartz core.

AUGUST 2024

PHASE IA CULTURAL RESOURCES ASSESSMENT SURVEY OF A PROPOSED SOLAR CENTER ALONG OLD MAID'S LANE IN PORTLAND, CONNECTICUT

PREPARED FOR:

BROWNSBURG, VIRGINIA

PREPARED BY:

HERITAGE CONSULTANTS

830 BERLIN TURNPIKE
BERLIN, CONNECTICUT 06037

ABSTRACT

This report presents the results of a Phase IA cultural resources assessment survey for a proposed solar center along Old Maid's Lane in Portland, Connecticut. The project will include the construction of a solar array, access road, equipment pad, and associated infrastructure on approximately 21 acres of a larger 32.88 acre parcel of land. Heritage Consultants, LLC completed the Phase IA cultural resources assessment survey on behalf of Verdantas in August of 2024. The Phase IA survey revealed that the proposed project parcel is largely characterized by an existing orchard on gently sloping topography, with some areas of disturbed soil in the western part of the project area. Pedestrian survey of the project parcel revealed that 11.55 acres of the project area were characterized by previous disturbances and stripped soils, as well as wetlands and steep slopes. No additional archaeological investigation of these areas is recommended prior to Project development. The remaining 9.45 acres of land was characterized by well drained soils, gently sloping topography, and close proximity to the Connecticut River and Hales Brook. These areas were designated as retaining a moderate/high archaeological sensitivity. It is recommended that the moderate/high sensitivity areas that will be developed be subjected to a Phase IB cultural reconnaissance survey.

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CHAPTER I
INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey of a proposed solar facility (the Facility) along Old Maids Lane in Portland, Connecticut. The proposed Facility will encompass approximately 21 acres of land within a larger 32.88 acre parcel; it is located to the south of Old Maids Lane and to the west of Old County Way in Portland, Connecticut (Figure 1). Verdantas requested that Heritage Consultants, LLC (Heritage) complete the Phase IA assessment survey as part of the planning process for the proposed Facility. Heritage completed this investigation in August of 2024. All work associated with this project was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987) promulgated by the Connecticut State Historic Preservation Office (CT-SHPO).

Project Description and Methods Overview

The proposed Facility will consist of a solar array, access road, equipment pad, and associated infrastructure (Figure 2). The project parcel is situated at elevations ranging between 32 to 79 meters (104.9 to 259.2 feet) NGVD. It is located to the south of Old Maids Lane and to the west of Old County Way in Portland, Connecticut. The parcel is bounded by residential development on all sides, while the parcel itself is characterized by mostly forested land. The Phase IA cultural resources assessment survey of the Facility area consisted of the completion of the following tasks: 1) a contextual overview of the region's precontact era Native American, post-European Contact period, and natural settings (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously recorded cultural resources in the region encompassing the Facility; 3) a review of readily available maps and aerial imagery depicting the project parcel in order to identify potential post-European Contact period resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project parcel and Facility area in order to assess their archaeological sensitivity.

Project Results and Management Recommendations Overview

The review of maps and aerial images, as well as files maintained by the CT-SHPO resulted in the identification of a single post-European Contact period archaeological site located within 0.8 kilometers (0.5 miles) of the Facility area (54-156). In addition, one State Register of Historic Places property (Old Maids Farm Tobacco Shed) was noted within 0.8 kilometers (0.5 miles) of the Facility. The presence of this historical building, as well as the gently sloping nature of the Facility and its proximity to fresh water sources indicate that portions of area may have been the location of precontact era and/or post-European Contact period settlement and use.

After completion of the above-mentioned desktop review, the Facility was subjected to pedestrian survey. This effort determined that 11.55 acres of the Facility contained visible evidence of previous disturbances and stripped soils, as well as wetlands and steep slopes. No additional archaeological investigation of these areas is recommended prior to Facility construction. The remaining 9.45 acres of the Facility were characterized by gently to moderately sloping topography, well drained soils, and close proximity to the Connecticut River and Hales Brook. It is recommended that the areas of moderate/high archaeological sensitivity be subjected to a Phase IB cultural reconnaissance survey prior to construction.

Project Personnel

Key personnel who worked on this project included David R. George, M.A., RPA, (Principal Investigator); Linda Seminario, M.A. (Project Archaeologist and Field Supervisor); William Yerxa, M.A. (Historian); and Tevin Jourdain, B.A. (GIS Specialist).

CHAPTER II
NATURAL SETTING

Introduction

This chapter provides a brief overview of the natural setting of the region containing the proposed Facility in Portland, Connecticut. Previous archaeological research has documented that specific environmental factors can be associated with both precontact era and post-European Contact period site selection. These include general ecological conditions, as well as types of fresh water sources present, degree of slopes, and soils situated within a given study area. The remainder of this chapter provides a brief overview of the ecology, hydrological resources, and soils present within Facility 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). Two ecoregions are germane to the current investigation: the North-Central Lowlands Ecoregion and the South-Central Lowlands Ecoregion is germane to the current investigation. A summary of this ecoregion is presented below. It is followed by a discussion of the hydrology and soils found within and adjacent to the Facility area.

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.

South-Central Lowlands Ecoregion

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

Hydrology of the Study Region

The Facility area is located within close proximity of several streams, ponds and wetlands. The major fresh water in proximity to the Facility area is the Connecticut River to the west and Hales Brook to the east. Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were focal points for precontact era occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources. These water sources also provided the impetus for the construction of water powered mill facilities during the eighteenth and nineteenth centuries.

Soils Comprising the Facility Area

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

A total of five soil types were identified within the Facility area (Figure 3). Udorthents soils dominate the western portion of the Facility, whereas Charlton-Chatfield complex soils dominate the eastern portion. Some Manchester soils are present on the northeastern boundary, and Hartford soils are present in the northwest of the Facility area. A small amount of Hinckley soils exist along the western boundary. When well drained soils such as Charlton-Chatfield complex, Manchester, Hartford, and Hinckley soils remain undisturbed and are situated on less than eight percent slopes, they are generally well correlated with precontact era and post-European Contact period site locations and are considered to have higher archaeological sensitivity. Meanwhile, Udorthents soils are considered disturbed and retain a low sensitivity to produce intact archaeological evidence. Below is a summary of each specific soil type identified within the Facility area.

Udorthents, Smoothed

Udorthents, smoothed soils are a well drained to moderately well drained, disturbed soil area that has had two or more feet of the original soil surface altered by filling, excavation or grading activities. Udorthents, smoothed soils commonly occur on leveled land and fill landforms.

Charlton-Chatfield Soils

The Charlton series consists of very deep, well drained soils formed in loamy melt-out till. They are nearly level to very steep soils on moraines, hills, and ridges. Slope ranges from 0 to 60 percent. A typical profile associated with Charlton soils is as follows: **Oe**--0 to 4 cm; black (10YR 2/1) moderately

decomposed forest plant material; **A**--4 to 10 cm; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; 5 percent gravel; very strongly acid; abrupt smooth boundary; **Bw1**--10 to 18 cm; brown (7.5YR 4/4) fine sandy loam; weak coarse granular structure; very friable; many fine and medium roots; 5 percent gravel; very strongly acid; clear wavy boundary; **Bw2**--18 to 48 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; common fine and medium roots; 10 percent gravel and cobbles; very strongly acid; clear wavy boundary; **Bw3**--48 to 69 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; massive; very friable; few medium roots; 15 percent gravel and cobbles; very strongly acid; abrupt wavy boundary; and **C**--69 to 165 cm; grayish brown (2.5Y 5/2) gravelly fine sandy loam with thin lenses of loamy sand; massive; friable, some lenses firm; few medium roots; 25 percent gravel and cobbles; strongly acid.

The Chatfield series consists of well drained soils formed in loamy melt-out till. They are moderately deep to bedrock. They are nearly level to very steep soils on bedrock-controlled hills and ridges. Slope ranges from 0 to 70 percent. A typical profile associated with Chatfield soils is as follows: **Oi**--0 to 3 cm, slightly decomposed leaf, needle, and twig litter; extremely acid, pH 4.2; **A**--3 to 5 cm, very dark gray (10YR 3/1) fine sandy loam, gray (10YR 5/1), dry; weak fine subangular blocky structure; friable; many fine and medium roots throughout; 5 percent mixed gravel and cobbles; very strongly acid, pH 4.5; abrupt smooth boundary; **Bw1**--5 to 33 cm, strong brown (7.5YR 5/6) gravelly fine sandy loam; weak fine subangular blocky structure; friable; common fine roots throughout and common medium roots throughout; 15 percent mixed gravel and cobbles; very strongly acid, pH 4.5; abrupt wavy boundary; **Bw2**--33 to 76 cm, strong brown (7.5YR 5/6) gravelly fine sandy loam; moderate medium subangular blocky structure; friable; few fine roots throughout; 20 percent mixed rock fragments; very strongly acid, pH 4.5; abrupt irregular boundary; and **2R**--76 cm; fractured slightly-weathered schist bedrock.

Manchester Soils

The Manchester series consists of very deep, excessively drained soils formed in sandy and gravelly glacial outwash and stratified drift. They are nearly level to steep soils on outwash plains, terraces, kames, deltas and eskers. Slope ranges from 0 to 45 percent. A typical soil profile is as follows: **Ap**--0 to 9 inches; dark brown (7.5YR 3/2) gravelly sandy loam; weak medium granular structure; very friable; many fine and common medium roots; 20 percent gravel; strongly acid; clear smooth boundary; **Bw**--9 to 18 inches; reddish brown (5YR 4/3) gravelly loamy sand; very weak fine and medium granular structure; very friable; few fine roots; 25 percent gravel; strongly acid; clear wavy boundary and **C**--18 to 65 inches; reddish brown (5YR 4/4) very gravelly sand; single grain; loose; 50 percent gravel; very strongly acid.

