STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
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APPLICATION OF NTE CONNECTICUT, LLC FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE AND OPERATION OF AN ELECTRIC POWER GENERATING FACILITY OFF LAKE ROAD, KILLINGLY, CONNECTICUT	:	DOCKET NO. 470
	:	OCTOBER 7, 2016

RESPONSES OF NTE CONNECTICUT, LLC TO
CONNECTICUT SITING COUNCIL PRE-HEARING QUESTIONS, SET ONE

On September 23, 2016, the Connecticut Siting Council ("Council") issued Pre-Hearing Questions to NTE Connecticut, LLC ("NTE"), relating to the above-captioned docket. Below are NTE's responses.

Site Questions

Question No. 1

Referencing page 22 of Volume I of the Application (Volume I), clarify which address (i.e. 180 or 189 Lake Road) is associated with the 63-acre parcel and which address is associated with the 10-acre parcel.

Response

The property address 180 Lake Road, referred to as the Generating Facility Site, is the 63-acre parcel to the north and west of Lake Road. The property address 189 Lake Road, referred to as the Switchyard Site, is the 10-acre parcel to the south and east side of Lake Road.

Notice and Municipal/Public Outreach Questions

Question No. 2

Of the letters sent to abutting property owners, how many certified mail receipts were received? If any receipts were not returned, which owners did not receive their notice? Were any additional attempts made to contact those property owners? For example, was a second notice provided by First Class Mail?

Response

All return receipts were received.

Question No. 3

NTE Connecticut, LLC (NTE or Applicant) notes that public information meetings were held on March 22, May 4, and July 11, 2016. Where were these three meetings held?

Response

The meetings on March 22 and May 4, 2016 were held at the Gold Eagle at the Laurel House restaurant and banquet facility at 8 Tracy Road in Dayville, Connecticut. The meeting on July 11, 2016 was held at Killingly High School.

Question No. 4

On page 6 of Volume I, NTE notes that community outreach effort included "informational meetings with the Killingly Town Council, Economic Development Commission, Planning & Zoning Commission, Inland Wetlands & Watercourses Commission, business owners, neighborhood residents, and other interested stakeholders." Approximately when were the informational meetings with municipal officials held?

Response

Specific dates for each of these meeting are provided in the Municipal Consultation

Summary, Attachment 7, submitted to the Council on September 1, 2016. Generally, these informational meetings were held between January 7, 2016 and October 4, 2016. An additional public meeting has also recently been scheduled for October 19, 2016.

Alternatives Questions

Question No. 5

Identify the address locations of Site 1 and Site 2 as noted on pages 176 and 177 in Volume I.

Response

Site 1 is located at 295 Lake Road in Killingly.

Site 2 is located at 251 Lake Road in Killingly.

Question No. 6

Referencing the Alternative Technologies section on page 179 of Volume I, is it correct to say that one megawatt (MW) of solar photovoltaic electric generation is not equivalent to one MW of conventional natural gas-fueled generation in terms of electric energy production because of the different capacity factors involved?

Response

This is the correct interpretation. The ratio of actual power output over a period of time to its rated output over the same period of time defines a facility's capacity factor. Capacity factor of solar PV is primarily limited by technical factors (i.e., adequate sun), whereas capacity factor of conventional natural-gas fueled generation is primarily limited by dispatch or required load.

Construction Questions

Question No. 7

Quantify the amounts of cut and fill that would be required to develop the proposed facility.

Response

NTE expects approximately 220,000 cubic yards of material to be relocated on site, resulting in a balanced cut and fill. As described in Section 3.2.1 of the Application (Volume I), the intent of the grading plan is to minimize the total net import or export of material to or from the site. Limited quantities of structural fill may need to be brought to the site if adequate material is not present.

Question No. 8

Would the unpaved areas of the power plant footprint be crushed stone?

Response

Yes. Most areas within the power plant footprint will be crushed stone, however, many of the outlying areas will be re-vegetated after construction is completed.

Question No. 9

Would the security fence around the power plant be chain link? How tall would the security fence be? For chain link fences, is it correct to say that two-inch mesh is a standard or typical size? Has NTE considered either a smaller than two-inch mesh as an anti-climbing measure or two-inch mesh with anti-climb mesh material (or privacy slats) installed? If approved, could the final fence design be included in the Development and Management Plan (D&M Plan)?

Response

As currently designed, the security fence will be an 8-foot tall chain link fence, standard two-inch mesh with three strands of barbed wire at the top as an anti-climbing measure. The final fence design can be included in a D&M Plan.

Question No. 10

Provide the total length of the 30-foot wide power plant access drive, including its "loop" around the power plant. Would the driveway be asphalt or gravel? If approved, could the final driveway design be included in the D&M Plan?

Response

The total length of the access drive, starting at Lake Road and including the "loop" around the power block, is approximately 2,500 linear feet. The access drive loop road will be asphalt. The final driveway design would be included in the D&M Plan.

Question No. 11

Generally, which factors are considered when determining a power plant's stack location on a subject property, e.g. visibility, aviation issues, air emissions dispersion, etc.?

Response

From a logical and efficient equipment orientation standpoint, the stack must be located as close to the exhaust end of the heat recovery steam generator as feasible. Therefore, the entire power block must be optimally located on a subject property, taking into consideration required setback distances from the site boundary, site topography, wetlands and other constraints. Aviation issues may be a consideration for a site with a nearby airport; however, the KEC site is more than 2.5 miles from the nearest airport. To minimize property line noise and air quality impact levels, as well as offsite visual impacts, location of the power block as close to the center

of the site as practicable is a typical layout goal, to the extent site topography and other constraints permit. Further optimization of the stack location takes into account factors that affect dispersion (e.g., maximizing separation distance to taller structures), thus minimizing the stack height necessary to comply with air quality criteria. Minimizing the necessary stack height, in turn, minimizes visibility and the potential for aviation interference.

Power Plant Operations Questions

Question No. 12

Would the proposed combined-cycle facility have black start capability?

Response

No, the KEC facility will not have black-start capability.

Question No. 13

Would the proposed facility be baseload, intermediate, or peaking?

Response

The combined cycle portion of the facility is expected to operate in a base-load configuration with an expected operating load factor in the range of 65% to 80% per year depending on weather and ISO-NE market conditions. The duct burning portion of the facility is expected to operate mostly as high load factor peaking or low load factor intermediate with an expected load factor in the range of 25% to 35% per year depending on weather and ISO-NE market conditions.

Question No. 14

When would duct firing (if applicable) be operated, e.g. under peak load conditions?

Response

Duct firing would be operated during high demand periods and peak load conditions.

Given the higher heat rate of duct firing capacity, it is only economically dispatched during period of high electricity use or in response to a specific reliability request by ISO-NE making it a high load factor peaking or low load factor intermediate resource.

Question No. 15

Could the plant operate as simple cycle (i.e. without the steam turbine) under certain conditions, or is this an unlikely mode of operation? Provide the efficiency of the plant for simple cycle operation (if applicable) and for the proposed combined cycle operation.

Response

While technically capable of operating without the steam turbine, this is a very unlikely scenario and would only be anticipated during an unplanned steam turbine outage coincident with high market demand. The estimated simple-cycle efficiency for this facility is approximately 35% Higher Heating Value (HHV), while the estimated combined-cycle efficiency for this facility is approximately 53% HHV (during annual average ambient conditions without supplemental firing).

Question No. 16

Section 2.4 on Page 39 of Volume I provides the MW data for the plant. Is all of this data based on summer output? If yes, provide the corresponding MW data based on winter output. Also estimate the parasitic load in MW when firing ULSD.

Response

No. The data provided is based on International Organization for Standardization (ISO) conditions (59 degrees Fahrenheit, 14.7 pounds per square inch barometric pressure, and 60% relative humidity). The estimated gross winter electrical output on ULSD is 370 MW, with a parasitic load of approximately 10 MW. The estimated gross winter electrical output on natural

gas (with supplemental duct firing on) is 560 MW, with a parasitic load of approximately 15 MW. The estimated gross summer electrical output on ULSD is 371 MW, with a parasitic load of approximately 10 MW. The estimated gross summer electrical output on natural gas (with supplemental duct firing on) is 506 MW, with a parasitic load of approximately 13 MW.

Question No. 17

What are the approximate cold and hot start-up times for the plant if dispatched?

Response

For natural gas operation, cold startup is estimated to take 35 minutes to minimum emissions compliance, and hot startup is estimated to take 30 minutes to minimum emissions compliance.

Question No. 18

Could the plant provide spinning reserves? What is the approximate ramp rate of the plant in MW/minute if the plant had to ramp up or ramp down in response to ISO New England, Inc. (ISO-NE) dispatch?

Response

This facility is anticipated to have the ability to participate in the spinning reserves ancillary services market and provide Ten Minute Spinning Reserve and Thirty Minute Spinning Reserve. The approximate ramp rate is 29 MW per minute.

Question No. 19

Reference pages 14 and 15 of Volume I of the Application. Explain how "rotational inertia- based generation" (such as the proposed plant) could respond quickly to mitigate the effects of sudden and dramatic peaks or outages inherent in inverter-based generation relying on variable weather conditions to produce power."

Response

Gas-fired facilities such as the proposed Killingly Energy Center ("KEC") are capable of responding quickly to changes in dispatch from ISO-NE as a result of not only changing load, but also sudden, unplanned outages or unpredicted reductions in generation from inverter-based resources such as wind and solar. *See* NTE's response to Question No. 17 above for the rapid startup times associated with this facility and to Question No. 18 above for the ramp rate of this facility. In addition, the proposed facility could potentially provide ancillary services to the ISO-NE market, which are beneficial to operation of the ISO-NE transmission system due to the increased dispatch of inverter-based generation on the ISO-NE transmission system.

Question No. 20

What is the status of the ISO-NE System Impact Study noted on page 16 of Volume I?

Response

The System Impact Study is in progress and NTE has received feedback from ISO-NE that this study will be completed by the first quarter of 2017.

Question No. 21

If approved, could a decommission plan be provided in the D&M Plan, including plant infrastructure removal plans and site restoration plans?

Response

Yes.

Electric Energy and Markets Questions

Question No. 22

Would the proposed facility also provide ancillary services in ISO-NE's markets? If so, which ones?

Response

The proposed facility would provide ancillary services into the ISO-NE market. The project could potentially provide Regulation, Voltage Support, Ten Minute Spinning Reserves, and Thirty Minute Spinning Reserves. The project will not provide Black Start Capability and the ability to provide the previously listed ancillary services will be verified with ISO-NE as the project nears commercial operation.

Question No. 23

On page 10 of Volume I, NTE discussed the ISO-NE Forward Capacity Auction (FCA) process. With FCA #11 expected to be held in February 2017, is it correct to say that, if NTE's proposed plant is a winning bidder and the plant is approved by the Council, the plant would have to be operational on or before June 2020?

Response

Yes, the plant would have to be operational on or before June, 2020, or NTE would otherwise have to make arrangements to fulfill its FCA #11 capacity supply obligation.

Fuel Questions

Question No. 24

Would the Access Northeast Pipeline Project, Algonquin Incremental Market Project, or another natural gas transmission upgrade project in the area be required to supply sufficient natural gas for the proposed power plant? Or, would the existing natural gas transmission system, as it stands currently, be adequate to meet the firm natural gas commitment for the plant, if the plant is approved?

Response

No, the listed projects are not required to supply natural gas to KEC. The project has

contracted for firm natural gas supply from a major regional natural gas supplier and the firm supply is not dependent on the completion of any of the described projects. The existing natural gas system is adequate to meet the firm natural gas requirements of the project.

Question No. 25

How was the amount of proposed on-site ULSD storage determined?

Response

The on-site ULSD storage tank volume of 1,000,000 gallons is sufficient for approximately two days of continuous operation on ULSD. Although longer periods of time operating on ULSD are not anticipated based on historic information, the selected storage volume would allow a sufficient amount of time to arrange for deliveries of additional fuel oil via tanker truck while operating continuously at full load.

Question No. 26

If approved, could the final design of the natural gas compressor(s) portion of the facility be included in the D&M Plan?

Response

Yes.

Question No. 27

On page 19 of Volume I, NTE notes that its "firm gas" contract is for seven years, starting in 2020. If the plant is approved, what are NTE's plans for natural gas service after 2027? Would NTE re-evaluate natural gas availability at that lime and look at possibilities such as extending the contract and/or installing more ULSD storage in the event of a switch to an interruptible gas arrangement?

Response

NTE would extend the current natural gas contract or enter into a natural gas supply contract with another regional natural gas supplier prior to the 2027 end date of the current natural gas agreement. NTE does not anticipate that additional ULSD will be required as natural gas resources will be adequately available to supply the project.

Question No. 28

What is the maximum ULSD consumption rate of the plant in gallons per hour (assuming full/maximum load conditions)?

Response

The maximum ULSD consumption rate of the plant (assuming full/maximum load conditions) is approximately 17,500 gallons per hour.

Question No. 29

Are there any ISO-NE Winter Reliability Studies relative to dual fuel and fuel storage that would be applicable to the proposed project? If yes, provide a copy of such studies, assuming such studies are public and not subject to Critical Energy Infrastructure Information restrictions.

Response

An ICF International study dated November 20, 2014 related to this topic is publicly available on the ISO-NE web site. This study provides information related to dual fuel capability units and fuel storage. Five (5) copies of the ICF study (Exhibit 29-1) are submitted in bulk with these responses. https://www.iso-ne.com/static-assets/documents/2014/11/final_icf_phii_gas_study_report_with_appendices_112014.pdf.

Question No. 30

Page 41 of Volume I notes that the ULSD can be stored for two or three years. Is that

based on a full tank? Would the storage life be less on a partially full tank because of air pockets with moisture that could potentially enter the fuel?

Response

The storage life duration is not dependent on whether the tank is full or partially full, as even in a full tank, an air space will be maintained above the liquid level. Recirculation and preservatives may also be used to maximize the useful life of the ULSD.

Question No. 31

When the maximum storage life of the ULSD has been reached or exceeded, what would NTE do with the stored ULSD? Can the ULSD be reused or recycled at the end of its useful life? Or would the ULSD have to be removed and properly disposed by a contractor or sold to a waste oil vendor?

Response

Prior to reaching the end of its useful life, the ULSD inventory can either be sold back to the supplier or sold to a contractor who will resell it for other uses. The ULSD tank would then be replenished with fresh oil.

Visibility Questions

Question No. 32

How would the proposed project impact The Last Green Valley National Heritage Area?

Response

The project is not expected to have a material impact on The Last Green Valley National Heritage Area (the "Heritage Area"), which extends over an approximately 706,000-acre area generally located along the Quinebaug River valley. (*See* Exhibit 32-1). Within the Heritage Area, there are several designated open spaces, with a range of other land uses also interspersed

throughout the area. In fact, the Quinebaug River corridor was historically the location of numerous mills that formed the center of industry for this area of Connecticut. Current land use conditions continue to reflect industrial uses interspersed throughout the corridor (a total of 13,900 acres, or approximately 2% of the total Heritage Area, is considered either "Commercial, Industrial, and Transportation" or "Developed High Intensity" land use categories), including the industrial area of Killingly that is proximate to the KEC site. Even considering KEC's construction impact (28 total acres), a total of 45 acres on the KEC site will remain completely undisturbed. Once construction is completed, the developed footprint will be even smaller. This small incremental addition (no change in percent of land use type) of a compact industrial use in an area that is well screened from view within most of the surroundings, and in an area designated for industrial and commercial development, does not represent a significant change in the Heritage Area's overall character or potential for use.

Question No. 33

Describe the visibility of the proposed power plant from the Airline North State Park Trail.

Response

The Airline North State Park Trail (shown on Figure 3 of Attachment K of the Application), runs generally east-west, with its closest point located approximately 1.8 miles northwest of KEC. As a rail trail, views are typically limited to the actual trail corridor. In most locations, the trail lies amidst tall, dense vegetation, with only the trail itself cleared. As shown in the Line-of-Sight Views in Attachment K, Figure 9, observers on this trail will be surrounded by tall, dense vegetation that significantly screens distant views. Therefore, views of KEC from the trail would not generally be affected.

Question No. 34

Are there any National, State, or locally designated scenic roads within a five-mile radius of the center of the plant's stack? If yes, describe the visibility of the power plant stack from such locations.

Response

An approximately 32-mile portion of State Route 169, from Rocky Hollow Road in Lisbon to the Massachusetts border in Woodstock, has been designated as a National Scenic Byway. A portion of State Route 169 is located approximately 2 miles west of KEC. State Route 169 is typically lined with tall, dense vegetation. As shown on Figure 9 of Appendix K of the Application, the intervening topography and tall, dense vegetation will significantly screen views from observers on this roadway.

State-designated Scenic Roads within the 5-mile radius include portions of Route 244 (3.1 miles between Route 97 and Ragged Hill Road) and Route 97 (4.5 miles from Route 44 to Route 169) in the Town of Pomfret. Both of these roads are farther west in the same direction as the State Route 169 segment discussed above. At an even greater distance from KEC than State Route 169, and similarly screened by vegetation, viewing potential from Routes 244 and 97 would be even less. Figure 19 of Appendix K of the Application shows a visual simulation from Kearneys Fork, which is slightly closer to the KEC Site than any of the scenic roads. Even in that location, the stack top is a distant, relatively narrow visual feature that has the potential to be seen, but is just as likely to be screened from view by intervening vegetation.

Question No. 35

Would the proposed 150-foot stack be cylindrical or tapered? What color would the stack be? Is it a neutral color intended to blend in the sky?

Response

The stack will be cylindrical. Although the specific color is not typically selected until the final design process, the stack will be specified to be a neutral color to blend with the sky. Note that colors such as greys and tans typically allow for a better blend with the range of sky colors than do less neutral colors such as blues.

Question No. 36

Would exhaust plumes from the 150-foot stack be visible under certain circumstances such as cold weather below 40 degrees F or very humid conditions? Roughly how tall could a visible plume rise on a calm day (i.e. negligible wind)?

Response

As discussed in Section 5.0 of Appendix K (the KEC Visual Impact Assessment) of the Application, a visible plume will exist under certain operating and atmospheric circumstances. The simulation presented in Figure 22 of Appendix K of the Application reflects a clear day in January with stable atmospheric conditions (no wind). The plume rise (height above stack top) associated with this condition was calculated to be 41.2 meters. With greater movement of the surrounding air, the visible plume would dissipate more rapidly.

Question No. 37

Is it correct to say that the auxiliary boiler stack would be associated with a small combustion source and would typically operate for a short time during startup and thus would emit a negligible visible exhaust plume?

Response

Yes.

Question No. 38

Approximately how many residences are located within 1,000 feet of the center of the proposed power plant site? Provide the address and direction from the Facility to the nearest property boundary of the nearest residence.

Response

As shown on Exhibit 38-1, there is one residence within 1,000 feet of the center of the proposed power plant footprint. Also, three residences have property boundaries that intersect the area within 1,000 feet of the center of the power plant footprint. The closest residence is at 149 Lake Road; its property boundary is located approximately 150 feet southwest of the nearest KEC equipment.

Question No. 39

Approximately how many residences are located within 1,000 feet of the center of the switchyard site to be located east of Lake Road? Provide the address and direction from the switchyard to the nearest property boundary of the nearest residence.

Response

There are six homes within 1,000 feet of the center of the switchyard site (*See* Exhibit 39-1); an additional two homes are located on properties that intersect with that radius. The nearest residence is located at 154 Lake Road; its property boundary is located approximately 28 feet southwest of the Utility Switchyard parcel.

Question No. 40

Where is the highest ground elevation measured above mean sea level (AMSL) within a five-mile radius of the plant stack located? How does the height at the top of the stack AMSL compare with the highest ground elevation within a five-mile radius?

Response

The highest ground elevation within five miles of the stack is approximately 764 feet above mean sea level (AMSL). This terrain feature is approximately 5 miles northwest of the KEC stack. The proposed 150-foot stack will be at a base elevation of 315 feet AMSL, with a top of stack elevation of 465 feet AMSL. Therefore, the highest terrain elevation is 299 feet taller than the stack top.

Noise Question

Question No. 41

Would the air cooled condenser (ACC) fans be staged according to demand so that the minimum required number of fans would be on at a given time (and more would turn on as needed) to minimize noise and power consumption (i.e. parasitic loads)?

Response

Yes, the fans will be staged according to facility output while considering the steam turbine manufacturer's requirements and maximizing efficiency.

Question No. 42

As noted on page 38 of Volume I, the backup generator would have periodic readiness testing. Approximately how often would readiness testing occur and for how long, e.g. 20 minutes per week? Could readiness testing be scheduled during daytime hours instead of nighttime hours?

Response

Readiness testing is expected to occur 30 minutes weekly and will be scheduled during daytime hours.

Water Resources Questions

Question No. 43

Is the proposed project located within a DEEP-designated aquifer protection area?

Response

No. As shown on Exhibit 43-1 attached, the project is not located within a DEEP-designated aquifer protection area.

Question No. 44

On page 106 of Volume I, NTE notes that, "Groundwater at the KEC Site is classified as Class GA (DEEP Water Quality Classifications Map). Class GA-designated uses include existing and private and potential public or private supplies of water; DEEP presumes that groundwater in such areas is suitable for drinking and other domestic uses without treatment..." How would the proposed project impact Class GA groundwater resources?

Response

As shown in the Figure 6-1 of the Application, the KEC Site is located within the watershed of the Quinebaug River (Sub-Basin No. 3700-00). Groundwater in this sub-basin currently flows and will continue to flow from the KEC Site and discharge into the Quinebaug River. KEC does not propose to use groundwater at the site, and will incorporate spill prevention and control measures such as containment and curbing areas to prevent ULSD or other chemicals from discharging to the groundwater. The project is not anticipated to impact GA groundwater resources.

Question No. 45

Is the project located outside of a 100-year and 500-year flood zone? Provide a Federal Emergency Management Agency (FEMA) Flood Map for the proposed power plant site. If the

project is in FEMA Zone X, indicate whether it is "unshaded Zone X" or "shaded Zone X."

Response

The project is located outside of a 100-year and 500-year flood zone as mapped. A small area on the Generating Facility Site, north of the project footprint, is designated a 100-year zone (Zone A). A copy of the relevant portion of the FEMA map is provided on Exhibit 45-1. An overlay of KEC, mapped floodplains, and delineated wetlands is shown on Exhibit 45-2.

Question No. 46

Is it correct to say that the ACC would be a closed system that would not rely on evaporative cooling in order to save water? As such, is it also correct to say that the ACC would not emit a plume like an exhaust stack or wet cooling tower?

Response

Both statements are correct.

Question No. 47

Did NTE consider using an air conditioning system with a compressor (i.e. chiller system) as opposed to evaporative cooling of the incoming air to the turbine to farther reduce water consumption? What are the pros and cons of evaporative cooling versus a chiller system to cool incoming turbine air? For example, would the chiller system reduce water consumption, but increase cost and parasitic power plant loads?

Response

Yes, NTE did consider inlet air chilling versus evaporative cooling. While it would reduce water consumption, inlet air chilling was not selected due to the significant parasitic load associated with its chilling and pumping system, which has a negative effect on plant efficiency, (which is an important factor that benefits greenhouse gas reduction), as well as increased cost.

Question No. 48

What is the status of the "Eastern Regional Distribution Improvements" to the water supply system as noted on Figure 2-10 in Volume I of the Application, and how would such improvements affect water supply for the proposed power plant?

Response

The Eastern Regional Distribution Improvements indicated in that figure refer solely to the proposed upgrades to KEC. Therefore, such improvements are required for water supply to the proposed power plant.

Air Emissions Questions

Question No. 49

Provide a $PM_{2.5}$ dispersion map (under worst-case conditions), similar to Exhibit 13q of Docket No. 192B. *See* Figure 6 of Docket No. 192B Findings of Fact.

Response

Exhibit 49-1 provides an annual $PM_{2.5}$ isopleth map similar to the referenced figure. The annual $PM_{2.5}$ impacts shown are based on 8,260 hours of ULSD firing at 60% load (the worst-case steady state operation) plus 500 hours of shutdown operation from ULSD firing (the worst case startup/shutdown case). This reflects conditions even beyond a possible worst-case operating scenario, as ULSD firing will be limited to no more than 720 hours per year. Even under this scenario, the maximum impacts are below Significant Impact Levels (0.3 $\mu g/m^3$).

Question No. 50

Is the proposed stack height the minimum stack height required to meet air pollutant emissions standards? Explain.

Response

No. Maximum predicted air quality impacts are comfortably lower than applicable standards with a 150-foot stack, and would likely be able to demonstrate compliance with a lower stack. NTE has selected the stack height at the level it believes best balances minimizing air quality impacts while minimizing visibility. The selected stack height is shorter than the nearby 165-foot stacks at Lake Road Generating and will generally not be an intrusive visual element in the area.

Wildlife Questions

Question No. 51

Where is the nearest Important Bird Area (relative to the center of the Facility) as indicated by the National Audubon Society?

Response

The 1,053-acre Bafflin Sanctuary Complex, shown in Attachment K, Figure 3 of the Application, is the nearest Important Bird Area, located approximately 1 mile west of KEC.

