

Appendix G

Cultural Resources Assessment Report

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Final Report

**CULTURAL RESOURCES ASSESSMENT
FOR
CONNECTICUT LIGHT & POWER COMPANY
OXFORD SUBSTATION
OXFORD, CONNECTICUT**

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I. INTRODUCTION

The Connecticut Light & Power Company (CL&P) proposes to construct a new facility in Oxford, Connecticut, referred to as the Oxford Substation Project (Project), to add capacity and improve electric distribution system reliability in Oxford and its surrounding area. Establishing a new bulk power source (i.e., a new substation supplied by 115-kV lines) will address forecasted deficiencies in substation capacity in the Oxford area. CL&P is in the process of submitting an application to the Connecticut Siting Council ("Siting Council"/"Council") for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction and operation of the proposed electric transmission facilities. In addition to the Council, CL&P will seek approvals and/or certifications from the Connecticut Department of Environmental Protection (DEP), the Connecticut State Historic Preservation Office (SHPO), municipal commissions, and other agencies as may be required depending upon the final Project design.

CL&P is presently conducting initial planning for the Project. Part of this planning process involves the identification and evaluation of alternative substation sites, and the subsequent presentation of such information to the public for review and comment as part of the Siting Council's Municipal Consultation Filing (MCF). To compile environmental and cultural resources information on the alternative sites as part of the initial Project planning process, CL&P retained ENSR Corporation, which retained Raber Associates to prepare a Cultural Resource Assessment. The purpose of the assessment, as described further below, is to provide input to the MCF process. After the MCF process, and based on consultations with Project area municipalities and state agencies, the final application to the Siting Council will include a proposed substation design.

Among the issues to be addressed for approval of the Project's environmental compatibility, potential Project effects on cultural resources must be reviewed by the SHPO under the Connecticut Environmental Policy Act (Connecticut General Statutes Chapter 439 Section 22a) and under the Connecticut Public Utilities Environmental Standards Act (PUESA; Connecticut General Statutes Chapter 277a. Section 16-50p(a)(2)). Cultural resources subject to review under these acts include historic architectural properties, historic industrial or engineering resources, and prehistoric or historic archaeological sites. The Cultural Resources Assessment, prepared to standards of the SHPO *Environmental Review Primer for Connecticut's Archaeological Resources*, identifies known or possible cultural resources subject to potential Project effects, and recommends future actions needed to confirm or identify such resources and to determine their eligibility to the State and National registers of historic places as appropriate. Assessment methods closely followed those used recently for similar CL&P projects, which were developed to avoid adverse effects on cultural resources eligible for the State or National registers of historic places in close consultation with the SHPO (Raber and Wiegand 2002, 2003).

II. PROJECT DESCRIPTION AND PROJECT AREAS

A. Summary Project Description for Preferred Site

As presently conceived, the Project has a Preferred Site/Subject Property with a detailed plan, and three alternative sites for which no details have been prepared (Figure 1). Proposed development at the Preferred Site includes:

- Construction of a new electric power 115-kV to 13.8-kV substation (the "Substation");
- Construction of an access drive from a new road ("Commerce Park Drive") associated with the Oxford Commerce Park, as described below; and
- Construction of two new transmission poles to connect the new substation to the existing 115-kV transmission line.

The Subject Property including the Preferred Site is approximately 15.77 acres owned by CL&P, located north of Jacks Hill Road, east of Christian Street, and west of North Larkey Road (Figure 1). The Substation would be contained within an approximately 1.1-acre footprint centrally located on the 15.77-acre parcel. The Subject Property is accessed from a new road associated with the Oxford Commerce Park that has recently been constructed and is referred to as Commerce Park Drive. All Substation components will be in presently undeveloped, off-road areas.

CL&P proposes to construct a gravel access drive extending from Commerce Park Drive into the Substation. The access drive will extend for a distance of approximately 600 linear feet. The travel lane of the access drive would be approximately 15 feet wide to accommodate CL&P maintenance vehicles. Crossing of an inland wetland and an associated intermittent watercourse would also be required to provide access to the Substation. The Substation would be supplied from the three existing 115-kV transmission lines that traverse the Subject Property on two rows of steel lattice towers in a 110-foot-wide right-of-way (Figures 1-2). The transmission line would be "looped through" the Substation and a new transmission circuit breaker would be installed to separate the existing transmission line into two circuits. A "loop through" design facilitates two transmission line connections to a substation, as opposed to one transmission line connection for a "tapped" design. Two new transmission line poles would be installed to make the connections between the transmission line and the Substation. Each of the 115-kV circuits would be capable of supplying the entire substation load.

The Substation would be an approximately 226-by 229-foot area covered with a trap rock surface and secured by a 7-foot high chain link fence topped with one foot of barbed wire. The 115-kV line interconnection with the Substation would be made using two line terminal structures up to 55 feet high. A lightning rod would extend 20 feet above the top of the substation line terminal structure. All transmission equipment would be rated for 2000 Amperes continuous current. The Substation would consist of two 47-Megavolt-Ampere (MVA) power transformers, two metal-clad distribution switchgear enclosures, five 115-kV circuit switchers, one 115-kV circuit breaker, nine 115-kV disconnect switches, a relay and control enclosure (approximately 48 feet by 14 feet) and a battery enclosure (approximately 24 feet by 14 feet) all located within the fenced area of the Substation. The relay and control enclosure would contain protective relaying and control equipment associated with the transmission portion of the Substation. Also within the switchgear and control enclosures, equipment for full Supervisory Control and Data Acquisition (SCADA) system functions and digital metering would be installed at the Substation for control and monitoring of the Substation from a remote location. Distribution getaways would exit the substation underground in conduits. The getaways would be installed under the gravel access drive, below the bottom elevation of the stream channel. The conduit installation will be confined to the footprint of the proposed access drive crossing of the wetland/watercourse. The underground distribution getaways would surface at the terminus of the access

drive at the junction with Commerce Park Drive. The distribution lines would then be installed overhead via new wood poles along Commerce Park Drive.

The Substation components would include two transformer disconnect switches and two circuit switchers that would be installed to supply the two 47 -MVA power transformers, which would transform the voltage from 115 kV to 13.8 kV, the local distribution voltage. Switchgear equipment would be installed in two steel enclosures, each 22 feet long by 14 feet wide and 14 feet in height. The switchgear would contain a total of six feeder positions supplying local load of which three feeders would be activated initially. Feeder cables would exit the Substation underground in duct banks. The transformers would be sized so that they would provide back-up for each other. Electric load would automatically transfer to the transformer in service when one transformer is switched out of service for any reason. The Substation would also contain a circuit switcher and a disconnect switch to facilitate the installation of a mobile transformer in case one of the permanently installed transformers needs to be removed from service for a prolonged time.

B. Possible Substation Sites

CL&P has identified three Alternative Sites, all adjacent to the existing 115-kV transmission lines (Figure 1), which are referred to as the Prokop Road, Jacks Hill Road, and Oxford Road alternatives. Each alternative site would require use of approximately 3 acres within larger parcels, none of which are owned by CL&P. Any substation development at an alternative site would be similar in scale and type to the facility described above for the Preferred Site.

III. ASSESSMENT ISSUES, DEFINITIONS, AND METHODS

A. Archaeological Resources

the potential for prehistoric or historic archaeological resources has not been previously evaluated in preferred or alternative Project areas. The present study included an archaeological assessment, from which recommendations for future reconnaissance investigations have been developed for implementation when the final Project configuration is determined. Assessment objectives included:

- identification of any known or possible archaeological resources in Project areas, based on available background material and surface inspection;
- assessment of the known or potential eligibility of such resources to the National or State registers of historic places;
- development of recommendations on the need for any additional investigations to confirm or identify such resources, or to determine their eligibility to the National or State registers.

To be eligible for the National or State registers, cultural resources must possess physical integrity and meet at least one of the following criteria:

- A. Association with important historic events or activities;
- B. Association with important persons;
- C. Distinctive design or physical characteristics, including representation of a significant entity whose individual components may lack distinction;
- D. Potential to provide important information about prehistory or history.

Possible effects on cultural resources from substation facility construction include direct effects on belowground prehistoric or historic archaeological resources.

Resource identification also included cemeteries used in whole or in part more than 100 years ago. Cemetery areas 100 years or older are protected as Ancient Burying Grounds under Connecticut General Statutes 19a-315.

B. Historic Structures and Visual Effects

The assessment addressed two types of possible Project effects on historic architectural or engineering resources:

- visual intrusion of substation facilities;
- direct or indirect effects from blasting during construction.

1. Visual Effects

Available guidelines for SHPO assessment of visual effects on cultural resources appear in Section 16-50p(a)(4)(C) of PUESA, and in regulations of the federal Advisory Council on Historic Preservation (36CFR 800.5). Both sets of guidelines apply to properties listed, or eligible for listing, on the National Register of Historic Places. Based on Federal Power Commission guidelines to which it refers, PUESA mandates avoidance of National Register properties where possible, or, if avoidance is not possible, minimization of transmission structure visibility or effects on the character of National Register property environ. Advisory Council on Historic Preservation (AHP) regulations, while not required in SHPO review of projects subject to Connecticut Siting Council approval, provide *de facto* guidelines commonly used by the SHPO. Criteria for findings of adverse effects on historic properties include change of the physical features within a property's setting which contribute to property significance, and introduction of visual elements which diminish the integrity of a property's significant features.

These guidelines provide no established or objective criteria for determining when a visual effect is adverse, leaving identification of adverse effects to the judgement of the reviewer. In general, visual effects will be diminished if new structures are as low as possible relative to existing structure heights, and/or if new structures are located further from historic properties. Recent studies for upgraded CL&P transmission facilities including consultation with SHPO staff (Raber and Wiegand 2002, 2003) distinguished among three categories of visibility:

- Visibility with No Effect: the structure is too far from a historic property, and/or too masked by forest cover or built environments, to be perceived as a distinct landscape feature
- Visibility with Non-Adverse Effect: the structure can be perceived as a distinct landscape feature, but because of distance, forest cover, or built environments there is no significant change to the visual environment of a historic property
- Visibility with Adverse Effect: by virtue of proximity, size, or appearance, the structure degrades the existing visual environment of a historic property.

For historic architectural and engineering resources near Project areas, assessment objectives included identifying all historic properties listed on, or previously determined as eligible for listing on, the State or National registers of historic places within a quarter mile of proposed new structures. The universe of inventoried historic properties, and the choice of a quarter-mile distance as a viewshed corridor from proposed new structures, is also based on results of the recent studies for upgraded transmission facilities (Raber and Wiegand 2002, 2003), and on discussions with SHPO staff. These studies indicated that adverse visual effects from proposed new transmission structures — taller than proposed substation facilities — are highly unlikely at distances exceeding a quarter mile.

Because of summer vegetation conditions and the relatively low heights of possible substation facilities, no detailed assessment of visual effects was prepared for this study. Assessment field inspections included preliminary appraisals of historic property visibility from alternative Project sites. Depending on final Project plans including tree clearing, detailed graphic evidence of the extent of potential visual effects for each listed or eligible historic property can be assembled as needed for landscaping plans. For the Preferred Site, which is adjacent to a historic cemetery and a historic property not previously identified as listed or eligible for the State or National registers of historic places, CL&P will prepare a landscape plan designed to shield these resources from substation visual effects, as necessary, with new trees and shrubs.

2. Blasting Effects

As a subset of the historic resource identification outlined above, the assessment identified historic properties listed on, or previously determined as eligible for listing on, the State or National registers of historic places within 500 feet of proposed new facilities. The 500-foot distance was chosen to plan for any necessary protective measures against blasting effects. It is not known at present if blasting will be required for Substation construction.

C. Assessment Methods

Assessment methods included background research, field inspection, and interpretation of results.

1. Background Research

Background research focused on two objectives:

- identifying known or potential archaeological sites, and collecting information on environmental, prehistoric, historic, and technological contexts of such sites as appropriate;
- identifying all significant historic architectural and engineering properties within a quarter mile and 500 feet of Project areas.

Background sources included:

- listings on the State and National registers of historic places;
- listings of sites eligible for the National Register maintained by SHPO, including historic bridges identified in surveys made for the Connecticut Department of Transportation;
- lists of other potentially significant properties in townwide architectural surveys completed for SHPO or in local historic districts;
- prehistoric and historic archaeological site files maintained by the Connecticut State Archaeologist;
- unpublished cultural resource management studies and other pertinent reports filed with SHPO, the Connecticut State Archaeologist, or University of Connecticut Special Collections at the Dodd Center, including documentations of historic resources conducted to standards of SHPO or the National Park Service;
- published and unpublished studies of Project vicinity geology, hydrology, soils, prehistoric or historic archaeological sites, and local or regional history and geography;
- historic maps and aerial photographs available at the Connecticut State Library, Yale University, and local libraries or historical societies;

2. Field Inspections

Based on background information, Project areas which appeared adequately surveyed or classified for cultural resources were distinguished from those requiring field inspection. For potential Native American sites, we eliminated from further consideration areas which appear too steep, poorly drained, or disturbed using recent aerial photographs, published soils atlases, topographic maps, or other pertinent information. There is generally little likelihood of encountering Native American sites on slopes exceeding 20% or in poorly drained soils, other than possible rockshelters.

Within the limits of property access -- which restricted detailed inspection of some alternative Project areas -- walkover inspections were conducted to accomplish the following tasks:

- identify undisturbed areas with potential for Native American sites;
- locate previously unmapped historic sites identified in background data;
- assess the integrity or condition of reported historic sites with inadequate available descriptions.

3. Interpretation of Results

Site assessments were framed in terms of National Register criteria. For Native American sites, we used background and field data to create a bi-modal classification of all Project areas: sensitive for known or possible resources with at least potential National Register eligibility, or not sensitive. Any planned Project actions in sensitive areas would require reconnaissance studies, regardless of whether the potential for sites was "low", "moderate", or "high." Areas with potential for few sites could include important information in the form of small, undisturbed satellite or special-purpose sites within larger Native American settlement systems.

We prepared brief contextual frameworks for historic sites, identifying important site types and discussing how examples of such types may be eligible for the National Register. In particular, we assessed site types in the framework of National Register significance criteria C (important example of typical site) and D (having potential for important new historical information). For unreported or previously reported historic sites, we classified data from background and field investigations as follows:

- listed on the National or State registers of historic places
- eligible for National or State register listing, based on SHPO findings and/or finding in previous surveys;
- potentially eligible for National or State register listing, pending additional research, based on previous studies and/or assessment research;
- known or possible site with undetermined potential for National or State register listing.
- known site with no potential eligibility, based on based on previous studies and/or assessment research.

IV. PROJECT AREA ENVIRONMENTS

The Project area lies within Connecticut's Southwest Hills ecoregion, an area of rolling hills sloping gradually towards the coast. The hills, composed of metamorphic bedrock, have been shaped by Pleistocene glaciation into often-elliptical drumlin hills which run north-south or northwest-southeast, separated by stream valleys. Glacial till covers the hills, with glacial meltwater deposits and post-glacial alluvium filling the generally narrow valleys. During the retreat of glacial ice, meltwaters impounded by earlier meltwater deposits created long lakes in which sediments created lowland areas. Holocene wetlands evolved in some of these lowlands, and in smaller channels or isolated depressions formed by smaller-scale ice melt episodes. Away from wetland areas and floodplains, most Project areas are or were originally well-drained silt loams, gravelly sandy loams, and fine sandy loams developed on till. The Little River, a Naugatuck River tributary within the Housatonic River Basin, drains all Project sites now under consideration (U.S. Department of Agriculture 1979; Connecticut Department of Environmental Protection 1982; Rodgers 1985; Stone *et al.* 1992, 1998).