Hartford Soils

The Hartford series consists of very deep, somewhat excessively drained soils formed in sandy glacial outwash. They are nearly level to strongly sloping soils on plains and terraces. Slope ranges from 0 to 8 percent. A typical profile associated with Hartford soils is as follows: **Ap--**0 to 8 inches; dark reddish brown (5YR 3/4) sandy loam; weak coarse granular structure; very friable; many fine roots; 5 percent gravel; strongly acid; clear smooth boundary; **Bw1--**8 to 20 inches; yellowish red (5YR 4/6) sandy loam; weak fine granular structure; very friable; few fine roots; 5 percent gravel; strongly acid; clear wavy boundary; **Bw2--**20 to 26 inches; reddish brown (5YR 4/4) loamy sand; single grain; loose; 10 percent gravel; strongly acid; clear wavy boundary; and **2C--**26 to 65 inches; reddish brown (5YR 4/4) stratified sand and gravel; single grain; loose; 35 percent gravel; strongly acid.

Hinckley Soils

Hinckley series consists of very deep, excessively drained soils formed in glaciofluvial materials. They are nearly level through very steep soils on outwash terraces, outwash plains, outwash deltas, kames, kame

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

Summary

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

CHAPTER III
PRECONTACT ERA SETTING

Introduction

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Summary of Connecticut Precontact Period

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

CHAPTER IV
POST-EUROPEAN CONTACT PERIOD OVERVIEW

Introduction

The proposed Facility encompasses approximately 21 acres of land within a larger 32.88 acre parcel in the Town of Portland, Connecticut. This chapter provides a brief overview of Middlesex County followed by a history of Portland and data more specific to the project parcel and Facility area. Most Connecticut towns, including Portland, originated as Indigenous settlements and later became English colonial villages. Originally called *Wangunk* by the people of the same name, the area was settled by Europeans in the 1690s and was incorporated as the town of Portland in 1841. With a strong history connected to the maritime culture of the Connecticut River, which abuts the town to the west, Portland was an important port during the eighteenth and nineteenth centuries. Currently, Portland is a largely residential town that capitalizes on its small-town heritage and proximity to the Connecticut River.

Middlesex County

Middlesex County was incorporated in 1785 with land taken from Hartford County and New London County (Beers 1884). Located in south-central Connecticut, it is bounded to the north by Hartford and New London Counties, to the west by New Haven County, to the east by New London County, and to the south by Long Island Sound. Bisected by the Connecticut River, the County is also the location of the city of Middletown, incorporated in 1651 and named in 1653. Other important population centers in Middlesex County include Portland and Cromwell (Connecticut 2021). The landscape varies from coastal lowlands and river basins to higher elevations in the interior. Important bodies of water associated with Middlesex County include the Salmon River, Coginchaug River, Mattabesset River, Millers Pond, and Pocotopaug Lake. The shoreline also has many smaller unnamed rivers, harbors, islands, and inlets.

Woodland Period to Seventeenth Century

During the Woodland Period of northeastern North American history (ca., 3000 to 500 years ago) the Indigenous peoples who resided between the Housatonic River and east to the Hammonasset River were part of the greater Algonquian culture of northeastern North America (Lavin 2013). They spoke local variations of Southern New England Algonquian (SNEA) languages and resided in extended kinship groups on lands they maintained for a variety of horticultural and resource extraction purposes (Goddard 1978). Native people in the region practiced subsistence activities including hunting, fowling, and fishing, along with the cultivation of various crops, the most important of which were maize, squash, and beans. They supplemented these foods seasonally by collecting shellfish, fruits, and plants during warmer periods, and gathering nuts, roots, and tubers during colder times (Lavin 2013).

In addition, these communities came together in large groups to hunt deer in the fall and winter. Indigenous peoples lived with their immediate or extended families in large settlements often concentrated along rivers and/or wetlands. Some villages were fortified by wooden palisades. Their 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. Indigenous communities commonly traded among both their immediate neighbors and often maintained long-distance networks as well (Lavin 2013). The Native people who resided in present-day Portland were known as the Wangunks. Their neighbors to the south were the Hammonassets; they were

bordered to the east and southeast by the Mohegans and Uncas, and the Podunks and Sicaogs to the north (De Forest 1852).

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 Middletown was recorded by European observers (Lavin 2013). The earliest Europeans known to have entered Long Island Sound and the Connecticut River along present-day Middlesex County were the Dutch around 1614. During that voyage Captain Adrian Block created a figurative map of the region that depicted the shoreline including the Pawcatuck, Mystic, Pequot (Thames), and Connecticut Rivers. Block's 1614 map identified Native nations in the region and placed the Mohegan homeland on the landscape. The Dutch established trade relationships with Native people of the area and by the early 1620s they entered an agreement with the Pequot of present-day southeastern Connecticut in which the Pequot would provide wampum and furs for European goods. Through their relationship with the Dutch, the Pequot had steady access to a variety to valuable European trade goods they could distribute to tributaries and/or trade 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 all the Native nations in those areas into a tributary relationship under their leadership (Hauptman and Wherry 2009; McBride 2013).

To break from the Pequot, several Connecticut River sachems invited the English to the valley who settled Windsor in 1633, Wethersfield in 1634, and both Hartford and Saybrook by 1635 (Van Dusen 1961). Increased European interaction resulted in exposure to diseases and epidemics Indigenous people had never encountered and to which they had no natural immunity. Illnesses such as smallpox, measles, tuberculosis, and cholera devastated Native communities. In 1633, an epidemic spread through the region impacting the Pequot and people further west (Lavin 2013). Tensions between Native and European groups in the Connecticut River resulted in the death of English traders between 1634 and 1636 which were blamed on the Pequot. In retaliation, English forces from Massachusetts Bay destroyed Pequot and Niantic villages on the Pequot (Thames) River in August of 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 of 1637 further upriver. Connecticut Colony declared war on the Pequot and were joined by Native warriors from the Connecticut River and Mohegans under the Sachem Uncas (Oberg 2006). In May 1637, English allied forces destroyed the fortified Pequot village at Mistick and pursued Pequot refugees west towards present-day Fairfield (Cave 1996). After the war, the Connecticut English claimed Pequot lands as conquered lands for their growing colony.

In January of 1639, the "fundamental orders" were adopted which outlined the framework for Connecticut Colony, a self-governed colony separate from Massachusetts Bay or Plimoth (Trumbull 1886). The colonization of Middletown, of which Portland was originally a part, began in the 1650s when settlers from Hartford and Wethersfield migrated down the Connecticut River. Land was granted to William Cornwell and Robert Webster as early as 1653. By 1654 there were 30 families, many of whom had purchased land from Sowheag, the head of the Mattabasetts, on the west side of the river and from the Wangunks on the east side. In 1672, the town of Middletown purchased a tract of land on the eastern side of the Connecticut River from leaders of the Wangunk tribe and it was not until 1686 that the first inhabitant of Portland was recorded (Bayne 1884). Initial settlers began travelling east of the Connecticut River into what is now Portland beginning around 1690 to use brownstone resources (Triassic sandstone), build ships, and establish farms. In 1714, this area was established as the parish of East Middletown and a separate town by the name of Chatham in 1767, which at the time included East Hampton and Middle Haddam (Portland 2016).

Slavery existed in Middletown, which then included present-day Portland, and was primarily practiced by wealthy families, merchants, and ministers in larger towns. The 1774 Connecticut colonial census recorded a "White" population of 4,680 and "Black" population of 198 in Middletown but ignored Native inhabitants (Hoadly 1887). During the American Revolution (1775-1783), Portland played an important role in recruiting soldiers, offering food stores, and providing a variety of military goods for the war effort. The shipyards at Portland produced several warships, including the *Trumbull*, a 700 ton, 36 gun ship, and the *Bourbon*, a 900 ton, 40 gun ship (Beers 1884). After the Revolution, Portland recovered from wartime economic disruptions thanks to its robust agricultural production and maritime trade. In 1784, the State passed a gradual manumission law, but slavery was not fully abolished until 1848 (Normen 2013). On January 9, 1788, Connecticut ratified the U.S. Constitution to become the fifth state (Van Dusen 1961).

Nineteenth Century through the Twenty-first Century

Early industry in Portland included shipbuilding. The S. Gildersleeve & Sons shipbuilding company located in Portland constructed 135 vessels between 1821 and 1844 (Connecticuthistory.org 2021). Additionally, the extractive economy based on brownstone quarries grew. Following the Revolutionary War, the town of Portland sold quarry land and rights to individuals and companies in an attempt to resolve remaining war debts. By the 1840s, three companies, Shaler and Hall, Middlesex Quarry Co., and Brainerd Brothers, operated the quarries in town (Roth 1981). It was not until 1841 that Portland was incorporated. Like many Connecticut towns, Portland also directly provided men during the Civil War. From Portland, 192 men served in the Union army (Hines 2002). The town's location along the Connecticut River made it ideally located for shipbuilding to support the Union as well (Nivens 1965). The Gildersleeve Yard in Portland produced the US Navy gunship *Cayuga*, along with additional gunships to fulfil government contracts. The post-war economy of Portland grew, based solidly on an extractive economy, as well as the continuance of agriculture, especially tobacco. The extraction of Portland brownstone reached its peak in 1880, at which time Portland had 4,100 residents with the majority of adult males in town (1,500 men) working in the quarry. This included immigrants from Ireland and Sweden; the need for workers prompted the construction of housing for quarrymen and their family in town (Roth 1981).

In addition, Portland became connected to other points in the state with the establishment of the Boston, & New York Air Line Rail, meant to link New York to Boston, which prompted the construction of the first bridge over the Connecticut River between Middletown and Portland in 1876 (McDougall 2004; Turner and Jacobus 1989). The rail line included a stop in Portland. The Portland Passenger Bridge was constructed in 1896 as 1,300-foot long draw bridge, constructed by the Berlin Iron Bridge Company, further linking the town with Middletown and points west of the Connecticut River (Warner 2011).