Question No. 52

Where is the nearest northern long-eared bat (NLEB) hibernaculum located? Provide the distance and direction from the center of the proposed Facility?

Response

Connecticut DEEP has identified the following northern long-eared bat areas of concern in Connecticut: East Granby; North Branford; Winchester; Morris; Roxbury; New Milford; Bridgewater; Salisbury; and Greenwich. These towns are areas with known northern long-eared bat hibernacula. East Granby, the location of the nearest northern long-eared bat hibernaculum, is located approximately 40 miles west of the proposed Facility. (*See* Exhibit 52-1).

Question No. 53

Is the project located in or near a Critical Habitat Area (CHA)? If yes, how would the project impact the CHA?

Response

The project is not located within USFWS or CTDEEP-designated CHA's. The nearest state-designated CHA is approximately 6.8 acres of floodplain forest located along the Quinebaug River in the Town of Pomfret, across the Quinebaug River from the project site. The nearest federally designated CHA is located in Plymouth, Massachusetts, designated for the protection of the Plymouth red belly turtle. No material impact associated with KEC would occur to either CHA.

Question No. 54

Would the proposed 150-foot stack itself adversely affect birds such as allowing collisions or landing on a hot (temperature-wise) surface?

Response

The stack top and sides of the stack, while hot during operation, do not represent attractive perching sites. The stack test platforms and associated ladders, however, are more suitable perching locations. These features safely support stack testers during plant operation and would not represent surfaces too hot for bird perching.

The majority of studies on bird mortality due to towers focuses on very tall towers (greater than 1,000 feet), illuminated with non-flashing lights, and guyed. These types of towers, particularly if sited in major migratory pathways, can result in significant bird mortality

(Manville, 2005).[1] More recent studies of short communication towers (less than 300 feet), which would be comparable to the proposed 150-foot stack, reveal that they rarely kill migratory birds.[2,3,4] Studies of mean flight altitude of migrating birds reveal flight altitudes of 410 meters (1,350 feet), with flight altitudes on nights with bad weather between 200 and 300 meters above ground level (656 to 984 feet).[5] With the relatively short (150-foot) stack, which will not require guy wires for support, no adverse impact to migrating bird species is anticipated in association with KEC.

Question No. 55

Provide a Turtle Protection Plan for the eastern box turtle, a State-designated Species of Special Concern. Would such plan also be protective of the wood turtle, a State-designated Species of Special Concern? If approved, could the final turtle protection measures be included in the D&M Plan?

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[1] Manville, A.M. II. 2005. Bird strikes and electrocutions at power lines, communications towers, and wind turbines: state of the art and state of the science - next steps toward mitigation. Bird Conservation Implementation in the Americas: Proceedings 3rd International Partners in Flight Conference 2002. C.J. Ralph and T.D. Rich, editors. USDA Forest Service General Technical Report PSW-GTR-191. Pacific Southwest Research Station, Albany CA. pp. 1-51-1064.

[2] Kerlinger, P. 2000. Avian Mortality at Communication Towers: A Review of Recent Literature, Research, and Methodology. Prepared for U.S. Fish and Wildlife Service Office of Migratory Bird Management.

[3] Erickson et al., 2005. Documents that the bulk of annual bird mortality is associated with collisions with buildings and power lines, and from feral cats. Communications towers ranging in height from 825 feet to 1,010 feet account for roughly 0.5% of the total annual anthropogenic migratory bird mortality.

[4] Erickson, W.P., G.D. Johnson, and D.P. Young, Jr. 2005. A summary and comparison of bird mortality from anthropogenic causes with an emphasis on collisions. USDA Forest Service Gen. Tech. Report PSW-GTR-191. pp. 1029-1042.

[5] Mabee, T.J., B.A. Cooper, J.H. Plissner, D.P. Young. 2006. Nocturnal bird migration over an Appalachian ridge at a proposed wind power project. Wildlife Society Bulletin 34:682-690.

Response

Although no state-designated turtles were identified at the KEC Site during the surveys, NTE plans to implement a Turtle Protection Plan. For any construction work done during the eastern box turtles' active period of April 1 through November 1, the following precautionary measures will be employed:

Prior to Construction

- Silt fencing shall be installed around the work area prior to any construction during the turtle hibernation period (which is between November 1 and April 1).
- The area within the perimeter of the silt fence shall be canvassed by a qualified individual one day prior to installation of the silt fencing and for five consecutive days after installation for the presence of turtles. Any turtles found within the bounds of the silt fence shall be relocated outside of the bounds of the silt fence.

During Construction

- Work crews shall be appraised of the species description and possible presence prior to construction.
- Work crews shall search the work area for turtles prior to the start of each construction day.
- Any turtles encountered during the work shall be moved unharmed to an area immediately outside the fenced work area and oriented in the same direction it was walking when found.
- All precautionary measures will be taken to avoid degradation to wetland habitats including any wet meadows and seasonal pools. No work is proposed in such

areas on the Generating Facility Site. Work in wetland on the Switchyard Site during the early morning and evening hours should occur with special care not to harm basking or foraging individuals.

- No heavy machinery or vehicles shall be parked within the protected work areas and precautions shall be taken when the machinery is traveling to the work area to avoid turtles.
- All silt fencing shall be removed after work is completed when soils are stable so that reptile and amphibian movement between uplands and wetlands is not restricted.

Although their active seasons differ slightly, this program will be generally protective of the wood turtle. NTE is willing to have final turtle protection measures incorporated as a requirement of the D&M Plan.

Question No. 56

Reference Volume II of the Application (Volume II), NTE submitted a Natural Diversity Database (NDDB) Map of the Town of Killingly. Identify the project location on the NDDB map.

Response

The project site is now identified in red on the map originally submitted in Volume II, Attachment D. *See* Exhibit 56-1.

Question No. 57

Has NTE received any follow-up correspondence from DEEP regarding Natural Diversity Database species?

Response

No follow-up correspondence has been received from DEEP. USFWS has concurred with the results and recommendations of the bat monitoring program. *See* Exhibit 57-1.

Question No. 58

Regarding the vernal pools noted on page 79 of Volume I, provide a vernal pool analysis per the Best Development Practices: Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States by Klemens and Calhoun and include the existing and proposed percent development areas for the 100-foot Vernal Pool Envelopes and the 100-foot to 750-foot Critical Terrestrial Habitat areas. A useful example of how to correctly analyze a habitat that has various components is that for Council Docket 455 (Tab 14 of that application) which clearly shows the correct treatment of wooded, open and grassed areas, versus developed areas. Only the developed areas are considered to be lost habitat.

Response

An analysis has been completed in accordance with the Calhoun and Klemens (2002) methodology for the vernal pool identified within Wetland B. A professional in-field delineation and characterization of the regulatory wetlands and watercourses, including Wetland B and the vernal pool, was conducted by REMA Ecological Services, LLC (REMA). The assessment consisted of site visits on 15 nonconsecutive days starting on February 4, 2016 and ending June 13, 2016. A detailed description of Wetland B can be found in Appendix E-2, Section 4.3.4 of the Application. REMA conducted species surveys at the vernal pool on April 13, May 4, and July 21, 2016. A discussion of the results can be found in Appendix F-1, Section 4.0 of the Application. The analysis considers both the biological value of the vernal pool, and the condition of the area defined by the methodology as "critical terrestrial habitat" (the area from

100 to 750 feet from the vernal pool).

The biological value of the vernal pool is determined by the presence of state-listed species (endangered, threatened, or special concern), and the abundance of vernal pool indicator species and egg masses. Vernal pools of high biological value may support a state-listed species; two or more vernal pool indicator species; and/or 25 or more egg masses (regardless of species) by the conclusion of the breeding season. If such qualifications are absent, the vernal pool has relatively lower biological value. The biological value of the vernal pool embedded in Wetland B was informed by REMA's findings, which did not indicate the presence of state-listed species, but did identify the presence of two indicator species (i.e., wood frogs and spotted salamanders) and the presence of at least 25 egg masses.

The condition of the critical terrestrial habitat is determined by the percentage of development in the vernal pool envelope (100 feet from the vernal pool edge) and in the critical terrestrial habitat (100 feet to 750 feet from the vernal pool edge). Critical terrestrial habitat is considered higher priority (Tier I) if at least 75% of the vernal pool envelope is undeveloped and at least 50% of the critical terrestrial habitat is undeveloped. The condition of the critical terrestrial habitat surrounding the vernal pool embedded in Wetland B, was determined by Geospatial Information Systems (GIS) analysis; currently, no development exists within the vernal pool envelope or critical terrestrial habitat. The Wetland B vernal pool would, therefore, be classified as a Tier I resource.

As shown in Exhibit 58-1, the proposed activities associated with KEC will be well outside the 100-foot vernal pool envelope (100% of this 1.3-acre area will remain undisturbed), and the vast majority of the area within 750 feet of the vernal pool will also be undisturbed. Of the total area between 100 and 750 feet (approximately 43 acres), approximately 93.5% will

remain undisturbed during the development of the facility. During KEC's construction, construction activities will occur within 2.8 acres (approximately 6.5% of the area). The closest edge of KEC disturbance (edge of grading) is 432 feet from the vernal pool. Once construction is completed and the slopes are vegetated, the methodology indicates that 96% will be suitable for vernal pool amphibians, that is, only approximately 4% of the 750-foot radius would be considered lost habitat, as vegetated slopes, etc., located outside of the fence line could be utilized by terrestrial vernal pool species. Therefore, under post-development conditions, the vernal pool will still be classified as a Tier I resource.

Note that U.S. Army Corps of Engineers (USACE) methodology for vernal pool assessment further eliminates area for which barriers to movement exist. In this case, the Quinebaug River would be a barrier to terrestrial species movement. Therefore, as shown in Exhibit 58-2, calculations have also been completed for the "critical terrestrial habitat area" (from 100 to 750 feet) that exclude that portion of the radius (approximately 40 acres). The adjusted percentages would be 93% of the area remaining undisturbed, with 7% of habitat lost during construction, adjusted to 4.3% of habitat loss once construction was completed. With this adjustment, Tier I resource classification would still be maintained.

Other Environmental Questions

Question No. 59

To date, has NTE received a response from the State Historic Preservation Office (SHPO) and/or the Tribal Historic Preservation Offices (THPO) regarding the proposed project? If yes, provide a copy of such response(s).

Response

The SHPO has provided the response attached as Exhibit 59-1 regarding the proposed project. No response has yet been received from the THPOs.

The SHPO has also indicated that, with minor changes now completed, the archaeological report can be distributed for public review. The report is provided as Exhibit 59-2.

Question No. 60

How would the proposed project impact the burial ground known as Sorrow Cemetery identified in the redacted version of the Option Agreement submitted on August 25, 2016.

Response

Care has been taken in the layout for the Utility Switchyard to avoid impacting the private cemetery, although this has required the small amount of direct wetland impact proposed. As noted in the SHPO letter provided in Exhibit 59-1, the SHPO recommends that a 50-foot buffer be incorporated in the design. This recommendation has been honored with the exception of one area directly adjacent to the Utility Switchyard due to site constraints. Note that a buffer that is greater than 50 feet is available for most of the area surrounding the cemetery. *See* Exhibit 60-1. Retaining walls have been incorporated in the design of the Utility Switchyard to maximize distance to the extent possible, and special procedures (such as construction training and fencing) will be incorporated to ensure no adverse impact to the cemetery.

Power Plant Safety Questions

Question No. 61

Would both generator step-up transformers have containment measures in the event of any leaks of dielectric fluid? Would the dielectric fluid contain polychlorinated biphenyls (PCBs)? If approved, could the final transformer fluid containment plans be included in the

D&M Plan?

Response

Yes, both generator step-up transformers will have concrete containment structures to capture any leaks or spills. The dielectric fluid will not contain PCBs. Yes, the final transformer fluid containment plans can be included in the D&M Plan.

Question No. 62

What safety measures would be employed relative to the use and storage of hydrogen?

Response

Hydrogen gas, if required for generator cooling would be stored in a tube trailer, outdoors, at a distance from adjacent structures in accordance with supplier recommendations. Within the generators, any leakage or ventilation during maintenance would be routed to a safe outdoor location. All electrical equipment will be designed in accordance with NFPA 497 "Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas".

Question No. 63

Would the backup generator have containment measures to protect against fuel, oil, or coolant leakage? For example, would it have a double-walled fuel tank and a recessed floor under the engine compartment? If approved, could the final plans for containment measures for the backup generator be included in the D&M Plan?

Response

Yes, the backup generator will include containment measures consisting of either a double-wall fuel tank or an integral containment sump under the engine compartment. The final plans for containment measures for the backup generator would be included in the D&M Plan.

Question No. 64

What percentage of the full amount of ULSD could the lined containment area (noted on page 60 of Volume I) contain (e.g. 110 percent)?

Response

The lined containment area will be sized for a minimum of 110 percent of the ULSD storage tank volume.

Question No. 65

Is correct to say that combustion of natural gas (as well as ULSD) produces a significant amount of harmless water vapor in the exhaust plumes? Would this steam from the exhaust be expected to condense and/or freeze on the ground on adjacent properties resulting in wet and/or icy conditions near the plant?

Response

The exhaust gas will contain some amount of water vapor which will exit the stack. However, the temperature and velocity of the exhaust gas will adequately disperse this small amount of vapor such that it will not condense on adjacent properties.

Question No. 66

NTE provided a FAA "No Hazard" letter for the 150-foot stack dated July 18, 2016. Does NTE need FAA letters for any other structures at the power plant site, such as the turbine building or auxiliary boiler stack (if applicable), or is one "No Hazard" letter for the stack sufficient?

Response

Filing with the FAA is required for structures over 200 feet above base elevation or for structures located within certain imaginary surfaces extending out from airport runways or

heliport landing or takeoff areas. Although the KEC stack did not trigger this requirement and other tall structures without navigation lighting are located in the near vicinity (e.g., the three nearby Lake Road Generating facility stacks are 165 feet tall, and the adjacent Eversource electric transmission corridor includes structures with heights ranging from 364 to 469 feet AMSL, whereas the KEC stack is 150 feet tall and 465 feet AMSL), it is important to NTE to obtain documentation from the FAA for its records to support financing of KEC. Because all other structures associated with KEC will be at even lower elevations (and do not otherwise trigger the filing requirements), NTE considers the "No Hazard" letter for the stack sufficient to affirm the expectation that no structures related to KEC will be a hazard to air navigation.

Question No. 67

In the FAA "No Hazard" letter, FAA states that, "Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary bases, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 L." Is NTE anticipating no lighting/marking, or is NTE considering lighting/marking on a voluntary basis? Would no marking/lighting reduce the visual impact of the stack on surrounding areas? If marking/lighting is considered, could the final lighting design be included in the D&M Plan if approved?

Response

With the FAA's confirmation that no lighting or marking is necessary for safety reasons, NTE does not intend to install navigation marking or lighting. This will reduce the visual impact of the stack on surrounding areas.

Question No. 68

Provide an exhaust plume analysis using the MITRE software and include any

inputs/assumptions and any outputs/computer printouts and associated conclusions regarding aviation safety in the vicinity of stack plumes similar to Late Filed Exhibit No. 1 in Council Petition No. 1218.

Response

NTE is currently compiling the information needed to respond to this question but will not be in a positon to do so by the October 7, 2016 deadline. NTE therefore, respectfully requests an extension of time to respond. NTE will respond to this question as soon as possible but in no case later than October 14, 2016.

Question No. 69

If the project is approved, would NTE perform the following power plant safety-related items noted below?

a) Comply with all conditions of the "Electric Generator Decision and Order" dated March 17, 2011 in Council Docket No. NT-2010. This would include, but not be limited to, filing an emergency response/safety plan (produced in consultation with state and local public safety officials) with the Council in the D&M Plan;

b) Retain a special inspector to assist the municipal fire marshal in reviewing the construction plans and conducting inspections pursuant to Connecticut General Statutes (COS) §16-50ii; and

c) Remit a fee to the Code Training Fund to be used in the training of local fire marshals on complex issues of electric generating construction in accordance with CGS §29-251c.

Response

a) Yes.

b) Yes.

c) Yes.

CERTIFICATION OF SERVICE

I hereby certify that on this 7th day of October, 2016, a copy of the foregoing was sent via first class mail, postage prepaid, to the following:

John Bashaw, Esq.
Mary Mintel Miller, Esq.
Reid and Riege, P.C.
One Financial Plaza, 21st Floor
Hartford, CT 06103
jbashawfilrrlawpc.com
mmiller@rrlawpc.com

Sean Hendricks, Town Manager
Town of Killingly
172 Main Street
Killingly, CT 06239
s}ie.ndrirks@kil1in pi vrt.orp

Kenneth C. Baldwin

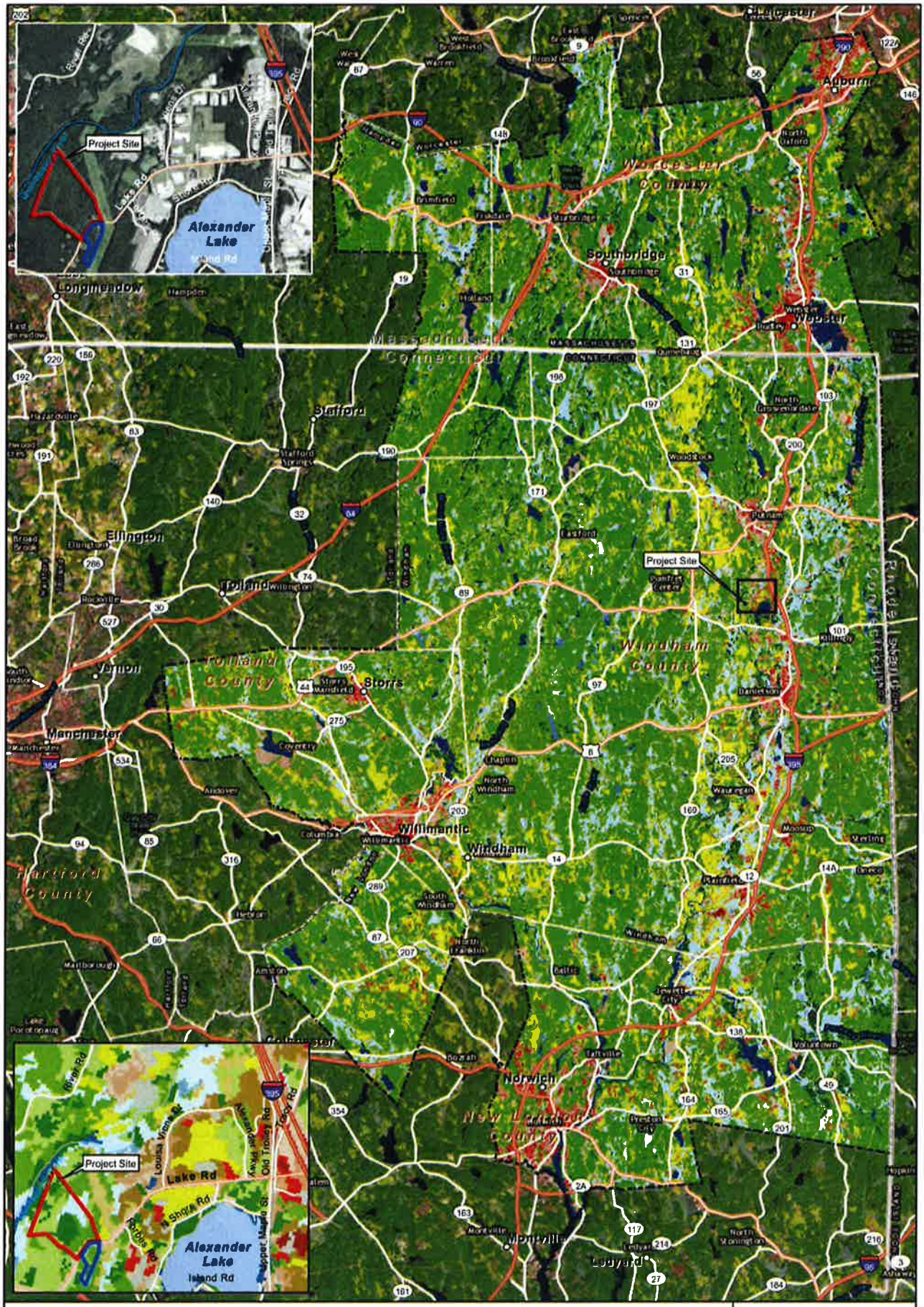
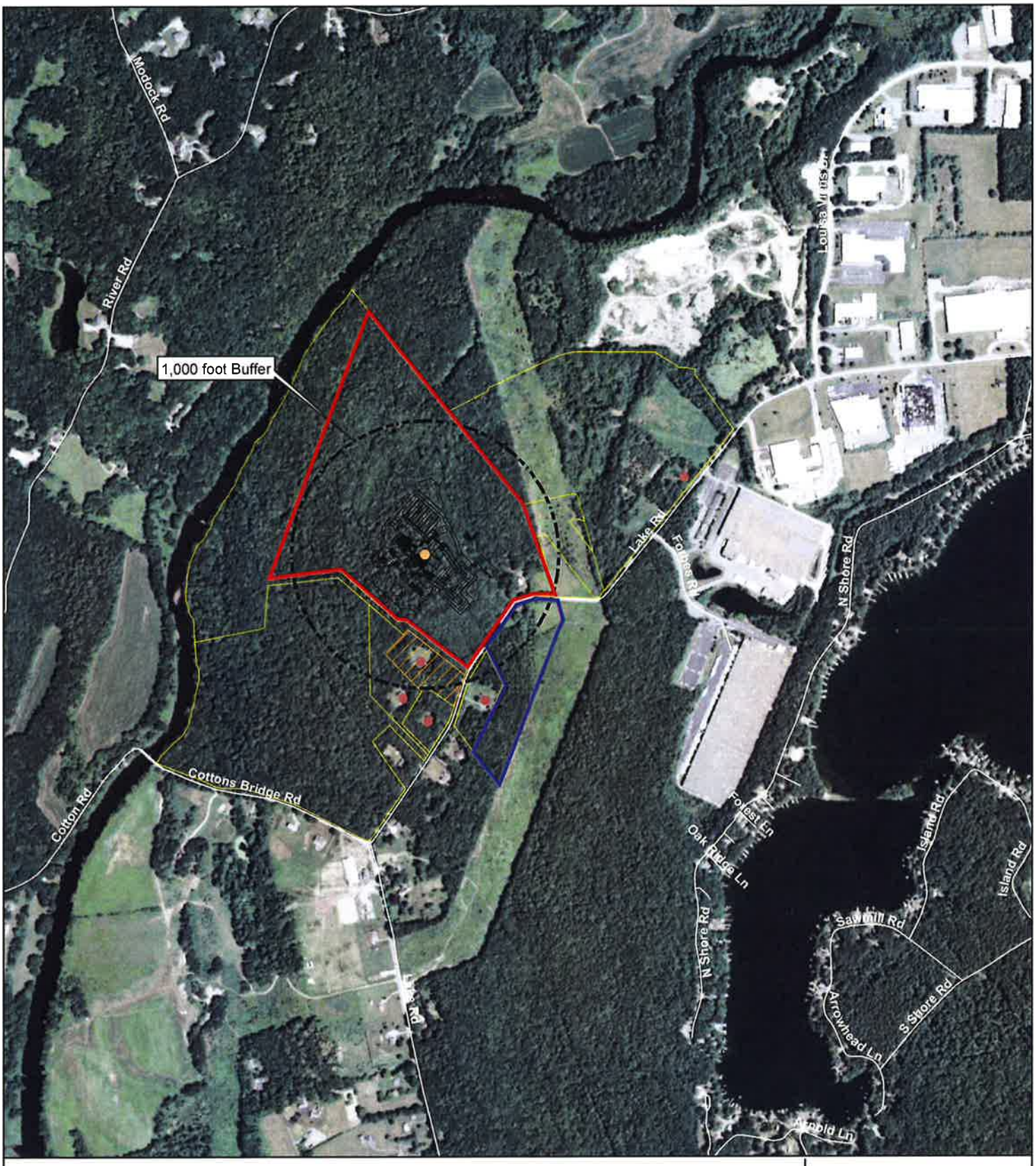


Exhibit 32-1:
Last Green Valley
Existing Land Use

Killingly Energy Center

Source: National Land Cover Database (2011)



Legend

- Generating Facility Site
- Switchyard Site
- Residences with Property Boundary within 1,000 Feet
- Parcel Boundary
- Nearest Parcel Boundary
- Generating Facility