Undisturbed wetlands, ponds, stream margins, and floodplains in the project area vicinity once served as habitats for important plant and animal food resources available to Native American and early Euroamerican peoples. Road and other historic development has included much soil disturbance, forest clearance and wetland filling.

A. Preferred Site

The Preferred Site consists primarily of level hilltop, 30-40 feet above wetlands to the west and south (Figures 1-3). Outside the wetlands, the site includes well-drained fine sandy loam soils. The Substation, which would be located immediately west of the existing transmission right-of-way, is today occupied by deciduous forest, high old field grasses, and sapling/shrub growth. The proposed access road, within the right-of-way, has the latter two classes of vegetation, and is crossed by wetlands at two locations. Aside from small areas of gravel fill where the wetlands traverse the proposed access road, the Preferred Site appears to be undisturbed. However, during the early 20th century and perhaps earlier, the Preferred Site appears to have been cleared and perhaps plowed, suggesting possible disturbance of topsoil. Stone walls near the wetlands, within the Subject Property but outside Preferred Site limits, suggest the wetlands once served as pasture. These same walls also appear to have enclosed several upland areas at the Preferred Site, but have been disturbed and are not readily visible today except perhaps during late winter. The wetlands drain west and north into the Little River after passing under the former earthen railbed of the New York and New England Railroad which abuts the Subject Property to the northwest. A concrete culvert, once used as a cattle pass related to presumed pasturage land uses, channels the flow from the wetlands under the railbed, which in this vicinity has served as a bridle trail owned by the State of Connecticut since the early 1940s. The 19th-century railbed and the late-19th or early-20th-century culvert may have altered drainage patterns in the Preferred Site vicinity, but the adjacent wetlands appear to be original landscape features (Figures 1-3; Whitford 1852; Beers 1868; U.S. Geological Survey 1893, 1953; Fairchild Aerial Survey 1934).

B. Prokop Road, Oxford Road and Jacks Hill Road Alternatives

Virtually all of the 4.3-acre property at the Prokops Road alternative has been disturbed by extensive sand-and-gravel extraction operations.

The Oxford Road Alternative consists primarily of wooded wetland areas adjacent to the Little River, which runs along the north edge of the property immediately south of Oxford Road. Between the road and the river, there is a narrow area of excessively-drained gravelly sandy loam. The southeast portion of the property, which could not be viewed for this assessment, includes small steep hills of well-drained fine sandy loam soils and some reported disturbance (U.S. Department of Agriculture 1979).

The Jacks Hill Road Alternative is primarily a hilltop area of open fields and woods, with well-drained fine sandy loam soils adjacent to the same wetland which flows past the west side of the Preferred Site.

V. NATIVE AMERICAN RESOURCE SENSITIVITY

The prehistoric Native American occupation of southwestern Connecticut took place over a long period beginning between about 10,000 BC to about 1600 AD, when the Contact period of early historic times began. The prehistory of the region is divided into several time periods based on changing ecological conditions and corresponding cultural adaptation. These major periods are the Paleoindian (ca.10,000-8000 B.C.), Archaic (ca. 8000-1000 B.C.), Woodland (ca. 1000 B.C.-1600 A.D.), and Contact (ca. 1524-1700 A.D.), some of which are subdivided into shorter periods based on distinctive technological and/or stylistic changes.

Despite the large number of prehistoric archaeological sites discovered and studied in southwestern Connecticut over the past thirty years, however, there remain serious gaps in the archaeological record, both in terms of culture history and regional prehistory chronology. In some cases, these gaps coincide with time periods for which very few sites have been found, notably the earlier millennia of prehistory from Paleoindian to Middle Archaic (ca. 6000-4000 B.C.) times. In addition, sites of the Terminal Archaic (ca. 1700-1000 B.C.) and Woodland periods are not commonly encountered away from the coast and major streams. It remains unclear whether this pattern of site distribution reflects changing settlement and subsistence patterns after the Late Archaic (ca. 4000-1700 B.C.), a change in prehistoric population sizes, or the loss of many sites to recent development (especially before the recent increase in cultural resource management studies). The Contact period of early historic times is especially poorly represented, in large part due to its extremely short duration and the fact that Native American populations declined rapidly during this period, with the surviving groups moving outside the area or perhaps assimilating to such a degree as to make their archaeological identity difficult to recognize.

Problems common to researchers working elsewhere in the northeastern United States appear in this part of Connecticut: poorly defined stratigraphic relationships of components, lack of many sites from single chronological periods, poor preservation of organic materials, and site disturbance or destruction by both cultural and natural forces. The rapid pace and scope of development in southwestern Connecticut is perhaps the most destructive local factor, responsible for the loss of many potentially valuable archaeological sites. This situation, together with the highly variable nature of information about prehistoric cultural resources in this portion of the state, makes comparison of the study area with research results from the Northeast region necessary in assessing study area potential for such resources.

No Native American sites have been reported within any of the possible Project areas. The general vicinities of Project sites include a number of reported Native American archaeological resources, spanning much of the known period of Native American habitation in the region, in files held by the Connecticut State Archaeologist and in unpublished cultural resource reports (Rainey 1989; Lavin *et al.* 2002). Based on surface inspection, and application of the research results of the 2002 cultural resources assessment, sensitivity of the Preferred Site and the two alternate sites with intact soils for archaeological resources eligible for the State or National registers was appraised.

Environmental characteristics of known Native American sites in the region allowed for identification of areas sensitive for undiscovered sites, based on both surface inspection and information about slope and drainage conditions. Slope, drainage and proximity to streams and wetlands are generally the indicators of Native American site sensitivity. The vast majority of sites are located in areas of less than 12-15% slopes, in well-drained soils. While some fairly large sites that may have been used as permanent, semi-permanent or seasonal sites may be located along major streams and wetlands, previous experience has shown that uplands settings with small level areas adjacent to smaller streams and wetlands do contain prehistoric sites. The smaller sites encountered in such settings would probably have been used as temporary camps, hunting camps and stations, resource acquisition sites for the obtaining of workable stone or food items, or temporary refuges. While proximity to available water in the form of streams, wetlands and ponds with their associated floral and faunal resources would usually be a good indication of potential Native American sites, the absence of nearby water should not be considered great enough to exclude some site locations, particularly

in the steeper portions of the project area. As many sites in such locations are small temporary camps or hunting sites, they may have been occupied during the late fall through early spring, when the presence of snow may have eliminated the need for a stream or wetlands. Newly-discovered sites could be eligible for National or State registers of historic places under significance Criterion D, for potential new information about regional or local Native American settlement patterns.

A. Preferred Site

No Native American archaeological resources have been reported within approximately a mile of this site. The proximity of well-drained, level, largely undisturbed Project areas to extensive wetlands make the Preferred Site sensitive for a wide range of potential site types, from small seasonal hunting stations to larger camps occupied for longer periods. Even if topsoil strata have been disturbed by clearing or plowing, subsoil strata are likely to be intact and could include significant archaeological materials. Finds in the topsoil could also contribute new information if temporally diagnostic or densely-concentrated artifacts are recovered. Reconnaissance archaeological testing would be necessary to identify any Native American sites with potential eligibility for the National or State registers of historic places.

B. Prokop Road, Oxford Road and Jacks Hill Road Alternatives

The extensive disturbance at the Prokop Road alternative has removed any possible cultural resources at this site and make further cultural resource investigations unnecessary.

The immediate proximity of the Little River and adjacent wetlands to the upland areas of the Oxford Road Alternative suggest these areas, where undisturbed, have some sensitivity for Native American sites, although sites along the north side of the river may have been disturbed by various Oxford Road construction episodes. As noted above, the upland areas of this site are limited.

The well-drained soils and adjacent wetlands make most of the Jacks Hill Road Alternative sensitive for Native American sites. As noted above for the Preferred Site, the fact that much of this alternative has been cleared and plowed in the past does not remove the potential for significant Native American resources.

The Oxford Road and Jacks Hill Road alternative sites would require reconnaissance archaeological testing if CL&P pursued substation development.

IV. EUROAMERICAN RESOURCE SENSITIVITY

A. Summary of Euroamerican Development

Oxford was settled in 1680 as part of the town of Derby, in areas purchased from Paugusett and Pootatuck Native American groups beginning in 1678. The distance from the center of Derby to the outlying village encouraged a partition into several ecclesiastical societies and the creation of Oxford parish in 1740, including areas from the towns of Monroe and Stratford. In 1798, Oxford was incorporated as a separate town. The main center of settlement was around the Little River along the line of the modern Route 67, which was improved as the Oxford Turnpike ca.1795. Oxford remained largely agricultural through the early 19th century. By 1830, small shops or mills making hats, cloth, wool, tanned goods, and carriages had appeared, reflecting the town's proximity to coastal transportation and its waterpower resources on tributaries of the Housatonic and Naugatuck rivers. Completion of the Naugatuck Valley Railroad in 1849, and the spread of coal-fired steam power, eliminated these local advantages and contributed to the town's decline as an industrial center. Construction of the New York & New England Railroad line from Waterbury to Fishkill-on-Hudson, NY, begun by the Boston, Hartford & Erie in the mid-1860s and completed in 1882, did not greatly alter Oxford's largely agricultural economy (Sharpe 1910; Litchfield and Hoyt 1960; Turner and Jacobus 1986).

B. Sensitivity for Belowground Resources

Surface inspection, review of historical maps and aerial photographs, and site files maintained by the Connecticut State Archaeologist suggested no Euroamerican development within any of the Project areas (Warren and Gillet 1812; Whitford 1852; Beers 1868; U.S. Geological Survey 1893, 1953; Fairchild Aerial Survey 1934). Aside from random deposits of trash, no belowground Euroamerican resources are expected in these areas. The significance of any recovered historic artifacts will depend primarily on the integrity of apparent depositional episodes, and the age and rarity of the materials. In general, widely-distributed household or commercial materials post-dating the mid 19th century will be too well documented to yield sufficient new information to meet National Register significance Criterion D. Reconnaissance archaeological testing, as suggested above for possible Native American resources, should also indicate the potential for any undocumented, significant belowground Euroamerican resources.

C. Historic Structures and Visual Effects

1. Identification of Structures and Direct Effects

There are no properties listed on the State or National registers of historic places within a quarter mile of any Project area. There has been no town-wide survey of Oxford historic resources (personal communication, Dr. David A. Poirier), and no historic resources within a quarter mile of any project area which have previously been identified as eligible for the State or National registers. Assessment research did not identify any eligible or potentially eligible resources at the Prokop Road, Oxford Road or Jacks Hill Road alternatives, but did identify several historic resources near the Preferred Site with potential eligibility or protected status under Connecticut law.

a. Railroad Features

The former New York & New England railbed, now used as a bridle path, is adjacent to the Subject Property and approximately 400 feet from the Substation component of the Preferred Site. In this vicinity, the railbed is an earthen causeway 80-100 feet wide at the bottom, 10-15 feet above adjacent wooded wetland or upland surfaces, and 15-20 feet wide at the top with an original ballast or cinder surface. Railroad structures of this type and scale — or larger — were common in Connecticut by the late 19th century, and many survive including some used as public trails. Except as approaches to other engineering structures such as viaducts,

bridges, or culverts, few if any of the rail embankments are listed on the state or national registers. As landscape features reflecting former rail alignment decisions, and as well-preserved examples of simple engineering structures which made the state's extensive rail network possible, rail embankments such as this one should be regarded as potentially eligible under Criterion C pending further study and comparative review of surviving examples statewide. Similarly, the intact, 6.5-foot-wide, 5-foot-high concrete cattle pass structure under the embankment, adjacent to the Subject Property, is an example of what was probably once a relatively common engineering structure type associated with railroad development. Pending comparative studies determining the rarity of such structures, it should also be regarded as potentially eligible under Criterion C (Figures 2-4).

There will be no direct effects of Preferred Site development on the historic railroad resources, unless blasting is required and potential blasting effects on the embankment are identified.

b. Jacks Hill Cemetery

The Jacks Hill Cemetery is approximately 200 feet east of the Subject Property and 650 feet east of the Preferred Site. This small cleared area, with approximately eighty headstones, is surrounded on three sides by mature forest growth. Readable headstones range in date from ca.1782-2003, with some clearly indicating anticipated future use. The antiquity of the cemetery gives it protected status under Connecticut law (Figure 3). There will be no direct effects of Preferred Site development on the cemetery.

c. Stone Walls

Stone walls within the Subject Property once defined a series of quadrangular enclosures at the Preferred Site and along the wetlands (Figure 2; Fairchild Aerial Survey 1934). Surface inspection suggests these features have previously been removed from the Preferred Site, although full-foliage brush conditions may have obscured some remnant wall sections. Surviving walls sections outside the Preferred Site were not inspected in detail due to vegetation conditions, but appear to be single lines or unstacked arrays of large cobbles, 2 to 3 feet wide and 4 to 12 inches high. Despite recent attempts to classify and discuss the history of these widespread regional landscape features (Thorson 2002, 2005), there is currently no framework to determine their eligibility for the state or national registers. Within Thorson's recent wall classification scheme, the walls on the Subject Property appear to fall within his category of *stone bands*, low, elongated piles of dumped stone which "...scarcely [qualify] as a wall" (2005: 104). While no title work was conducted for these investigations, at least some of the walls are associated with property lines, and most of these low walls probably defined enclosures perhaps used for pasture. No fence posts survive in association with the walls, but it is possible that most of the walls originated as stones moved from the surface to create slightly more cleared pasture enclosures along vanished fence lines.

As disturbed examples of very common landscape features, the stone walls on the Subject Property do not currently appear eligible for the state or national registers of historic places. However, to the extent any of these features may in the future contribute information on local/regional land use, in terms of either wall types or property lines, proposed Project actions will have little if any effects due to prior removal of wall sections.

2. Visual Effects

Although much of the Subject Property is surrounded by an existing vegetative buffer of forested uplands and wetlands, CL&P is in the process of developing a landscape plan to further mitigate any potential views of the Substation by providing vegetative screening. The railroad embankment/bridle trail immediately to the northwest of the Subject Property may be affected by seasonal (winter months) views of some of the Substation facilities and transmission structures. Without winter-season field evaluation, it is not presently possible to classify the extent or effect of potential Substation visibility. CL&P's landscape plan will incorporate such evaluation, along with measures to minimize visual effects on the trail to the extent feasible while realizing the need to avoid vegetation hazards to overhead lines and the Substation electrical components within the Substation yard.

Due to dense tree cover and distance, and the fact that virtually no trees will be removed between the existing transmission right-of-way and the cemetery, it is unlikely that the proposed Substation will be visible from the Jacks Hill Cemetery. No visual effects of any kind are anticipated for this resource.

V. CONCLUSIONS AND RECOMMENDATIONS

The Preferred Site, the Jacks Hill Road Alternative, and, to a lesser extent, the Oxford Alternative have potential for unreported Native American archaeological resources which would be subject to severe disturbance during Project construction. Reconnaissance survey designed to identify such resources will be required prior to Project construction, followed as appropriate by intensive survey designed to determine archaeological site eligibility to the State or National registers of historic places, and by mitigatory excavations to recover significant data from any eligible sites subject to adverse effects of Project development.