By the early twentieth century, challenges and opportunities shaped the Town of Portland. Unfortunately, the flood of the Connecticut River in 1936 inflicted heavy damage upon the region. The flood filled the quarry in Portland with water, ultimately bringing production to a halt. It is estimated that throughout the years as an active quarry over 10 million cubic yards of stone was removed (Roth 1981). The subsequent Hurricane of 1938 also brought devastation to the area. The nearby city of Middletown had losses in excess of $1 million and the hurricane caused an estimated $100,000,000 in damage in Connecticut, killing 85 individuals (Van Dusen 1961). Despite these challenges, the growth of automobile culture and suburbanization led to the growth of Portland. The construction of the Arrigoni Bridge spanning the Connecticut River, and replacing the Portland Passenger Bridge, between Middletown and Portland in 1938, helped to facilitate the growth of Portland (McDougall 2004). As the first half of the century progressed, Portland's population rose significantly, almost doubling during the

period of 1900 to 1960 (Table 1; Connecticut 2022c). By the mid-twentieth century, the trend toward post-war suburban living brought more permanent residents to industrial towns and cities, further boosting the regional population. This suburban trend was facilitated by the widespread adoption of the automobile by the American middle class and new highway construction. In 1953, Route 9 was proposed as an intrastate expressway linking the Hartford area with the shoreline (DeLuca 2020). Once constructed, Route 9 paralleled the Connecticut River, west of Portland, providing greater transportation connectivity throughout Middlesex County and the state, increasing the growth of Portland and the City of Middletown.

Changes continued in Portland through the twenty-first century as the population continued to grow. As of 2023, the town's largest employers were Birdon, Specialty Lighting Group, and Airex Rubber Products Corporation. Key industries include local government, construction, and accommodation and food services (AdvanceCT and CTData Collaborative 2023). Despite its population growth, Portland retains aspects of rural landscape along with its suburban sections. Strategic growth is anticipated for Portland. The town's Plan of Conservation and Development from 2016 states that Portland seeks to "maintain its character as a small New England Town" while also developing its riverfront area and promoting business development (Portland 2016:3).

Table 1: Population of Portland, Connecticut 1790-2020 (Connecticut 2022a-d, Connecticut 2021)

Town	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900
Portland, Middlesex County	…	…	…	…	…	…	2,836	3,657	4,693	4,157	4,687	3,856
	1910	**1920**	**1930**	**1940**	**1950**	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2020**
	3,425	3,644	3,930	4,321	5,186	7,496	8,812	8,383	8,418	8,732	9,508	9,384

History of the Project Area

The proposed project parcel and Facility area are situated in the town of Portland in Middlesex County, Connecticut. The 1859 Middlesex County map by Walling shows that the Glastonbury Turnpike (Route 17) to the east of the project parcel was in place by that time (Figure 4). Old Maids Lane in Glastonbury, which is to the north of the project parcel, was also mapped at this time. The wetlands to the southwest are labeled on the 1859 map as "Wangunk Meadow." According to the 1859 Middlesex County map, nearby residences on Glastonbury Turnpike at that time belonged to Mrs. N. Polly, N. Simpson, G. Andrews, and A. Mattison.

Beers' subsequent 1874 map indicates a similar layout of the local area as that of the 1859 map. The residences of W. Hale, W. N. Simpson, G. Andrus, and A. Matson appear on Beers' 1874 map. Andrus and Matson likely represent the same residents as Andrews and Mattison from the previous map, with alternative spellings (Figure 5). The nearest resident to the project area, W. N. Simpson, likely refers to William N. Simpson, who was 45 years at the time of the 1870 federal census (United States Census Bureau [USCB] 1870). He was likely a farmer, supporting the idea that this area served an agricultural purpose in the nineteenth century.

The earliest available aerial photography of the project parcel dates from 1934. This aerial image confirms the interpretation of the 1859 and 1874 maps, and it depicts the local landscape as containing primarily forests and agricultural fields. The project parcel appears to contain an orchard with rows of trees in its eastern portion, while the western part of the parcel was forested during the early twentieth century. The immediate vicinity of this field was characterized by forests, with nearby fallow fields along the roads to the north and east as well as several tobacco barns (Figure 6). An aerial photo taken in 1951

depicts a landscape that had not changed significantly, apart from the northwestern portion of the project area being cleared (Figure 7). Likewise, a subsequent 1970 aerial image shows a nearly identical landscape to that of 1951 (Figure 8). Aerial photography from 1990 shows major landscape disturbances in the vicinity of the project area and the western portion of the parcel, although the eastern part of the project parcel remained as an intact orchard. The land in the west of the parcel appears to have been quarried, and another patch of land is quarried to the northwest of the parcel. In addition, most of the modern suburban roads off of the Glastonbury Turnpike had been constructed by that time, including Old County Way directly to the east of the project parcel (Figure 9). A subsequent 2004 aerial image shows a largely similar landscape to 1990, although the quarry to the northwest was expanded (Figure 10). Aerial photography from 2019 shows the project parcel in its essentially modern state. Today, Nayaug Elementary School is present to the north of the parcel, replacing a former agricultural field. The gravel quarry to the west of the parcel has begun to be reclaimed by grass and some trees. The eastern portion of the project parcel has retained the same land use since at least the 1934 aerial survey, and appears to remain an orchard on agricultural land. The surrounding environment also continues to be forested, with agricultural fields to the north, and residential buildings on the roads to the east (Figure 11).

Conclusions

The documentary review suggests that the Project area is located on lands that contained agricultural fields. As a result, there is the possibility of encountering evidence of post-European Contact period farming activities that may be important as a component of a rural historic landscape. In addition, proximity of the Connecticut River suggests the possibility of cultural resources related to post-European Contact period riverine activities.

CHAPTER V
PREVIOUS INVESTIGATIONS

Introduction

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

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

A review of data currently on file at the CT-SHPO, as well as the electronic files maintained by Heritage resulted in the identification of one post-European Contact period archaeological site (54-156) within 0.8 kilometers (0.5 miles) of the proposed Facility (Figure 12). In addition, a single State Register of Historic Places property and no National Register of Historic Places properties were identified within 0.8 kilometers (0.5 miles) of the Facility area (Figure 13). These resources are reviewed below and provide the context with which to assess the Facility area for containing additional intact cultural resources.

Site 54-156

Site 54-156, which is also known as the Riverside Woods Site, is a post-European Contact period site in Glastonbury, Connecticut (Figure 12). The site was historically a nineteenth century house and farmstead. The house has been demolished and the surrounding areas have been used to cultivate tobacco. This site was tested by Public Archaeology Laboratory, Inc., (PAL), in 2016, which yielded some eighteenth and nineteenth century domestic and architectural debris. The Riverside Woods Site was not assessed applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]), although it was noted to retain research potential. The site is located approximately 0.5 kilometers (0.31 miles) to the north of the Facility area and will not be impacted by the proposed construction.

Old Maids Farm-Tobacco Shed

The Old Maids Farm Tobacco Shed is an outbuilding of the nearby Old Maids Farm, historically known as the Captain Noah Tryon Farmstead (Figure 13). The farm is located at 1099 Tryon Street in Glastonbury, Connecticut and it was owned by the Tryon family in the nineteenth century. The portion of the property within the 0.8 kilometer (0.5 mile) buffer of the project parcel contains the tobacco shed, which was constructed in ca., 1880 in a vernacular style. The shed is considered architecturally significant as an excellent example of typical Connecticut tobacco sheds of the era, and it incorporates multiple ventilation systems in its construction. The shed is associated with the nearby 1840s residence on the property that is beyond the project buffer. The Old Maids Farm Tobacco Shed is located approximately

0.44 kilometers (0.27 miles) to the northwest of the Facility area and will not be impacted by the proposed construction.

CHAPTER VI
METHODS

Introduction

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

Research Design

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

Archival Research & Literature Review

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

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

Field Methodology and Data Synthesis

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

freshwater sources within and immediately adjacent it. These natural and cultural landscape features were recorded on a project base map. Any identified cultural resources were recorded using a GPS unit so that their locations could be transferred into the project GIS. The locations from which all photos were taken, as well as directional indications, were recorded on a base map of the Facility area. The photo-documentation portion of the survey was completed using color digital media. The pedestrian survey was useful to stratify the Facility area into zones of no/low and moderate/high archaeological sensitivity.

CHAPTER VII
RESULTS OF THE INVESTIGATION & MANAGEMENT RECOMMENDATIONS

Introduction

This chapter presents the results of the Phase IA cultural resources assessment survey associated with the proposed Facility along Old Maids Lane in Portland, Connecticut (Figure 14 and Photos 1 through 9). As stated in the introductory section of this report, the goals of the investigation included completion of the following tasks: 1) a contextual overview of the region's precontact era Native American, post-European contact period, and natural settings (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously recorded cultural resources in the Project region; 3) a review of readily available maps and aerial imagery depicting the project parcel and Facility area to identify potential post-European Contact period resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the Facility area to determine its depositional integrity, historical associations, and archaeological sensitivity.

Determining Archaeological Sensitivity

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

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

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

Results of Phase IA Survey Desktop Research

As noted above, the Facility will encompass approximately 21 acres of land within a larger 32.88 acre parcel located to the south of Old Maids Way. The development parcel is positioned to the east of the Connecticut River and northwest of Hales Brook. The Facility area is situated at elevations ranging between 32 to 79 meters (104.9 to 259.2 feet) NGVD. The desktop portion of the Phase IA survey revealed that a single previously identified post-European Contact period site and a single previously identified standing structure (a barn) was located within 0.8 kilometers (0.5 miles) of the Project parcel. The identification of these previously identified cultural resources as well as its close proximity to the Connecticut River suggested that the Facility area may have had the potential to yield intact archaeological deposits from both the precontact era and post-European Contact period. As a result, pedestrian survey of the area was completed, the results of which are presented below.