N

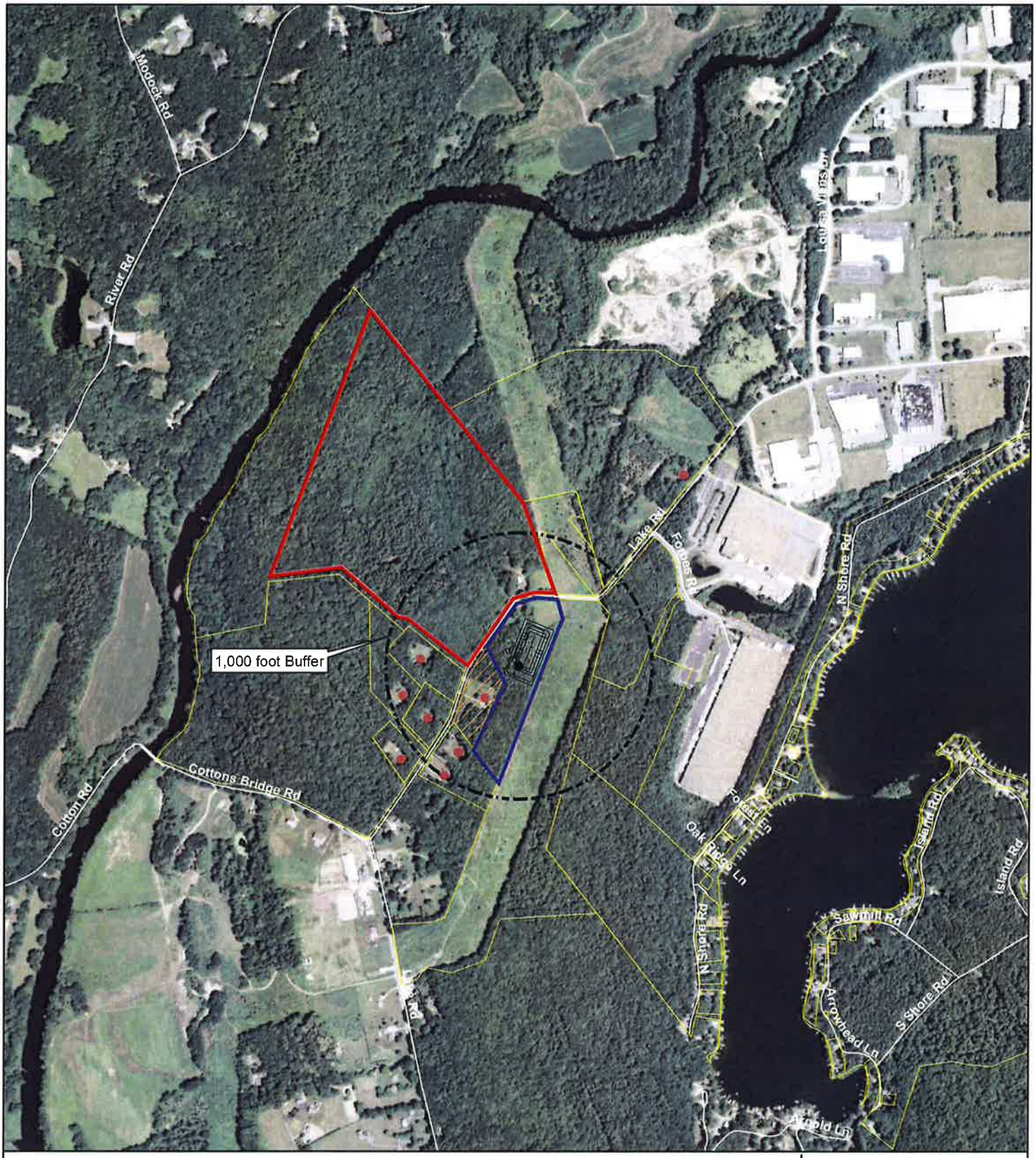
0 500 1,000 Feet

Exhibit 38-1: Residences within 1,000 Feet

Killingly Energy Center

Z:\UtilServ\Killingly\Reports\Residences\Residences_GenFac.mxd

Source: Connecticut Parcels Data Layer (metadata available at http://www.cteco.uconn.edu/metadata/dep/document/PARCEL_FGDC_Plus.htm)



Legend

- Generating Facility Site
- Switchyard Site
- Residences with Property Boundary within 1,000 Feet
- Parcel Boundary
- Nearest Resident's Property Boundary
- Switchyard

N

0 500 1,000 Feet

Exhibit 39-1
Residences within 1,000 Feet

Killingly Energy Center

Z:\UtilServ\Killingly\Reports\Residences\Residences_Switchyard.mxd
Source: Connecticut Parcels Data Layer (metadata available at http://www.cteco.uconn.edu/metadata/dep/document/PARCEL_FGDC_Plus.htm)

AQUIFER PROTECTION AREAS

Killingly, CT

August 1, 2016

Exhibit 43-1

- Level A APA (Final Adopted)
- Level A APA (Final)
- Level B APA (Preliminary)
- Town Boundary

NOTE: The Aquifer Protection Areas were delineated through Connecitcut's Level A and Level B Mapping Processes. Aquifer Protection Areas are delineated for active public water supply wells in stratified drift that serve more than 1000 people, in accordance with Sections 22a-354c and 22a-354z of the Connecticut General Statutes. Level B Mapping delineates a preliminary aquifer protection area, providing an estimate of the land area from which the well draws its water. Level A Mapping delineates the final Aquifer Protection Area, which becomes the regulatory boundary for land use controls designed to protect the well from contamination. As Level A Mapping is completed for each well field and approved by DEEP, it replaces the Level B Mapping. Final Adopted Level A Areas are those where towns have land use regulations for them. Masschusetts and Rhode Island Wellhead Protection Areas may be shown for informational purposes.

QUESTIONS:
Bureau of Water Protection and Land Reuse
Planning and Standards Division
Phone: (860) 424-3020
www.ct.gov/deep/aquiferprotection

STATE OF CONNECTICUT
DEPARTMENT OF
ENERGY & ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106-5127

Exit 97
Exit 96
Exit 96
A 112
Park Street
10/15/2008
Putnam
Killingly Energy Center
Exit 94
Exit 94
A 69
Hopkins
12/28/2007
Exit 93
Exit 93
Killingly
Exit 92
B 68
Brooklyn
Exit 92
Exit 91W
Exit 91
Brooklyn
Route 6 Connector
Exit 90
B 71
Plainfield
Plainfield
Canterbury
Rhode Island
171
44
21
244
44
97
395
101
169
12
395
6
205
395

Exhibit 45-1
FEMA Flood Zones
on KEC Site

Killingly Energy Center
an NTE Energy Project

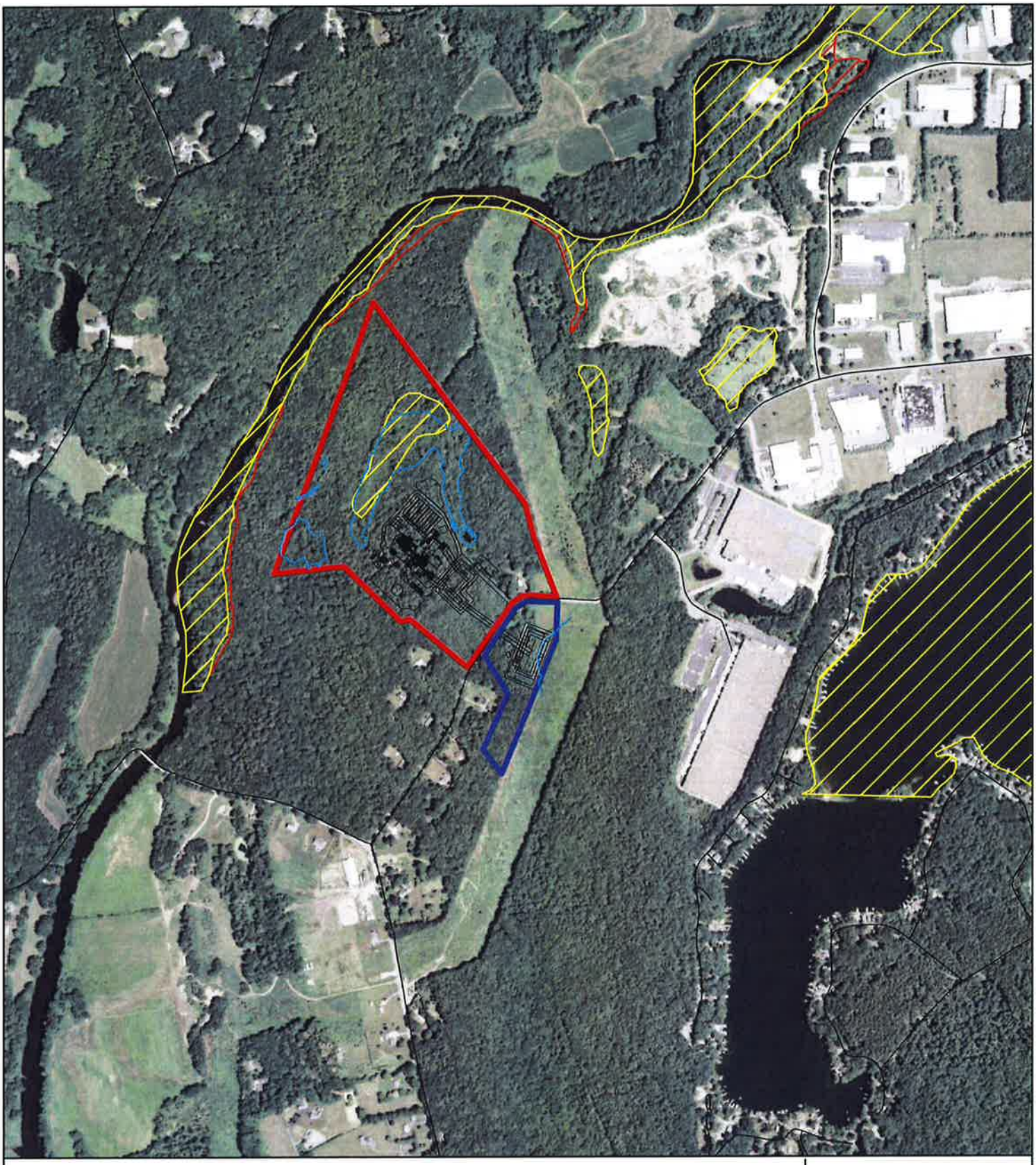
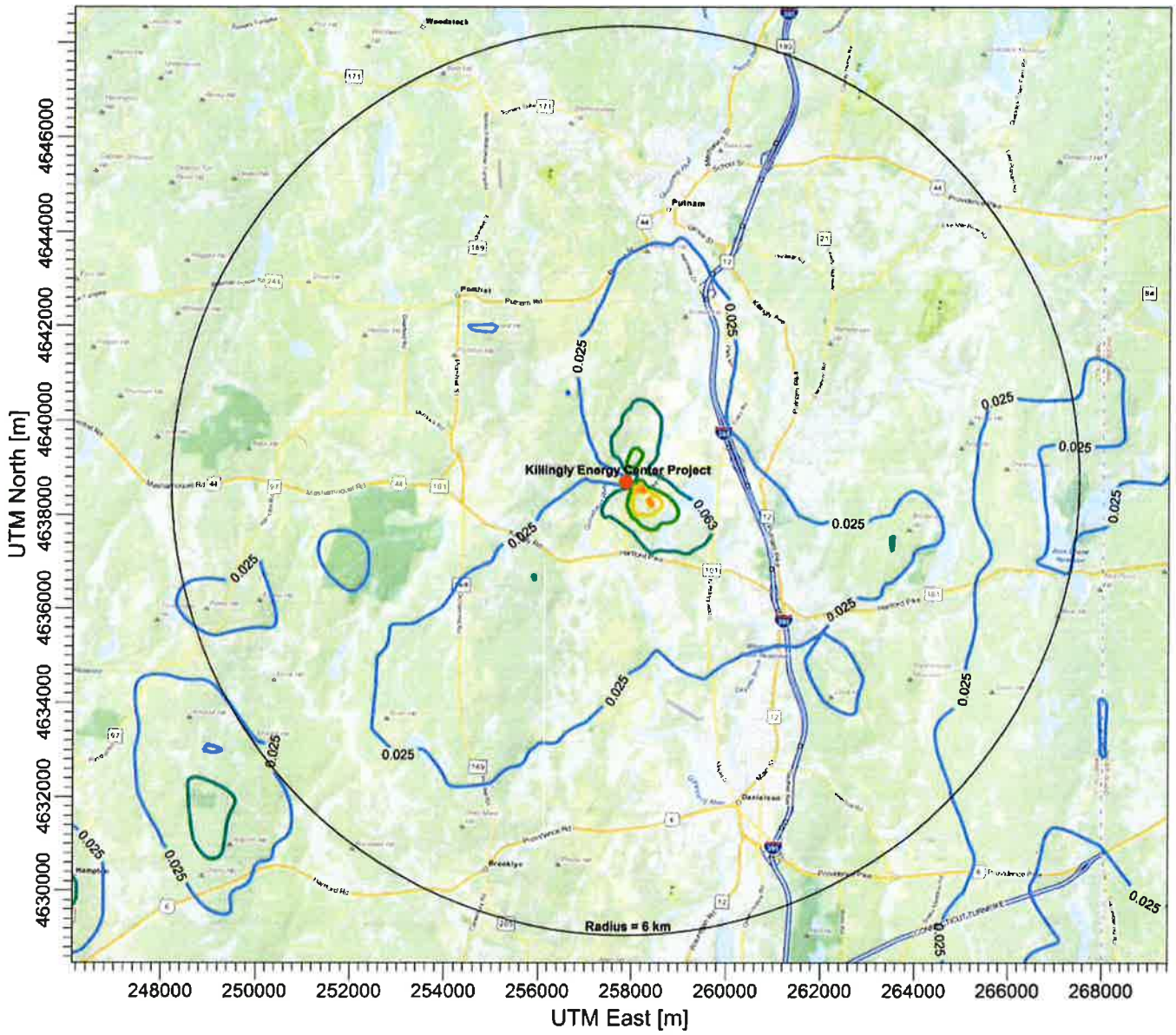


Exhibit 45-2
FEMA Flood Map

Killingly Energy Center

Z:\Util\Serv\Killingly\Reports\Wetlands\Water.mxd
Source: Digitized from FEMA Flood Map Service Center (available at http://msc.fema.gov/portal)



Plot File of Annal Values Averaged Across 5 Years for Source Group: Annual $PM_{2.5}$ (migrograms per cubic meter)

Maximum: 0.287 micrograms per cubic meter at (258170.90, 4638568.90)

Model Information:

SOURCES: 4

RECEPTORS: 5548

OUTPUT TYPE: Concentration

DATE: 7/5/2016

SCALE: 1:140,000

0 5 km

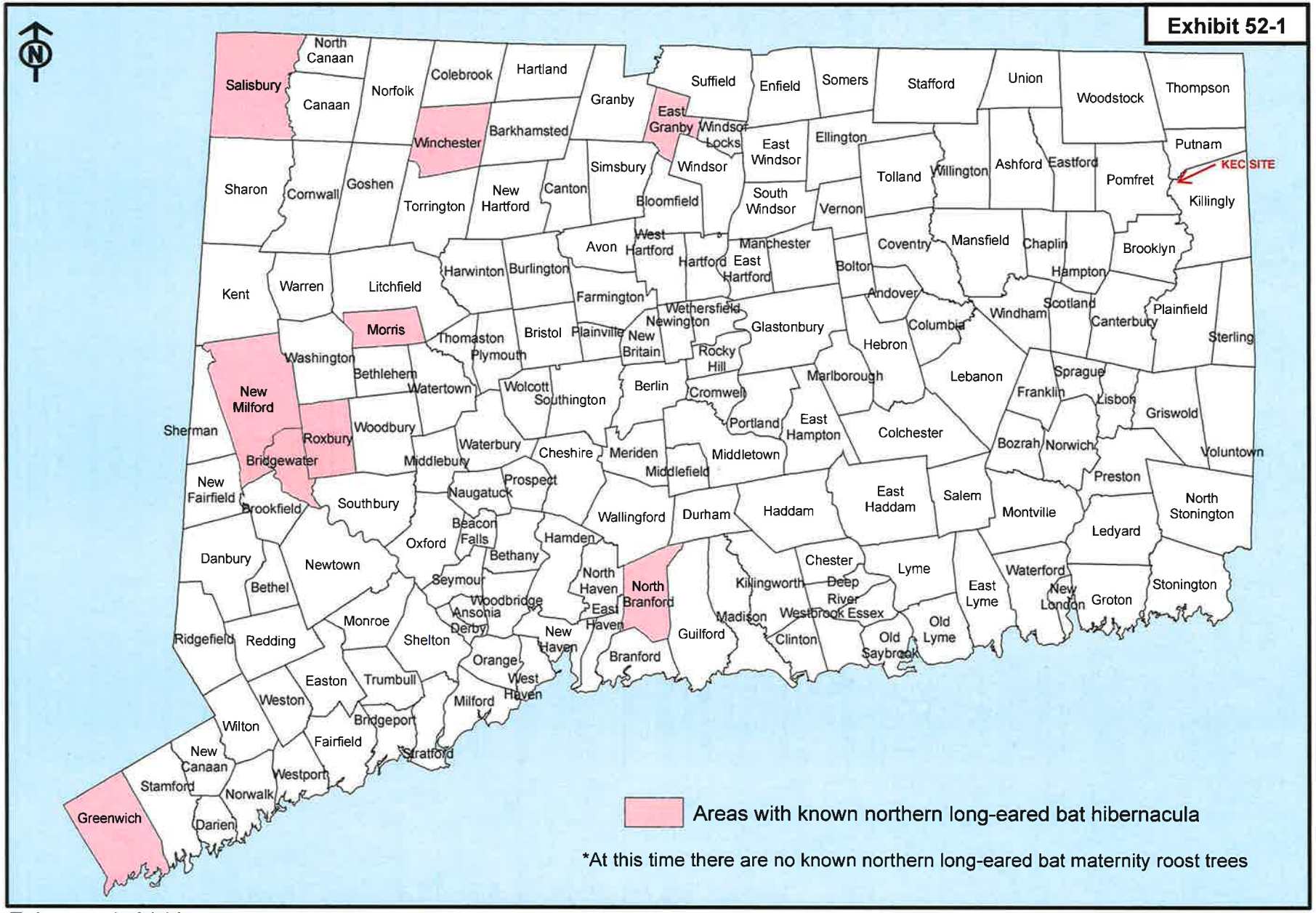
TETRA TECH

Exhibit 49-1
Air Modeling Isopleths:
Annual $PM_{2.5}$

Killingly Energy Center

AERMOD View - Lakes Environmental Software

Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance



February 1, 2016

For information on federal requirements visit http://www.fws.gov/midwest/endangered/mammals/nleb/

Source: Map available http://www.ct.gov/deep/cwp/view.asp?a=2702&q=323464&deepNav_GID=1628

Natural Diversity Data Base Areas

KILLINGLY, CT

June 2016

State and Federal Listed Species & Significant Natural Communities

Town Boundary

NOTE: This map shows general locations of State and Federal Listed Species and Significant Natural Communities. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDB) from a number of data sources . Exact locations of species have been buffered to produce the general locations. Exact locations of species and communities occur somewhere in the shaded areas, not necessarily in the center. A new mapping format is being employed that more accurately models important riparian and aquatic areas and eliminates the need for the upstream/downstream searches required in previous versions.

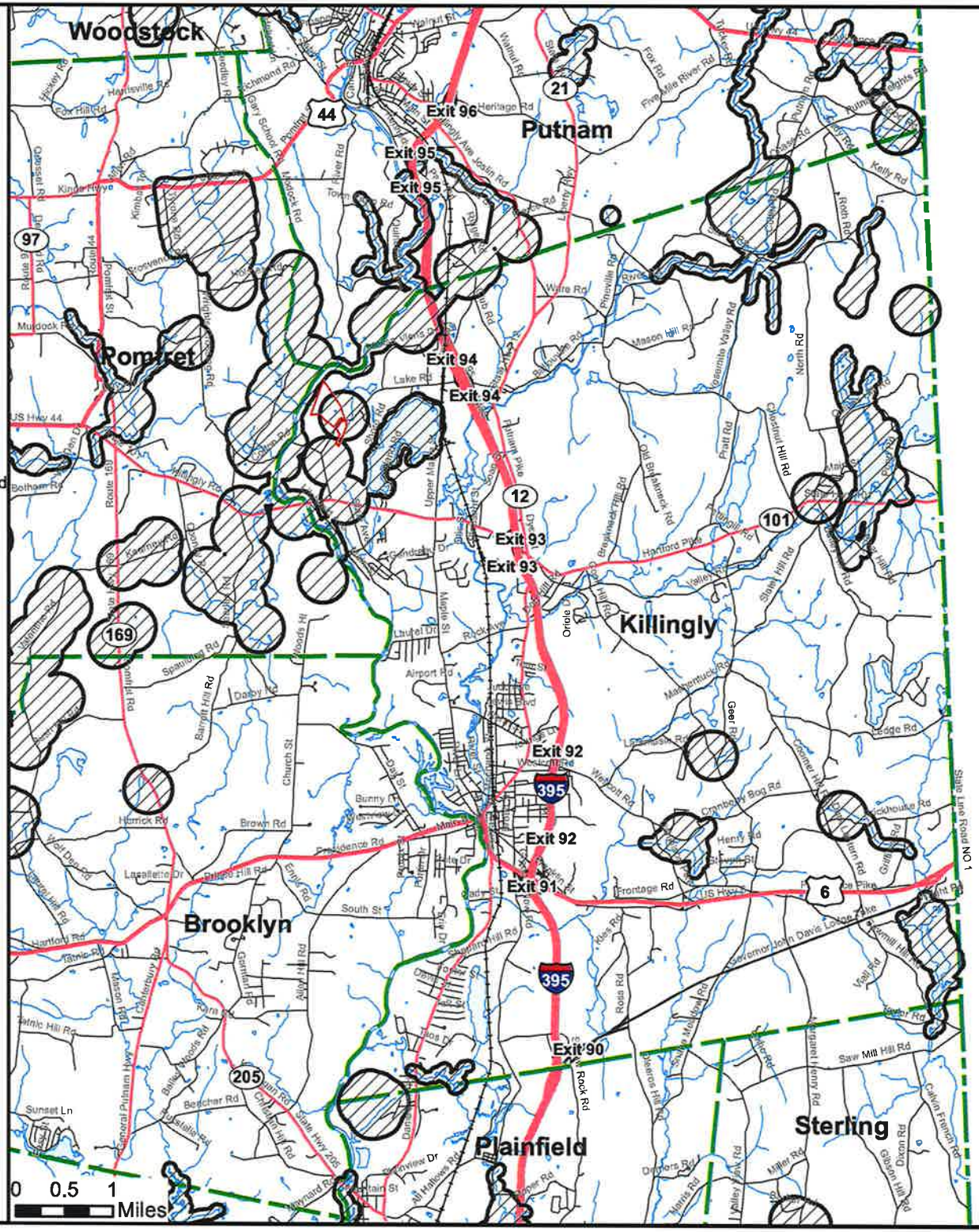
This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas. If the project is within a shaded area there may be a potential conflict with a listed species. For more information, complete a Request for Natural Diversity Data Base State Listed Species Review form (DEP-APP-007), and submit it to the NDDB along with the required maps and information. More detailed instructions are provided with the request form on our website.

www.ct.gov/deep/nddbrequest

Use the CTECO Interactive Map Viewers at www.cteco.uconn.edu to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)
79 Elm St., Hartford CT 06106
Phone (860) 424-3011

Connecticut Department of Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division



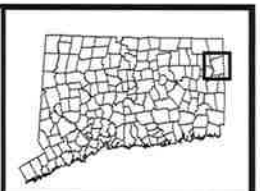


Exhibit 56-1

KEC Site

Exhibit 57-1

From: vonOettingen, Susi <susi_vonoettingen@fws.gov>
Sent: Tuesday, September 27, 2016 1:58 PM
To: Gresock, Lynn
Subject: Re: Killingly Energy Center Bat Monitoring Survey Results

Hi Lynn,

Got your voice message, it was a good reminder for me, sorry! I believe was on annual leave when your email came in and it was lost in the shuffle of all of the other emails. Sometimes sending hard copies (if you get an out of office email) is a good way to be sure I'll see the document. It's a physical reminder, unlike an email buried in amongst hundreds of others!

Anyway, I reviewed the report and have no questions or comments. Makes sense to me.