No direct Project effects on eligible Euroamerican resources are anticipated by Project development, unless CL&P determines that any blasting for construction at the Preferred Site might disturb the historic railroad embankment/bridle trail. CL&P will evaluate and address potential blasting effects on this historic resource.

The Substation at the Preferred Site may be visible from the railroad embankment/bridle trail. Additional winter season evaluation of visual effects on this historic resource should be undertaken, including photographs of existing and modified images showing expected conditions, and/or digital topographic cross-section analysis to assess potential visibility. Depending on evaluation results, CL&P will develop a landscaping plan to mitigate any adverse visual effects.

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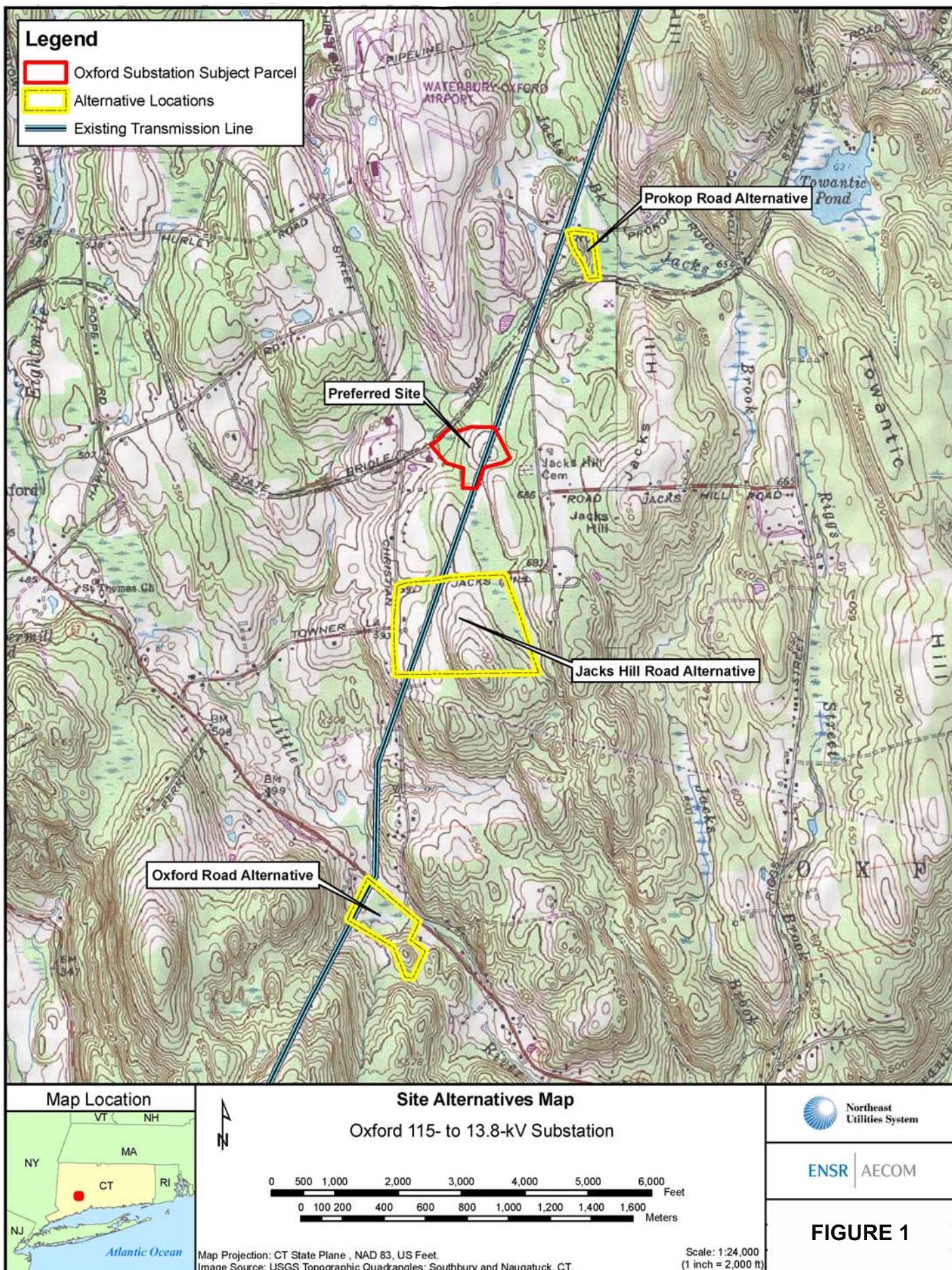
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PERSONAL COMMUNICATIONS

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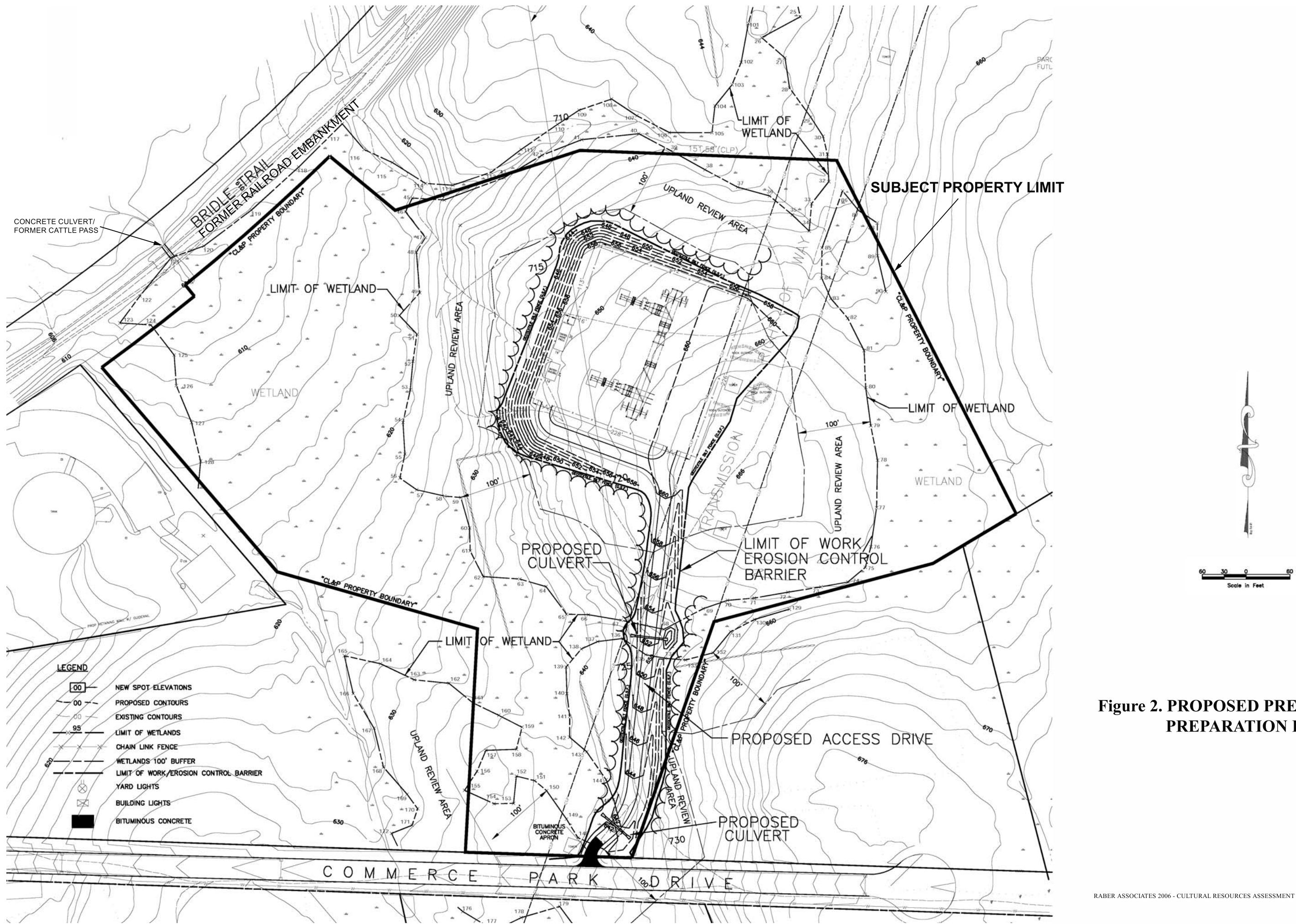
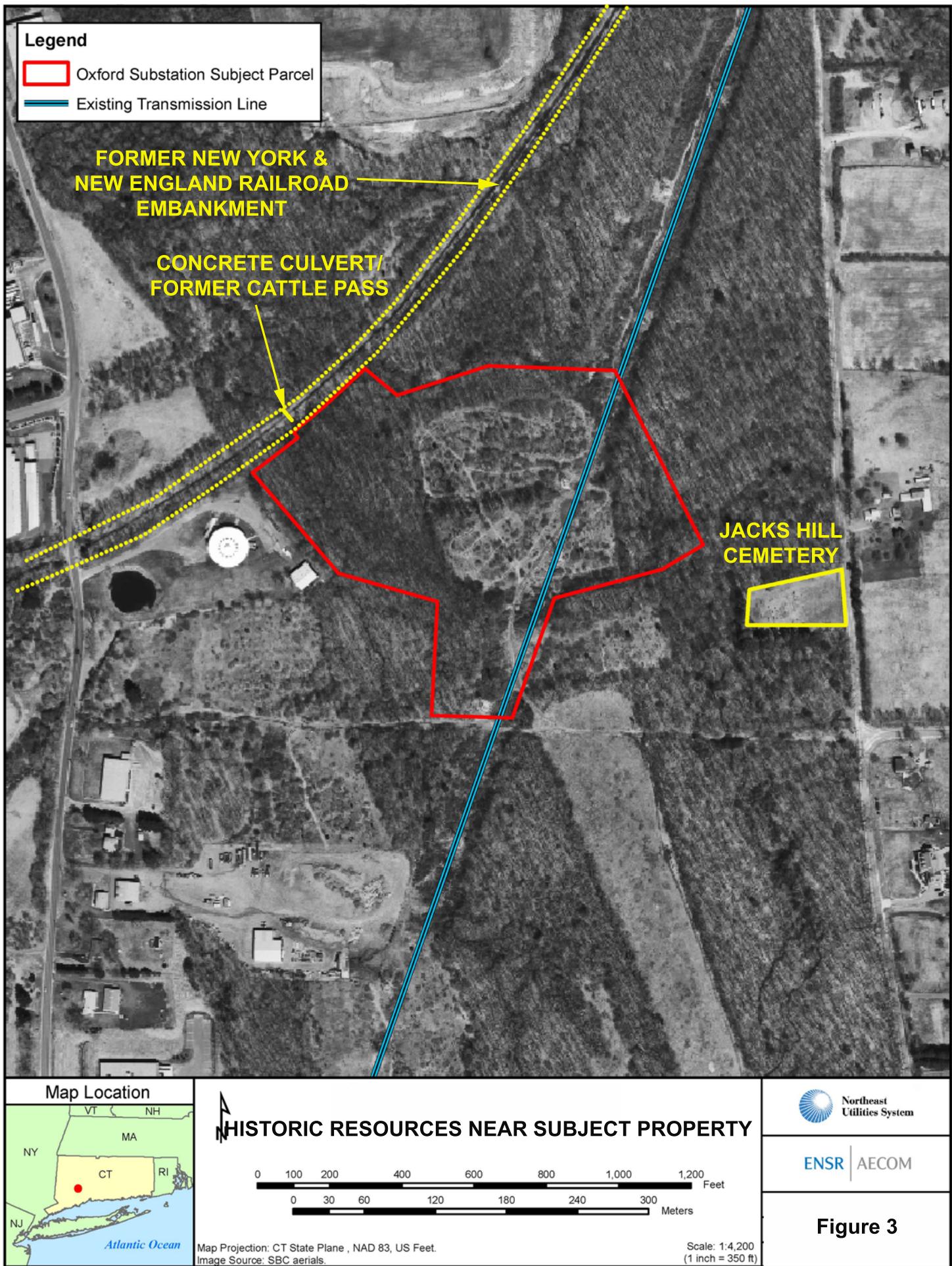
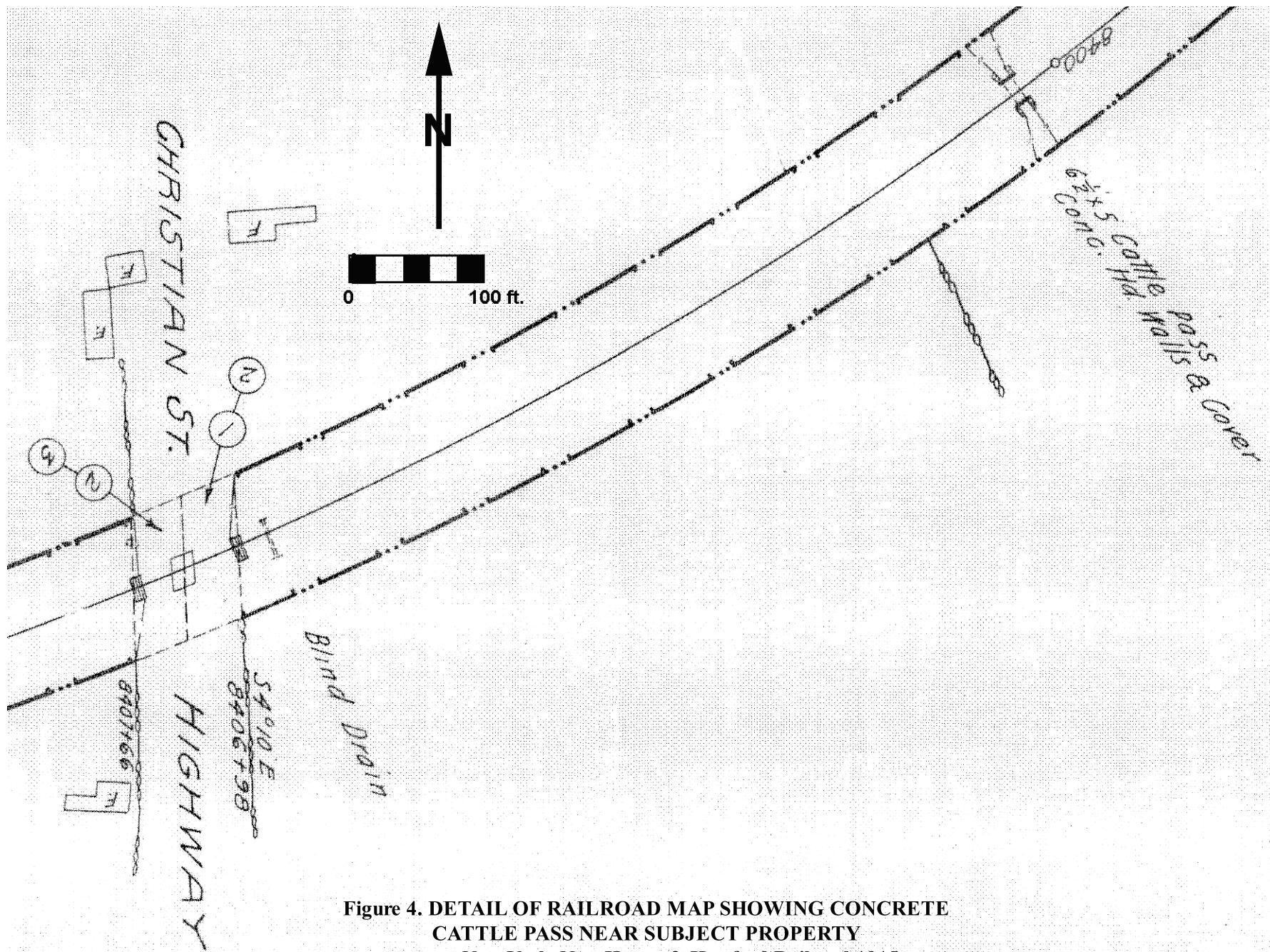


Figure 2. PROPOSED PREFERRED SITE PREPARATION PLAN





**Figure 4. DETAIL OF RAILROAD MAP SHOWING CONCRETE
CATTLE PASS NEAR SUBJECT PROPERTY**
source: New York, New Haven & Hartford Railroad 1915

Appendix G

Cultural Resources Reconnaissance Report

RABER ASSOCIATES

CONSULTANTS IN THE HISTORICAL AND SOCIAL SCIENCES



December 8, 2006

Dr. David A. Poirier, Staff Archaeologist
Connecticut State Historic Preservation Office
Connecticut Commission on Culture and Tourism
59 South Prospect Street
Hartford, Connecticut 06106

*RE: CL&P 115-Kv Substation
Jacks Hill Road and Christian Lane
Oxford, CT*

Dear Dr. Poirier:

The Connecticut Light & Power Company (CL&P) proposes to construct a new electric substation on company-owned land located east of Christian Street and north and west of Jacks Hill Road in Oxford, Connecticut. The new substation, to be called the Oxford 115-kV Substation, is necessary to meet an increasing demand for electricity in the Oxford area. This project requires CL&P to submit an application to the Connecticut Siting Council for a Certificate of Environmental Compatibility and Public Need. Based on review of this project by your office, and on Raber Associates' 2006 cultural resources assessment, Raber Associates completed an archaeological reconnaissance of the substation site and its proposed access road. On behalf of CL&P, a copy of this report is attached for your review.