Results of Phase IA Pedestrian Survey

Heritage personnel conducted pedestrian survey of the project parcel and Facility area in August of 2024. At that time, the area was characterized primarily by an orchard in the eastern portion of the Facility, with the western portion of the area characterized by fields, some tree cover, and areas of previously stripped soils (Photos 1 through 3). The disturbed land to the west of the orchard contains gravel pits, push-piles, and gravel mounds (Photo 4). This western portion of the project parcel and Facility area has an access road extending from east to west (Photo 5). The southwestern portion of the project parcel and the eastern portion beyond the Facility area are characterized by wetlands (Photos 6 and 7). The Facility area, in general however, is situated on gently sloping topography, with slopes that lead to a streambed to the northwest (Photo 8). Multiple beehive boxes were also found throughout the Facility area (Photo 9).

The pedestrian survey of the Facility area revealed that 11.55 acres of land were characterized by previous disturbances, steep slopes, and wetlands (Figure 14). No additional archaeological investigation of these areas is recommended prior to construction. The remaining 9.45 acres of land within the Facility footprint were characterized by well drained soils, gently sloping topography, and close proximity to the Connecticut River and Hales Brook. These areas were determined to retain a moderate/high archaeological sensitivity. It is recommended that they be subjected to a Phase IB cultural reconnaissance survey.

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APPENDIX A

FIGURES

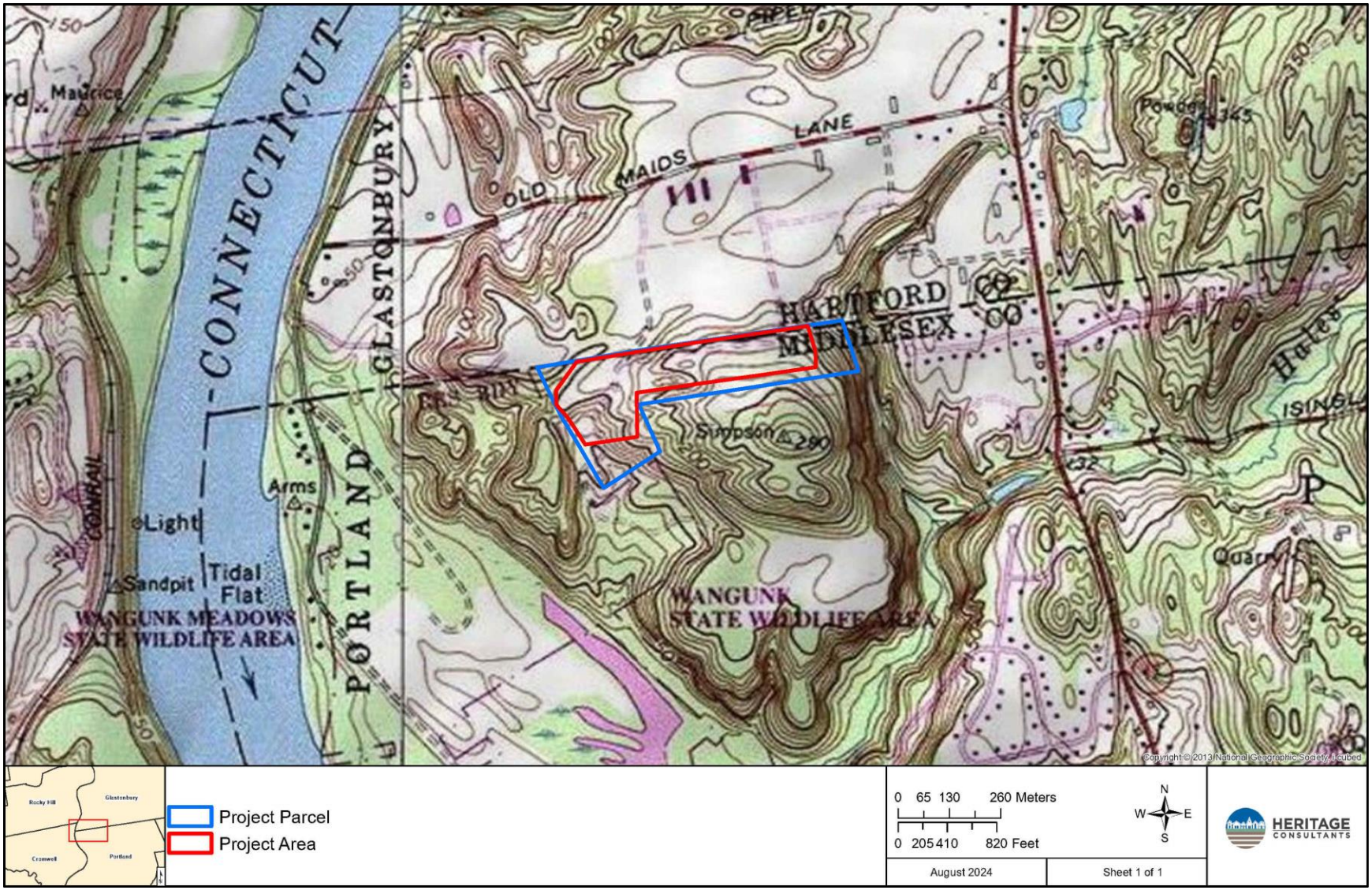

Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project parcel in Portland, Connecticut.

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

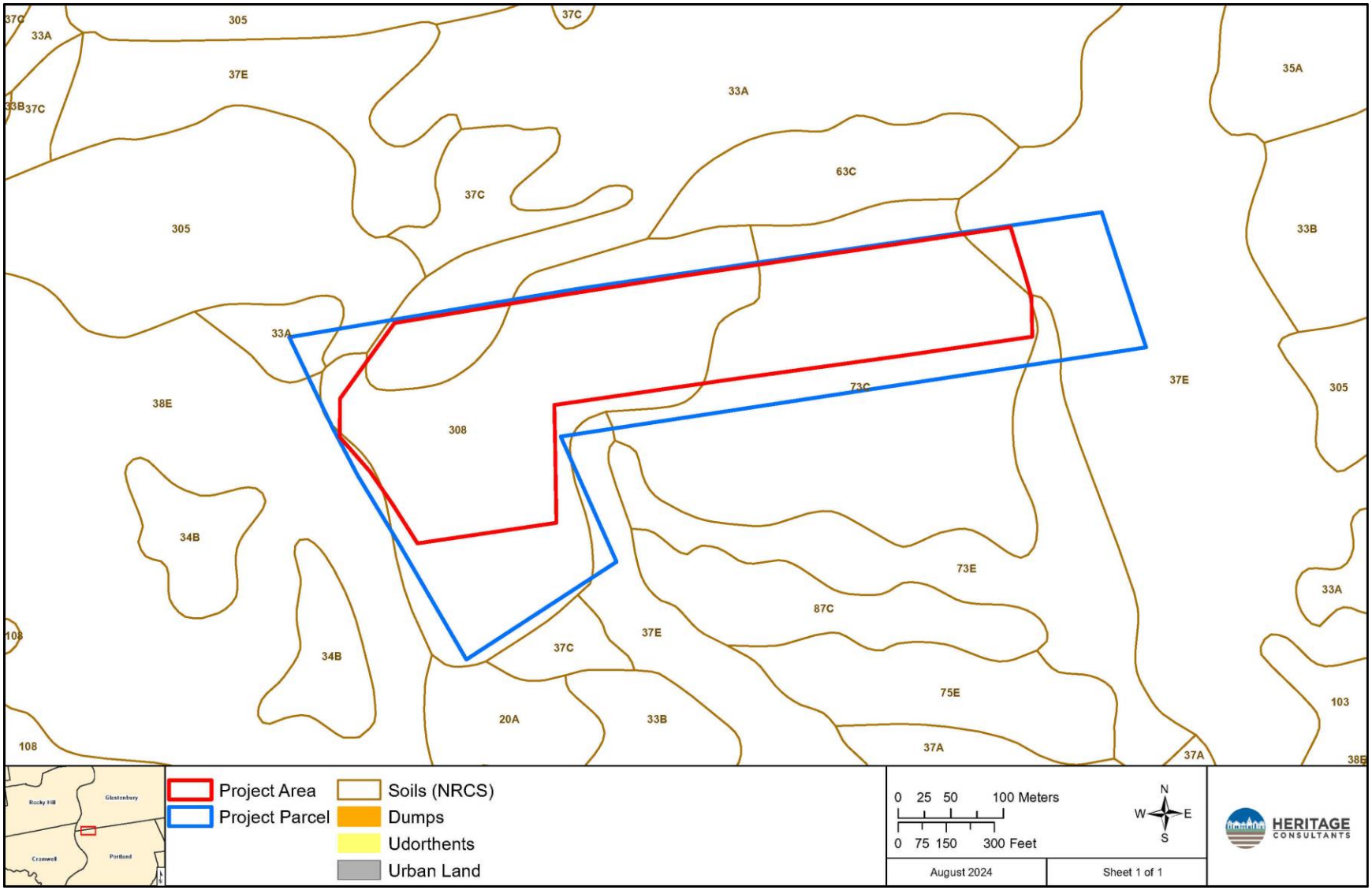

Figure 3. Digital map depicting the soil types present in the vicinity of the project parcel in Portland, Connecticut.