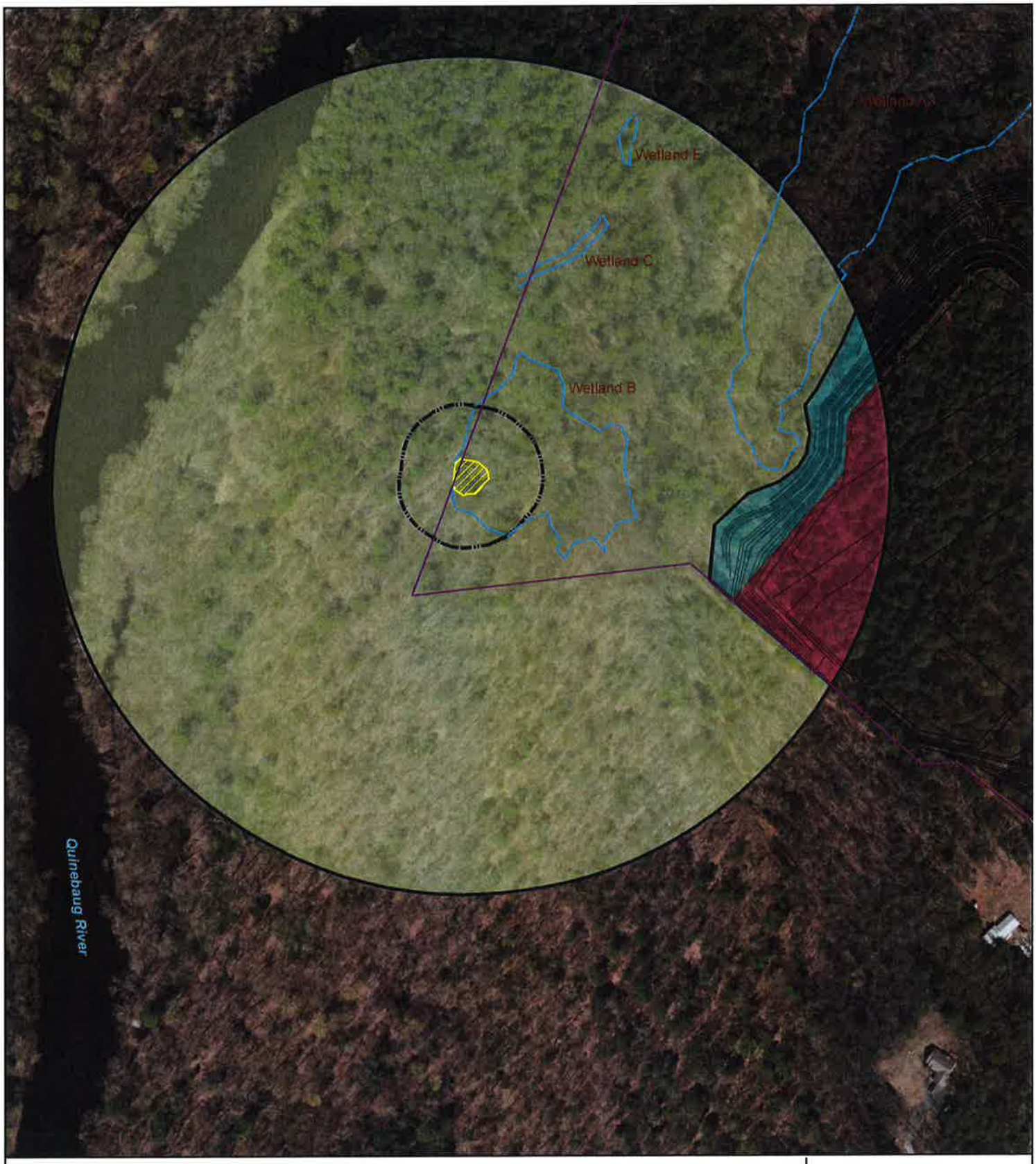
Susi

****
Susi von Oettingen
Endangered Species Biologist
New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301
(W) 603-223-2541 ext. 6418
Please note my new extension.

www.fws.gov/newengland

On Fri, Aug 12, 2016 at 4:29 PM, Gresock, Lynn <Lynn.Gresock@tetratech.com> wrote:

> Attached please find the survey results for the Killingly Energy Center property. We look forward to your review and comment. Thanks!
>
> **Lynn Gresock** | Vice President – Energy Program
> Office **978.203.5352** | Mobile **978.995.4450** | Fax **617.737.3480** | lynn.gresock@tetratech.com
>
> **Tetra Tech** | **Complex World, Clear Solutions™**
> 2 Lan Drive, Suite 210, Westford, MA 01886 | tetratech.com
>
>



Legend

- Generating Facility Site
- Wetland
- Proposed Limits of Grading
- Fenceline
- 100' Vernal Pool Envelope
- 100' - 750' Critical Terrestrial Habitat Area

Critical Terrestrial Habitat Area

- Vernal Pool
- Undeveloped
- Developed
- Construction Disturbance

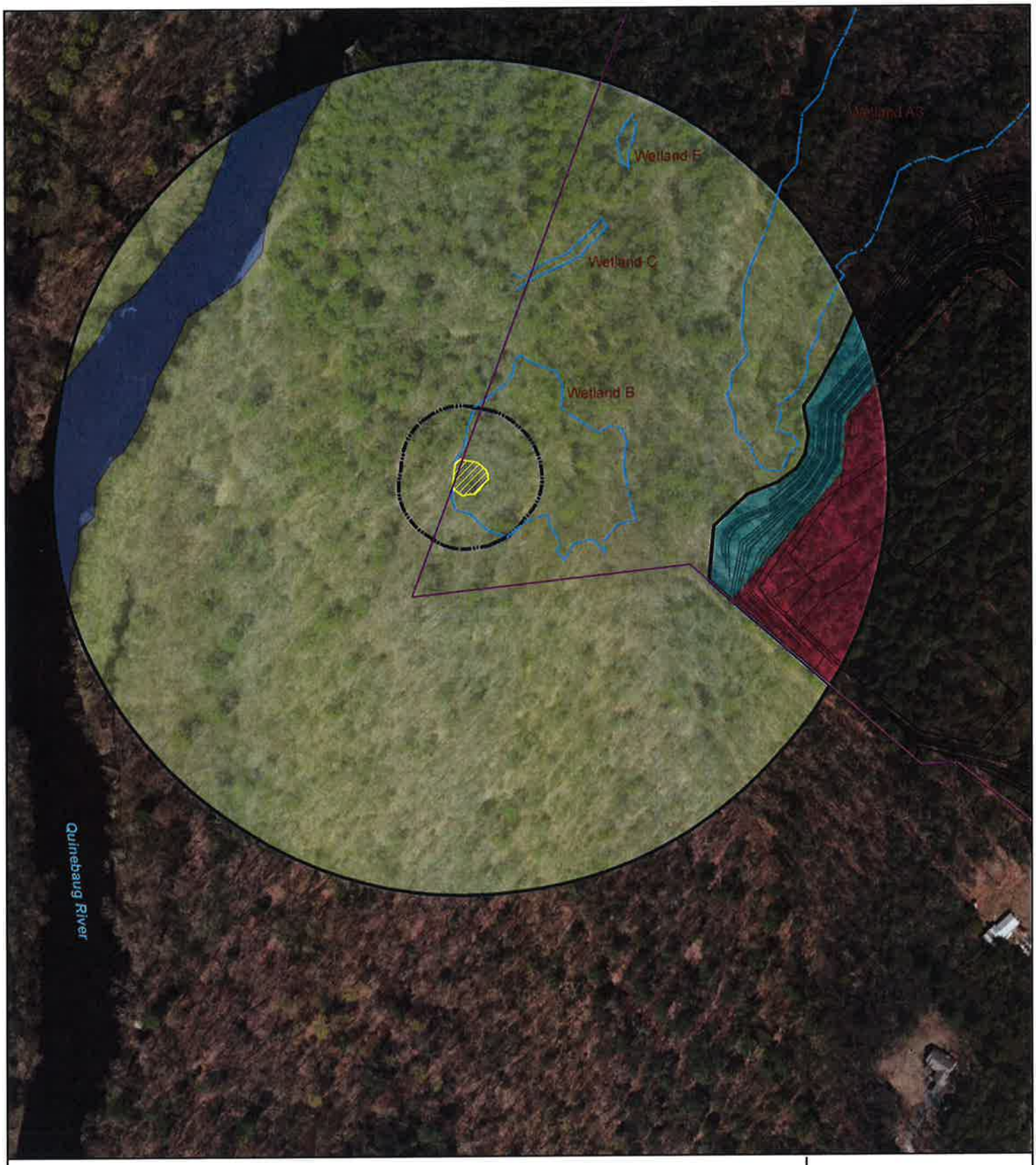
N

0 125 250 Feet

Exhibit 58-1: Vernal Pool Analysis Map

Killingly Energy Center

Z:\UtilServ\Killingly\Reports\Wetlands\VernalPool.mxd



Legend

- Generating Facility Site
- Wetland
- Proposed Limits of Grading
- Fenceline
- Vernal Pool
- 100' Vernal Pool Envelope
- 100' - 750' Critical Terrestrial Habitat Area

Critical Terrestrial Habitat Area

- Developed
- Construction Disturbance

Undeveloped

- Barrier
- Forested

N

0 125 250 Feet

Exhibit 58-2 Vernal Pool Analysis Map

Killingly Energy Center

Z:\UtilServ\Killingly\Reports\Wetlands\VernalPool_Corps.mxd

Exhibit 59-1

Department of Economic and Community Development

Connecticut
still revolutionary

September 6, 2016

Ms. Lynn Gresock
Tetra Tech
2 Lan Drive, Suite 210
Westford, MA 01886

Subject: Killingly Energy Center
180 and 189 Lake Road
Killingly, Connecticut.

Dear Ms. Gresock:

The State Historic Preservation Office (SHPO) has reviewed the Phase I Cultural Resources Reconnaissance Survey Report and National Register of Historic Places (NRHP) Eligibility Evaluation Report prepared by Tetra Tech for the referenced energy facility. SHPO understands that the proposed project area is comprised two lots designated as 180 and 189 Lake Road. The electric generating facility will be constructed within a 63 acre parcel on the western side of Lake Road (#189) and an associated switchyard will be constructed across the street within a 10 acre parcel (#180). The context and background research in the reports demonstrates knowledge of the project area and the fieldwork appears to meet the standards set forth in the *Environmental Review Primer for Connecticut's Archaeological Resources.*

The project areas currently contain a number of above ground features including a historic farmstead, a family cemetery, several building foundations, and stone walls. SHPO understands that construction will avoid the Lippitt Family Cemetery. SHPO recommends that a 50 ft buffer be established around the cemetery to prevent construction related impacts and that this area be marked as a sensitive resource on construction maps. A comprehensive assessment of the historic farmstead included a consideration of the residence, a barn, 3 utilitarian sheds, and dry-laid stone walls. SHPO understands that the farmstead will be demolished to accommodate new construction. This office concurs with the findings of the NRHP Eligibility Evaluation Report that the farmstead does not possess the qualities of significance for individual listing on the NRHP nor is it a contributing element to a potential historic district. The remaining ruinous features also do not possess the qualities of significance for listing on the NRHP.

The proposed project areas are characterized by a variety of environmental conditions with variable archeological sensitivity. As a result, SHPO accepts the stratified systematic subsurface testing methodology employed to comprehensively examine those areas delineated as having a high or moderate archeological sensitivity that may be impacted by the proposed construction. During the archeological reconnaissance survey, shovel tests were excavated systematically at 15 meter intervals within testing blocks. A total of 245 shovel test pits were completed throughout

the project areas; of which 74 shovel test pits contained historic period artifacts. A concentration of artifacts was identified in association with the no longer extant Lippitt house on the eastern side of Lake Road. This cluster of artifacts has been designated State of Connecticut Site 69-103. Please include this site number in copies of the final report for future research. SHPO does not consider this small and common artifact assemblage to possess research potential. As a result, this office concurs that Site 69-103 is not eligible for listing on the NRHP. Scatters of historic and modern materials were also identified throughout the project areas, but they did not merit archeological site status. Based on the information provided to our office, SHPO concurs with the findings of the report that no additional archeological investigations are warranted and that no historic properties will be affected by the proposed energy facility project. This comment is conditional upon the submission of two bound copies of the final reports to our office for permanent curation and public accessibility, as well as an unbound copy of the site form for Site 69-103.

This office appreciates the opportunity to review and comment upon this project. These comments are provided in accordance with the Connecticut Environmental Policy Act and Section 106 of the National Historic Preservation Act. For additional information, please contact me at (860) 256-2764 or catherine.labadia@ct.gov.

Sincerely,

Catherine Labadia
Deputy State Historic Preservation Officer

Exhibit 59-2

Phase I Cultural Resources Reconnaissance Survey

Killingly Energy Center
Town of Killingly, Windham County, Connecticut

August 2016

Prepared for:

NTE Connecticut, LLC
24 Cathedral Place, Suite 300
Saint Augustine, FL 32084

Prepared by:

Tetra Tech, Inc.
1000 The American Road
Morris Plains, NJ 07950

TETRA TECH

Killingly Energy Center
an NTE Energy Project

EXECUTIVE SUMMARY

NTE Connecticut, LLC (NTE) is proposing construction of the Killingly Energy Center (KEC), a 550-megawatt electric generating facility on approximately 73 acres (the Project Study Area) located at 180 and 189 Lake Road in the Town of Killingly, Windham County, Connecticut. The proposed electric generating facility will be located at 189 Lake Road (north of Lake Road) on an approximately 63-acre parcel referred to as the Generating Facility Site. An associated proposed switchyard that will allow for interconnection to the existing 345-kilovolt electric transmission line (located along KEC's eastern boundary) is proposed to be located at 180 Lake Road, on an approximately 10-acre site south of Lake Road, referred to as the Switchyard Site.

This report assesses KEC's potential effect on historic landscapes and archaeological resources in compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the Connecticut Environmental Policy Act, and to support review by the Connecticut Siting Council, in consultation with the Connecticut State Historic Preservation Office (SHPO) and interested federally recognized Native American tribes. As a part of the study, historical and archaeological background research was conducted and archaeological shovel testing completed of the Project Study Area.

During a walkover survey, historic landscape features were observed that had the potential to be sensitive for archaeological sites within the Project Study Area. Aboveground remains of former historic structures were identified at 180 Lake Road. Areas located in proximity to aboveground historic structures were considered sensitive for historic period archaeological sites. Evidence of machine quarrying dating to as recently as the 1990s, and possibly earlier, was observed along the rock ledges and gravel slopes to the west of a large wetland at 189 Lake Road. Level uplands, ridge crests, and terrace-benches around wetlands found on the Project Study Area were also considered sensitive for prehistoric archaeological sites. Moderate to steep slopes within the Project Study Area were not considered sensitive for archaeological testing due to general avoidance of slopes by prehistoric Native Americans, and due to geological processes of slope erosion through prehistoric and historic time periods.

Based upon the results of the Phase IA walkover survey, a Phase IB archaeological reconnaissance survey was conducted for the identified archaeologically sensitive areas, undisturbed, non-wetland areas with slopes of less than 15 percent. In total, 245 shovel tests were excavated. No prehistoric chipped stone or ceramic artifacts were discovered. However, 74 shovel tests contained 332 historic and recent artifacts; the shovel tests usually contained a mixture of materials from the 1800s and 1900s, probably reflecting historic field dumping and more recent trash disposal. Most historic artifacts recovered during shovel testing were scattered in former fields adjacent to Lake Road and standing buildings.

One historic period archaeological site (the Lippitt Farm Site, likely occupied after 1800) was recorded east of Lake Road. Connecticut SHPO has designated the concentration of artifacts identified in association with the no longer extant Lippitt house as State of Connecticut Site 69-103. However, Connecticut SHPO does not consider this small and common artifact assemblage to possess research potential. The Lippitt Farm Site includes a cemetery, fieldstone barn foundations, barnyard stone walls, partial foundations of the Lippitt house, and associated artifacts. High artifact densities of artifacts from the 1800s and 1900s were recovered from disturbed fill around the former Lippitt house and in areas of possible farm outbuildings. Mixed historic and recent artifacts were also associated with a recently demolished chicken coop and in lower frequencies across former fields. Scattered artifacts from mixed historic time periods and other historic landscape features recorded on the Project Study Area were not considered archaeological sites.

KEC's development plans will avoid construction impacts on the Lippitt cemetery. Because of ground disturbances observed in shovel tests in and around the partially preserved foundations of the Lippitt house, the site is recommended as not eligible for the National Register of Historic Places (NRHP). No additional archaeological investigations are recommended at the KEC property.

A dwelling is located at 189 Lake Road that is proposed to be demolished during KEC construction. This residence, most likely built between 1869 and 1893, is an example of Italianate architecture. An evaluation has been completed by a qualified architectural historian that has determined the structure is not eligible for inclusion on the NRHP (Tetra Tech 2016).

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ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
AD	Anno Domini
amsl	above mean sea level
APE	area of potential effects
BP	before present
CEPA	Connecticut Environmental Policy Act
C.G.S.	Connecticut General Statues
cm	centimeters
CSL	Connecticut State Library
the Generating Facility Site	approximately 63-acre site located at 189 Lake Road
GPS	global positioning system
HRI	Historic Resource Inventory
I-395	Interstate 395
KEC	Killingly Energy Center
the Lippett Farm Site	a historic period archaeological site cemetery, fieldstone barn foundations, barnyard stone walls, partial foundations of the Lippitt house, and associated artifacts
NHPA	National Historic Preservation Act of 1966
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTE	NTE Connecticut, LLC
Phase IA investigation	a walkover on the approximately 73 acres located at 180 and 189 Lake Road in the Town of Killingly, Windham County, Connecticut
Phase IB investigation	subsurface shovel testing on the approximately 73 acres located at 180 and 189 Lake Road in the Town of Killingly, Windham County, Connecticut
the Project Study Area	approximately 73 acres located at 180 and 189 Lake Road in the Town of Killingly, Windham County, Connecticut
SHPO	State Historic Preservation Office
the Switchyard Site	approximately 9-acre site located at 180 Lake Road
Tetra Tech	Tetra Tech, Inc.
USGS	United State Geological Survey
WPA	Work Progress Administration

1.0 INTRODUCTION

NTE Connecticut, LLC (NTE) is proposing to construct the Killingly Energy Center (KEC), a 550-megawatt electric generating facility to be located on approximately 73 acres (the Project Study Area) at 180 and 189 Lake Road in the Town of Killingly, Windham County, Connecticut (Figure 1). KEC will be developed in a mixed industrial and residential area in the northwestern portion of the town. The KEC property is located less than 0.5 mile east of the Quinebaug River, approximately 0.5 mile west of Alexander Lake, and approximately 1 mile west of the Five-Mile River and Interstate 395 (I-395). KEC directly responds to the need for expanding the energy base in the region by constructing a cost-effective and environmentally responsible electric generation facility (Figure 2).

The proposed electric generating facility will be located at 189 Lake Road (north of Lake Road), on an approximately 63-acre parcel referred to as the Generating Facility Site. An associated switchyard that will allow for interconnection to the existing 345-kilovolt electric transmission line (located along KEC's eastern boundary) is proposed to be located at 180 Lake Road, on an approximately 10-acre site south of Lake Road, referred to as the Switchyard Site.

Tetra Tech, Inc. (Tetra Tech) has assessed KEC's potential effects on historic landscapes and archaeological resources in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), the Connecticut Environmental Policy Act (CEPA) (Connecticut General Statutes [C.G.S.], Section 22a, Chapter 439), and to support review by the Connecticut Siting Council, in consultation with the Connecticut State Historic Preservation Office (SHPO) and interested federally recognized Native American tribes. Tetra Tech conducted historical and archaeological background research for the Project Study Area, including review of archaeological and architectural site files and reports at the SHPO office in Hartford; at the Thomas J. Dodd Research Center at the University of Connecticut, Storrs; and at the Connecticut State Library in Hartford. Local repositories were visited, including the Killingly Historical Center, the Killingly Public Library, Town of Killingly Clerk's Office, Assessor's Office, and Planning & Development Office, all in Danielson, Connecticut. Online research was also conducted for historic maps, local histories, and other information pertaining to the Project Study Area's environment, prehistory, and history. The KEC property was walked to observe landforms, aboveground evidence for archaeological sites, historic landscape features, and evidence for prior ground disturbances affecting archaeological sensitivity prior to conducting the Phase IB archaeological investigation. All aspects of background research and field investigations conformed to SHPO professional standards and guidelines (Poirier 1987).

Following this Introduction, Section 2.0 describes environmental and cultural contexts of the Project Study Area. Section 3.0 describes field and laboratory methods for the study. Section 4.0 summarizes findings from a walkover survey and shovel testing. Section 5.0 presents recommendations resulting from the Phase IB archaeological investigation. Section 6.0 lists references cited in the report, followed by figures, tables, and photographs. Appendix A presents soil descriptions from shovel testing. Appendix B presents a descriptive catalog of artifacts recovered during shovel testing. Appendix C present SHPO Historic Resource Inventory forms for the Lippitt Farm Site, and the Sorrow house architectural resource form (McCahron 1990). Appendix D presents professional qualifications of Dr. Stuart A. Reeve and Sarah Haugh, authors of the report. The historic architectural review completed upon recommendation of the Phase I survey is provided as a separate report (Tetra Tech 2016).

2.0 ENVIRONMENTAL AND CULTURAL CONTEXTS

Background research was undertaken regarding prehistoric period Native Americans and historic period people within the region surrounding the Project Study Area to inform the survey process. Environmental and cultural contexts help evaluation of archaeological and historic resources, according to eligibility standards for the National Register of Historic Places (NRHP) (Townsend et al. 1993).

SHPO site files, survey reports, and historic maps provide general evidence for past settlement patterns and archaeological site types potentially expected within the Project Study Area. While review of SHPO archaeological site files and survey reports revealed no previously identified sites within 1 mile of the Project Study Area, within 2 miles of the Project Study Area, the site files contain records of 14 archaeological sites in the Town of Killingly and seven archaeological sites in the Town of Pomfret (Table 1). These include 13 prehistoric archaeological Native American sites, five historic Euro-American archaeological sites, and three archaeological sites with both prehistoric and historic components.

2.1 ENVIRONMENTAL SETTING

The Project Study Area is located in the Eastern Uplands region of northeastern Connecticut, between the Quinebaug River to the west and Alexander Lake to the east on low hills and level uplands. Elevations range from approximately 215 feet above mean sea level (amsl) closest to the east bank of the Quinebaug River in the northwest corner of the Generating Facility Site, to approximately 385 feet amsl in the southeast corner of the Switchyard Site (Figure 1). Several large wetlands totaling 12.3 acres occupy low-lying areas in the north-central portion of the Project Study Area at the Generating Facility Site.

The Project Study Area is underlain by felsic gneiss rock of the Quinebaug Formation dating to the Middle Ordovician Period, approximately 470 million to 458 million years ago. This bedrock is part of the Iapetos Terrane, an ancient seabed that was crushed, metamorphosed and elevated by collision of the African and North American continental plates approximately 250 million years ago (Rogers 1985; Bell 1985:148-150; Killingly Planning and Zoning Commission 2010). Over the succeeding eons, erosion and glaciation removed younger overlying geological formations.

Modern landforms were shaped by repeated glaciations during the Pleistocene Epoch between 2 million and 12,000 years before present (BP). Glacial advances scoured uplands and dug deep glacial kettle lakes, including Alexander Lake. Glaciers retreated after 17,000 BP in the vicinity of Killingly, leaving thick mantles of rocky till on uplands. Glacial-retreat lakes formed in valleys of the Quinebaug River and Five Mile River, depositing gravel, sands, silt, and clay on lowlands (Killingly Planning and Zoning Commission 2010). Following glacial retreat, vast wetlands covered lowlands and depressions, which continued to drain as a result of river and stream down-cutting through the Holocene Epoch of human occupations from 12,000 BP to the present. Most modern soils (Natural Resource Conservation Service [NRCS] 2008) derive from late glacial deposits of silt, sand, and gravel that were often very rocky (Figure 3), including the following soils mapped within the Project Study Area:

- Hollis, Chatfield, Canton, and Charlton series soils derived from rocky tills found on uplands and bedrock (map codes 61B, 62C, 73C, 73E, 75C, and 75E);
- Hinkley, Sutton, and Gloucester series gravely and sandy soils derived from glacial outwash found on ridges overlooking the Quinebaug River (map codes 38C, 52C, and 58C);
- Ridgebury, Leister, and Whitman soils derived from glacial retreat lakes found on level uplands (map code 3); and
- Walpole, Ninigret, Tisbury, and Rippowan series soils found in low-lying wetlands and floodplains (map codes 13, 21A, and 103).

As glaciers melted, freshwater fish expanded through networks of retreat lakes, thus stocking freshwater fish in modern upland lakes and rivers (Whitworth 1996). As the climate continued to warm, tundra and boreal forests followed the retreating ice northward. Hardwood forests began migrating into the Connecticut uplands by 13,500 BP, with forest closure by approximately 9,500 BP (McWeeney 1999; Lavin 2013:41). Now extinct megafauna, including mammoths, mastodons, musk ox, horse, ground sloths, caribou, and other mammals roamed the post-glacial tundra and boreal forest savannas until approximately 10,000 BP, replaced by modern fauna dominated by deer, bears, wolves, small mammals, and other taxa (Lavin 2013:39). Accompanying glacial melt, rising seas flooded Long Island Sound and coastal rivers. Anadromous fish spawning patterns may have become established by 8,000 BP, providing prodigious and predicable harvests of ocean fish far inland to the limit of high falls along rivers and streams (Dincauze 1976; Jones 1999; Lavin and Banks 2008).

2.2 PREHISTORIC CULTURAL CONTEXTS

The prehistory of Connecticut is characterized by three major chronological stages that presumably corresponded to broad adaptive shifts of changing natural and cultural conditions (Ritchie 1969; Reeve and Forgacs 1999; Lavin 2013). These are the Paleo-Indian Stage (12,000 to 9,500 BP), Archaic Stage (9,500 to 2,700 BP), and Woodland Stage (2,700 to 500 BP). The Archaic and Woodland stages are further subdivided into Early, Middle, and Late periods, based on differences among chronologically diagnostic artifacts such as projectile points, ground and chipped-stone technologies, and/or ceramic styles during the Woodland Stage.