Based on excavation of 49 shovel tests and a 1-m.-square excavation unit, with almost entirely negative results, there appear to be no cultural resources within project limits with eligibility or potential eligibility for the State or National registers of historic places. No further cultural resource investigations appear necessary.

We will provide two copies of this report to your office after addressing any comments you may have. Please contact me, or Jeffrey Borne at 860-665-6715 or by email at bornejo@NU.COM, if you have any questions or concerns.

Sincerely,

Michael S. Raber

Attachment

xc: J. Borne, CL&P
J. Durand, ENSR

81 Dayton Road • P.O. Box 46
South Glastonbury • CT 06073
(860) 633-9026 voice/fax/msrabber@aol.com (e-mail)

RABER ASSOCIATES

CONSULTANTS IN THE HISTORICAL AND SOCIAL SCIENCES



**CULTURAL RESOURCES RECONNAISSANCE
FOR
CONNECTICUT LIGHT & POWER COMPANY
OXFORD SUBSTATION
OXFORD, CONNECTICUT**

Michael S. Raber

prepared for:

ENSR Corporation
2 Technology Park Drive
Westford, MA 01886

December 2006

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I. INTRODUCTION

The Connecticut Light & Power Company (CL&P) proposes to construct a new facility in Oxford, Connecticut, referred to as the Oxford Substation Project (Project), to add capacity in response to the increasing demand for electricity in Oxford and its surrounding area and by so doing, improving electric distribution system reliability in the Town of Oxford. Establishing a new bulk power source (i.e., a new substation supplied by 115-kV lines) will not only provide enough supply to meet the needs of Oxford for years to come, it will also improve the reliability of the Town's distribution system by eliminating reliance on neighboring substations. CL&P is submitting an application to the Connecticut Siting Council (Siting Council/Council) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction and operation of the proposed Project. In addition to the Council, CL&P will seek approvals and/or certifications from other reviewing authorities to include the Connecticut State Historic Preservation Office (SHPO), municipal commissions, and other agencies as may be required depending upon the final Project design.

Among the issues to be addressed for approval of the Project's environmental compatibility, potential Project effects on cultural resources must be reviewed by the SHPO under the Connecticut Environmental Policy Act (Connecticut General Statutes Chapter 439 Section 22a) and under the Connecticut Public Utilities Environmental Standards Act (PUESA; Connecticut General Statutes Chapter 277a. Section 16-50p(a)(2)). Cultural resources subject to review under these acts include historic architectural properties, historic industrial or engineering resources, and prehistoric or historic archaeological sites. As part of the Siting Council's Municipal Consultation Filing (MCF) process, Raber Associates prepared a cultural resource assessment of the proposed Project site as well as several alternative sites (Raber 2006). The assessment indicated the Project site was sensitive for potential Native American archaeological resources, and recommended a reconnaissance survey to locate any such resources. SHPO reviewed the assessment and concurred with its findings (letter, J. Paul Loether to Amanda Carroll, October 19, 2006).

On behalf of CL&P, ENSR Corporation retained Raber Associates to conduct an archaeological reconnaissance, to standards of the SHPO *Environmental Review Primer for Connecticut's Archaeological Resources*, to identify any resources eligible for the State or National registers of historic places, and to develop any procedures needed to avoid adverse effects on eligible cultural resources. Raber Associates conducted reconnaissance investigations on the Project site in October and November 2006. Reconnaissance investigations included subsurface testing to locate archaeological sites. To be eligible, cultural resources must possess physical integrity and meet at least one of the following criteria:

- A. Association with important historic events or activities;
- B. Association with important persons;
- C. Distinctive design or physical characteristics, including representation of a significant entity whose individual components may lack distinction;
- D. Potential to provide important information about prehistory or history.

Michael S. Raber acted as principal investigator, and Ernest A. Wiegand acted as project archaeologist. Dawn Brown acted as crew chief. Kieran Farslow, Joseph Melfi, Diana Messer, Katelyn Pulito, and David Silverglade acted as field technicians.

II. PROJECT DESCRIPTION AND PROJECT AREAS

The Project site is shown in Figure 1. Proposed development of the Substation, limits to which appear on Figure 2, include:

- Construction of a new electric power 115-kV to 13.8-kV substation (the "Substation");
- Construction of an access drive from a new Town road ("Commerce Park Drive") associated with the Oxford Commerce Park, as described below; and
- Construction of three new transmission line structures to connect the new substation to the existing 115-kV transmission line.

The Subject Property including the Preferred Site is approximately 15.77 acres owned by CL&P, located north of Jacks Hill Road, east of Christian Street, and west of North Larkey Road (Figure 1). The Substation would be contained within an approximately 1.1-acre footprint centrally located on the 15.77-acre parcel. The Subject Property is accessed from a new Town road associated with the Oxford Commerce Park that has recently been constructed and is referred to as Commerce Park Drive. All Substation components will be in presently undeveloped, off-road areas.

CL&P proposes to construct a gravel access drive extending from Commerce Park Drive into the Substation. The access drive will extend for a distance of approximately 600 linear feet. The travel lane of the access drive would be approximately 15 feet wide to accommodate CL&P maintenance vehicles. Crossing of an inland wetland and an associated intermittent watercourse would also be required to provide access to the Substation. The Substation would be supplied from the three existing 115-kV transmission lines that traverse the Subject Property on two rows of steel lattice towers in a 110-foot-wide right-of-way (Figures 1-2). The transmission line would be "looped through" the Substation and a new transmission circuit breaker would be installed to separate the existing transmission line into two circuits. A "loop through" design facilitates two transmission line connections to a substation, as opposed to one transmission line connection for a "tapped" design. Three new transmission line structures would be installed to make the connections between the existing 115-kV transmission circuit and the Substation. Each of the 115-kV circuits would be capable of supplying the entire substation load.

The Substation would be an approximately 226-by 229-foot area covered with a trap rock surface and secured by a 7-foot high chain link fence topped with one foot of barbed wire. The 115-kV line interconnection with the Substation would be made using two, up to 55-foot high, line terminal structures. All transmission equipment would be rated for 2000 Amperes continuous current. The Substation would consist of two 47-Megavolt-Ampere (MVA) power transformers, two metal-clad distribution switchgear enclosures, five 115-kV circuit switchers, one 115-kV circuit breaker, nine 115-kV disconnect switches, a relay and control enclosure (approximately 48 feet by 14 feet) and a battery enclosure (approximately 24 feet by 14 feet) all located within the fenced area of the Substation. The relay and control enclosure would contain protective relaying and control equipment associated with the transmission portion of the Substation. Also within the switchgear and control enclosures, equipment for full Supervisory Control and Data Acquisition (SCADA) system functions and digital metering would be installed at the Substation for control and monitoring of the Substation from a remote location. Distribution getaways would exit the substation underground in conduits. The getaways will pass under an engineered culverted crossing designed for the entrance road, protecting them from any vehicle-related impacts. The conduit installation will be confined to the footprint of the proposed access drive crossing of the wetland/watercourse. The underground distribution getaways would surface at the terminus of the access drive at the junction with Commerce Park Drive. The distribution lines would then be installed overhead via new wood poles along Commerce Park Drive.

The Substation components would include two transformer disconnect switches and two circuit switchers that would be installed to supply two 47-MVA power transformers, which would transform the voltage from 115 kV to 13.8 kV, the local distribution voltage. Switchgear equipment would be installed in two steel enclosures, each 22 feet long by 14 feet wide and 14 feet in height. The switchgear would contain a total of six feeder positions supplying local load of which three feeders would be activated initially. Feeder cables would exit the Substation underground in duct banks. The transformers would be sized so that they would provide back-up for each other. Electric load would automatically transfer to the transformer in service when one transformer is switched out of service for any reason. The Substation would also contain a circuit switcher and a disconnect switch to facilitate the installation of a mobile transformer in case one of the permanently installed transformers needs to be removed from service for a prolonged time.

IV. PROJECT AREA ENVIRONMENT

The Project site lies within Connecticut's Southwest Hills ecoregion, an area of rolling hills sloping gradually towards the coast. The hills, composed of metamorphic bedrock, have been shaped by Pleistocene glaciation into often-elliptical drumlin hills which run north-south or northwest-southeast, separated by stream valleys. Glacial till covers the hills, with glacial meltwater deposits and post-glacial alluvium filling the generally narrow valleys. During the retreat of glacial ice, meltwaters impounded by earlier meltwater deposits created long lakes in which sediments created lowland areas. Holocene wetlands evolved in some of these lowlands, and in smaller channels or isolated depressions formed by smaller-scale ice melt episodes. Away from wetland areas and floodplains, most Project areas are well-drained silt loams, gravelly sandy loams, and fine sandy loams developed on till. The Little River, a Naugatuck River tributary within the Housatonic River Basin, drains all Project sites now under consideration (U.S. Department of Agriculture 1979; Connecticut Department of Environmental Protection 1982; Rodgers 1985; Stone *et al.* 1992, 1998).

Undisturbed wetlands, ponds, stream margins, and floodplains in the Project area vicinity once served as habitats for important plant and animal food resources available to Native American and early Euroamerican peoples. Road and other historic development have included much soil disturbance, forest clearance and wetland filling.

The Substation site consists primarily of level hilltop, 30-40 feet above wetlands to the west and south (Figures 1-2). Outside the wetlands, available information indicated the site includes well-drained fine sandy loam soils. The Substation, which would be located immediately west of the existing transmission right-of-way, is today occupied by deciduous forest, high old field grasses, and sapling/shrub growth. The proposed access road, within the right-of-way, has the latter two classes of vegetation, and is crossed by wetlands at two locations. Aside from small areas of gravel fill where the wetlands traverse the proposed access road, the Substation site appears to be undisturbed. However, during the early 20th century and perhaps earlier, the site appears to have been cleared and perhaps plowed, suggesting possible disturbance of topsoil. Stone walls near the wetlands, within the Project site but beyond proposed Substation limits, suggest the wetlands once served as pasture. These same walls also appear to have enclosed several upland areas at the Substation site, but have been disturbed and are not readily visible today except perhaps during late winter. The wetlands drain west and north into the Little River after passing under the former earthen railbed of the New York and New England Railroad which abuts the Subject Property to the northwest. A concrete culvert, once used as a cattle pass related to presumed pasturage land uses, channels the flow from the wetlands under the railbed, which in this vicinity has served as a bridle trail owned by the State of Connecticut since the early 1940s. The 19th-century railbed and the late-19th or early-20th-century culvert may have altered drainage patterns in the Preferred Site vicinity, but the adjacent wetlands appear to be original landscape features (Figures 1-2; Whiteford 1852; Beers 1868; U.S. Geological Survey 1893, 1953; Fairchild Aerial Survey 1934).

V. NATIVE AMERICAN RESOURCE SENSITIVITY

The prehistoric Native American occupation of southwestern Connecticut took place over a long period beginning between about 10,000 BC to about 1600 AD, when the Contact period of early historic times began. The prehistory of the region is divided into several time periods based on changing ecological conditions and corresponding cultural adaptation. These major periods are the Paleoindian (ca.10,000-8000 B.C.), Archaic (ca. 8000-1000 B.C.), Woodland (ca. 1000 B.C.-1600 A.D.), and Contact (ca. 1524-1700 A.D.), some of which are subdivided into shorter periods based on distinctive technological and/or stylistic changes.

Despite the large number of prehistoric archaeological sites discovered and studied in southwestern Connecticut over the past thirty years, however, there remain serious gaps in the archaeological record, both in terms of culture history and regional prehistory chronology. In some cases, these gaps coincide with time periods for which very few sites have been found, notably the earlier millenia of prehistory from Paleoindian to Middle Archaic (ca. 6000-4000 B.C.) times. In addition, sites of the Terminal Archaic (ca. 1700-1000 B.C.) and Woodland periods are not commonly encountered away from the coast and major streams. It remains unclear whether this pattern of site distribution reflects changing settlement and subsistence patterns after the Late Archaic (ca. 4000-1700 B.C.), a change in prehistoric population sizes, or the loss of many sites to recent development (especially before the recent increase in cultural resource management studies). The Contact period of early historic times is especially poorly represented, in large part due to its extremely short duration and the fact that Native American populations declined rapidly during this period, with the surviving groups moving outside the area or perhaps assimilating to such a degree as to make their archaeological identity difficult to recognize.

Problems common to researchers working elsewhere in the northeastern United States appear in this part of Connecticut: poorly defined or understood stratigraphic relationships of components, lack of many sites from single chronological periods, poor preservation of organic materials, and site disturbance or destruction by both cultural and natural forces. The rapid pace and scope of development in southwestern Connecticut is perhaps the most destructive local factor, responsible for the loss of many potentially valuable archaeological sites. This situation, together with the highly variable nature of information about prehistoric cultural resources in this portion of the state, makes comparison of the study area with research results from the Northeast region necessary in assessing study area potential for such resources.

No Native American sites have been reported within the Project site. The general vicinity of the site includes a number of reported Native American archaeological resources, spanning much of the known period of Native American habitation in the region, in files held by the Connecticut State Archaeologist and in unpublished cultural resource reports (Rainey 1989; Lavin *et al.* 2002). Based on surface inspection, the cultural resources assessment appraised Project site sensitivity for archaeological resources eligible for the State or National registers was appraised.