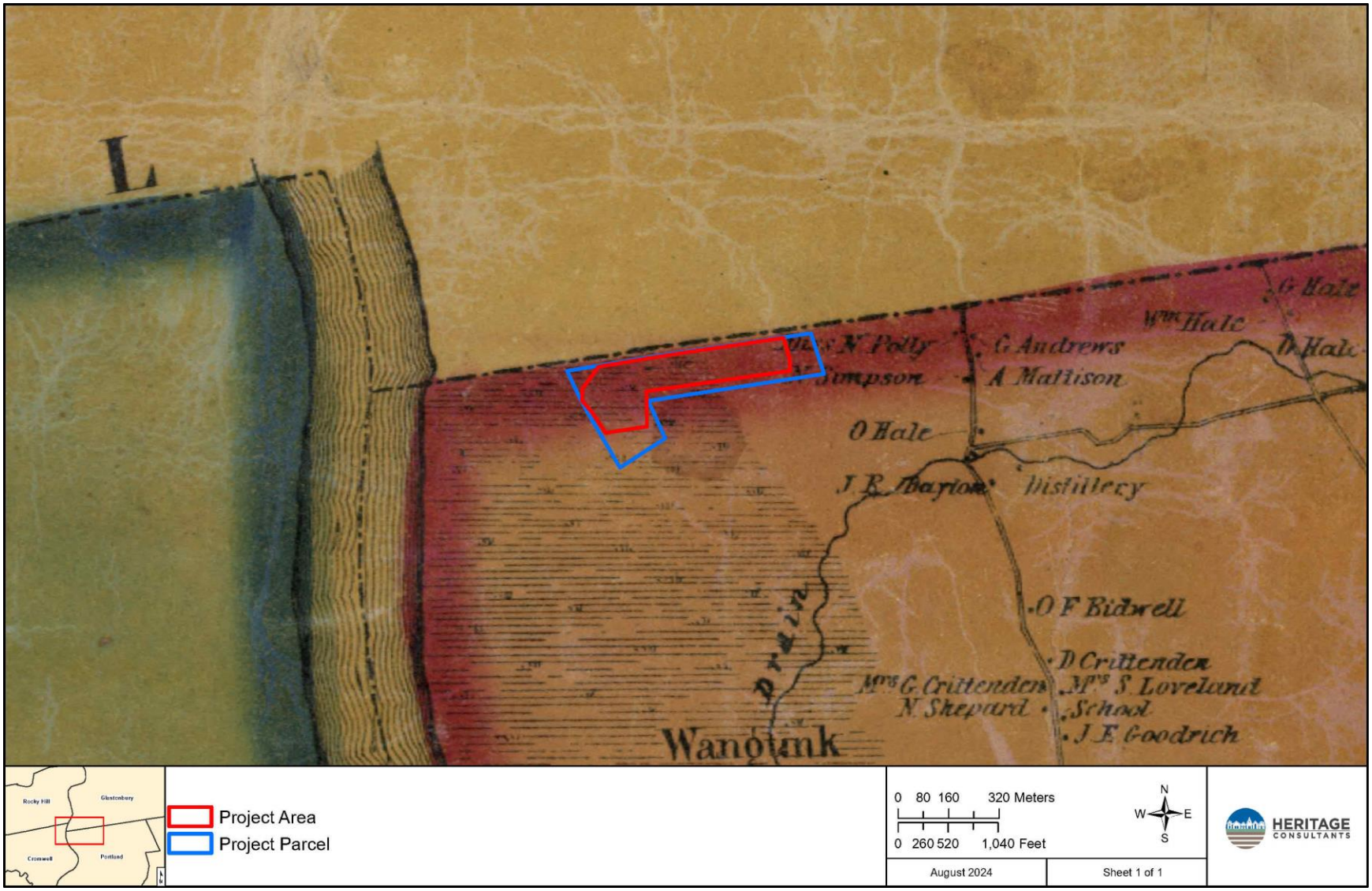

Figure 4. Excerpt from an 1859 map showing the location of the project parcel in Portland, Connecticut.

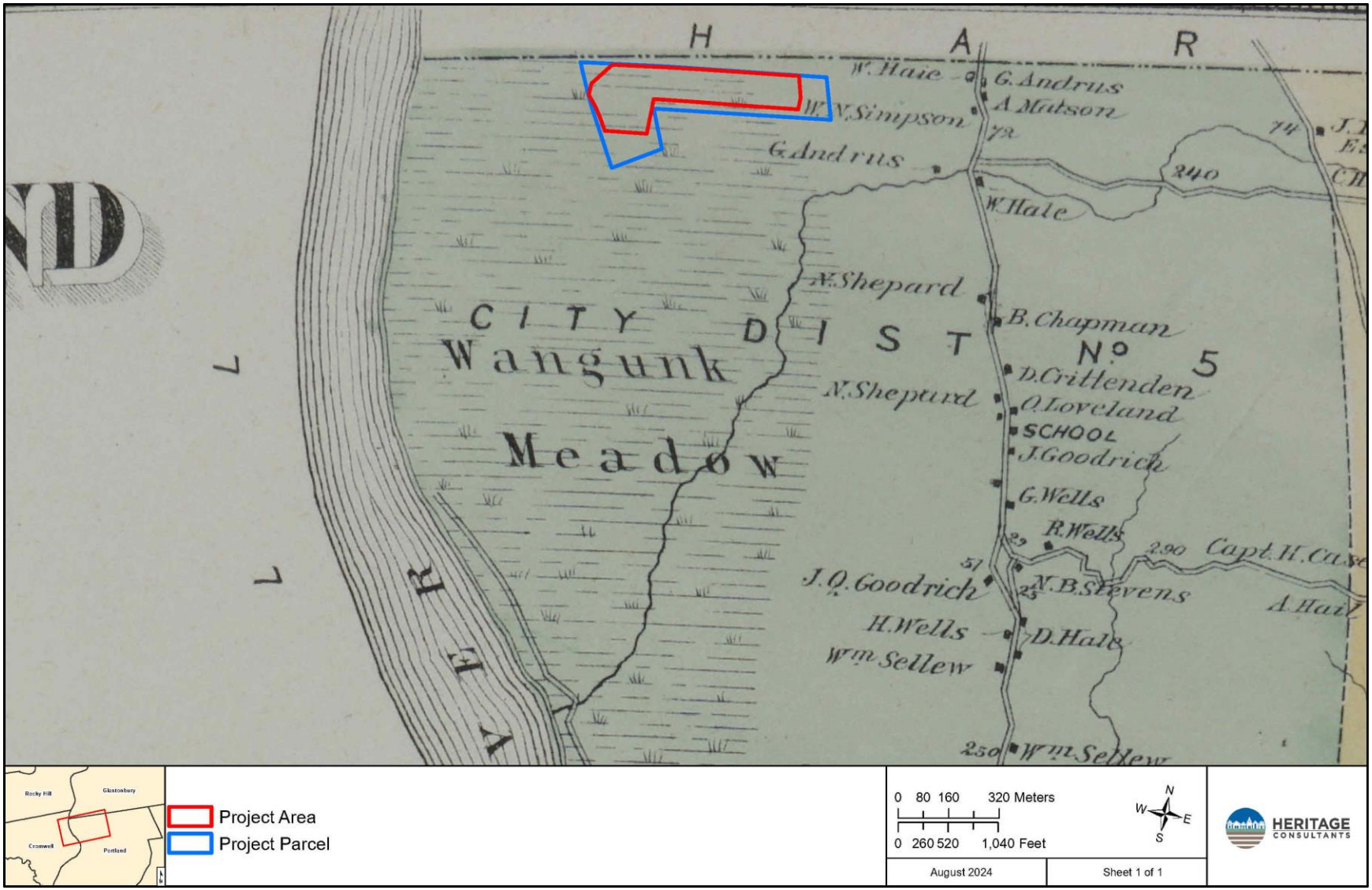

Figure 5. Excerpt from an 1874 map showing the location of the project parcel in Portland, Connecticut.

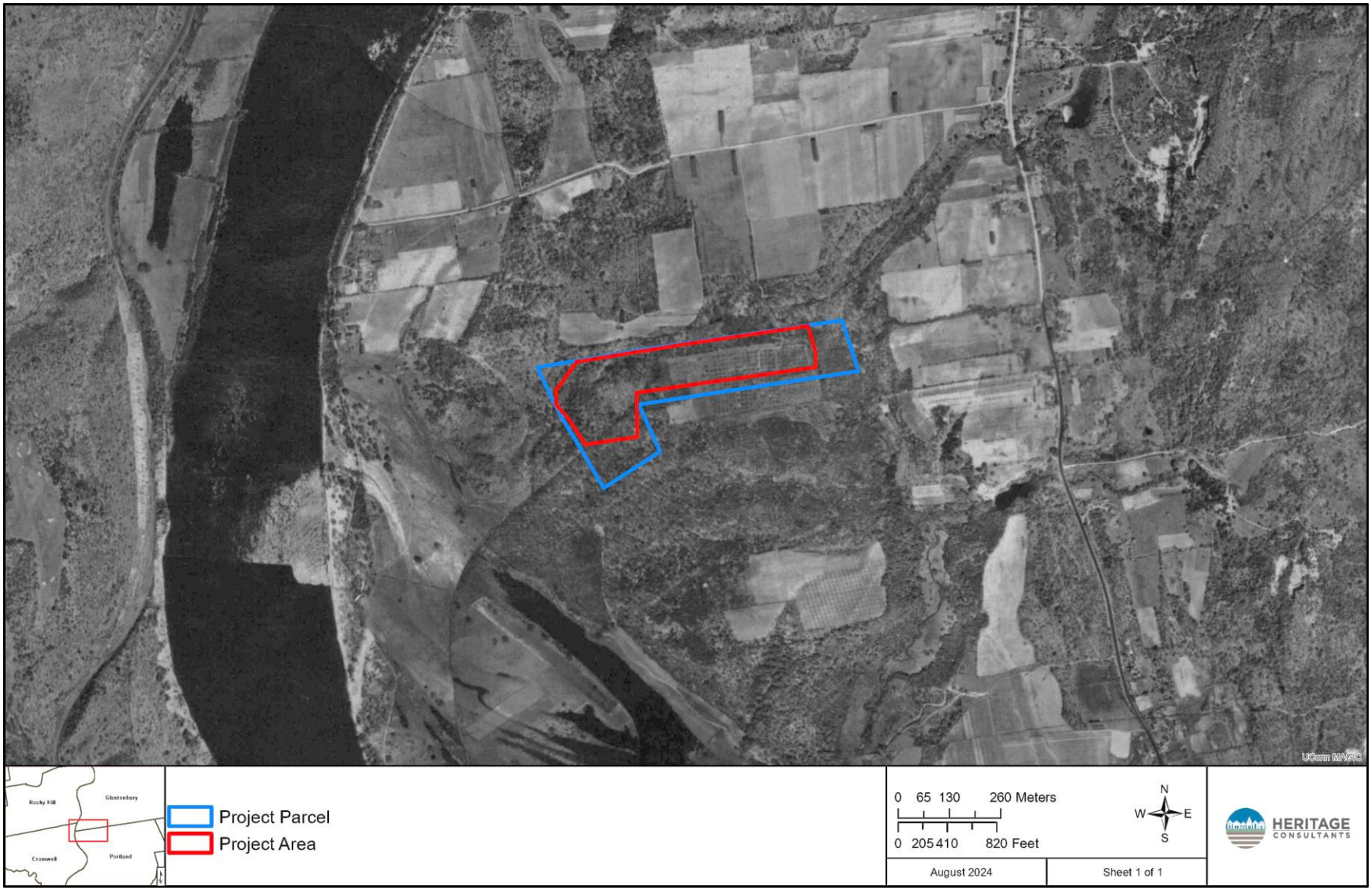

Figure 6. Excerpt from a 1934 aerial photograph showing the location of the project parcel in Portland, Connecticut.