Throughout most of the prehistoric cultural period, Native Americans subsisted by hunting, gathering plants, and fishing. We assume that Native Americans both lived and worked in close proximity to highly productive food resources. Most mammals, birds, plants, fish, and other resources became available at various times from spring through autumn, probably prompting relocations of residential sites. Many archaeological sites contain artifacts from several cultural periods, indicating reoccupation of highly productive environments over thousands of years. Surplus harvests of many resources were required to prevent starvation over cold New England winters.

Paleo-Indian fluted and lanceolate points (13,000 to 9,500 BP) have been recovered rarely in northeastern Connecticut (Lavin 2013:42). Paleo-Indians are often associated with hunting large, now-extinct, big herbivores, such as mammoths and mastodons (Lavin 2013). However, the Hidden Creek Site (Site 72-163) at Cedar Swamp in the Town of Ledyard, Connecticut, south of the Project Study Area, contained unfluted lanceolate points with radiocarbon dates indicating a Paleo-Indian focus on wetland resource areas. During the Early Archaic period (9,500 to 8,000 BP), pit houses at the Hidden Creek site contained plant remains of possible root crops harvested from adjacent swamps and wetlands (Jones 1999; Lavin 2013). No Paleo-Indian or Early Archaic sites or artifacts have been reported in the Project Study Area or vicinity (Table 1).

The Middle Archaic period (8,000 to 5,000 BP) marked major increases in archaeological sites along rivers and streams across New England, probably coincident with the development of anadromous fish runs in major river systems (Dincauze 1976; Jones 1999; Forrest 1999; Lavin and Banks 2008). Fish spawning runs of Atlantic salmon, shad and alewife probably extended along the Quinebaug River to the Great Falls in the Town of Putnam, Connecticut, approximately 3 miles north of the Project Study Area. The LeBeau Site (Site 069-095), located below Great Falls and approximately 5 miles south of the Project Study Area, contained a stone fish weir and an adjacent campsite with Middle Archaic Neville points. Late Archaic (5,000 to 2,700 BP) Narrow Stemmed points and steatite bowl fragments, as well as Early Woodland (2,700 to 2,000 BP) Vinette 1 pottery were also found at the LeBeau Site. Artifacts found suggested repeated Native American occupations at this fishing location for more than 6,000 years (Lavin and Banks 2008). The LeBeau Site has been designated as a state archaeological preserve. Closer (less than 2 miles) to

the Project Study Area, a Neville point was recovered from the Lake Road Lateral Site (no site number) in uplands northeast of the Project Study Area (Ruggiero and Millis 1998b), and at Site 112-003 east of Durkee Creek in the Town of Pomfret (McBride and Soulsby 1990).

Across Connecticut, the number of archaeological sites increased dramatically during the Late Archaic period, suggesting increasing Native American populations between 5,000 and 2,700 BP (Reeve and Forgacs 1999). In the Project Study Area vicinity, a Wading River stemmed point was recovered from Site 069-002, near the east bank of the Quinebaug River less than 2 miles north of the Project Study Area (Ruggiero and Millis 1998a). A Narrow Stemmed point was recovered at Site 112-008 near the west bank of the Quinebaug River, less than 2 miles south of the Project Study Area (McBride 1992; McBride and Soulsby 1992). These sites suggest the importance of the Quinebaug River for subsistence and travel during that period.

The Woodland Stage is marked by the technological innovations of ceramics, the introduction of new projectile point styles, and apparent new settlement patterns. Within two miles of the Project Study Area, Site 112-008 in the Town of Pomfret, Connecticut is associated with Early Woodland Vinette 1 pottery (McBride 1992; McBride and Soulsby 1992). Algonquin-speaking populations, ancestral to historic tribes, migrated eastward through Connecticut during the Middle Woodland period (2,000 to 1,000 BP), associated with Point Peninsula pottery and Fox Creek points (Fiedel 1990). A Fox Creek point was recovered from Site 069-002, approximately 1 mile northeast of the Project Study Area (Ruggiero and Millis 1998b). The Late Woodland (1,000 BP to Anno Domini [AD] 1,614) was a period of major cultural change across Connecticut. Tropical cultigens (maize, beans, and squash) provided new subsistence resources before 1,000 BP (Bendremer et al. 1991; Reeve and Forgacs 1999; Little 2002). In addition, the bow and arrow may have replaced atlatl-spear-hunting technologies during the Middle or Late Woodland periods in association with the appearances of Jack's Reef and triangular Levanna points (Blitz 1988). Increased hunting efficiency and overkill of local deer populations might have increased the need for agricultural surpluses and increasingly complex tribal social organization, warfare, and village settlements. No Late Woodland sites or artifacts have been reported within 2 miles of the Project Study Area.

In summary, most prehistoric period sites recorded within 2 miles of the Project Study Area (Table 1) were camps, while one site was a lithic scatter and one site was an unknown site type. Prehistoric sites in the Project Study Area vicinity were associated with a diversity of lithic types used for stone tools, including quartzite, quartz, chert, jasper, rhyolite, argillite, gneiss, and other stone materials, possibly reflecting broad territorial ranges or trade among Native peoples. Pottery, bone, and botanical remains have also been reported at nearby prehistoric sites. Inspection of SHPO site files indicated that the locations of most nearby prehistoric sites were near rivers, streams, or wetlands, and were on relatively level ground surfaces. These environmental characteristics probably also apply to potential prehistoric site locations proximate to the Project Study Area.

2.3 HISTORIC CULTURAL CONTEXTS

Sustained European contacts with Native peoples began in AD 1614 when Dutch traders mapped the coast of Long Island Sound and traded European goods for furs along the Connecticut River (Cici 1990). European trade and introduced diseases caused increasing conflicts among Algonquin-speaking groups. The area now known as Killingly was the southern frontier of the Nipmuc Tribe, whose territory extended farther north into Massachusetts (Griswold 1930). The Mohican Tribe controlled territories west of the Quinebaug River. The Pequot were to the south near the confluence of the Quinebaug River with the Thames River. The Narragansett Tribe resided to the east of Killingly in Rhode Island. Many Nipmuc place names have survived in the Project Study Area vicinity (Coolidge 1997). The *Quinebaug* River also refers to the southernmost band of Nipmuc, who occupied a village near the river's confluence with the Five Mile River. The Great Falls of the Quinebaug River, approximately 3 miles north of the Project Study Area, were

known as *Acquiunk*. The Five-Mile River was named *Asswaga*. Alexander Lake was named *Mashipaug*. A Nipmuc legend referred to a great religious gathering on the island rising from Alexander Lake (Aleman no date). The Nipmuc hamlet of *Attawaugan* was along the Five-Mile River northeast of Alexander Lake, later becoming an industrial center along State Route 12 (Griswold 1930).

The Nipmuc were early allies of the English, sending corn to starving settlers at Massachusetts Bay Colony during the 1630s (Connole 2007). In 1635 and 1636, English settlers passed through Nipmuc territory along the Old Connecticut Path, north of the Project Study Area, to settle new towns in the Connecticut River valley (Griswold 1930). During the Pequot War of 1637, the Nipmuc were allied with the English, Mohicans, and Narragansett, defeating the Pequots and opening Connecticut to English settlement (McBride 2016). Following the Pequot War, the Nipmuc accepted Christian missionaries in several "Praying Towns" in Massachusetts (Connole 2007). In 1653 and 1659, John Winthrop, Jr. secured the first deeds from Nipmuc chiefs for the "Quinebaug Country" in what is now Windham County. However, in 1675, many Nipmuc joined the Wampanoag to fight the English during King Phillip's War, leading to English settlement of northeastern Connecticut (Weaver et al. 1976:8).

The earliest English settlements in Killingly occurred north of Alexander Lake (Mashipaug Lake), including areas now in the Town of Putnam (Larned 1874 1:161-162). In 1695, 1,700 acres east of the Quinebaug River (possibly including portions of the Project Study Area) were granted to James Fitch, Reverend Thomas Buckingham, and others. In 1703, Reverend Buckingham sold his portion to Captain John Sabin, who built a farm for his daughter and son-in-law Joseph Leavens. Leavens' brothers James and Peter also bought land in the area. The Sabin farm, north and south of Lake Road, probably remained in the family through the eighteenth century; this land possibly includes the Project Study Area. The complete chain of title for KEC properties has not been compiled from the 1700s and 1800s, due to vague land transfers within family estates and lack of survey data on most early deeds.

In 1703, Lieutenant Peter Aspinwall purchased a 200-acre grant from surveyor Caleb Stanley, bounded to the southeast by Alexander Lake and extending westward to the Buckingham tract, possibly also including portions of the Project Study Area. In 1704, Aspinwall sold Stanley's tract to John Allen of Marlborough, Massachusetts, who built "a tenement of housing and other accommodations." The Allen farm at 92 Lake Road, south of the Project Study Area, may have remained in the family until 1798, when it was sold to John Day (Larned 1874 1:263; Killingly Land Records 14:349). John Day became a leading industrialist during the early nineteenth century.

By 1708, about 30 families resided east of the Quinebaug River. That year, the Connecticut General Court established the Town of Killingly. In 1709, the Town first sought improvements to highways connecting to Providence, Rhode Island; Boston, Massachusetts; and Norwich, Connecticut, including earlier versions of State Routes 12 and 6 (Larned 1874 1:165). In 1710, the Town hired Reverend John Fisk of Braintree, Massachusetts as its first minister. The first meeting house was south of the modern Killingly-Putnam line, east of State Route 21. Lake Road, to the north and west of Alexander Lake, was probably among the earliest highways in Killingly, directing people and goods from the Quinebaug River and local farms to the Killingly meeting house and more distant markets.

In 1721, Nell Ellick Saunders – a Scottish trader later called Alexander – purchased 3,500 acres east of Alexander Lake. Nell Alexander I died in 1738, but seven generations of his family continued purchasing land around the lake, including land at 180 Lake Road within the Project Study Area (Aleman no date; Killingly Land Records 45:413). By 1771, grandson Nell Alexander III was producing bricks along the east side of the lake, enhancing the family's fortunes (Coolidge 2005).

In 1799, a new road and bridge were laid out from Captain John Day's farm "through lands of Carpenter, Alexander, Kelly, Leavens, Howe, Whipple, and Warren" (Larned 1874 2:249). The bridge and road were improved following creation of the Connecticut and Rhode Island Turnpike, chartered in 1802, now State Route 101 (Wood 1919).

Improved transportation led to new commercial undertakings, primarily in textile manufacturing. The Stone Chapel Manufacturing Company was built around 1810 along the Five-Mile River at Attawaugan, partly owned by the Alexander family. About that same time period, the Daniels Factory was built on the lower Five-Mile River, in an area of Killingly now known as Danielson (Larned 1874 2:403, 431; Dowd and Ward 1989:15). The Daniels Village mill and surrounding buildings were destroyed by fire in the 1860s, but the ruins and archaeological remains have been listed on the NRHP.

In the 1830s, wealthy landowner John Day constructed a dam and canal from Alexander Lake, and storage ponds along the Five-Mile River to drive a woolen mill, cotton mill, sawmill, and blacksmith shop. The village of Dayville developed around the factory and along the Connecticut and Rhode Island Turnpike. The Dayville Historic District is approximately 1.5 miles southeast of the Project Study Area (Clouette and Johnson 1988). Day's mills and other local industries were aided during the 1830s by the construction of the Norwich and Worcester Railroad (Clouette and Johnson 1988). The Dayville station became a central shipping point for the importation of cotton for mills in surrounding villages, and the export of local manufactured goods. The Alexander brick factory also expanded, including construction of a railroad siding along the Norwich and Worcester Railroad main line north of Dayville (Coolidge 2005). Unfortunately, most of Killingly's numerous mills and factories were forced to close or retool during the Great Depression, and many were destroyed by fires, floods, or abandonment.

Among the early residents of the village at Dayville was Moses Lippitt from Cranston, Rhode Island, a member of one of that state's early textile manufacturing families (Arnold 1890:113). In 1801, Moses Lippitt bought 127 acres and a highway (presumed to be Lake Road) from Caleb and Chloe Sheldon of Killingly, probably comprising much of the Project Study Area; this included all lands Sheldon had formerly purchased from John Day, Prudence Alexander, Phillip Richmond, Susannah Seaver, and Simon Cotton (Killingly Land Records 16:72; Weaver 2016). Complete chains of title and locations for all of the composite lots have not been investigated. Moses Lippitt probably built a new house at 180 Lake Road, and soon established the family burying ground. His wife Anstis (Holden) Lippitt and daughter Phebe died in 1804, and daughter Betsey died in 1808 (Combs 2000). Moses died in 1844, and probably was also buried in the family cemetery. In 1847, son Nathaniel Lippitt sold the property to Luther D. Alexander, mentioning "the family burying ground south of the house which same is to and remain unmolested either by cultivation or otherwise by said Lippitts erecting and maintaining a suitable and proper enclosure around the same (Killingly Land Records 35:30)."

The 1856 Woodford map (Figure 4) provides the earliest detailed view of the Project Study Area, and dwellings along Lake Road. Charles Gleason owned the eighteenth-century Allen-Day farm at 92 Lake Road. A dwelling owned by L. (Luther) Alexander, probably a tenant house on the former Lippitt Farm, was shown at 180 Lake Road within the Project Study Area, now no longer standing. Luther Alexander resided in a mansion in Dayville that was destroyed by fire in 1939 (Coolidge 2009). No structure was shown on the map at the 189 Lake Road location. A dwelling owned by P. Sabin probably was located at 220 Lake Road, now demolished, under the currently existing Connecticut Light and Power transmission line. A dwelling owned by A. J. Sabin was located at 293 Lake Road, now demolished.

The 1869 Gray map (Figure 5) provides additional details regarding the Project Study Area and vicinity. The Charles Gleason dwelling was shown at 92 Lake Road. A dwelling owned by Luther Alexander was shown either at 180 or 220 Lake Road, and is now demolished. The Gray map did not show a structure at the 189 Lake Road location. The former Sabin farm contained a tenant house, possibly at 251 Lake Road, and the dwelling of Samuel G. Appleton at 293 Lake Road, that is now demolished.

The 1893 United States Geological Survey (USGS) Putnam quadrangle first showed a structure at the 189 Lake Road location within the proposed Project Study Area (Figure 6). Earlier dwellings at 180 and 220 Lake Road were not shown, probably indicating demolition or abandonment of the structures at the time of mapping. Based on evidence from historic maps, the extant dwelling at 189 Lake Road (currently owned

by Geoffrey Sorrow) was probably built between 1869 and 1893. This is somewhat different from the 1908 construction date listed by the Killingly Assessor, or the 1865 date reported on the Historic Resource Inventory (HRI) form submitted by the Town to the SHPO (Appendix C). The HRI form for the dwelling at 189 Lake Road also provided information about architectural style and more recent owners, with references to deeds in the Killingly Land Records:

> "Stylistically similar to the house built in 1866 at 56 Attawaugan Crossing Road, this Italianate dwelling is built on property historically known as the Sabin Farm, and if the house is from this same period as the Perry House, it was constructed for Dwight Sabin. He sold it and 55 acres to Samuel G. Appleton in 1868 (45:409). An earlier house that stood on the farm is shown as the dwelling of J. Sabin on the 1856 atlas map. The property passed to the Chase family, and in 1900 Crowell Chase sold it to Thomas Dunn, father of John Dunn (60:259). After Thomas Dunn's death about 1921, the house passed to his widow, Eliza, and then to son John. Mr. Dunn raised wards of the state. The house is one of the few examples of the Italianate mode in the rural portions of town. It succeeded the Greek Revival mode in popularity, but it was never that common in Killingly which hung onto the Greek Revival style well after it passes from fashion nationally" (McCahon 1990: HRI structure 143).

In 1934, the Works Progress Administration (WPA) conducted the *Connecticut Headstone Inscription Survey*, also known as the Charles R. Hale Collection (Hale 1937). Seventy cemeteries were inventoried in Killingly. Cemetery Number 69 was identified as "Field stones only, North Alexander Lake, Dunn Farm" (Hale 1937:389). No published sources identified this cemetery's precise location, age, or names of interred individuals. However, as noted above, town deeds and vital records identified that the Lippitt family cemetery was located at 180 Lake Road.

During 1934, the Fairchild Aerial Survey was conducted across Connecticut. These aerial photographs have been posted online in the Connecticut State Library (CSL) digital collections (CSL 1934: photograph 1125). Figure 7 shows the location of the Lippitt cemetery and two possible agricultural outbuildings at 180 Lake Road. The dwelling at 189 Lake Road, stone walls and agricultural landscape features are also visible.

During the early 1890s, the Alexander family began developing Alexander Lake as a resort destination, including Wildwood Park to the east of the Project Study Area. Trolley service by Peoples Tramway opened in 1900, with a stop at Alexander Lake. The Connecticut Electric Railway was established in 1902, linking with other lines to bring visitors from as far as Providence, Rhode Island and Norwich, Connecticut (Weaver et al. 1976:152). The *Cultural Resource Plan, Killingly, Connecticut* identified instances of shore communities around Alexander Lake, less than 0.5 mile from the Project Study Area. These shore communities include areas containing significant cultural resources (Andrews and Will 1993:67). However, Lake Road and the Project Study Area were not identified as areas of historical or scenic priorities by the plan (Andrews and Will 1993; Killingly Planning and Zoning Commission, 2010).

Recent residential and industrial/commercial development in the Project Study Area vicinity can be summarized from information provided by the Killingly Assessor (2016). Table 2 presents Assessor's dates of construction for 40 buildings on 48 lots (totaling 671.8 acres) with addresses along Lake Road. Only two buildings predate 1900, residences located at 92 and 251 Lake Road. Between 1900 and 1949, four buildings were built, including residences located at 86, 110, 189, and 293 Lake Road. Substantial development occurred between 1950 and 1999, with construction of 17 residences, three outbuildings, and eight industrial/commercial buildings. From 2000 to 2016, four residences, one outbuilding, and one office building were constructed on Lake Road. In addition, eight lots remain as undeveloped land, totaling 133.1 acres. The undeveloped land includes 30 acres of designated permanent open space along the Quinebaug River, owned by the Wyndham Land Trust that are adjacent to the Project Study Area at 189 Lake Road (Killingly Assessor 2016), between the Project Study Area and the Quinebaug River.

SHPO archaeological site files have identified a diversity of historic period archaeological sites recorded within 2 miles of the Project Study Area (Table 1). Four industrial and two bridge sites were identified close to streams and water features. These sites included ruins of dams, mill races, foundations, and intact bridge structures. An unrecorded farmstead was also identified and included structural foundations, a stone-lined well, road traces, and stone walls. One artifact scatter, not associated with former structures, was also identified and may be a result of past refuse dumping.

Figure 8 illustrates features associated with past agriculture and other historic land uses within the Project Study Area. At the Switchyard Site, historic landscape features include the Lippitt cemetery, old foundation, barn, demolished chicken coop, stone walls and trash piles. At the Generating Facility Site, landscape features include the standing Sorrow house, utility sheds, a collapsing summer house, well shed and stock pond, a walled springhead, drainage ditches, campfire hearths, stone walls, dirt farm roads, numerous trash piles, and areas of rock quarrying disturbances. Historic landscape features were examined for archaeological remains; structures that were obviously recent were not tested for archaeological sites.

3.0 FIELD AND LABORATORY METHODS

3.1 SURVEY OBJECTIVES

The goal of the Phase I reconnaissance investigation was to identify cultural resources within the area of potential effects (APE) associated with construction of KEC that might be eligible for listing in the NRHP, including aboveground structures and belowground archaeological sites. Research objectives focused on gathering sufficient information on each resource to be able to recommend whether further cultural resource investigations may be necessary to evaluate NRHP eligibility.

Background research suggested that the Project Study Area could have been occupied by Native Americans. Prehistoric sites typically were located close to wetlands and streams, and were especially expected near the Quinebaug River on the Generating Facility Site. Prehistoric sites are less likely to have been located on, or preserved in, areas with slopes greater than 15 percent (Poirier 1987).

Historic references suggest that areas in the vicinity of Lake Road were occupied during the 1700s, and farming continued through the nineteenth and early twentieth centuries. Moses Lippitt probably built a dwelling and family cemetery at 180 Lake Road after purchasing the land in 1801. Farm outbuildings were probably associated with the former Lippitt Farm. The Lippitt dwelling was demolished before 1893 (Figures 5 and 6). The dwelling at 189 Lake Road was probably built between 1869 and 1893, and farming, rock quarrying and residential activities continued through the twentieth century.

3.2 FIELDWORK METHODS

Archaeological field investigations were conducted in two stages: a Project Study Area walkover (Phase IA investigation); and subsurface shovel testing (Phase IB investigation). All aspects of field investigations conformed to SHPO professional standards and guidelines (Poirier 1987).

A walkover of the Project Study Area was conducted on March 16, 2016 to observe landforms, slope and soil characteristics, wetland areas, aboveground evidence of archaeological sites, historic landscape features, and evidence of prior ground disturbances (Figure 8). This walkover helped plan recommendations for archaeological subsurface testing. Snows had melted, vegetation had not yet sprouted, and skies were cloudy, providing excellent views of the ground surfaces and forest understories. Ground surfaces were obscured by vegetation or forest litter, requiring subsurface excavations to identify whether archaeological sites were present. Photographs and field notes were taken to document standing buildings and landscape features that were potentially sensitive for archaeological testing, or were likely disturbances that reduced archaeological sensitivity.

Subsurface testing was conducted from April 11 through 20, 2016 by a crew of four archaeologists (Figure 9). The Project Study Area was divided into 13 survey areas that were generally defined by slopes of less than 15 percent grades, and bounded by roads, tree lines, streams, or proximity to potentially sensitive to historic landscape features such as buildings. Each shovel test was assigned a unique identifier comprised of a survey area number prefix, a letter for survey transect, and consecutive shovel test number (e.g., survey area 1, transect A, shovel test 2 along the transect series was recorded as 1A2). Shovel test locations were recorded using a global positioning system (GPS) receiver with sub-meter accuracy. Areas with slopes of 15 percent or greater, bedrock outcrops, extensive modern trash deposits, obvious soil disturbances from rock quarrying and grading, and delineated wetlands were not shovel tested.

In accordance with SHPO guidelines, shovel tests were at intervals of about 50 feet (15 meters) along linear transects, or at closer intervals around historical features. Shovel tests were hand-excavated and typically measured 20x20 inch (50x50 centimeter [cm]) squares. Shovel tests were excavated to a depth below

which archaeological deposits were not likely to occur or until an impasse was reached below which hand excavation was not possible. Each shovel test was promptly backfilled after excavation and recordation.

Shovel test results were recorded on standard field forms. Soil strata were described by soil depths (measured in cm), Munsell soil colors, soil texture and shapes, and abundance of natural rock inclusions. When potentially significant isolated artifacts were recovered within shovel tests, radial tests were excavated in all cardinal directions around the positive shovel tests until no further artifacts were recovered. Appendix A describes shovel tests, soil strata, rock inclusions and totals of prehistoric and historic artifacts recovered during excavations.

All excavated soils were screened through 0.25-inch mesh hardware cloth mounted on shaker screens to facilitate systematic artifact recovery. Non-modern artifacts recovered were retained for cleaning, identification, and inventory. Modern materials such as isolated plastic were noted in field records but usually not collected for laboratory analysis. Shovel tests containing historic artifacts are identified on Figure 9. No prehistoric artifacts were recovered during the Phase 1 investigation. Digital photographs of typical conditions and features of notable interest were taken to document the field investigation.

3.3 LABORATORY METHODS

Artifacts recovered from shovel testing were cleaned, analyzed, and inventoried in Tetra Tech's archaeology laboratory. Artifacts were classified by major chronological period (prehistoric versus historic) and by generalized functional contexts. However, no prehistoric artifacts were found during shovel testing. Following analysis, all artifacts were placed in clean, archival-quality re-closable polyethylene bags and tagged with relevant provenience information.

Artifact analyses addressed research questions of chronology and function through broadly accepted categories that described materials, forms, style, associated time periods, and social contexts of items recovered during field testing. The following discussion focuses on laboratory analyses of historic period artifacts, since no prehistoric artifacts were recovered within the Project Study Area.

Historic archaeological sites relate to a broad range of ethnic groups of Euro-Americans, African Americans, Native Americans, and others. Dwellings and farmsteads are among the most common historic archaeological sites in Connecticut. Historic period artifacts were classified by major functional groups:

- Architectural artifacts commonly include nails, window glass, tiles, brick, mortar, and other items;
- Domestic artifacts include ceramics, vessel glass and table glass. Diverse styles of utilitarian wares and tablewares reflect economic and social status (e.g., imported ceramics may suggest a relatively high status of persons who used these ceramics);
- Personal artifacts often indicate wealth, occupation, or social activities such as items of clothing, furnishings, utensils, craft tools, toys, weapons, tobacco pipes, and numerous other artifacts;
- Miscellaneous artifacts, for this study, include rarely recovered items such as animal bone, and unidentified objects such as rusted metal, melted or fragmentary glass, and other items; and
- Aboveground architectural historic features are occasionally preserved at historic sites, such as cemeteries, roads, cellar foundations, wells, dams, and complex arrangements of the historic landscape. Organization of farmsteads, mills or other types of historic sites are sometimes reflected in the distributions of artifacts and structural remains recovered by archaeological survey.