Environmental characteristics of known Native American sites in the region allowed for identification of areas sensitive for undiscovered sites, based on both surface inspection and information about slope and drainage conditions. Slope, drainage and proximity to streams and wetlands are generally the indicators of Native American site sensitivity. The vast majority of sites are located in areas of less than 12-15% slopes, in well-drained soils. While some fairly large sites that may have been used as permanent, semi-permanent or seasonal sites may be located along major streams and wetlands, previous experience has shown that uplands settings with small level areas adjacent to smaller streams and wetlands do contain prehistoric sites. The smaller sites encountered in such settings would probably have been used as temporary camps, hunting camps and stations, resource acquisition sites for the obtaining of workable stone or food items, or temporary refuges. While proximity to available water in the form of streams, wetlands and ponds with their associated floral and faunal resources would usually be a good indication of potential Native American sites, the absence of nearby water should not be considered great enough to exclude some site locations, particularly in the steeper portions of the project area. As many sites in such locations are small temporary

camps or hunting sites, they may have been occupied during the late fall through early spring, when the presence of snow may have eliminated the need for a stream or wetlands. Newly-discovered sites could be eligible for National or State registers of historic places under significance Criterion D, for potential new information about regional or local Native American settlement patterns.

While no Native American archaeological resources have been reported within approximately a mile of the Project site, the proximity of well-drained, level, largely undisturbed Project areas to extensive wetlands made the site sensitive for a wide range of potential site types, from small seasonal hunting stations to larger camps occupied for longer periods. Even if topsoil strata have been disturbed by clearing or plowing, subsoil strata are likely to be intact and could include significant archaeological materials. Finds in the topsoil could also contribute new information if temporally diagnostic or densely-concentrated artifacts are recovered. Reconnaissance archaeological testing would be necessary to identify any Native American sites with potential eligibility for the National or State registers of historic places.

VI. FIELD METHODS AND RESULTS

A. Methods

Reconnaissance investigations included hand-excavated 50-cm.² shovel test pits, initially placed at intervals of no more than 15 meters at the Substation site and its proposed access road (Figure 2). This testing interval has proven successful in intercepting at least some evidence of all but perhaps the very smallest of Native American or Euroamerican archaeological sites. The shovel test pits were excavated with shovels and small hand tools until culturally-sterile soil layers, standing water, and/or obstructions were encountered, with all excavated material run through 0.25-inch-mesh hardware cloth to isolate artifacts. At one initial test with a possible Native American feature, additional tests of similar size were completed within 4 meters distance, and the initial test was expanded to a 1-m.² excavation unit, to assess the nature of this find and determine whether it represented Native American activity. Soil profiles were recorded and later compared to typical soils expected in test areas (U.S. Department of Agriculture 1979). All cultural material was recorded by measured vertical provenience, and except for some recent historic material was retained for laboratory identification and analysis.

B. Results

A total of 46 initial tests were completed, all but one of which yielded no cultural material (Figure 2). As summarized below, soils exposed by reconnaissance tests proved to be much less well drained than expected from available information. Tests indicated limited areas of soil disturbance. Along the proposed Substation access road, test RD-7 included one piece of quartz lithic debitage and a possible charcoal feature. Three additional shovel tests placed within 4 meters of RD-7 yielded no cultural material. Expansion of RD-7 into a 1-m.² excavation unit revealed several pieces of possible quartz debitage, mixed in with recent glass and ceramic artifacts to a depth of 40 cm. below the surface, in a probable disturbed soil matrix. The charcoal found in RD-7 proved to be part of a 2-cm.-thick lens of charcoal mixed with mottled topsoil and subsoil strata, immediately below the historic and possible prehistoric artifacts. These investigations indicated the finds at RD-7 most likely represented recent redeposition of soils, perhaps associated with past agricultural practices at the site, or with previous CL&P construction or maintenance activities, and did not include any well-defined Native American site or feature.

**Tests N0W15, N0W30, N0W45, N0W75, S15E0, S15W15, S15W30, S15W46, S15W60, S30W75,
S45W15, S45W30, S45W45, S45W58, S45W75, S60E0, S59W30, S60W75**

0 - 1/7 cm.: humus
1/7 - 17/39 cm.: dark brown fine silty sandy loam/silty loam, often wet (A horizon)
17/39 - 30/55 cm.: yellow brown silty sandy loam/silt loam/sandy loam, often wet with standing water in some tests (B horizon)

Tests S60W15, S90W15, S90W35

0 - 5/10 cm.: humus
5/10 - 24/36 cm.: dark brown fine silty sand/silty loam (A horizon)
24/36 - 35/47 cm.: mottled dark brown/yellow brown silty loam/silty sand
35/47 - 45/50 cm.: yellow brown silty loam/silty sand (B horizon)

Tests N0E0, S60W60

0 - 5/8 cm.: humus
5/8 - 21/31 cm.: dark brown silty loam (A horizon)
21/31 - 28 cm.: yellow brown silty loam (B horizon)
28 - 34 cm.: yellow brown/gray fine silty sand/clay, wet

Test S30E0

0 - 4 cm.: humus
4 - 34 cm.: gray fine silt/clay (possible fill)
34 - 45 cm.: dark brown fine silty sandy loam (buried A horizon)
45 - 50 cm.: yellow brown sandy loam (B horizon)

Tests S30W15, S30W60

0 - 3 cm.: humus
3 - 12/19 cm.: dark brown fine silt/clay, wet

Test N0W60

0 - 22 cm.: dark brown fine sandy loam, wet (A horizon)
22 - 24 cm.: yellow brown fine sandy loam, standing water (B horizon)

Test S73W45

0 - 5 cm.: dark brown silty loam, large root masses

Test S75W30

0 - 3 cm.: humus
3 - 23 cm.: medium brown silty sandy loam (A horizon)
23 - 35 cm.: yellow brown sandy loam (B horizon)
35 - 40 cm.: yellow/gray brown sand (possible C horizon)

Test S75W60

0 - 5 cm.: humus
5 - 23 cm.: medium brown silty sand (A horizon)
23 - 40 cm.: yellow brown silty sand, gravel (B horizon)

Tests S45E0, S75E0, RD 2, RD 5

0 - 5/9 cm.: humus
5/9 - 20/30 cm.: dark brown fine silty sandy loam; rocks in S45E0 (A horizon)
20/30 - 36/50 cm.: light brown/yellow brown fine sandy loam, pebbles, gravel, cobbles (B horizon, possibly grading into C horizon)

Tests RD-1, RD-6, RD 7-4N, RD-8

0 - 4/9 cm.: humus
4/9 - 15/48 cm.: dark brown sandy silty loam (A horizon)
15/48 - 26/65 cm.: yellow brown sandy silty/silty loam; heavy gravel in RD-6 (B horizon)

Test RD-3

0 - 4 cm.: humus
4 - 17 cm.: dark gray sandy silty loam, very wet (wetland margin)

Test RD-7 AND EXPANSION TO 1-METER SQUARE

0 - 3 cm.: humus
5 - 40/45cm.: dark brown fine silty sandy loam, rocks (probable disturbed/redeposited A horizon)
40/45 - 55 cm: mottled medium brown/light yellow brown silty sandy loam (probable redeposited B horizon)

Tests RD-7-4E, RD-7-4S2E

0 - 3 cm.: humus
3 - 23 cm.: medium brown silty sandy loam, rock (probable disturbed/redeposited A horizon)

V. CONCLUSIONS AND RECOMMENDATIONS

The Project area appears to have no resources eligible for the State or National registers of historic places. No further cultural resource investigations appear necessary.

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Whiteford, R.
1852 Map of New Haven County From Actual Surveys. New Haven: A. Budington and R. Whiteford.

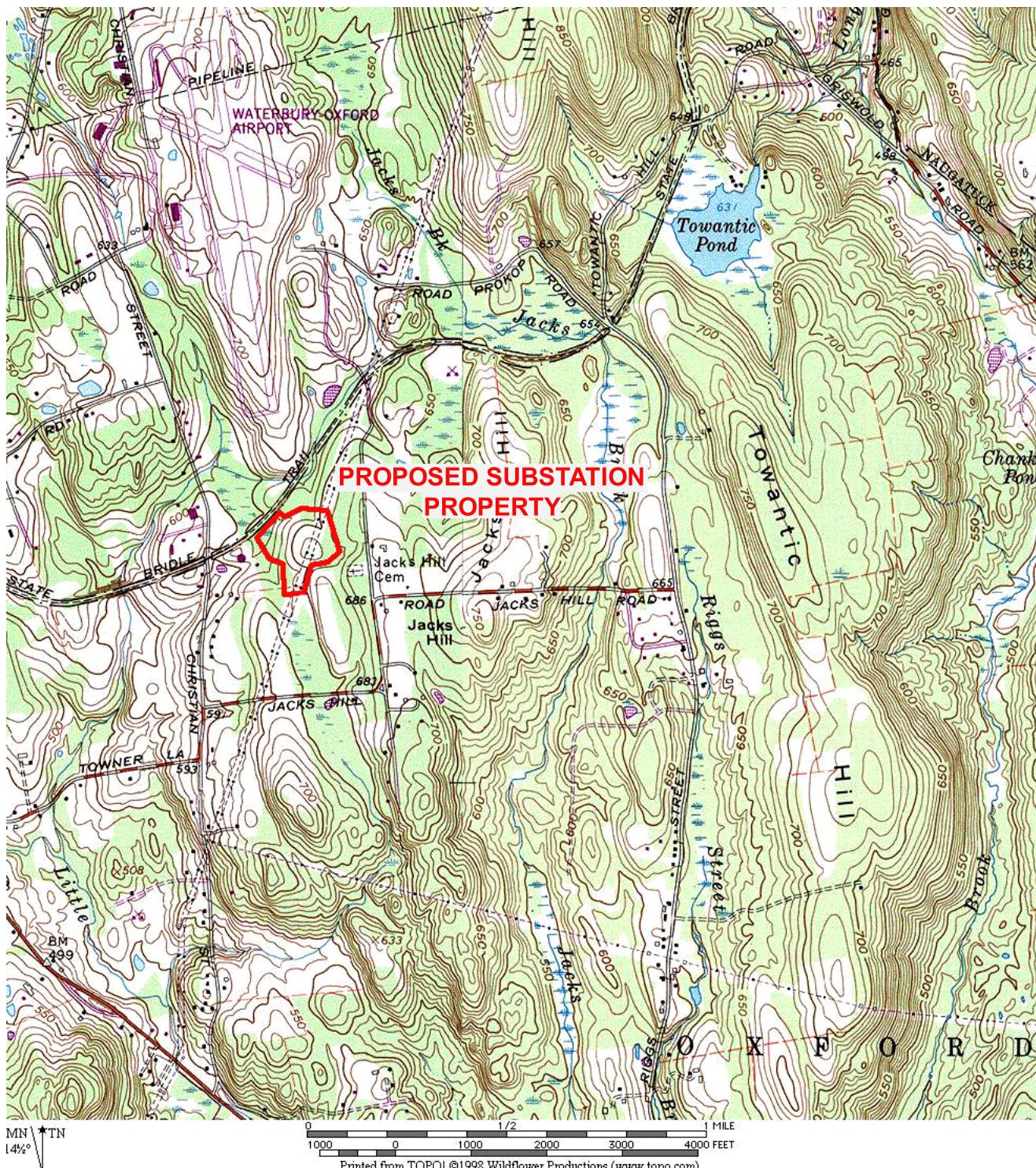


Figure 1. PROJECT PROPERTY LOCATION

base map: U.S. Geological Survey Southbury, Conn. 7.5-minute quadrangle sheet

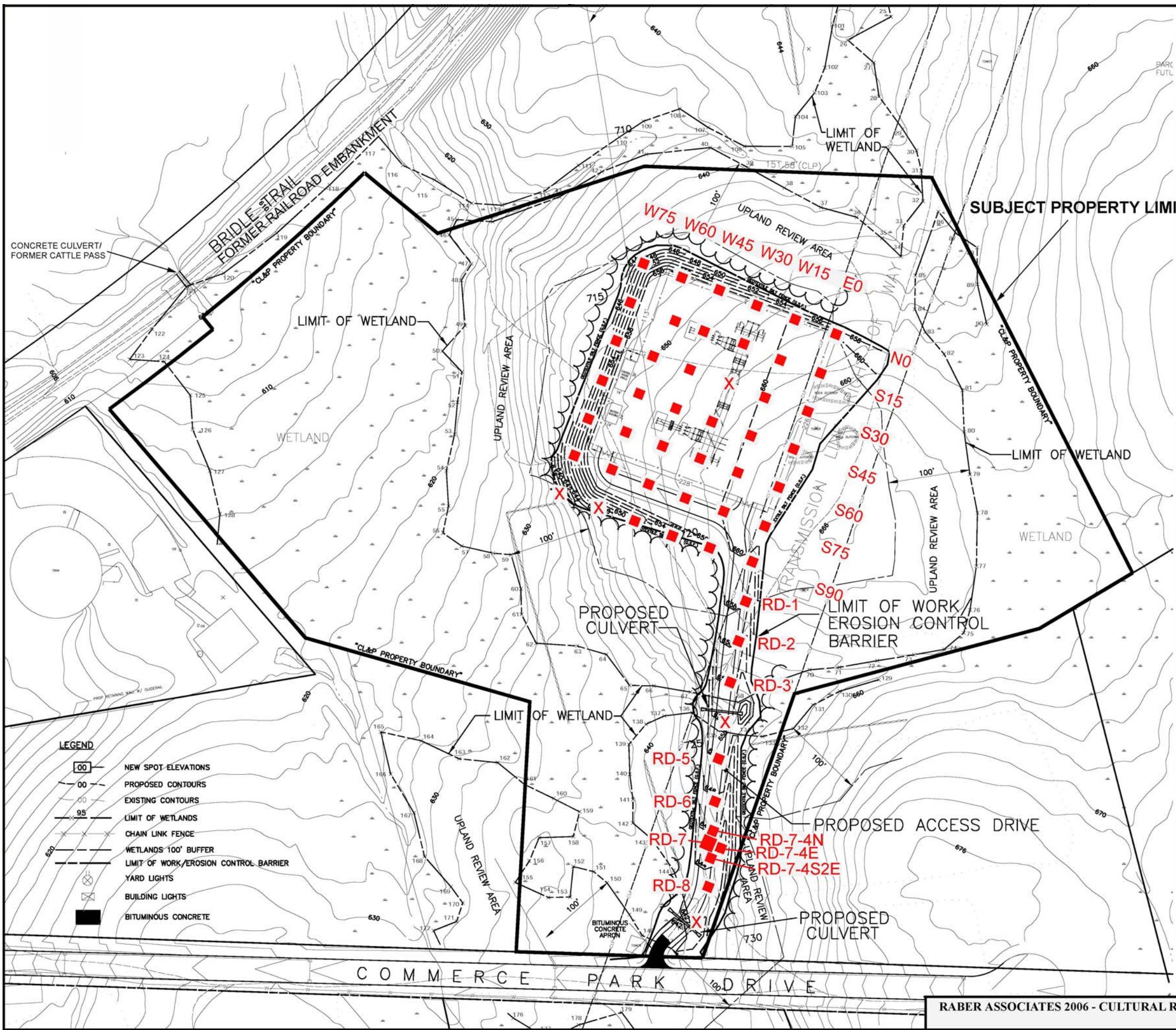


Figure 2. RECONNAISSANCE ARCHAEOLOGICAL TESTS

- 50-cm.-square shovel test
- 1-m-square excavation unit
- ✗ no test - wet, disturbed, or rock

Appendix H

Watershed and Drainage Calculations

HYDROCAD.TXT

WATERSHED ROUTING =====

[GRAPHICS NOT AVAILABLE ON THIS TEXT-ONLY DEVICE]