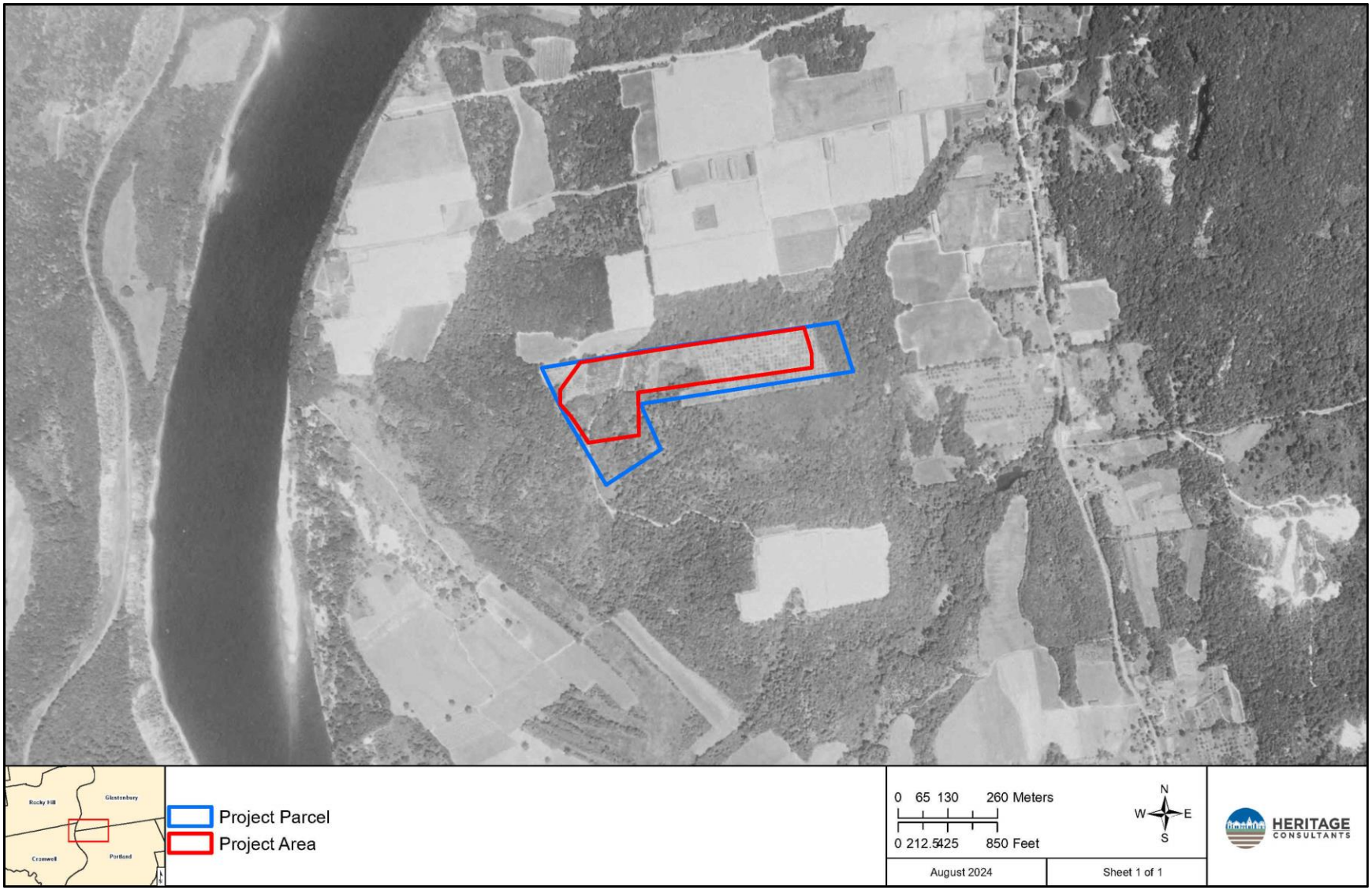

Figure 7. Excerpt from a 1951 aerial photograph showing the location of the project parcel in Portland, Connecticut.

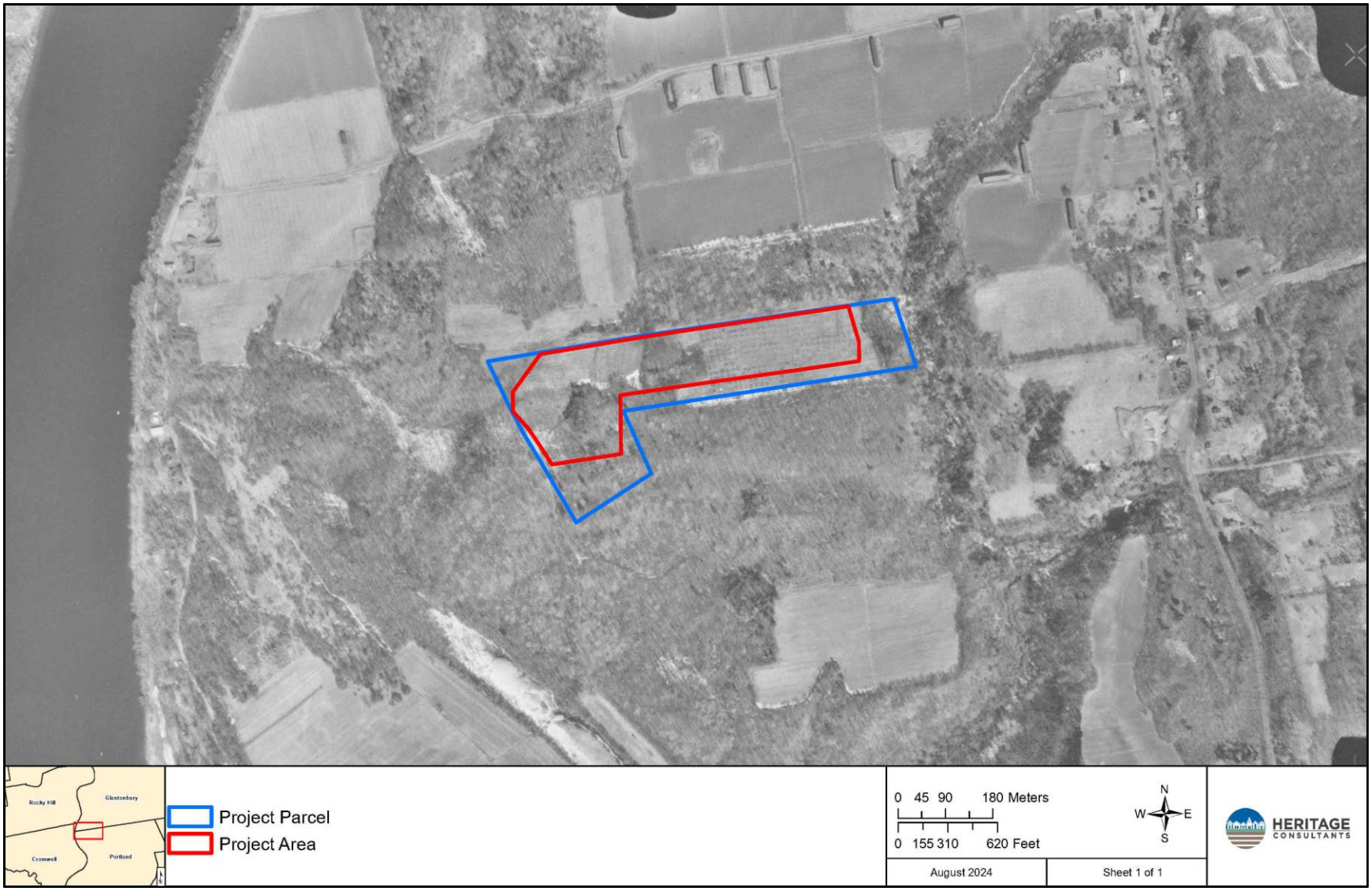

Figure 8. Excerpt of a 1970 aerial photograph showing the location of the project parcel in Portland, Connecticut.