Changing manufacturing technologies, market distribution, and consumption fashions for most artifact types allow dating of many historic archaeological sites. In particular, ceramic industries helped fuel the Industrial Revolution in Europe during the 1600s and 1700s, and increasingly across America and Connecticut after 1775. Utilitarian ceramics and tablewares, including red earthenwares (1607 to 1840), buff earthenwares

(1675 to 1940), stonewares (1620 to 1890), refined creamwares (1750 to 1810), pearlware (1787 to 1840), whiteware (1820 to present) and Chinese, English and American porcelains, are central to dating historic period archaeological sites (Hume 1978; Brown 1982; Godden 1966).

Similar to ceramics, vessel glass underwent technological changes that increased distributions and abundance. Glass vessels were relatively rare during the Colonial period, mostly limited to free-blown bottles, expensive table glass, and molded case bottles. Bottles became more common after 1800, often including a diversity of glass colors. Bottle-making machines increased the production of bottles after 1850, and a fully automatic bottle-making machine was patented in 1903 (Firebaugh 1983). Industrially produced brown and clear glass bottles became less expensive and more common through the 1900s.

During the Colonial period, craftsmen produced utilitarian iron, glass, weaving, and other goods for local agricultural communities and growing villages and towns across Connecticut. Regionally manufactured items increasingly replaced other locally produced goods during the 1800s.

- Local blacksmiths probably produced most wrought nails used in local construction during the Colonial period. By 1790, cut nails were being machine-produced. Wire nails were introduced by 1850, but only began to exceed cut nail production after 1900 (Hartwell 1980).
- Lime plasters were produced at local lime kilns during the 1700s, replaced by concrete in the late 1800s.
- Low-fired bricks were often produced in small brick yards and farms. Harder high-fired bricks were produced by larger regional brick manufacturers especially after 1850.
- Window glass was originally imported from England and was used sparingly during the Colonial period. Window glass became much more common during the nineteenth and twentieth centuries.
- Kaolin tobacco pipes were inexpensive imports that are have features generally allowing for relatively precise archaeological dating. Bowl designs and makers' marks changed through time, and pipe stem bores decreased in diameter in a predictable pattern from the seventeenth into the nineteenth centuries (Binford 1962). Models are less reliable for dating bore diameters from the 1800s and 1900s.

Other artifacts indicative of personal social status and economic roles also changed over time. Objects such as buttons, buckles, furniture, tools, toys, coins and other objects changed in style and decoration and are sometimes useful when found in assigning chronological context to historic archaeological sites (Hume 1978). Many archaeological artifacts and sites provide unique insight into the changing material lives of Connecticut residents throughout history.

While recovered artifacts can be suggestive of the presence of archaeological sites, many natural and cultural actions disturbed or redistributed artifacts from original contexts of use or disposal. Grading or soil dumping might have removed or buried archaeological sites. Household waste also was often carted away from dwellings, and dumped along roadways or in large middens on farms. Household waste often was added to manure to fertilize agricultural fields. Plowing often redistributed artifacts across agricultural fields. Some of these actions are believed to have obscured the archaeological record within the Project Study Area.

4.0 PHASE I SURVEY RESULTS

Phase I archaeological testing was conducted within 13 survey areas (following elimination of portions of the Project Study Area with low archaeological sensitivity), and a total of 245 shovel tests were excavated (Appendix A). Each survey area maintained distinctive topographic, hydrographic and historic landscape features that potentially influenced past land uses and possible artifact distributions (Figure 8). No prehistoric chipped stone or ceramic artifacts were recovered within the Project Study Area. However, 74 shovel tests – most located near existing or former structures within the Project Study Area – contained 332 historic artifacts (Appendix B). Figure 9 shows locations of Survey Areas, all excavated shovel tests, and labeled shovel tests that contained historic artifacts. Table 3 summarizes the total number of shovel tests excavated at the 13 survey areas, numbers of shovel tests containing artifacts, and major historic artifact categories recovered.

Statistical analyses of historic artifact frequencies and diversity help to interpret artifacts recovered during archaeological testing. When found in a shovel test (e.g., positive shovel test), historic artifacts averaged 4.54 pieces per positive shovel test unit. However, artifact counts varied widely, with a standard deviation of 10.59 artifacts in positive shovel tests. Most positive shovel tests (63 shovel tests) contained below average numbers of historic artifacts. Only 11 shovel tests contained five or more artifacts, more possibly reflecting combinations of architectural, domestic or other activities perhaps associated with archaeological sites.

4.1 SURVEY AREAS 2 AND 12: THE LIPPITT FARM SITE (SITE 69-103)

Survey Areas 2 and 12 are in the northwest corner of the Switchyard Site. These upland areas slope from approximately 360 feet to 320 feet amsl. Soils are Canton and Charlton complex, 3 to 15 percent slopes, and extremely stony (Figure 3). Survey Area 2 is located proximate to the Lippitt cemetery and a fieldstone barn foundation and barnyard walls to the north, and included 14 shovel tests, of which 13 shovel tests contained 198 historic period artifacts. Survey Area 2, along with the cemetery and barn remnants, are identified as contributing resources to the Lippitt Farm Site (Appendix C). Area 12, upslope and to the southwest, is considered outside of the boundaries of the Lippitt Farm Site, and contained seven shovel tests of which three shovel tests contained four historic period artifacts (Figures 9 and 10).

The Lippitt cemetery was noted in 1934 on the Dunn Farm (Hale 1937), but it has not been previously recorded in SHPO archaeological site files. The cemetery is on a forested hillside approximately 155 feet east of Lake Road, and 115 feet north of the southern property line of the Switchyard Site. A well-preserved fieldstone wall surrounds the cemetery, measuring approximately 40 feet east-west and 24 feet north-south (Photograph 1). At least six graves are marked by uncarved upright fieldstone headstones and footstones (Photograph 2). The cemetery walls were visible on the 1934 Fairchild aerial photograph (Figure 7). At that time, the cemetery was in a non-forested area, protecting the stone walls and gravestones from damaging tree-falls. An 1847 deed identified the Lippitt cemetery as being located south of the family dwelling (Killingly Land Records 35:30).

Approximately 180 feet north of the cemetery, current land owner Geoffrey Sorrow identified a partial fieldstone foundation as the site of a former dwelling, probably the circa 1801 Lippitt house, and later the Luther Alexander tenant house shown on the 1856 map (Figure 4). The structure was abandoned or demolished by 1869 or 1893 (Figures 5 and 6). From field observations, the former cellar hole appears to have been filled. The north and west foundation walls were not apparent, and neither chimney stack was evident (Photograph 3). House dimensions remain unknown. The foundation may have been partially disturbed by grading or water drainage from the Lake Road culvert southwest of the foundation.

South of the suspected Lippitt house foundation, a graded earthen platform and partial stone retaining wall might indicate former agricultural outbuildings east of Lake Road (Photograph 4). No structures were located in this vicinity on the 1934 Fairchild aerial photograph (Figure 7).

Approximately 120 feet north of the suspected Lippitt house, a large fieldstone barn adjacent to Lake Road was likely associated with the Lippitt Farm (Photographs 5 and 6). The extant barn was constructed in 1975 on top of the older fieldstone foundation (Killingly Assessor 2016). The roof of the rebuilt barn is now collapsing. The barn formerly had one or more silos on fieldstone platform foundations along the north end (Photograph 7). The barnyard is surrounded by well-preserved fieldstone walls with capping stones, probably dating from the 1800s (Photograph 8).

Archaeological fieldwork at Survey Area 2 involved excavation of 14 shovel tests at 33 foot intervals (10 meters) within and around possible historic structures (Figure 9). Most shovel tests contained artifacts likely dating to the early period of the Lippitt family occupations before 1850, and more recent artifacts that probably reflect post-1850 dumping or filling episodes (Table 3). The earlier (possibly pre-1850) assemblage includes 37 cut nails, three low-fired brick fragments, five glazed and 24 unglazed redware (probably flowerpot) sherds (Photograph 9), one creamware sherd (Photograph 10), one pearlware sherd (Photograph 11), and three personal items including a silvered mirror fragment, and an iron latch and plate (Photograph 12). Artifacts probably dating after 1850 include 21 wire nails, eight tile fragments, 10 whiteware sherds (Photograph 13 and 14), most of the 15 vessel glass fragments, three coal fragments, 18 miscellaneous iron fragments, and nine personal items that include a Bakelite pipe stem (a plastic polymer invented in 1907) (Photograph 15), a leather glove fragment (Photograph 16), one rubber boot fragment, four auto headlight fragments, a large machine (probably tractor) part, and an iron harvester blade-tooth (Appendix B). Many items that cannot be assigned to a specific time period with confidence include 15 unidentified nails, 24 window glass fragments, and one animal bone fragment.

Shovel tests 2A1, 2A2, 2A3, 2B2 and 2B3 were excavated in and around the former Lippitt Farm house. These shovel tests generally had artifacts above the 90th percentile counts (18 or more artifacts) suggesting unusual densities. Artifacts were recovered from two to four fill strata (Table 4). Fill was mostly sands and sandy loam in varied soil colors that extended to depths ranging between 43 and 77 cm, mixed with broken angular rock, recent and historic artifacts (Photograph 17). Recent materials from deeper strata best demonstrate site disturbance and filling. In shovel test 2A1, stratum 3 (20-30 cm depth) contained a Bakelite pipe stem (Photograph 15), and from stratum 4 (36-43 cm depth) a leather glove fragment (Photograph 16). In fill from shovel test 2A2, stratum 3 (20 to 46 cm depths) contained three auto headlight fragments and a folded rubber boot fragment, while stratum 4 (46 to 77 cm depth) contained a large rusted machine part, all likely from the 1900s. Mixed fill from shovel test 2A3, stratum 1 (0-49 cm depth) contained an iron pipe fitting and coal, both probably dating after 1850. In shovel test 2B2, stratum 2 (20-30 cm depth) contained coal and six unidentified sheet metal fragments, suggesting deposition after 1850. In shovel test 2B3, stratum 1 (0 to 23 cm depth) contained a ribbed auto headlight fragment, while stratum 3 (29 to 39 cm depth) contained nine sheet iron fragments probably from fill. Limited shovel testing suggests that much, if not all, of the Lippitt house has been disturbed after occupation by the Lippitt family.

Historic artifacts were also recovered in shovel tests along transects C, D and E, south and west of the Lippitt house, in areas possibly occupied by former farm outbuildings. Artifacts were recovered below Stratum 1 topsoils in shovel tests 2D1 and 2D2, indicating possible intact stratigraphy. Shovel test 2E2 contained 20 artifacts including one cut nail, five window glass fragments, eight stoneware tile fragments, one whiteware sherd, and five vessel glass fragments. These shovel test contents suggest proximity to a possible former structure. Historic artifacts probably dating to the period of the Lippitt family occupation (before 1850), include a creamware sherd from shovel test 2E1 (Photograph 10), and glazed redware sherds from shovel tests 2E1 and 2D2.

Connecticut SHPO has designed the concentration of artifacts identified in association with the no longer extant Lippitt house as State of Connecticut Site 69-103. However, Connecticut SHPO does not consider this small and common artifact assemblage to possess research potential.

Farther to the south in Survey Area 12, historic artifacts were less often recovered. One kaolin pipe stem from shovel test 12A4 had a 6/64-inch bore diameter, and possibly dates from the 1700s. Three other artifacts probably dated after 1850, including an iron washer from shovel test 12A2, and a whiteware sherd and bottle glass from shovel test 12B1. These scattered artifacts are not considered an archaeological site.

Presently, KEC development plans (Figure 2) will avoid construction impacts on the Lippitt cemetery (Figure 2). Cemeteries, human remains, and mortuary monuments are protected by C.G.S. Sect. 10-388 *et seq.*, C.G.S. Sect. 22a-15 through 22a-19. However, KEC development plans propose impacts from parking areas on the former Lippitt house, barn and barnyard. Because of ground disturbances observed in shovel tests in and around the partially preserved foundations of the Lippitt house, the site is not recommended as eligible for inclusion on the NRHP. No additional archaeological investigations are recommended at the Lippitt Farm site.

4.2 SURVEY AREA 1

Survey Area 1 comprises the northern and eastern portions of the Switchyard Site. Elevations range from approximately 310 to 320 feet amsl. Soils are predominantly Ridgebury, Leister and Whitman soils, 0 to 8 percent slopes and extremely stony toward the east; soils to the west are Canton and Charlton soils, 3 to 15 percent slopes and extremely stony (Figure 3). A small wetland drainage runs along the eastern property line. Most of Survey Area 1 includes relatively level uplands, and have been cleared of rocks for agricultural fields (Photograph 18). As described by landowner Geoffrey Sorrow, a chicken coop, now demolished, formerly stood along the western margin of the field, east of the walled barnyard (Photograph 18). Recent trash piles were mapped along the western margin Survey Area 1 (Figure 10). The 1856 and 1869 maps (Figures 4 and 5) portray a dwelling to the east of (outside) the Project Study Area and Survey Area 1, near the highway curve at 220 Lake Road. This level upland area was selected for surveying due to the close proximity of wetlands, mapped historic structures and standing agricultural buildings. KEC development plans call for construction of a switchyard and parking area across Survey Area 1 (Figure 2).

In Survey Area 1, 41 shovel tests were excavated, and 29 shovel tests contained 66 historic artifacts (Figure 10). Soil profiles described two relatively standard soil strata. Stratum 1 topsoil was generally dark brown (10YR3/3) sandy loam with common to abundant angular gravel that extended to depths ranging from 15 to 47 cm below ground surfaces, all formerly plowed. In total, 62 of 66 historic artifacts were recovered from Stratum 1 topsoils. Stratum 2 subsoils varied from yellowish brown (10YR5/6) to brownish yellow (10YR6/8) sand and sandy loam with abundant angular gravel to no rock intrusions that were excavated to depths ranging from 18 to 60 cm below ground surfaces, Rock obstructions occasionally limited deep excavations. Four cut nails were recovered from Stratum 2 in shovel tests 1A1 and 1A2 at along the Switchyard Site's eastern property line.

The broad scatter of historic artifacts has not been determined to represent a historic archaeological site location. The total historic assemblage included a diversity of architectural (27 artifacts), domestic (18 artifacts), personal (five artifacts) and miscellaneous (three artifacts) materials, from various centuries (Table 3). Historic domestic artifacts from the 1700s or 1800s possibly include one creamware sherd from shovel test 1E3, three pearlware sherds from scattered shovel tests 1C3, 1C7 and 1E1, four glazed redwares from shovel tests 1A3, 1C5, and two glazed redwares from shovel test 1D4. Personal artifacts also suggest occupations during the 1700s or 1800s. Three kaolin tobacco pipe stems from shovel tests 1B2, 1B5, and 1C4 (Photograph 19) have large bores ranging from 6/64-inch to 5/64-inch diameters, possibly dating between 1714 and 1740, respectively (Binford 1962). A small brass spool with wire hook from shovel test 1B4 may have been a clock part (Photograph 20), and a rusted iron lock plate from shovel

test 1A3 may have been from household furniture. In contrast, three whiteware sherds, one stoneware sherd, and six vessel glass fragments (including two medicine bottles), and coal probably dated from the late 1800s or early 1900s. Architectural artifacts also suggested diverse time periods, with 17 early cut nails, eight more modern wire nails, two unidentified nails, and 17 window glass fragments. Most historic artifacts were recovered in small numbers across Survey Area 1.

Only two shovel tests, 1D4 (eight artifacts) and 1E3 (23 artifacts), had high architectural artifact counts (11 nails and 15 window glass fragments) suggesting proximity to a former structure. These shovel tests were within 50 feet of a demolished recent chicken coop, identified by property owner Geoffrey Sorrow (Photograph 18). Artifacts associated with the chicken coop are not categorized herein as an archaeological site. Other shovel tests had below average numbers of artifacts (four or fewer artifacts), suggesting scatters associated with field manuring and plowing.

4.3 SURVEY AREAS 3 AND 5, AND THE SORROW HOUSE

Survey Areas 3 and 5 were in the southeast corner of the Generating Facility Site, to the west and east of the Sorrow house, respectively. Elevations range from approximately 320 to 305 feet amsl. Soils are Canton and Charlton soils, 3 to 15 percent slopes and extremely stony in Survey Area 3; in Survey Area 5, these soils mix with Ridgebury, Leister and Whitman soils, 0 to 8 percent slopes and extremely stony (Figure 3). A well and shed approximately 100 feet northeast of the Sorrow house, and a stock pond, pump house and shed approximately 500 feet northwest of the Sorrow house are recent constructions, and do not appear on the 1934 aerial photograph (Figures 7 and 8).

The standing Sorrow house at 189 Lake Road is the only cultural resource in the Project Study Area that has been previously recorded on a SHPO HRI form (recorded as structure 143) (McCahon 1990). This HRI form is reproduced in Appendix C. This dwelling has been dated to 1865 on the HRI form, although it was dated to 1908 by the Killingly Assessor (2016). However, historic maps suggest a construction date between 1869 and 1893, somewhat later than the HRI form and earlier than the Assessor listing (Figures 5 and 6). The HRI form described architectural details:

> "The boxy 4-bay 2-story shallow hip-roofed Italianate dwelling is simply detailed has a 2-story service ell. The original sash have been replaced by 2-over-2s. A late-19th century verandah with turned posts, lacey corner brackets, and a plain balustrade shelters the façade of the well-preserved house. The farm straddled the road, and farm buildings are located across from the distinctive house" (McCahon 1990: HRI structure 143).

Photographs 21 to 24 illustrate the integrity of the exterior Italianate façades. The historic setting is also well preserved with mature trees and intact capped stone walls. This structure been evaluated, as documented in the National Register of Historic Places Eligibility Report for the Sorrow Farmstead (Tetra Tech 2016), and has been recommended as not eligible for inclusion on the NRHP. The Sorrow house will be removed to allow for the construction of KEC. Areas north and west of the Sorrow house are planned for construction laydown (Figure 2). Level areas surrounding the house and in the upland fields to the east and west were evaluated via shovel test pits.

At Survey Area 3, west of the Sorrow house, 16 shovel tests were excavated and eight shovel tests contained 17 historic artifacts. At Survey Area 5, east of the Sorrow house, seven shovel tests were excavated and four shovel tests contained seven historic artifacts (Figure 9). No prehistoric period artifacts were recovered. In both survey areas, shovel tests contained two similar soil strata (Appendix A). Stratum I topsoil was dark brown (10YR3/3) to dark yellowish brown (10YR3/6) sandy loam with common to abundant angular gravel and cobbles that extended to depths ranging between 17 to 44 cm below ground surfaces, probably plowzones. All historic artifacts were recovered from topsoils. Stratum II subsoils were dark yellowish brown (10YR4/6) to yellowish brown (10YR5/8) sand and sandy loam with common to

abundant angular gravel and cobbles that were excavated to depths ranging from 35 to 54 cm below ground surfaces. Excavations were often suspended due to rock obstructions.

Historic artifacts were scattered broadly in yard and field areas around the Sorrow house (Figure 9). In Survey Area 3, architectural artifacts included three cut nails, three window glass fragments, and one asbestos tile fragment. Domestic artifacts included two eroded dark brown-glazed redware sherds and two whiteware sherds. Vessel glass included an olive green wine bottle with puntel, and a molded vase fragment, both probably associated with entertainments at the Sorrow house. One personal artifact was a mirror fragment with silvered backing. Other artifacts included six tin can fragments. In Survey Area 5, east of the Sorrow house, architectural artifacts included one wire nail and two window glass sherds Domestic artifacts included only one grainy light brown glazed redware sherd, probably from a flower pot. Other items included a small horseshoe, a cow bone, and a clam shell. In summary, the scattered artifacts noted from plowzones are not interpreted as separate archaeological sites, but rather as plow-scattered items displaced from prior episodes of trash dumping and plowing.

4.4 SURVEY AREA 4

Survey Area 4 includes a forested hill within the Generating Facility Site rising north of the Sorrow house. Elevations range from approximately 320 to 345 feet amsl. The hill crest is relatively level and slopes steeply to the north and west toward a wetland basin in the western portion of the property. Soils are Canton-Chatfield complex, 3 to 15 percent slopes and very rocky along the hill crest, and Canton and Charlton soils, 3 to 15 percent slopes and extremely stony on hillsides (Figure 3). Many loose rocks from glacial till appear to have been cleared for fields, pastures, and construction of stone walls. The hill crest was considered sensitive for prehistoric period archaeological sites. A collapsing "summer house" is located on the upper southeast-facing slope, approximately 140 feet northwest of the Sorrow house (Photograph 25). The two-room, framed structure probably dates from the 1950s or 1960s, and sits on cinderblock piers. The structure has little architectural integrity.

At Survey Area 4, 24 shovel tests were excavated across the hill crest and southeast slope, and four shovel tests contained nine historic artifacts (Figure 9). No prehistoric period artifacts were recovered. Soil profiles in shovel tests contained two soil strata. Stratum I topsoil was black (10YR2/1) to dark brown (10YR3/3) sandy loam with rare to abundant angular gravel and cobbles that extended to depths ranging between 8 to 47 cm below ground surfaces, probably never plowed. All historic artifacts were recovered from topsoils. Stratum II subsoils were dark yellowish brown (7.5YR4/6) to yellowish brown (10YR5/8) fine sand and sandy loam with common to abundant angular gravel and cobbles that were excavated to depths ranging from 30 to 46 cm below ground surfaces (Appendix A). Excavations were often suspended due to rock obstructions.

Historic artifacts were only recovered from shovel tests within 100 feet of the collapsing summer house. Artifacts included five cut nails, one unidentified nail and two vessel glass fragments, probably related to summer house activities, and are not considered an archaeological site.

4.5 SURVEY AREA 6

Survey Area 6 is in the southwest corner of the Generating Facility Site on a forested upland hill crest with elevations ranging from approximately 340 to 360 feet amsl. Soils are Canton and Charlton soils, 3 to 8 percent slopes and very stony on the hill crest. On upper slopes, soils are Canton and Charlton soils, 3 to 15 percent slopes and extremely stony (Figure 3). Survey Area 6 is within a former farm field or pasture surrounded by well-preserved stone walls. Many surface stones were cleared for stone walls. No historic structures are known in this area; however, a recent twentieth century trash pile was identified in the

northwest corner of the field in Survey Area 6 (Figure 8). The hill crest was considered sensitive for prehistoric archaeological sites.

At Survey Area 6, 26 shovel tests were excavated across the hill crest. A total of 10 shovel tests contained 24 historic artifacts (Figure 9). No prehistoric period artifacts were recovered. Soil profiles in shovel tests contained two soil strata. Stratum I topsoil was dark brown (10YR3/3) to dark yellowish brown (10YR3/4) sandy loam with common to abundant angular gravel and cobbles that extended to depths ranging between 17 to 36 cm below ground surfaces, probably a plowzone (Appendix A). All historic artifacts were recovered from topsoils. Stratum II subsoils were yellowish brown (10YR5/6 to 10YR5/8) sand and sandy loam with common to abundant angular gravel and cobbles that were excavated to depths ranging from 30 to 46 cm below ground surfaces. Excavations were often suspended due to rock obstructions.

The historic artifact assemblage reflects a mix of nineteenth and twentieth century architectural, domestic and other cultural materials, probably reflecting a long agricultural history and field dumping. Architectural artifacts include four cut nails, one unidentified nail, four window glass fragments, and one burned tile fragment. Domestic artifacts included three whiteware sherds and one vessel glass fragment. One personal artifact was a partial bowl base from a kaolin tobacco pipe. Other artifacts included three calcine bone fragments, and six sheet metal fragments, probably from a can. The highest concentrations of historic materials were in shovel tests 6B1 (eight artifacts) closest to the recent trash pile, and shovel test 6C6 (seven artifacts) close to Lake Road. Historic artifacts for Survey Area 6 probably reflect dumping episodes, and are not considered an archaeological site.

4.6 SURVEY AREA 7

A large wetland occupies approximately 10.8 acres of the center part of the Generating Facility Site (Figure 8). Wetland soils include Rippowam fine sandy loam, Walpole sandy loam, and Ninigret and Tisbury soils (Figure 3). The wetland is cut by drainage ditches, suggesting that the wetland was larger and wetter in the past (Photograph 26). Level benches and terraces around the wetland are sensitive for prehistoric archaeological sites. Survey Area 7 was on terraces around the south part of the wetlands. Elevations range from 260 to 280 feet amsl. Non-wetland soils are Canton and Charlton soils, 3 to 15 percent slopes and extremely stony, and Sutton fine sandy loam, 2 to 15 percent slopes and extremely stony (Figure 3).