SUBCATCHMENT 1 = Watershed 1 **TO CULVERT 1** ->
 SUBCATCHMENT 2 = Area 2 ->
 Data for Oxford CT Page 2
 TYPE II 24-HOUR RAINFALL= 6.50 IN
 Prepared by Frederic R. Harris, Inc.
 HydroCAD 5.11 001145 (c) 1986-1999 Applied Microcomputer Systems 6 Nov 06

SUBCATCHMENT 1 Watershed 1
 PEAK= 10.44 CFS @ 12.49 HRS, VOLUME= 1.37 AF

ACRES	CN	SCS TR-20 METHOD
8.20	60	TYPE II 24-HOUR
		RAINFALL= 6.50 IN
		SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	Segment ID:	39.2
Woods: Light underbrush n=.4 L=300' P2=3.2 in s=.04 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	Segment ID:	11.2
Woodland Kv=5 L=580' s=.03 '/' V=.87 fps		

	Total Length= 880 ft	Total Tc= 50.4

SUBCATCHMENT 2 Area 2 **TO CULVERT 2**
 PEAK= 4.37 CFS @ 12.10 HRS, VOLUME= .32 AF

ACRES	CN	SCS TR-20 METHOD
1.54	65	TYPE II 24-HOUR
		RAINFALL= 6.50 IN
		SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	Segment ID:	21.1
Woods: Light underbrush n=.4 L=300' P2=3.3 in s=.18 '/'		
□		

Culvert Calculator Report

Oxford1

CULVERT 1

Solve For: Section Size

Culvert Summary

Allowable HW Elevation	651.00 ft	Headwater Depth/Height	1.52
Computed Headwater Elev.	650.27 ft	Discharge	10.50 cfs
Inlet Control HW Elev.	650.17 ft	Tailwater Elevation	0.00 ft
Outlet Control HW Elev.	650.27 ft	Control Type	Outlet Control

Grades

Upstream Invert	648.00 ft	Downstream Invert	647.75 ft
Length	50.00 ft	Constructed Slope	0.005000 ft/ft

Hydraulic Profile

Profile	CompositeM2PressureProfile	Depth, Downstream	1.25 ft
Slope Type	Mild	Normal Depth	N/A ft
Flow Regime	Subcritical	Critical Depth	1.25 ft
Velocity Downstream	6.69 ft/s	Critical Slope	0.009769 ft/ft

Section

Section Shape	Circular	Mannings Coefficient	0.013
Section Material	Concrete	Span	1.50 ft
Section Size	18 inch	Rise	1.50 ft
Number Sections	1		

Outlet Control Properties

Outlet Control HW Elev.	650.27 ft	Upstream Velocity Head	0.55 ft
Ke	0.20	Entrance Loss	0.11 ft

Inlet Control Properties

Inlet Control HW Elev.	650.17 ft	Flow Control	Submerged
Inlet Type	Beveled ring, 45° bevels	Area Full	1.8 ft ²
K	0.00180	HDS 5 Chart	3
M	2.50000	HDS 5 Scale	A
C	0.03000	Equation Form	1
Y	0.74000		

Culvert Calculator Report

Oxford2

CULVERT 2

Solve For: Discharge

Culvert Summary

Allowable HW Elevation	641.00 ft	Headwater Depth/Height	1.00
Computed Headwater Elev.	641.00 ft	Discharge	6.47 cfs
Inlet Control HW Elev.	640.95 ft	Tailwater Elevation	0.00 ft
Outlet Control HW Elev.	641.00 ft	Control Type	Outlet Control

Grades

Upstream Invert Length	639.50 ft 50.00 ft	Downstream Invert Constructed Slope	639.25 ft 0.005000 ft/ft
------------------------	-----------------------	--	-----------------------------

Hydraulic Profile

Profile	M2	Depth, Downstream	0.98 ft
Slope Type	Mild	Normal Depth	1.08 ft
Flow Regime	Subcritical	Critical Depth	0.98 ft
Velocity Downstream	5.27 ft/s	Critical Slope	0.006465 ft/ft

Section

Section Shape	Circular	Mannings Coefficient	0.013
Section Material	Concrete	Span	1.50 ft
Section Size	18 inch	Rise	1.50 ft
Number Sections	1		

Outlet Control Properties

Outlet Control HW Elev.	641.00 ft	Upstream Velocity Head	0.35 ft
Ke	0.20	Entrance Loss	0.07 ft

Inlet Control Properties

Inlet Control HW Elev.	640.95 ft	Flow Control	Unsubmerged
Inlet Type	Beveled ring, 45° bevels	Area Full	1.8 ft ²
K	0.00180	HDS 5 Chart	3
M	2.50000	HDS 5 Scale	A
C	0.03000	Equation Form	1
Y	0.74000		

Appendix I

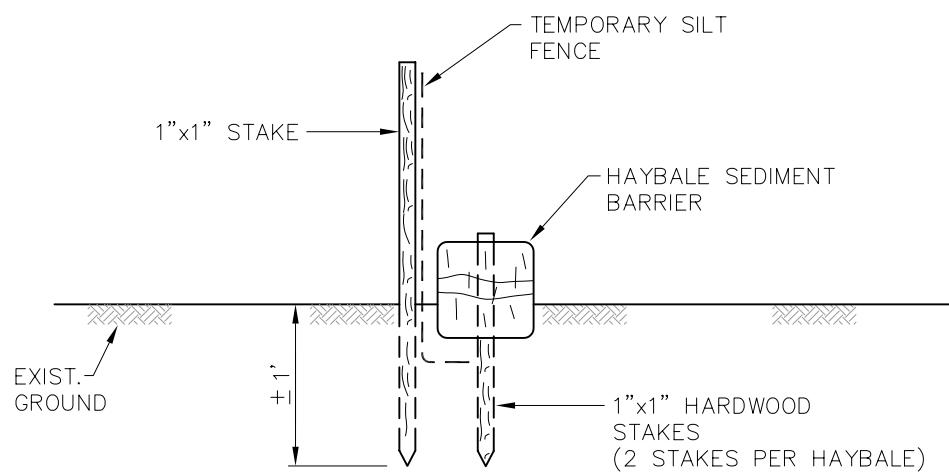
Visual Simulations





Appendix J

Erosion and Sediment Control Details



FILENAME: 05022-012-05A.DWG



Connecticut
Light & Power

The Northeast Utilities System

ENSR CORPORATION

2 TECHNOLOGY PARK DRIVE
WESTFORD, MASSACHUSETTS 01886
PHONE: (978) 589-3000
FAX: (978) 589-3100
WEB: [HTTP://WWW.ENS.R.COM](http://WWW.ENS.R.COM)

ENSR | **AECOM**

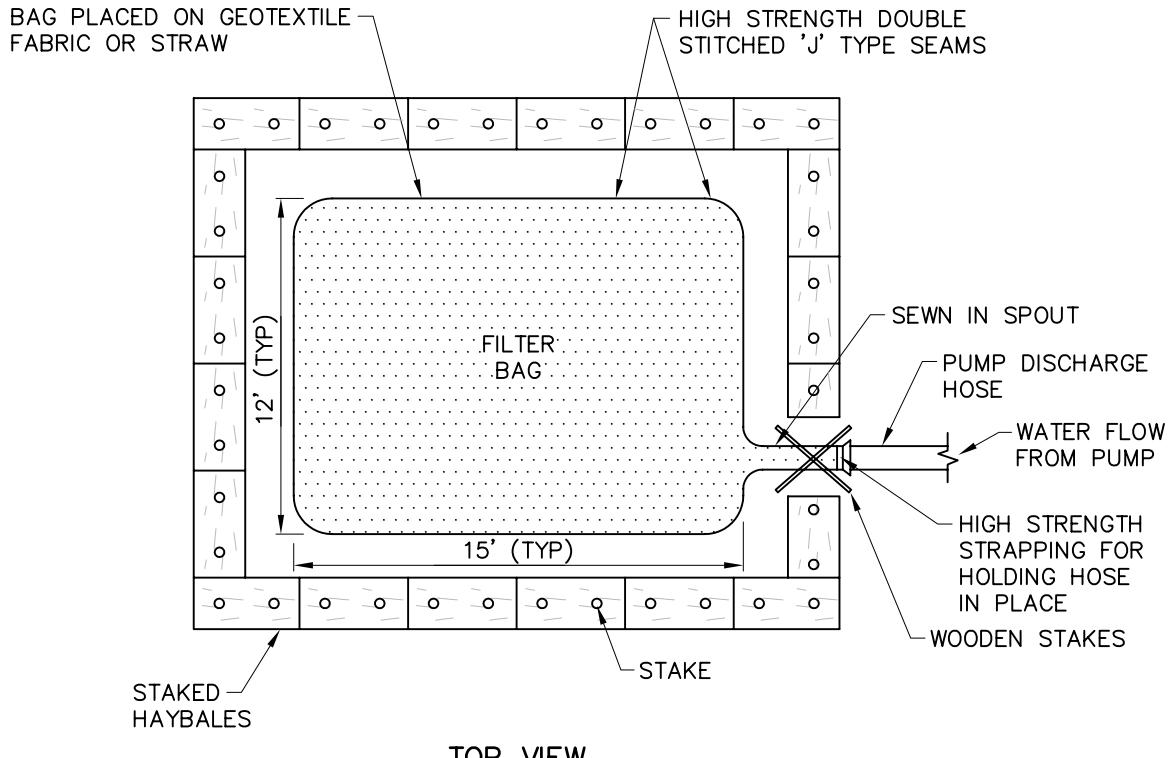
**EROSION/SEDIMENTATION CONTROL BARRIER
OXFORD SUBSTATION
OXFORD, NEW HAVEN COUNTY, CT**

FIGURE NUMBER:

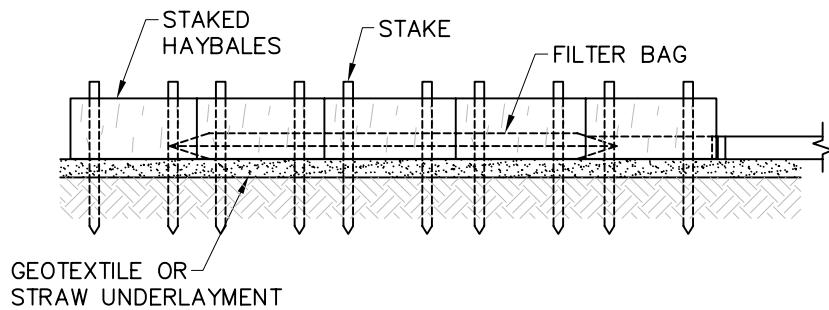
DRAWN BY:	DATE:	PROJECT NUMBER:
K.P.B.	9/06	05022-012

SHEET NUMBER:

1



TOP VIEW



NOTES:

1. TO BE PLACED AT AN UPLAND LOCATION THAT WILL ALLOW WATER TO DRAIN TO THE GROUND.
2. ADDITIONAL HAYBALES MAY BE USED TO INCREASE RETENTION AND FILTERING.



Connecticut
Light & Power

The Northeast Utilities System

ENSR CORPORATION
2 TECHNOLOGY PARK DRIVE
WESTFORD, MASSACHUSETTS 01886
PHONE: (978) 589-3000
FAX: (978) 589-3100
WEB: [HTTP://WWW.ENS.R.COM](http://WWW.ENS.R.COM)

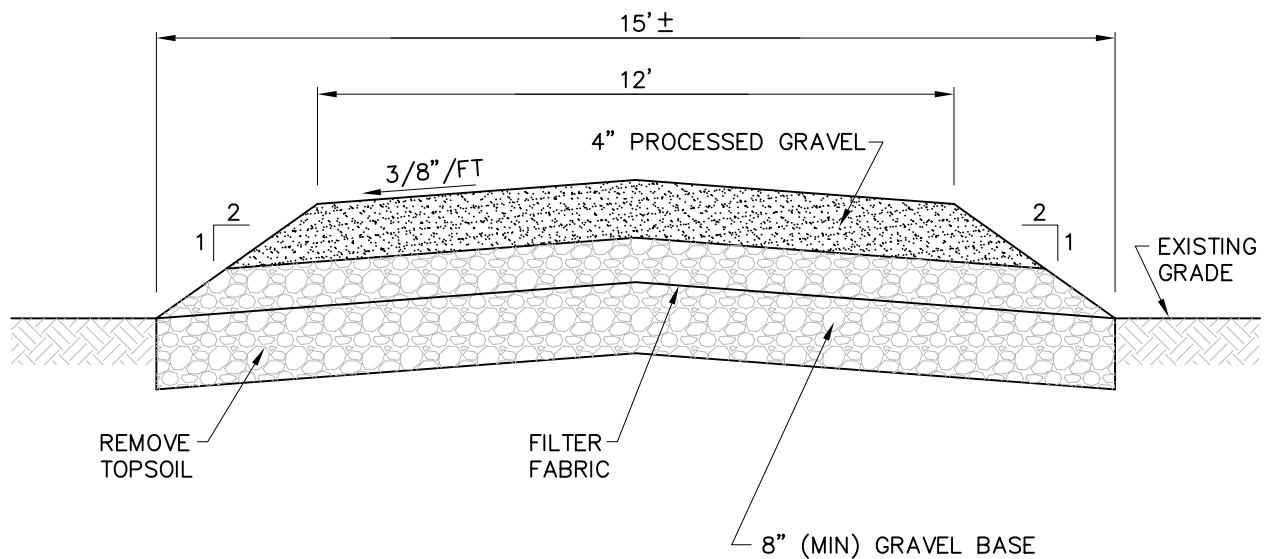
ENSR | **AECOM**

**DEWATERING HAYBALE SEDIMENT TRAP
WITH FILTER BAG
OXFORD SUBSTATION
OXFORD, NEW HAVEN COUNTY, CT**

FIGURE NUMBER:

DRAWN BY:	DATE:	PROJECT NUMBER:
K.P.B.	9/06	05022-012

SHEET NUMBER:



FILENAME: 05022-012-02A.DWG



Connecticut
Light & Power

The Northeast Utilities System

ENSR CORPORATION

2 TECHNOLOGY PARK DRIVE
WESTFORD, MASSACHUSETTS 01886
PHONE: (978) 589-3000
FAX: (978) 589-3100
WEB: [HTTP://WWW.ENS.R.COM](http://WWW.ENS.R.COM)