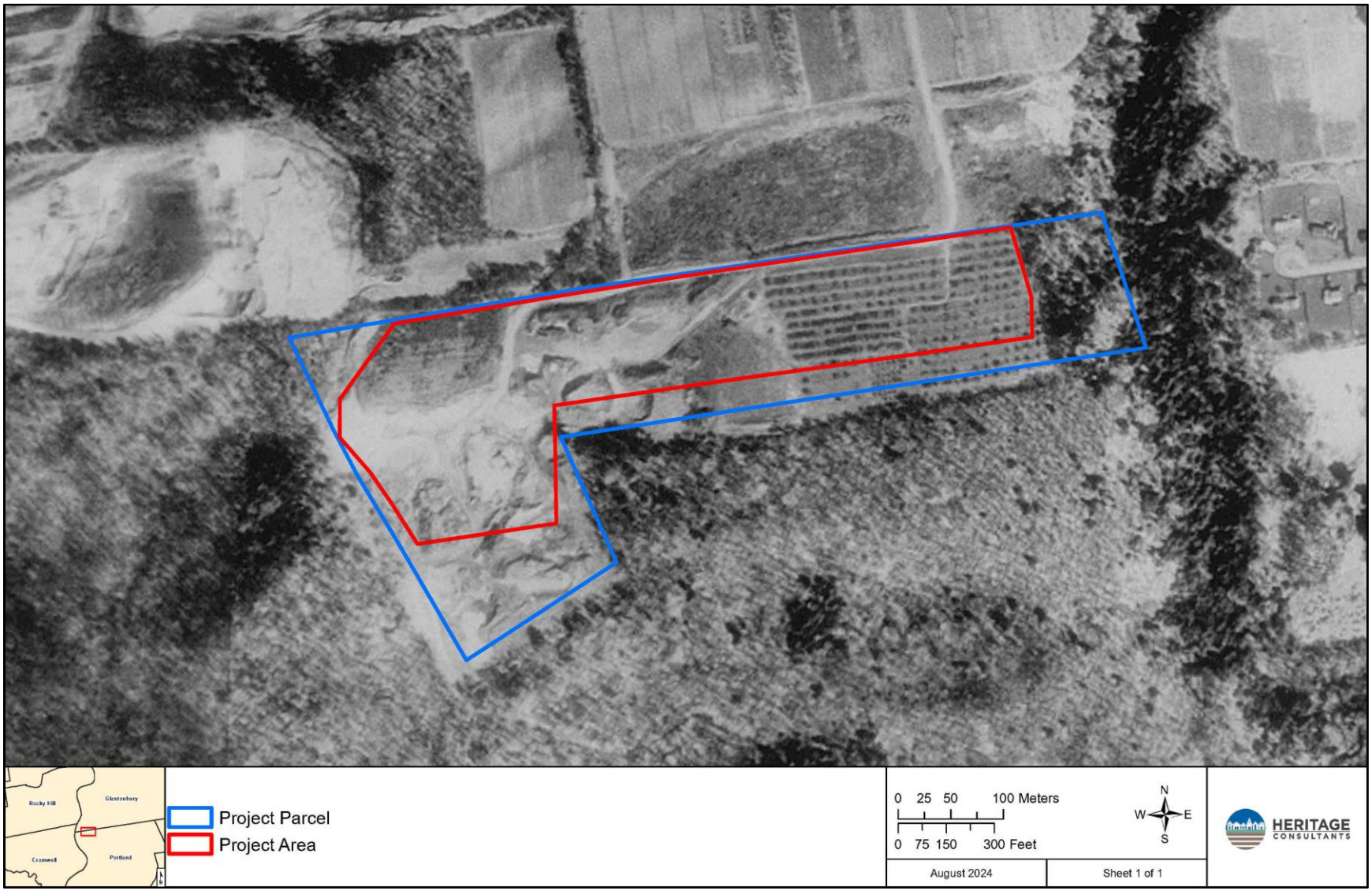

Figure 9. Excerpt of a 1990 aerial photograph showing the location of the project parcel in Portland, Connecticut.

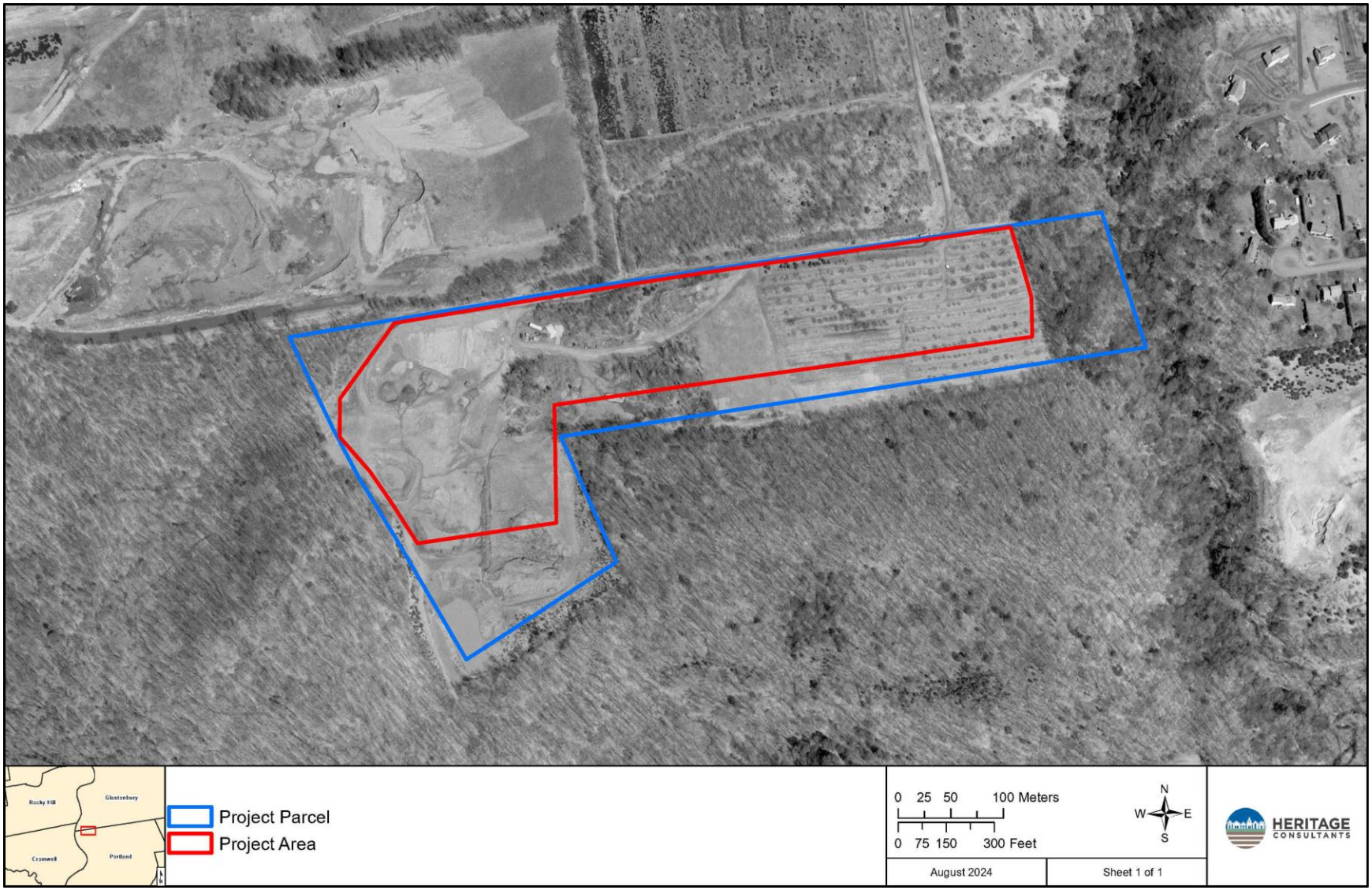

Figure 10. Excerpt of a 2004 aerial photograph showing the location of the project parcel in Portland, Connecticut.

Figure 11. Excerpt of a 2019 aerial photograph showing the location of the project parcel in Portland, Connecticut.

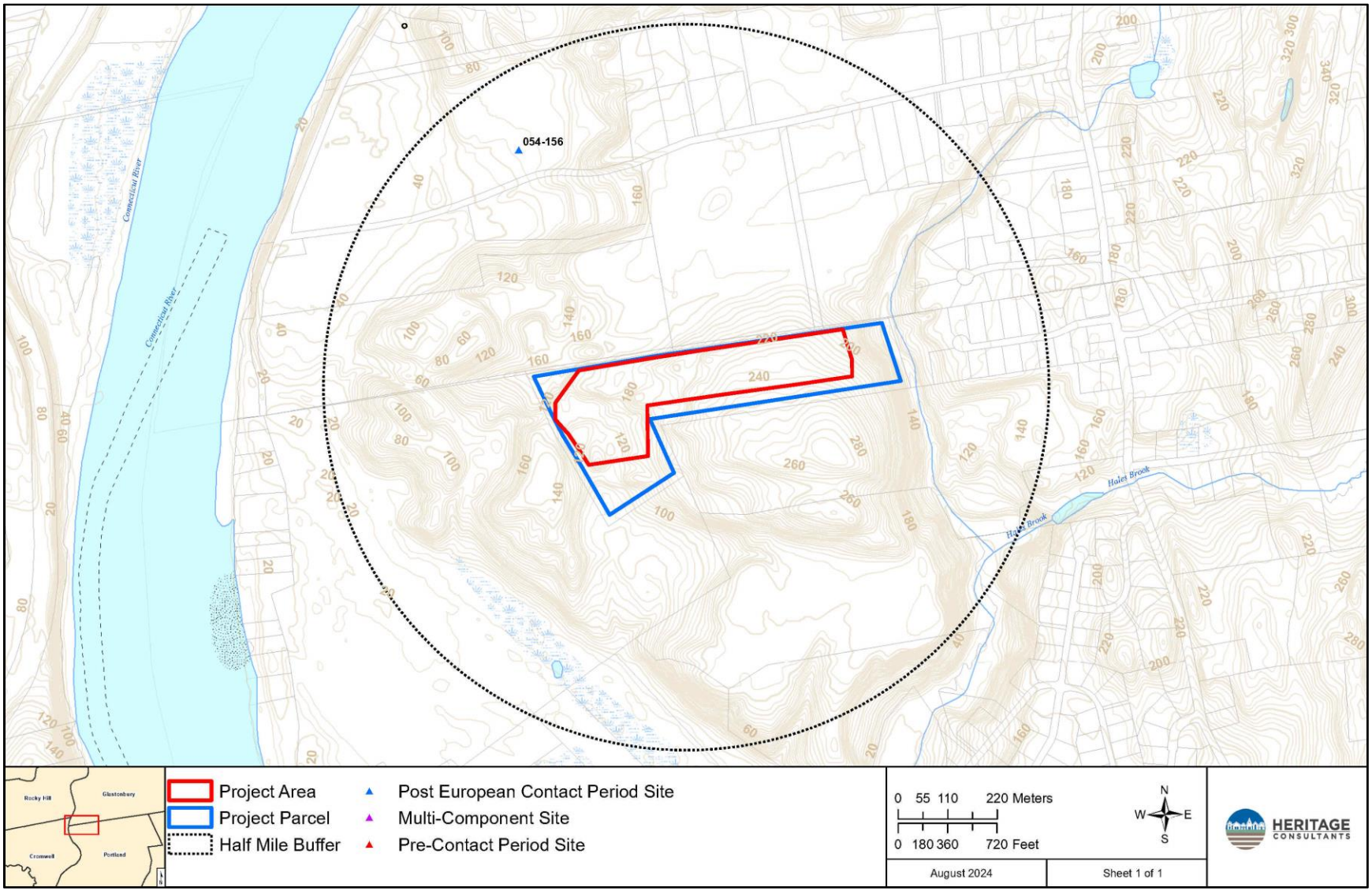

Figure 12. Digital map depicting the locations of the previously identified archaeological sites in the vicinity of the project parcel in Portland, Connecticut.