A large area (less than 1 acre) on the southern side of the wetland contains abundant twentieth century household trash, glass, cans, rusted metal, and major appliances, disturbances that are not sensitive for archaeological sites (Photograph 27; Figure 8).

Field investigations also identified a rock-lined springhead, probably for livestock (Photograph 28; Figure 8), and four rock hearths, probably from twentieth century campers (Photograph 29, Figure 8). No foundations or other features were identified to suggest a historic settlement in this Survey Area.

Shovel testing at Survey Area 7 involved excavation of 36 shovel tests, of which only shovel test 7C2 contained one undecorated whiteware sherd (Figure 9). Soil profiles in Survey Area 7 shovel tests contained two soil strata (Appendix A). Stratum I topsoil was black (10YR2/1) to dark brown (10YR3/3) sandy loam with common to abundant angular and subangular gravel and cobbles that extended to depths ranging between 6 to 30 cm below ground surfaces, probably never plowed. Stratum II subsoils were reddish brown (2.5YR5/3) to brown (7.5YR4/4) fine sand and sandy loam with common to abundant angular or subangular gravel and cobbles that were excavated to depths ranging from 16 to 46 cm below ground surfaces. Excavations were often suspended due to rock obstructions. Only one historic artifact was recovered from topsoils, the whiteware sherd in shovel test 7C2. No archaeological sites were identified in Survey Area 7.

4.7 SURVEY AREA 13

To the west and north of the large wetland and along the western property line of the Generating Facility Site, a long ridge runs parallel to the Quinebaug River (Figure 9). The eastern face of the ridge has extensive bedrock outcrops and cliffs, known to the Sorrow family as the "Lippitt Ledges," a place name apparently passed down from the early nineteenth century owners (Photograph 30). Typically, the rock ledges have extensive broken rock skree from weathering along the bases of bedrock outcrops. However, in many areas, the broken rock is now missing, probably reflecting past quarrying. One narrow trench, approximately 3 feet wide and 30 feet long (1 by 10 meters) was observed that exposed rock faces, suggesting nineteenth-century quarrying using hand tools (Photograph 31). However, no bore holes or chisel marks were observed on rock faces that might have indicated historic quarrying. Geoffrey Sorrow noted that his family had removed rock for sale into the 1990s. Rocks have been cleared between the bedrock slopes and wetland, likely areas of machine disturbance and grading totaling approximately 2 acres. These disturbance areas are not considered to be sensitive for archaeological sites (Photograph 32; Figure 8).

In order to test the likelihood of soil disturbances, four shovel tests were excavated at approximately 100 foot intervals (Figure 9). Stratum I topsoil was brown (10YR3/3) sandy loam mixed with broken boulder tailings that extended to depths ranging between 3 to 20 cm below ground surfaces. Stratum II subsoils were yellowish brown (10YR5/6) sand mixed with broken boulder tailings that were excavated to depths ranging from 29 to 37 cm below ground surfaces. Excavations were suspended due to rock obstructions. No historic artifacts were recovered. The surviving rock quarry is considered a twentieth century disturbance rather than an archaeological site.

4.8 SURVEY AREAS 8, 9, 10 AND 11

The forested ridge along the western portion of the Generating Facility Site faces west toward the Quinebaug River floodplain, and was shovel tested as Survey Areas 8 to 11 (Figure 9). Near the southwestern corner of the Generating Facility Site at Survey Area 9, a small wetland, 1.5 acres in area, is surrounded by terraces that are sensitive for prehistoric archaeological sites (Figure 8). Elevations range from approximately 240 feet amsl in the south near a wetland at Survey Area 9, to 310 feet amsl on the ridge crest in the north at Survey Area 11. Soils include Hinkley loamy sand on 3 to 15 percent slopes at Survey Area 9. Soils at survey areas 10 and 8 were Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky. At Survey Area 11, soils were Hollis-Chatfield-Rock outcrop, 3 to 15 percent slopes (Figure 3). Ridge crests are relatively level and are considered potentially sensitive for prehistoric archaeological sites (Photograph 33). Steep slopes descending to the river floodplain are not sensitive for archaeological sites. No historic structures were observed in the Project Study Area. However, immediately west of the Generating Facility Site property line, a stone chimney, probably of recent construction, was observed on the Quinebaug River floodplain (Photograph 34); surveys were completed within the Project Study Area in the vicinity to determine whether any resources are present.

For brevity, these four survey areas are discussed together since little evidence for archaeological sites was recovered along the western portion of the Generating Facility Site, nearest to the Quinebaug River. From south to north, eight shovel tests were excavated at Survey Area 9, 31 shovel tests were excavated at Survey Area 10, ten shovel tests were excavated at Survey Area 8, and 21 shovel tests were excavated at Survey Area 11. Only two shovel tests contained historic artifacts: a redware sherd with light brown glaze from shovel test 10A2, and a window glass fragment from shovel test 10F6. Both artifacts were from topsoil strata. No prehistoric artifacts were discovered. As described in greater detail in Appendix A, topsoils tended to be shallow black (10YR2/1) to dark brown (10YR3/3) sandy loam with common to abundant angular gravel that extended to 20 cm or less below ground surfaces. Subsoils tended to be yellowish brown (10YR5/6) sandy loam with common to abundant angular rocks. No archaeological sites were identified in these four survey areas.

5.0 SUMMARY AND RECOMMENDATIONS

The proposed KEC is located on approximately 73 acres at 180 and 189 Lake Road. The properties sit on low hills and wetlands east of the Quinebaug River and west of Alexander Lake. Tetra Tech conducted a Phase IA and IB archaeological reconnaissance survey of the property in compliance with Section 106 of the NHPA, the CEPA (C.G.S., Section 22a, Chapter 439), and to support review by the Connecticut Siting Council, in consultation with the SHPO and interested federally recognized Native American tribes. Tetra Tech conducted historical and archaeological background research for the Project Study Area, a walkover, and photo-documentation of aboveground cultural features and disturbances. Subsurface shovel testing was conducted to identify if archaeological sites are present within areas of project effects from facility construction and use.

Background research documented that Native Americans occupied sites in the Project Study Area vicinity periodically over the past 8,000 years. Historic maps and deeds indicate that Moses Lippitt purchased 127 acres in the Project Study Area vicinity in 1801, shortly thereafter building a dwelling, family cemetery and probably other structures at 180 Lake Road (Figure 4). The complete area covered by the Lippitt Farm is not presently known. The dwelling was abandoned and/or demolished between 1856 and 1893 (Figures 5 and 6). The standing Sorrow house at 189 Lake Road was constructed sometime between 1869 and 1893 (Figures 5 and 6). The HRI form for the Sorrow house is reproduced in Appendix C.

Phase I shovel testing was conducted in undisturbed, non-wetland areas with slopes of less than 15 percent. In total, 245 shovel tests were excavated (Appendix A). No prehistoric chipped stone or ceramic artifacts were recovered. However, 74 shovel tests contained 332 historic period artifacts (Appendix B). Figure 9 shows locations of Survey Areas, all excavated shovel tests, and labeled shovel tests that contained historic artifacts. Table 3 summarizes the total number of shovel tests excavated at the 13 survey areas, numbers of shovel tests containing artifacts, and major historic artifact categories recovered. Shovel tests usually contained a mixture of materials from the 1800s and 1900s, probably reflecting historic field dumping and more recent trash disposal. Eleven recent dump piles were mapped across the property, as well as a major household dump of approximately 1 acre (Figure 8). Most historic artifacts recovered during shovel testing were scattered in former fields adjacent to Lake Road and standing buildings (Figure 9). One historic period archaeological site, the Lippitt Farm, was recorded east of Lake Road. The Lippitt Farm Site includes a cemetery, fieldstone barn foundations, barnyard stone walls, partial foundations of the Lippitt house, and associated artifacts in Survey Area 2 (Figure 10). The concentration of historic artifacts was recovered from fill around the former Lippitt house and in areas of possible farm outbuildings in Survey Area 2. The concentration of artifacts found in association with the no longer extant Lippitt house have been assigned State of Connecticut Site 69-103 by Connecticut SHPO. Connecticut SHPO does not consider this small and common artifact assemblage to possess research potential. Historic and recent artifacts were also recovered in Survey Area 1, associated with a recently demolished chicken coop and in lower frequencies across former fields (Figure 10). Scattered artifacts from mixed historic time periods and other historic landscape features recorded on the KEC property were not considered archaeological sites.

KEC development plans (Figure 2) will avoid construction impacts on the Lippitt cemetery. Cemeteries, human remains, and mortuary monuments are protected (C.G.S. Sect. 10-388 *et seq.*, C.G.S. Sect. 22a-15 through 22a-19). Because of ground disturbances observed in shovel tests in and around the partially preserved foundations of the Lippitt house, the site is recommended as not eligible for inclusion on the NRHP. No additional archaeological investigations are recommended at the KEC property.

A historic architectural survey has been conducted for the standing structures within the Project Study Area (Tetra Tech 2016). In our professional opinion, none of the structures are eligible for listing on the NRHP.

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FIGURES

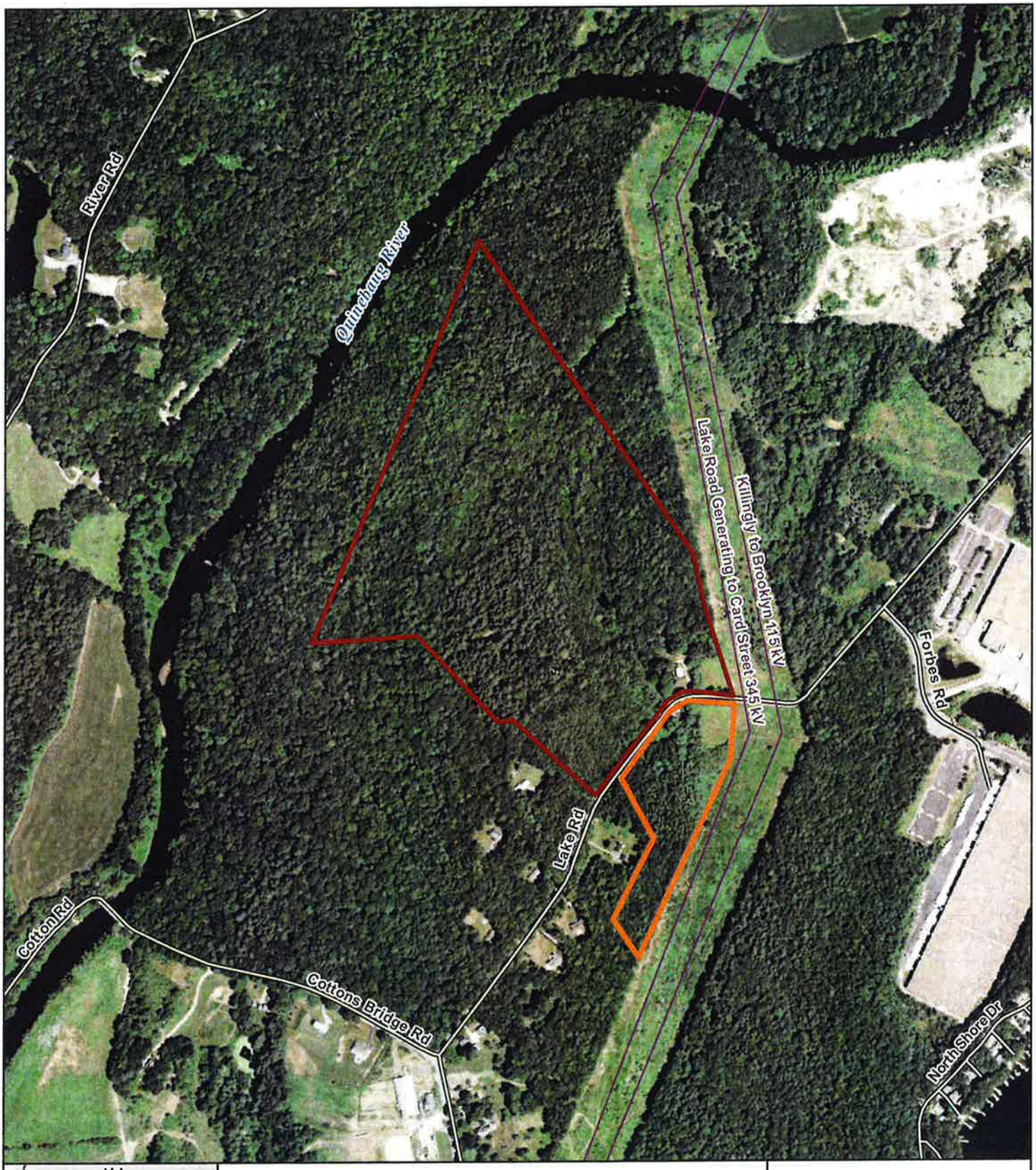

Figure 1
Project Location

Killingly Energy Center
Killingly, Connecticut

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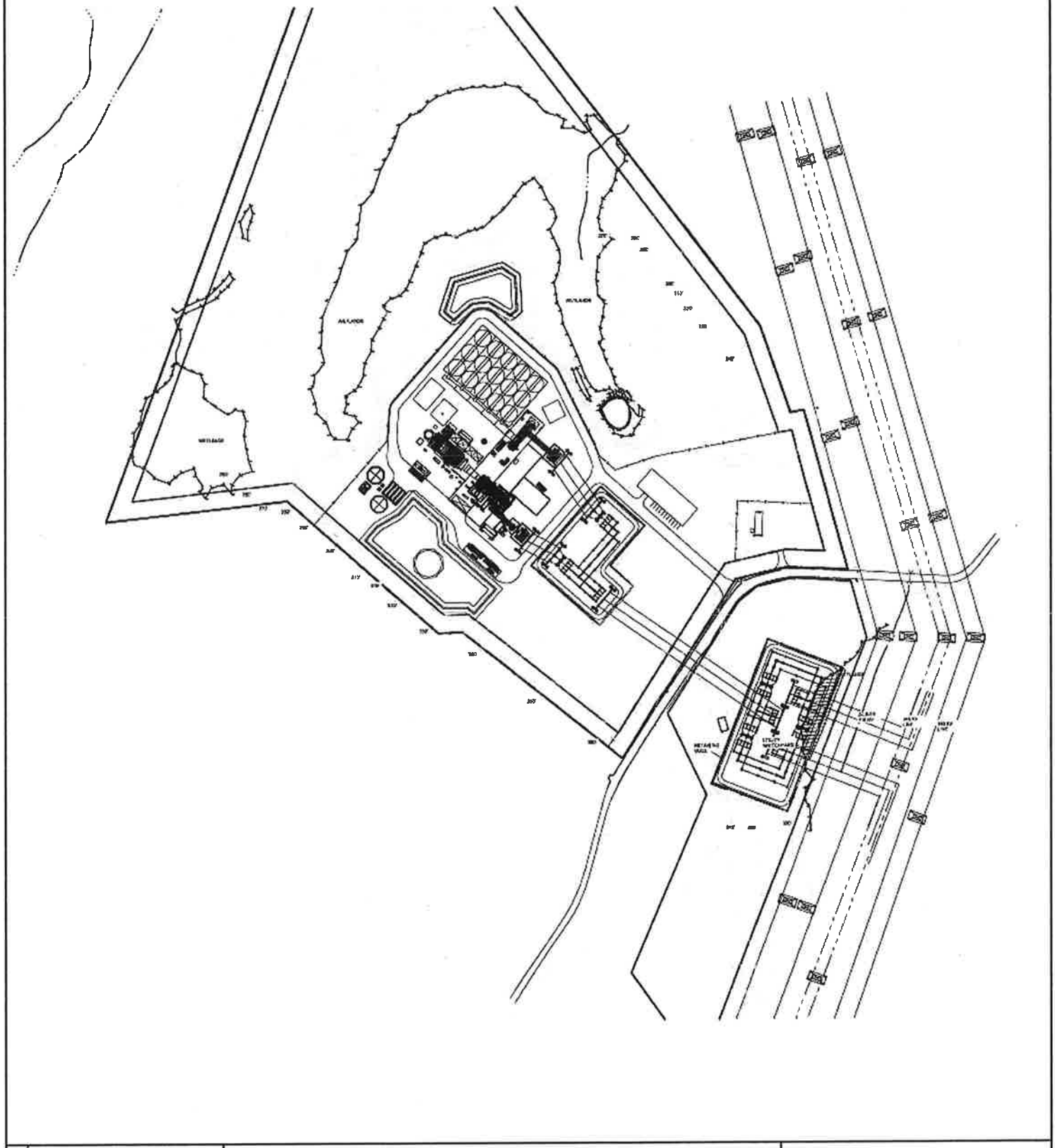

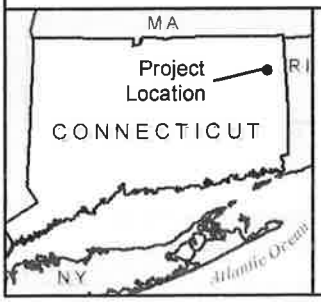

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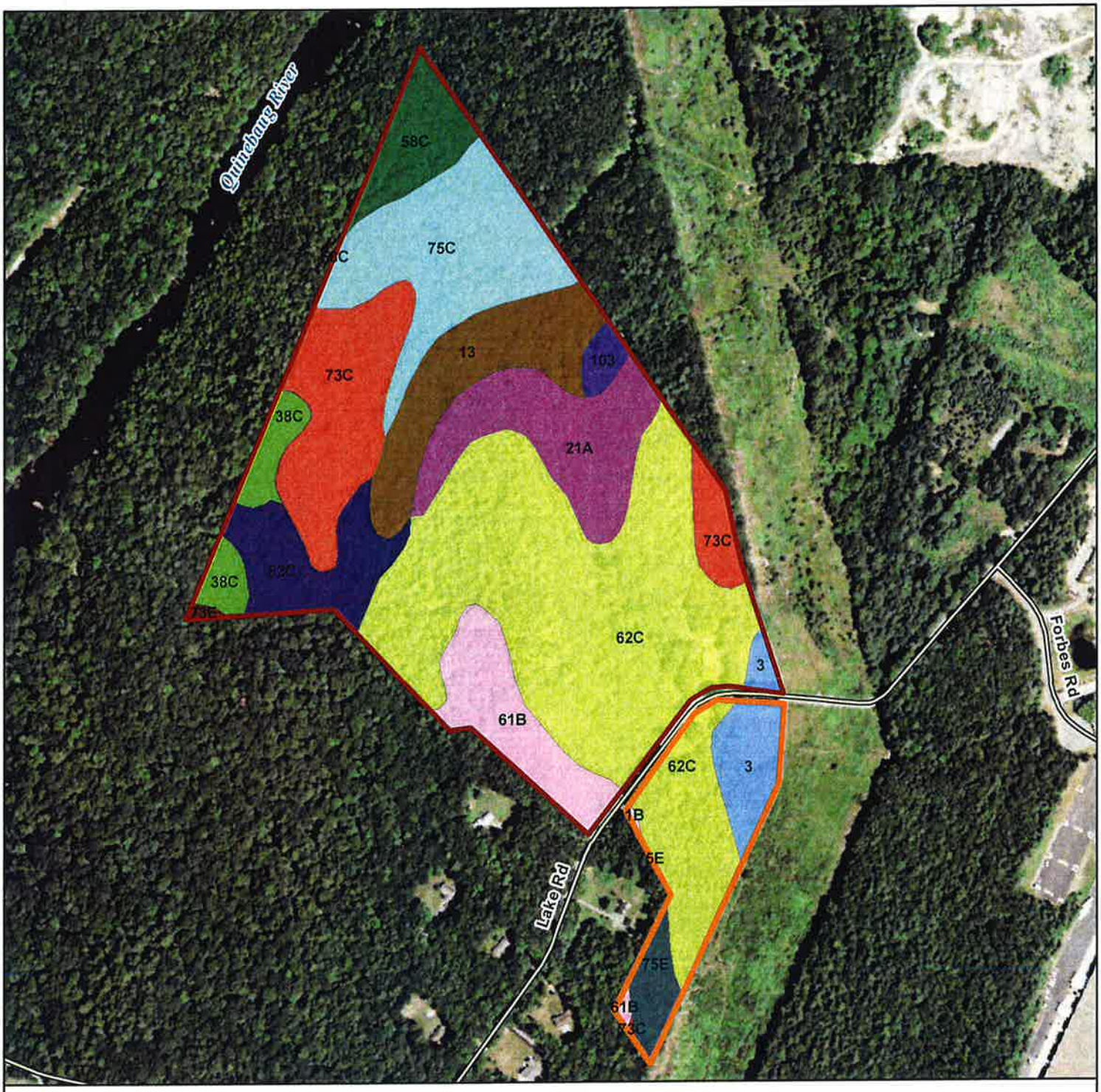
Figure 2
Site Plan

Killingly Energy Center
Killingly, Connecticut



Legend

- Generating Facility Site
- Switchyard Site

Soil Unit

- 103: Rippowam fine sandy loam
- 13: Walpole sandy loam, 0-3% slopes
- 21A: Ninigret and Tisbury soils, 0-5% slopes
- 38C: Hinckley loamy sand, 3-15% slopes
- 3: Ridgebury, Leicester, and Whitman soils, 0-8% slopes, extremely stony
- 52C: Sutton fine sandy loam, 2-15% slopes, extremely stony
- 58C: Gloucester gravelly sandy loam, 8-15% slopes, very stony
- 61B: Canton and Charlton soils, 3-8% slopes, very stony
- 62C: Canton and Charlton soils, 3-15% slopes, extremely stony
- 73C: Charlton-Chatfield complex, 3-15% slopes, very rocky
- 73E: Charlton-Chatfield complex, 15-45% slopes, very rocky
- 75C: Hollis-Chatfield-Rock outcrop complex, 3-15% slopes
- 75E: Hollis-Chatfield-Rock outcrop complex, 15-45% slopes

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Figure 3
Soils

Killingly Energy Center
Killingly, Connecticut

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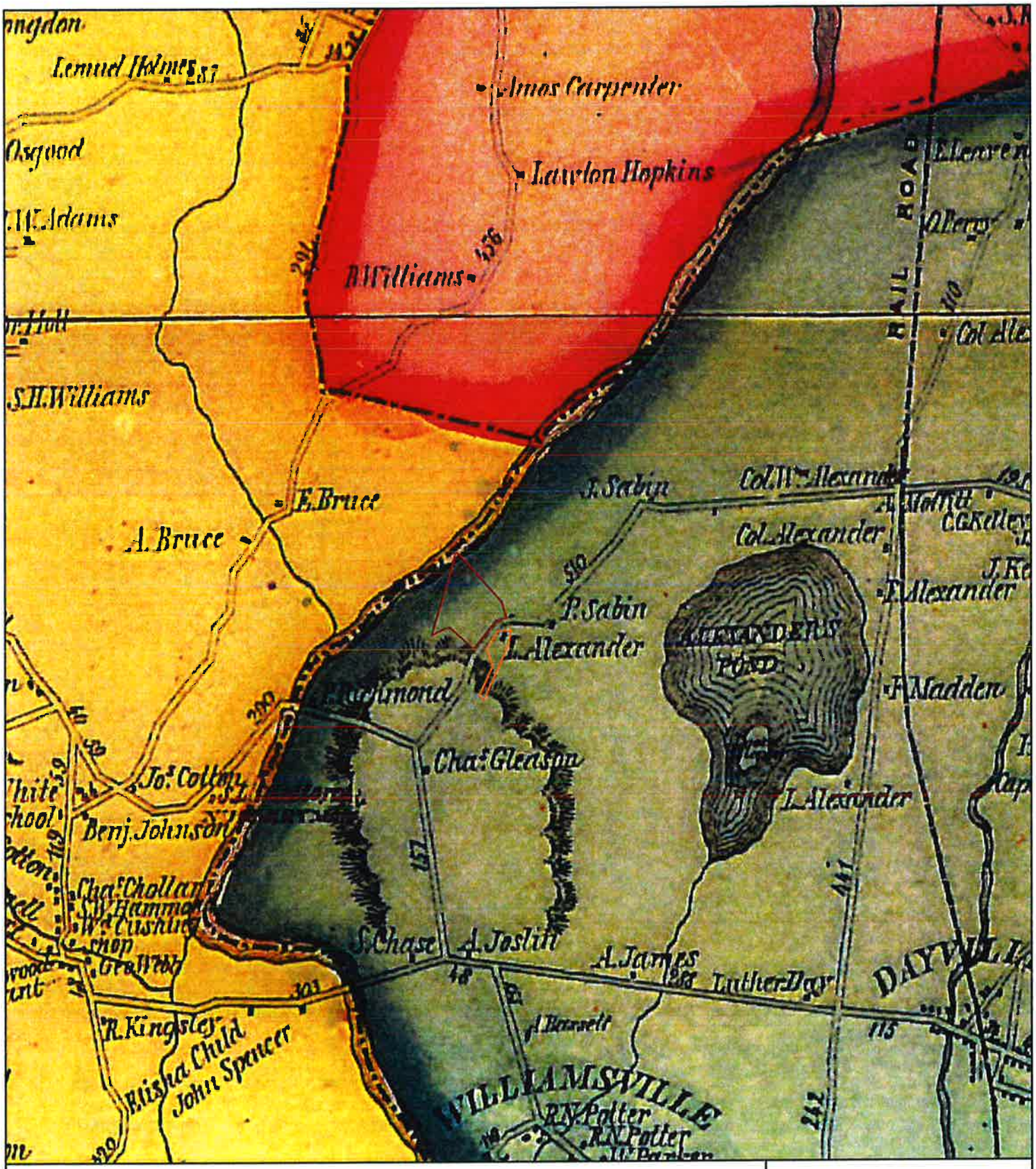

Legend

Generating Facility Site

Switchyard Site

Source:
E.M. Woodford, 1856, Map of Windham County, Connecticut.
Online at www.pld-maps.com.