ENSR | **AECOM**

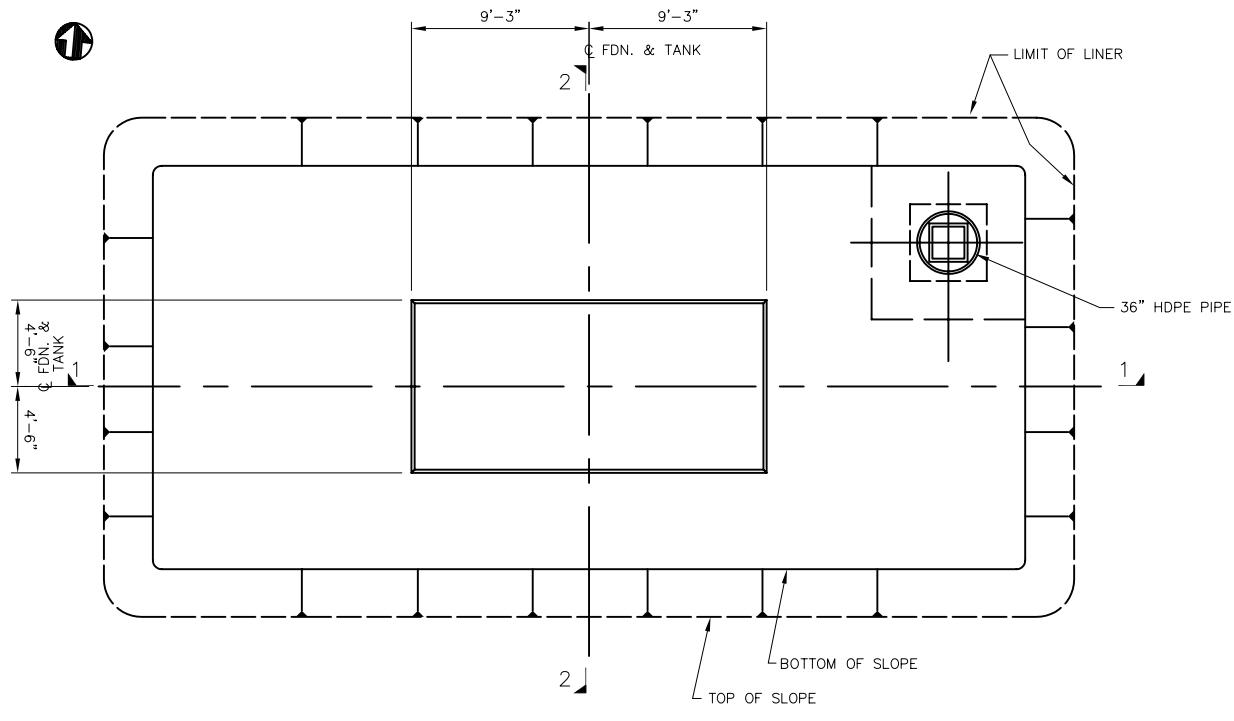
**TYPICAL DETAIL OF GRAVEL ACCESS DRIVE
TO NEW POLE STRUCTURES
OXFORD SUBSTATION
OXFORD, NEW HAVEN COUNTY, CT**

FIGURE NUMBER:

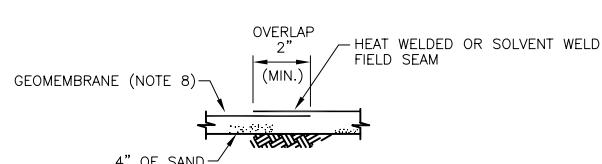
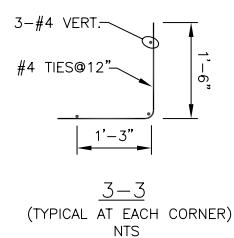
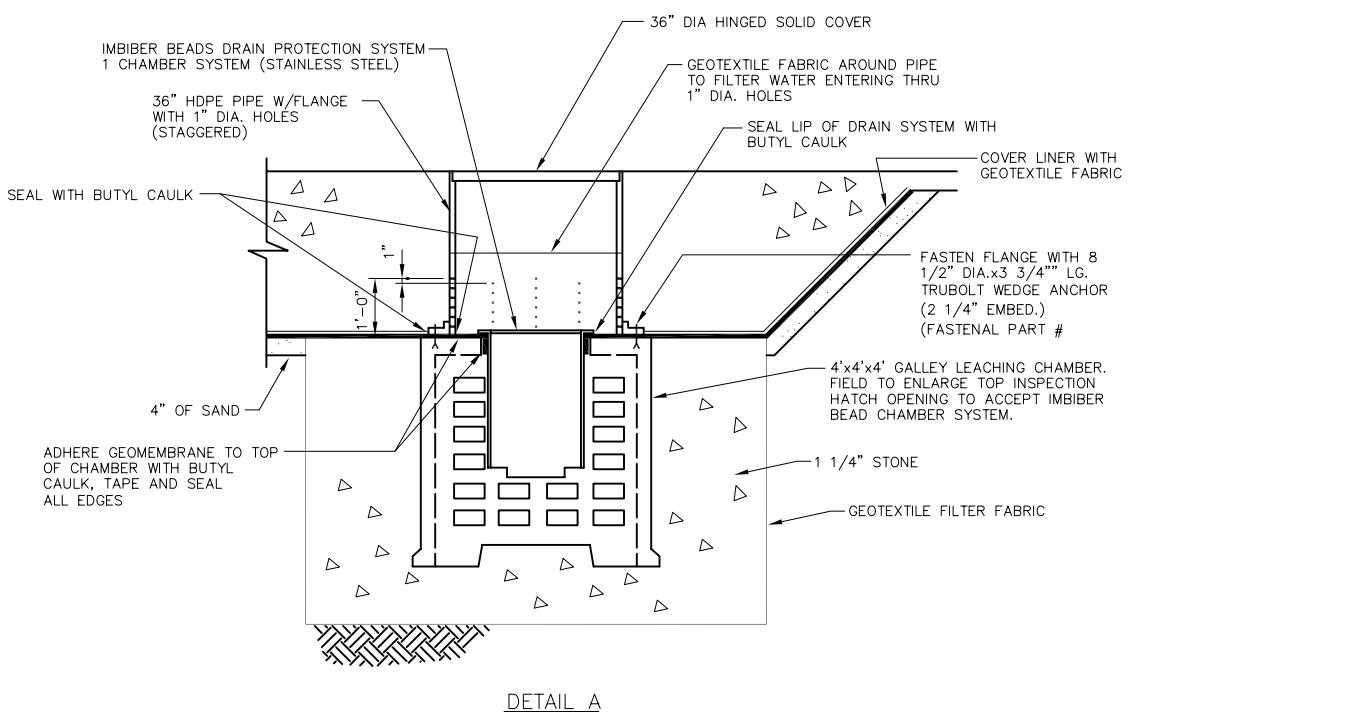
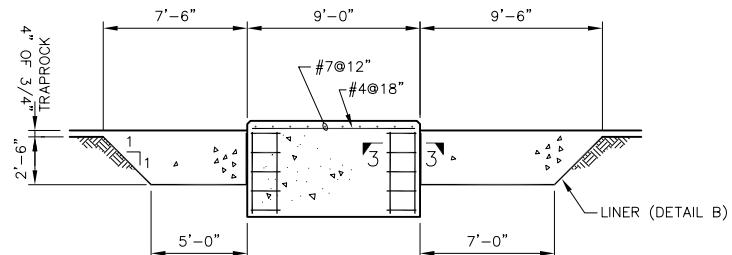
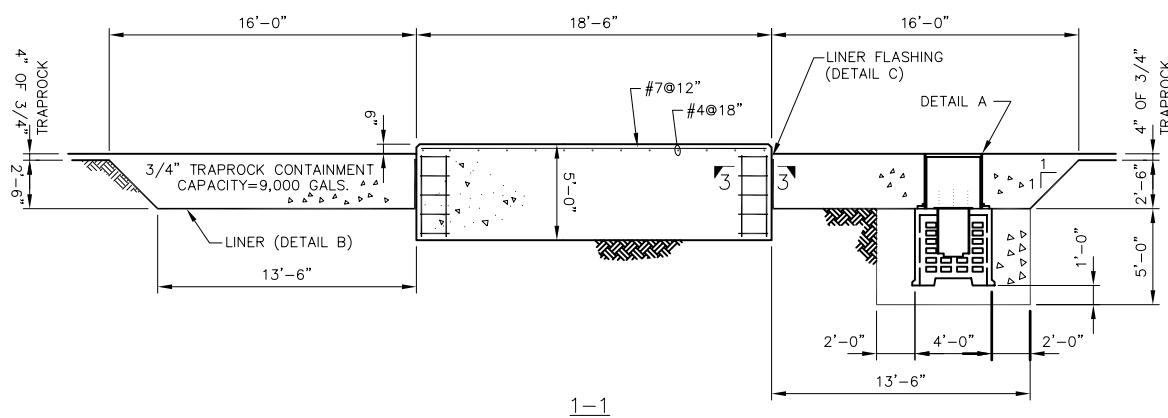
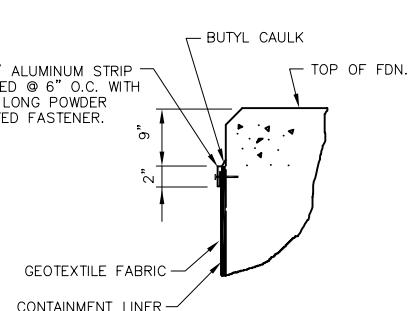
DRAWN BY:	DATE:	PROJECT NUMBER:
K.P.B.	9/06	05022-012

SHEET NUMBER:

1



PLAN A-04

DETAIL B
CONTAINMENT LINER & OVERLAP (IF REQ'D.)
NTSDETAIL C
LINER FLASHING
NTS

GENERAL NOTES

- 1.) FOUNDATIONS SHALL BE BUILT IN ACCORDANCE WITH THE ACI STANDARD "SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301 EDITION IN EFFECT AT THE TIME OF REVISION.)
- 2.) FOUNDATIONS DESIGNED IN ACCORDANCE WITH THE ACI STANDARD "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318 EDITION IN EFFECT AT TIME OF REVISION.)
- 3.) CONCRETE SHALL DEVELOP MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI IN 28 DAYS AND SHALL CONTAIN 5%-7% AIR ENTRAINMENT.
- 4.) REINFORCING STEEL SHALL BE BILLET STEEL DEFORMED BARS CONFORMING TO ASTM A615-GRAD 60.
- 5.) PROVIDE 1 1/2" MAX. CHAMFER AT ALL HORIZONTAL EXPOSED EDGES.
- 6.) MINIMUM COVER FOR REINFORCING BARS:
 - A) ADJACENT TO ALL FORMS EXCEPT TOP FORMS=2"
 - B) ADJACENT TO TOP SURFACES FORMED OR NOT FORMED=3"
 - C) BOTTOM SURFACES=3"
- 7.) REINFORCING SHALL BE EQUALLY SPACED UNLESS SHOWN OR NOTED.
- 8.) LINER MATERIAL TO BE 30 MIL. SEAMAN 8130 XR-5, 36 MIL. DUPONT COOLGUARD, OR ENGINEERING APPROVED EQUIVALENT. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

DRAWING NUMBER:			
SHEET NUMBER:	1	SCALE: NONE	DATE: 9/06
		PROJECT NUMBER: 05022-012	

TYPICAL TRANSFORMER FOUNDATION
AND SECONDARY CONTAINMENT
OXFORD SUBSTATION
OXFORD, NEW HAVEN COUNTY, CT

ENSR CORPORATION
2 TECHNOLOGY PARK DRIVE
WESTFORD, MASSACHUSETTS 01886
PHONE: (978) 589-3000
FAX: (978) 589-3100
WEB: [HTTP://WWW.ENSER.COM](http://WWW.ENSER.COM)

ENSR | AECOM

DESIGNED BY:		REVISIONS		
J.D.	NO.:	DESCRIPTION:	DATE:	BY:
DRAWN BY:				
K.P.B.				
CHECKED BY:				
J.D.				
APPROVED BY:	X			

Appendix K

Government Approvals Obtained



TOWN OF OXFORD

S.B. Church Memorial Town Hall
486 Oxford Road, Oxford, Connecticut 06478-1298

Office of the First Selectman

April 19, 2005

Pamela B. Katz, P.E. Chairman
Connecticut Siting Council
10 Franklin Square,
New Britain, Connecticut 06051

RECEIVED
APR 21 2005
CONNECTICUT
SITING COUNCIL

RE: The Connecticut Light and Power Company intent to acquire property as the site for a possible future CL&P 115-kV substation located within an industrial park between Jacks Hill Road and Christian Street and a transmission line easement adjacent to the existing right-of-way for possible future transmission line use located near the Waterbury-Oxford Airport, Oxford Connecticut.

Dear Chairman Katz:

First, let me thank you for your letter of April 5, 2005. I was happy to receive it and read of your Council's intention. I also thank you for the offer to participate in the hearing, as I fully intend to speak at this hearing.

The Town of Oxford has long awaited the increased presence of CL&P. I, as the First Selectman of Oxford, support this land acquisition by CL&P. We are one of the fastest growing communities in the State of Connecticut and can only continue into our future through proper planning. This acquisition is part of that proper planning.

CL&P has been extremely helpful to this administration. Our need for three-phase power in our Industrial area is critical. This land acquisition is the first step in allowing the future 115-kV substation to be built in Oxford. This is an important part of the long range goals for the Town of Oxford.

Again, I thank you for this opportunity. The Town shall do what ever you ask to assist in bringing this long awaited endeavor to fruition.

Yours truly,

August A. Palmer III
First Selectman



TOWN OF OXFORD

**S.B. Church Memorial Town Hall
486 Oxford Road, Oxford, Connecticut 06478-1298
Phone: (203) 888-2543 Fax: (203) 888-2136**

August 15, 2006

Mr. Robert E. Carberry, P.E.
Manager, Transmission Siting & Permitting
Northeast Utilities Service Company
P. O. Box 270
Hartford, CT 06141-0270

Re: CL&P – Oxford Substation

Dear Mr. Carberry:

Since my tenure began as First Selectman of the Town of Oxford, our community has benefited greatly from the growth of neighborhoods and aggressive economic development efforts. During this time, Town officials and representatives of CL&P have engaged in many discussions concerning the need for increased electric service reliability as well as capacity.

As a result of these discussions, in 2005, the Town strongly supported the acquisition of land by CL&P, located between Jack's Hill Road and Christian Street, as its site for a future 115-kV substation. As CL&P begins its process of seeking location approvals from the Town and project approval from the Connecticut Siting Council for this new substation on its land, we are pleased to continue to support CL&P's plans. I am confident that the new Oxford Substation will be an important asset to the Town in its efforts to accommodate the electric service needs of the Town's residents and businesses in an orderly manner, well into the future.

Very truly yours,

August A. Palmer, III
First Selectman



TOWN OF OXFORD
S.B. Church Memorial Town Hall
486 Oxford Road, Oxford, Connecticut 06478-1298
www.Oxford-CT.gov

Planning and Zoning Commission

August 22, 2006

Carmody & Torrance LLP
50 Lavenworth Street
P.O. Box 110
Waterbury, Connecticut 06721

The Planning & Zoning Commission at its meeting conducted
on August 17, 2006 made the following
motion:

Motion by Bonnie Bartosiak seconded by Matt D'Amcio to approve. Z-06-171 Connecticut
Light & Power Oxford Substation Christian Street & Jacks Hill Road site location of
substation All were in favor

Yours truly
Vincent Vizzo, Jr.
Vincent Vizzo
Chairman



TOWN OF OXFORD

S.B. Church Memorial Town Hall
486 Oxford Road, Oxford, Connecticut 06478-1298
www.Oxford-CT.gov

Oxford Conservation Commission / Inland Wetlands Agency

August 23, 2006

ATTN: Robert E. Carberry

The Connecticut Light & Power Company
107 Selden Street
Berlin, CT 06037

Re: Disposition of Application # IW-06-158.

At its **Regular Meeting** on Monday, August 14, 2006 the Oxford Conservation Commission / Inland Wetlands Agency made the following decision on your application:

IW-06-158 CT Light & Power Company Christian Street & Jacks Hill Road (Electric Substation) (Approval of Preliminary Plan).