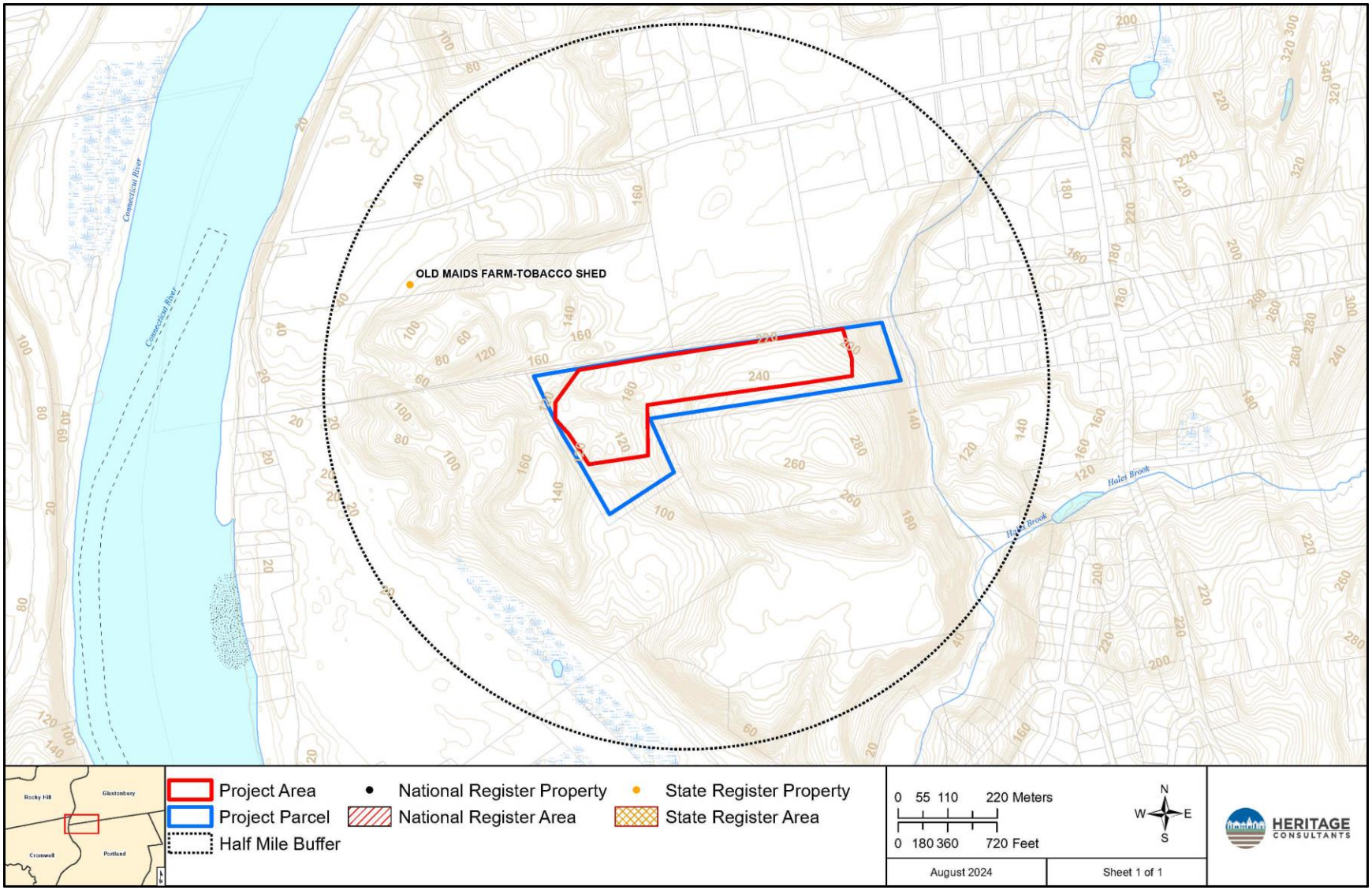

Figure 13. Digital map depicting the locations of the previously identified National Register of Historic Places and State Register of Historic Places properties in the vicinity of the project parcel in Portland, Connecticut.

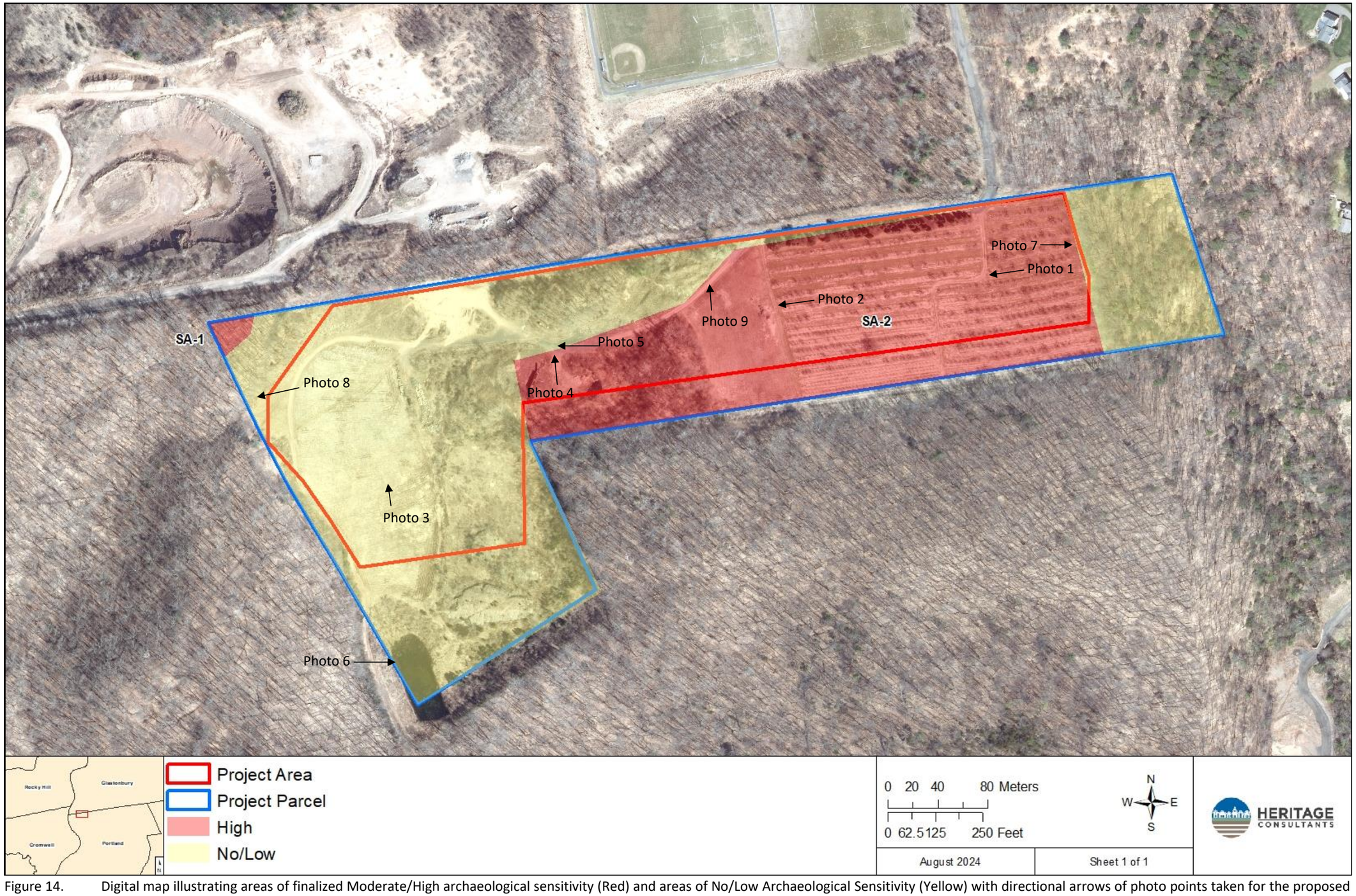

Figure 14. Digital map illustrating areas of finalized Moderate/High archaeological sensitivity (Red) and areas of No/Low Archaeological Sensitivity (Yellow) with directional arrows of photo points taken for the proposed development in Portland, Connecticut.

APPENDIX B

PHOTOS

Photo 1. Overview of the orchard in the east of the Facility area. Photo facing to the west.

Photo 2. View of overgrown field to the west of the orchard. Photo facing to the west.

Photo 3. Field of stripped soil in the west of the project area. Photo facing to the north.

Photo 4. View of disturbed soil, gravel mound, and trees in the central portion of the project area. Photo facing to the north.

Photo 5. Access road crossing the project area. Photo facing to the west.

Photo 6. View of wetlands in the east of the project parcel. Photo facing to the east.

Photo 7. View of wetlands in the east of the project parcel. Photo facing to the east.

Photo 8. Steep slopes and streambed in the northwest of the project parcel. Photo facing to the west.

Photo 9. View of beekeeping station located in the project area. Photo facing to the north.