MOTION made by Commissioner L. Hellerich and seconded by Commissioner T. Adamski to **APPROVE** application **IW-06-158 CT Light & Power Company Christian Street & Jacks Hill Road** (Electric Substation) (Approval of Preliminary Plan) based on the preliminary plans dated *August 3, 2006* with the following conditions:

- Further environmental review and/or studies may be required upon submission of a final design,
- Footprint may change for this site based on the outcome of environmental reviews and/or studies,
- Further mitigation may be required pending the Upland Review Areas and Wetlands impacts associated with the final design, and
- there may be conservation easements.

The reason for approval of the preliminary plan is minimal impact to the wetlands and no feasible and prudent alternative exists. **Voted 4-0.**

PERMIT EXPIRES: August 14, 2011.

Permit duration is five (5) years. Additional extension must be requested prior to expiration.

THIS PERMIT IS NOT TRANSFERABLE UNLESS THE NEW OWNER PROVIDES THE COMMISSION WITH A SIGNED ACKNOWLEDGEMENT THAT HE/SHE UNDERSTANDS AND ACCEPTS THE CONDITIONS OF APPROVAL.

Attached please find a copy of the application and if you have any questions please call me at the office at (203) 888-2543 ext. 3065 between the hours of 9:00 AM to 5:00 PM Monday to Thursday.

By Direction of the Commission,



Anna M. Silva
OCCIWA Secretary

OCCIWA/as

Cc: Planning & Zoning
Marianne Barbino Dubuque, Esq.
Herman V. Schuler
Dave Nafis, L.S., P.E. of Nafis & Young

REQUEST RETURN RECEIPT/CERTIFIED & REGULAR MAIL

Article Number: 7002 2030 0000 1219 1637



IW- 06 158
Ref # _____
Subdivision # _____

OXFORD CONSERVATION COMMISSION / INLAND WETLANDS AGENCY

A. APPLICATION permit for: Location Approval CGS § 16-50 x(d)
1) Approval for wetland/watercourse delineation and/or road layout.
2) Approval of site plan.
3) Activity in, impact to/disturbance of wetland, watercourse and/or setback area.
B. NOTIFICATION to Planning & Zoning, Building, and/or Health Department that no Inland Wetlands permit is required. Approval by IW Enforcement Officer.
C. Permitted Operations & Uses under per CT State Statutes 22a-40.

Please Print Clearly or Type.

1) Applicants Name: The Connecticut Light & Power Company Phone: 860-665-6774
Address: 107 Selden St., Berlin, CT Zip: 06037 Email: _____
2) Property Owner (if not the applicant): _____ Phone: _____
Address: _____ (If not owner, attach a letter of consent) Zip: _____
3) Location of Site: Christian St/Jacks Hill Map: 25 Block: 25 Lot: 1BB3 Unit: _____
Subdivision Name: _____
4) Total Size and Dimension of Site (acres/ square feet): 15.77 acres
5) Proposed Use/Activity/Alteration: Electric Substation
6) Total acreage/dimensions of wetlands/watercourse on site (acres/ square feet): See attached
7) Wetlands Impacted (s/f): 2,615 s/f Upland Review Area Impacted (s/f): 3,000 s/f
8) Amount of material to be Removed (CY): _____ Deposited (CY): _____
9) Check whether any of the following apply:
 A portion of the property affected by the decision of the Commission is located within five hundred (500) feet of the boundary of an adjoining municipality.
 A portion of the sewer or water drainage from the project site will flow through and significantly impact the sewage system within the adjoining municipality.
 Water run-off from the improved site will impact streets or other municipal or private property within the adjoining municipality.
 Not Applicable.

If any of the above apply, the applicant is required to give written notice of his/her application to the Inland Wetlands Agency and the adjoining municipality and submit a copy to OCCWA. Notification must be by CERTIFIED MAIL/RETURN RECEIPT.

Please read: A fee must be paid at the time of submission. Application Fee: Checks payable to the Oxford Inland Wetlands Agency. Some applications may require an additional State Fee due at time of submission. State Fee: Checks payable to the Town of Oxford. All activities within a wetland and/or watercourse must be completed within 1 year of start.

The undersigned: 1) Understands that submission is complete only when all required fees, necessary information, supporting documents, maps, etc. has been submitted. 2) Warrants that all information submitted herein, including all material and supporting documents are TRUE and CORRECT to the best of my knowledge. 3) Grants permission for Members of the Inland Wetlands Agency and Commission to conduct site inspections and investigate all information provided for this application during the application process and post approval inspections and investigations.

I understand that if any of the above statements are false, I may be subject to fines and/or penalties.

Signature of Applicant / Agent: Reb Carlson Date: August 7, 2006

THIS SECTION TO BE COMPLETED BY AGENCY

Date application received / accepted: 8-7-06 Fees received: \$1,450.00 + 30.00 Receipt #: 331008

Other material(s) received: maps

Disposition and Date:

Approved at the Regular Meeting on 8-14-06 with conditions. * See letters dated 8-23-06 for details.

OCCWA Chairman, Mike A. Hale (as)

Date of Final Approved Map: 8-3-2006 Last Revised: _____

Expiration date of Permit: 8-14-2011
(5 years)



October 18, 2006

Robert E. Carberry, P.E. Northeast
Utilities Service Company 107 Selden
Street Berlin, CT 06037

Re: Oxford Substation
Oxford Commerce Park

Dear Mr. Carberry:

As Economic Development Director for the Town of Oxford, I am pleased to enthusiastically support CL&P's efforts to locate a new electric substation in Oxford.

As our business community grows and our demand for electricity grows with it, the Town needs to be served by a reliable and fault tolerant power distribution infrastructure.

CL&P's plan to locate a substation in Oxford will enhance reliability and provide the needed capacity while supporting economic development efforts to promote Oxford as a vibrant and capable business environment.

Very truly yours

A handwritten signature in black ink, appearing to read "Herman Schuler".

Herman Schuler
Economic Development Director



October 18, 2006

Robert E. Carberry, P.E.
Northeast Utilities Service Company
107 Selden Street
Berlin, CT 06037

Re: Oxford Substation
Oxford Commerce Park

Dear Mr. Carberry:

The Oxford Economic Development Commission is pleased to enthusiastically support CL&P's efforts to locate a new electric substation in Oxford. The Commission has touted Oxford as "The Right Choice" for commercial and industrial development and has successfully recruited many new businesses to Oxford. As our business community grows, our demands for electricity will also grow. Thus, CL&P's plan to locate a substation in Oxford, which will enhance reliability and provide capacity for our continued growth, is critical to the future success of the Commission in promoting Oxford as a vibrant business setting.

Very truly yours,

A handwritten signature in black ink, appearing to read "William Lund".
William Lund
Chairman
Oxford Economic Development Commission
Town of Oxford



TOWN OF OXFORD

S.B. Church Memorial Town Hall
486 Oxford Road, Oxford, Connecticut 06478-1298

Office Of The First Selectman

October 19, 2006

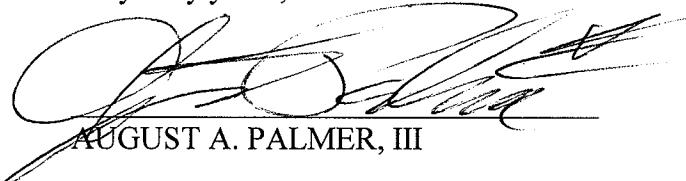
Mr. Robert E. Carberry, P.E.
Manager, Transmission Siting & Permitting
Northeast Utilities Service Company
P. O. Box 270
Hartford, CT 06141-0270

Re: Town of Oxford - CL&P Substation

Dear Mr. Carberry:

Enclosed herewith please find the executed Resolution of the Oxford Board of Selectmen supporting CL&P's proposed Oxford Substation.

Very truly yours,



AUGUST A. PALMER, III

enclosure



Office Of The First Selectman

TOWN OF OXFORD

S.B. Church Memorial Town Hall
486 Oxford Road, Oxford, Connecticut 06478-1298

RESOLUTION OF THE BOARD OF SELECTMEN SUPPORTING CL&P'S PROPOSED OXFORD SUBSTATION

WHEREAS, Town officials have worked proactively with The Connecticut Light and Power Company ("CL&P") for many years to insure a reliable supply of electric power to the Town and to plan for future growth;

WHEREAS, Town officials have aggressively pursued economic development strategies for the Town and have successfully recruited new commercial and industrial businesses;

WHEREAS, CL&P officials have determined that the reliability of the supply of electric power furnished to the Town and neighboring communities would be enhanced by the construction of a substation in Oxford, to be known as the Oxford Substation;

WHEREAS, CL&P officials have determined that the Oxford Substation would also provide additional capacity for the continued growth of Oxford and neighboring communities;

WHEREAS, CL&P proposes to locate the Oxford Substation on its property north of Jacks Hill Road, east of Christian Street and west of North Larkey Road;

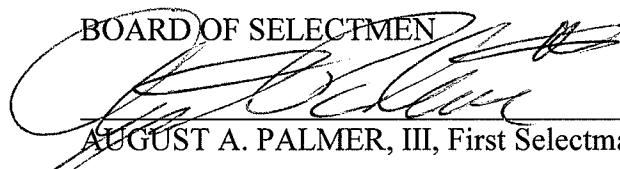
WHEREAS, CL&P has received location approval for the Oxford Substation at that location from the Oxford Conservation Commission/Inland Wetlands Commission and the Planning and Zoning Commission;

WHEREAS, CL&P filed its Municipal Consultation Filing ("MCF") for the Oxford Substation with the First Selectman on October 2, 2006; and

WHEREAS, the Town wishes to provide its response to the MCF.

NOW THEREFORE, the Town of Oxford hereby strongly supports CL&P's proposed Oxford Substation and CL&P's continuing efforts, in coordination with Town officials, to provide a more reliable supply of electric power and to create greater capacity for future growth in the Town of Oxford and neighboring communities.

BOARD OF SELECTMEN


AUGUST A. PALMER, III, First Selectman


DAVID HAVERSAT, Selectman


RICHARD O'DOY, Selectman

ATTEST:


MARGARET A. POTTS, Town Clerk

Appendix L

Other Relevant Information



Stephen G. Whitley
Senior Vice President & Chief Operating Officer

January 26, 2006

Mr. Allen Scarfone
Mr. Kiet Nguyen
Northeast Utilities Service Company
P. O. Box 270
Hartford, CT 06141-0270

Subject: NU-05-T52

Gentlemen:

ISO New England has determined pursuant to Section I.3.9 of the ISO New England Inc. Transmission, Markets and Service Tariff ("ISO Tariff") that implementation of the Participant's Proposed Plan identified in the following application will not have a significant adverse effect on the stability, reliability or operating characteristics of the Northeast Utilities System Companies' (NU) transmission facilities, the transmission facilities of another Transmission Owner, or the system of a Market Participant, subject to satisfaction of any conditions identified below with respect thereto:

The Northeast Utilities System Companies (NU) Transmission Facilities Proposed Plan Application NU-05-T52 for the construction of the new Oxford 26N 115/13.8 kV Substation, to be located in Oxford, Connecticut (the "Project"), supplied from the existing 1575 Line from the Bunker Hill 12B Substation to the Beacon Falls 11N Substation that will be looped in and out of the Oxford 26N Substation to provide two transmission sources. The substation will provide for the industrial, commercial, and housing load growth in the local area and allow the transfer of approximately 12 MVA of load from the Beacon Falls 11N Substation and 1 MVA from the Bunker Hill 12B Substation to the new Oxford 26 N Substation. The substation design includes two, 115/13.8 kV, 47 MVA LTC transformers with high-side circuit switchers, a position for a backup mobile transformer, two 115 kV line positions each comprised of a line circuit switcher and a manual disconnect switch, and a 115 kV tie circuit breaker between the transformers to separate protection zones for the two 115 kV line positions, with an in service date of May 2008, as detailed in Mr. Kiet Nguyen's December 16, 2005 letter to Mr. Stephen Rourke – ISO New England Inc.

The above plan is hereby approved for implementation.

Sincerely,

A handwritten signature in black ink that reads "Stephen G. Whitley". The signature is fluid and cursive, with "Stephen G." on the top line and "Whitley" on the bottom line.

Stephen G. Whitley
Senior Vice President and Chief Operating Officer



**Northeast
Utilities System**

107 Selden Street, Berlin, CT 06037

Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270
(860) 665-5000

Robert E. Carberry
Manager – Transmission Siting and
Permitting

October 2, 2006

Connecticut Energy Advisory Board
c/o CERC
805 Brook Street, Building 4
Rocky Hill, CT 06067

Attn: Mr. Donald Downes, Chairman

Re: Application of Connecticut Light & Power Company to the Connecticut Siting Council for a Certificate of Environmental Compatibility and Public Need for the Construction of the Oxford Substation in Oxford

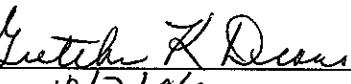
Dear Mr. Downes:

In order to increase the capacity to transform electricity to reliably and adequately deliver power to Oxford customers, in response to the increasing peak-load demands for electricity in the Town of Oxford and surrounding areas, The Connecticut Light and Power Company is proposing to construct the Oxford Substation Project. Pursuant to Connecticut General Statutes Section 16-50/(e), CL&P is filing information with the Town of Oxford, comprising the Municipal Consultation Filing ("MCF") for the Oxford Substation. As required by Section 16-50/(e), CL&P respectfully submits to the Connecticut Energy Advisory Board a copy of the MCF, which is being filed with the Town of Oxford on this date.

The Connecticut Light & Power Company

By: 
Robert E. Carberry

The above material was received by the CEAB.

By: 
Date: 10/2/06



**Northeast
Utilities System**

RECEIVED

06 OCT -2 PM 1:50

**D - P - U - C
EXECUTIVE SECRETARY**

107 Selden Street, Berlin, CT 06037

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The Connecticut Light & Power Company

By: Robert E. Carberry
Robert E. Carberry

The above material was received by the CEAB.

By: _____
Date: _____

The above material was received by Donald W. Downes.

By: Donald W. Downes
Date: 10/6/06



**Northeast
Utilities System**

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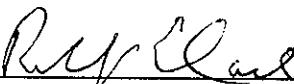
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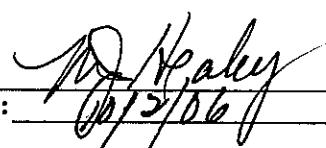
The Connecticut Light & Power Company

By: 
Robert E. Carberry

The above material was received by the CEAB.

By: _____
Date: _____

The above material was received by Mary J. Healey.

By: 
Date: 10/2/06

Marianne B. Dubuque

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 03, 2006 8:48 AM
To: Marianne B. Dubuque
Subject: FedEx Shipment 791560174523 Delivered

This tracking update has been requested by:

Company Name: CARMODY & TORRANCE LLP
Name: MARIANNE BARBINO DUBUQUE
E-mail: mdubuque@carmodylaw.com

Our records indicate that the following shipment has been delivered:

Tracking number:	791560174523
Reference:	4355-10940
Ship (P/U) date:	Oct 2, 2006
Delivery date:	Oct 3, 2006 08:43 AM
Sign for by:	L.FRANKLN
Delivered to:	Receptionist/Front Desk
Service type:	FedEx Priority Overnight
Packaging type:	FedEx Box
Number of pieces:	1
Weight:	14.0 LB

Shipper Information	Recipient Information
MARIANNE BARBINO DUBUQUE	Mr. Daniel Peaco
CARMODY & TORRANCE LLP	LaCapra Associates
50 LEAVENWORTH STREET	President
WATERBURY	20 Winthrop Square
CT	Boston
US	MA
06702	US
	02110

Special handling/Services:
Deliver Weekday

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