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Figure 4
1856 Woodford Map

Killingly Energy Center
Killingly, Connecticut

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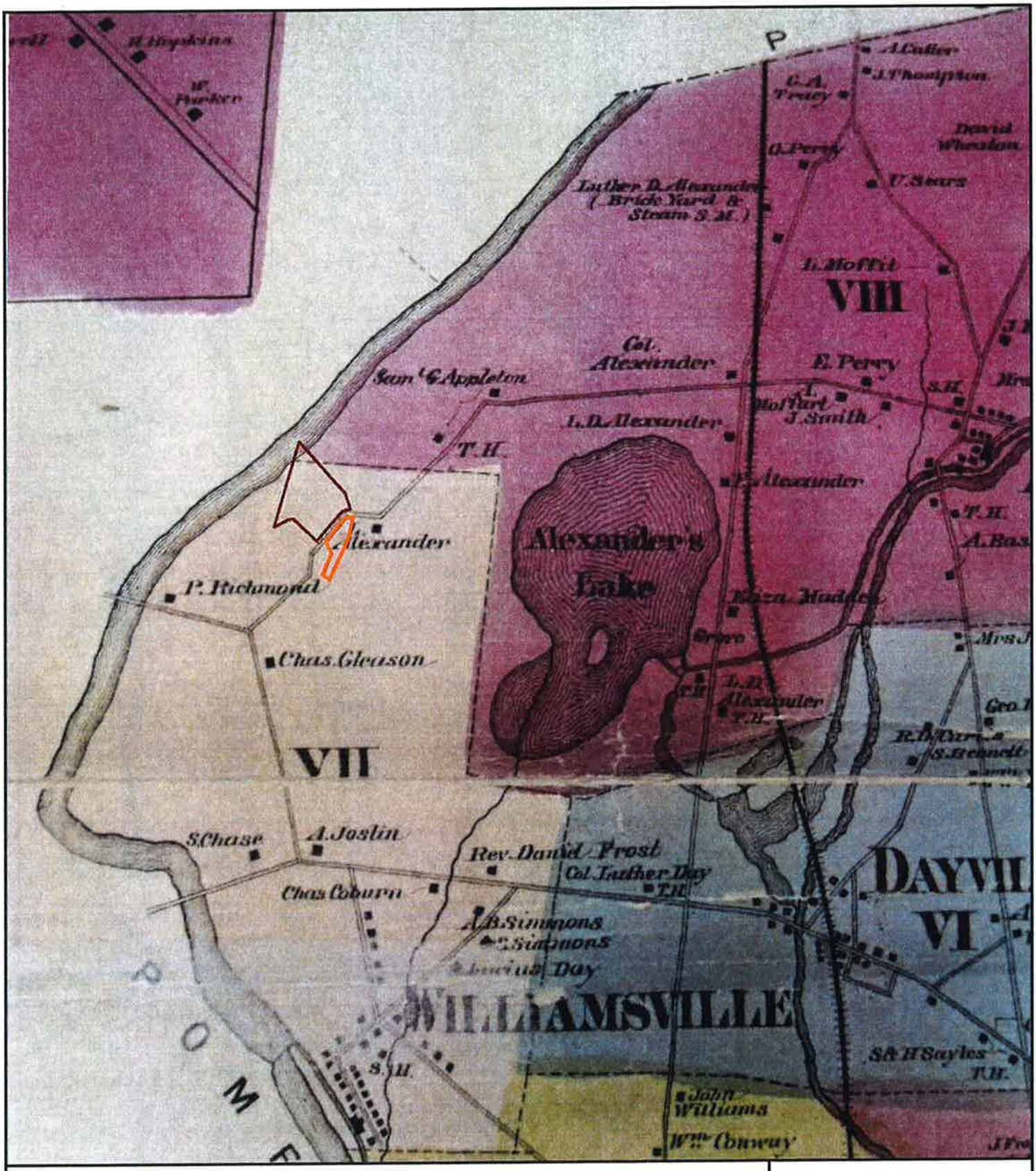

Legend

Generating Facility Site

Switchyard Site

Source:
O.W. Gray, 1869. Atlas of Windham and Tolland Counties.
Keeney, Hartford, CT.

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Figure 5
1869 Gray Map

Killingly Energy Center
Killingly, Connecticut

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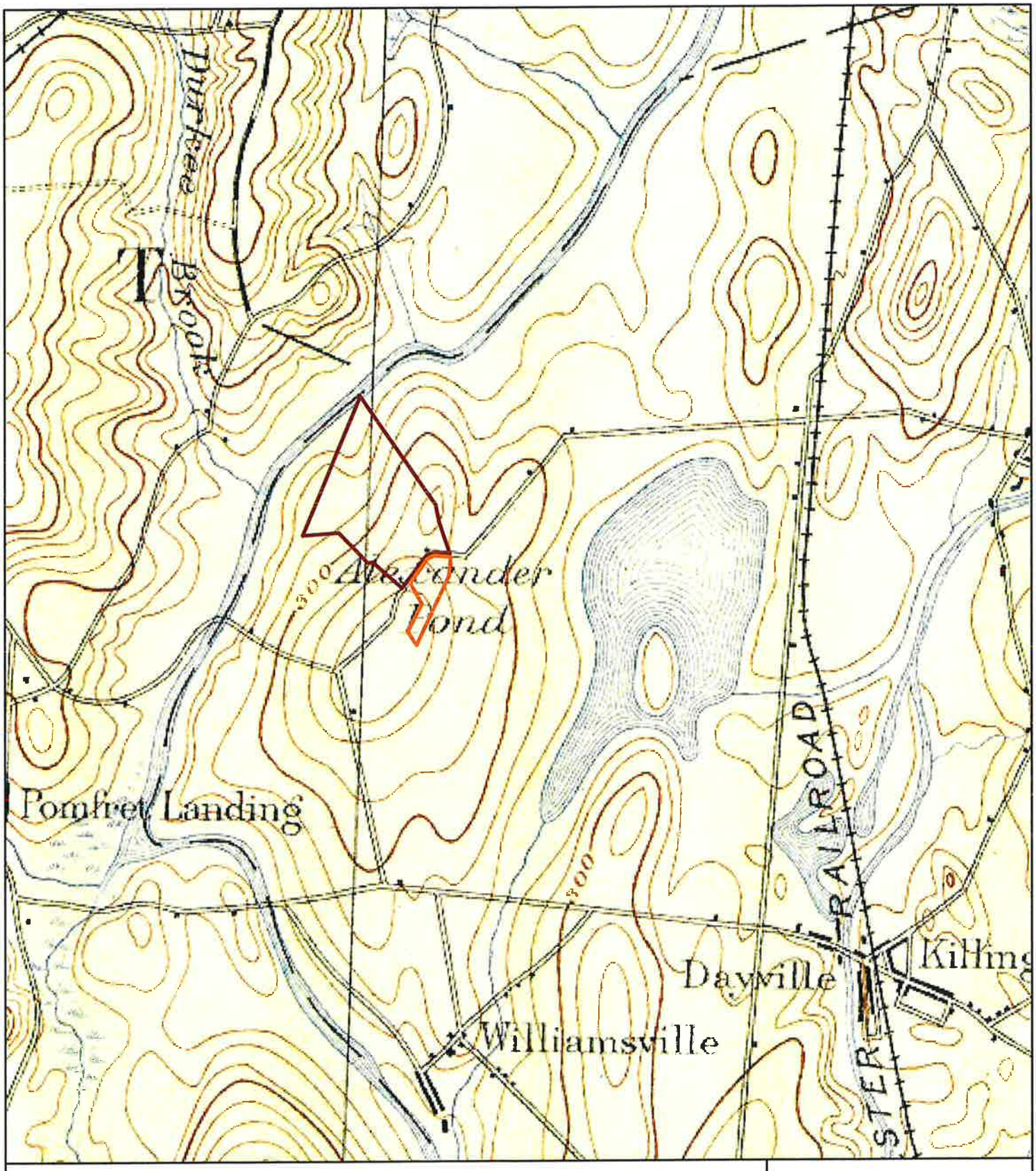

Legend

Generating Facility Site

Switchyard Site

Source:
USGS, 1893. Connecticut-Rhode Island, Putnam Sheet.
USGS 15-minute quadrangle. Washington, D.C.

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Figure 6
1893 USGS Map

Killingly Energy Center
Killingly, Connecticut

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Legend

Generating Facility Site

Switchyard Site

Source:
Connecticut State Library, 1934. Fairchild Aerial Survey, Photograph 1125. Digital Collections, Online at http://cslib.contentdm.oclc.org/cdm/singleitem/collection/p4005coll10/id/2954

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Figure 7
1934 Aerial Photograph

Killingly Energy Center
Killingly, Connecticut

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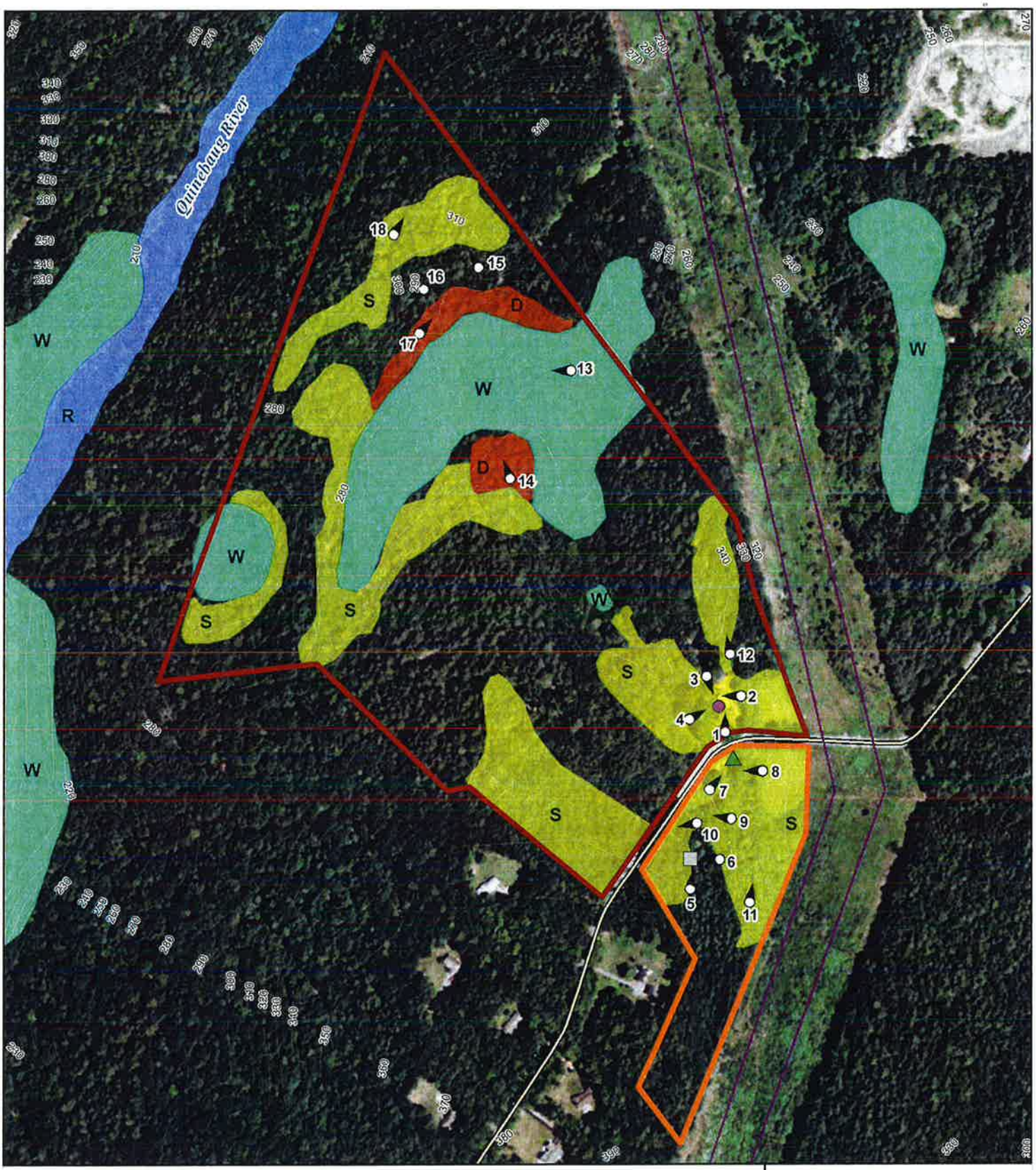

Legend

- Generating Facility Site
- Sitchyard Site
- Phase 1A Photograph
- Cemetery
- House
- Barn
- Existing Transmission Line
- D: Disturbed
- S: High Sensitivity
- W: Wetland
- R: River

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Figure 8
Archaeological Sensitivity

Killingly Energy Center
Killingly, Connecticut

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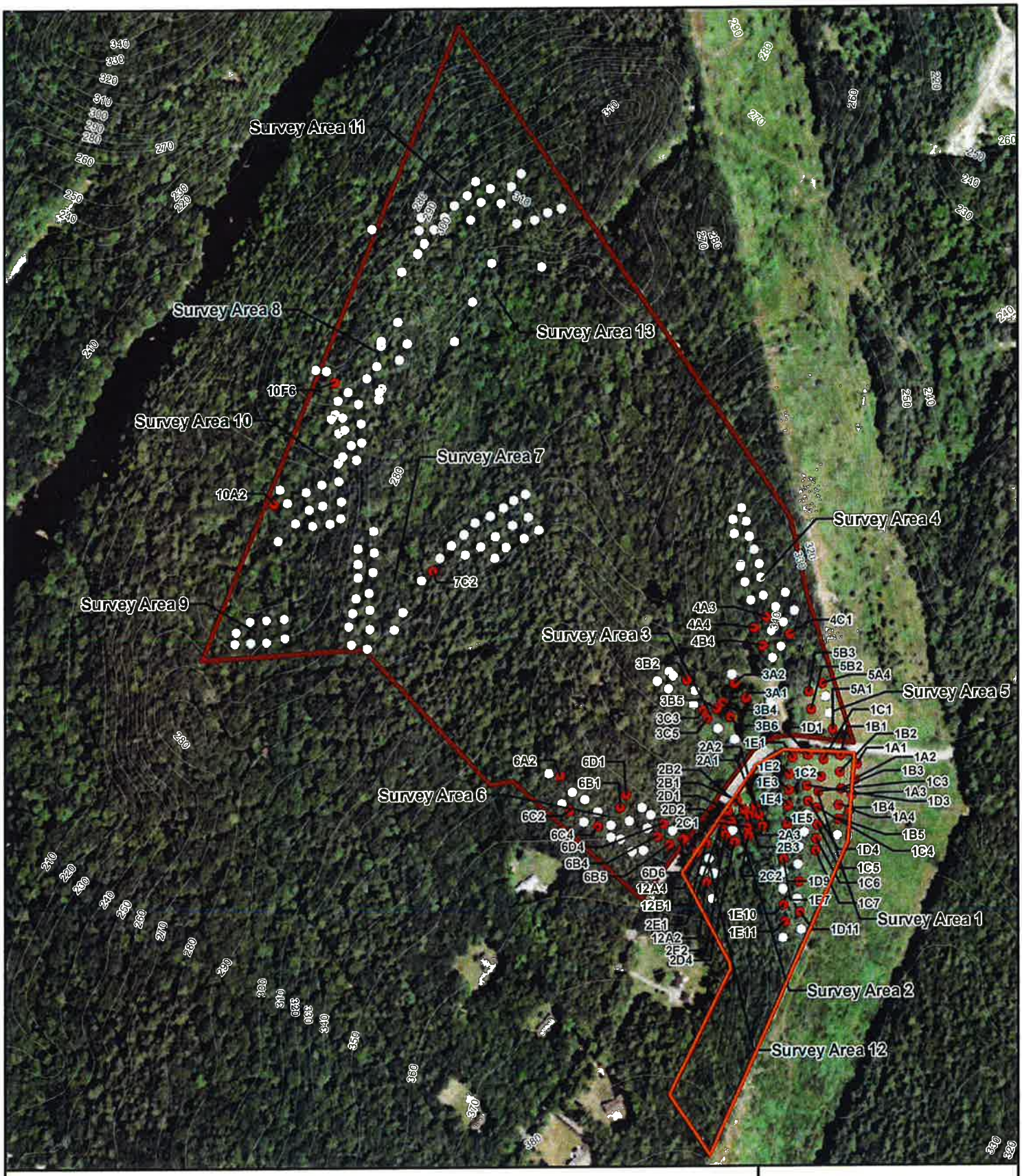

Figure 9
Archaeological Shovel Testing

Killingly Energy Center
Killingly, Connecticut

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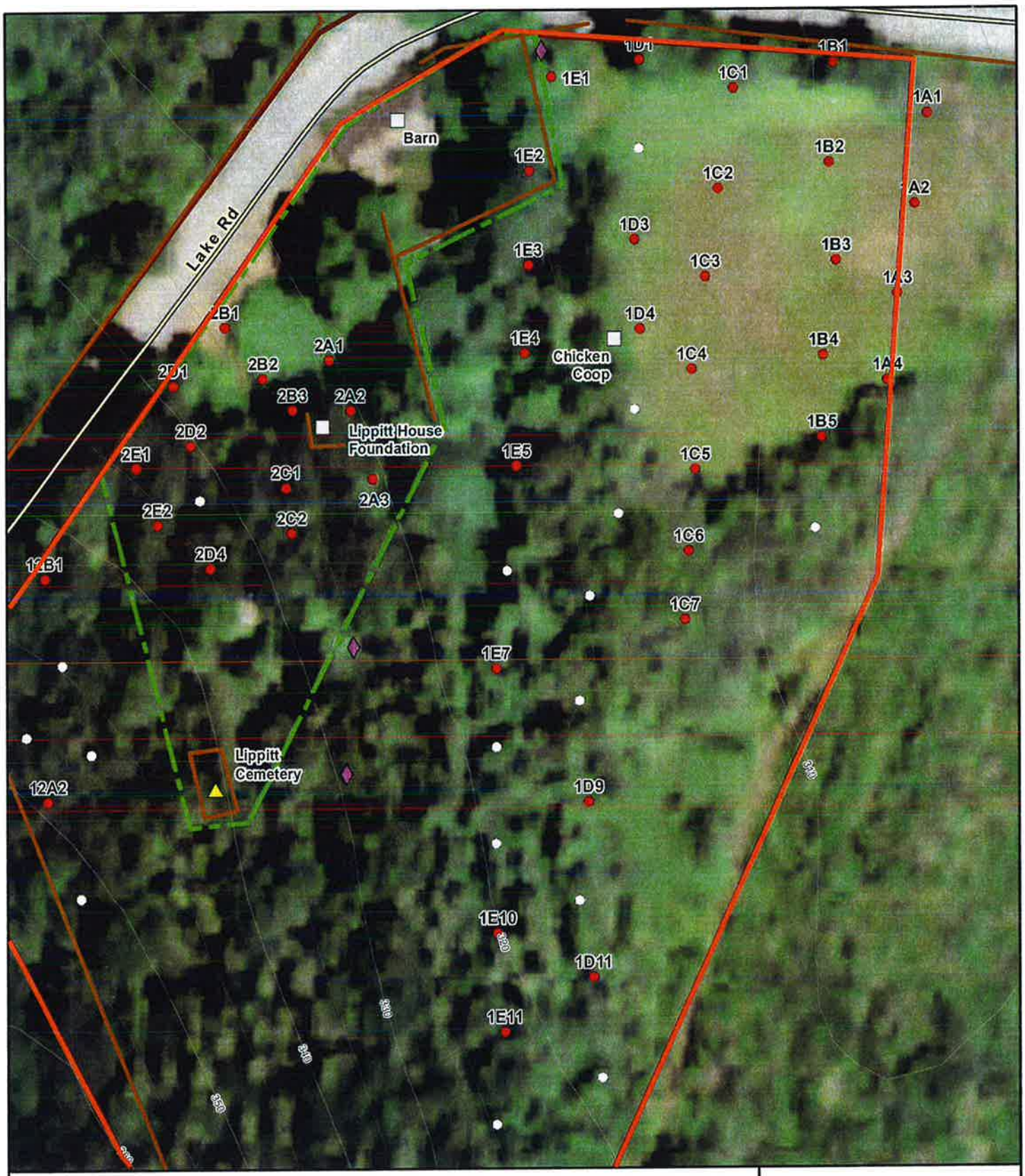

Legend

- Switchyard Site
- Lippitt Farm Site
- Cemetery
- Structure
- Trash Pile
- Stone Wall
- Shovel Test - No Artifact
- Shovel Test - Artifact

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0 50 100 Feet

Figure 10
Survey Areas 1 and 2

Killingly Energy Center
Killingly, Connecticut

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TABLES

Table 1. Archaeological Sites within Two Miles of the Killingly Energy Center

Site	Name	Cult.	Site Type	Period	Artifacts-Features	Reference
069-002	Killingly Wood Power Project	P	Camp	LA	P: 1 Wading River, flint, quartz, quartzite, rhyolite flakes	McBride 1982
069-002	Putnam-Killingly Pipeline	PH	P: Camp H: Artifact scatter	MW	P: 1 Fox Creek point, 79 total quartz, quartzite, chert, tools, FCR. H: 79 total coal, bottle glass, nails, ceramics, tableware	Lavin and Kania 2001
069-006	Pineview Lot #15	P	Camp	unknown	P: lithic debitage, FCR	Pfeiffer 1989
069-007	Pineview Lot #216	P	Camp	unknown	P: pink felsite debitage	Pfeiffer 1989
069-027	Arnold's Mill	H	Industry	1800s	H: mill race ruins	Dowd and Ward 1989
069-028	Dam #8	H	Industry	1800s	H: stone dam	Dowd and Ward 1989
069-029	Grist Mill	H	Industry	1800s	H: stone, brick, mill race	Dowd and Ward 1989
069-042	Roger's Mill South	PH	P: Camp H: Artifact scatter	unknown, 1800-1900	P: 2 flint, 3 quartz, 15 quartzite flakes. H: 1800s to1900s artifacts	McBride 1992; McBride and Soulsby 1992
069-064	Kill Glass	P	Lithic scatter	unknown	P: 2 quartz flakes, scraper	
069-068	Peoples Tramway Compay Stone Arch Bridge	H	Bridge	1900-1920	H: cut stone arch	Ruggiro and Mills 1998a
069-071	Pineview Lot #24	H	Bridge	unknown	H: no description	Pfeiffer 1989
069-090	Killingly 2G	P	Camp	unknown	P: quartzite flakes	George et al. 2004

Site	Name	Cult.	Site Type	Period	Artifacts-Features	Reference
069- No Numbers	Lake Road Power Plant Interconnect Corridor	PH	P: Camp H Farmstead	unknown; 1800s	P: 2 quartzite, 1 quartz. H: structures, stone-lined wells, fences, farming-logging roads	Ruggiro and Millis 1998a
069- No Numbers	Lake Road Lateral Site	P	Camp	MA	P: 1 quartzite Neville point, 55 quartz, 54 quartzite, 5 jasper, 2 rhyolite, 14 schist, 1 chert, 2 gneiss, 2 unidentified	Ruggiro and Millis 1998b
112-001	no name	P	Camp	LA-EW	P: 1 quartzite Narrow-stem point, 1 quartzite knife, 8 quartz, 13 flint, 34 argillite flakes, 50 bone, 9 charred botanical remains	McBride and Soulsby 1990
112-002	no name	P	Camp	unknown	P: 2 quartz, 5 quartzite, 1 flint flakes	McBride and Soulsby 1990
112-003	no name	P	Camp	MA	P: 1 quartzite Neville-like point, 84 quartzite, 3 quartz flakes	McBride and Soulsby 1990
112-004	no name	P	Camp	unknown	P: 1 quartz, 8 rhyolite flakes	McBride and Soulsby 1990
112-005	no name	P	Camp	unknown	P: 193 quartzite, 4 quartz flakes	McBride and Soulsby 1990
112-006	no name	P	unknown	unknown	P: 1 quartzite flake	McBride and Soulsby 1990
112-008	Idle Wild Farm	P	Camp	EW	P: Vinette I ceramics, 1,525 lithic artifacts	McBride 1992; McBride and Soulsby 1992

Key:
Site: 069 Killingly; 112 Pomfret
Culture: P prehistoric; H historic period; PH prehistoric and historic components

Table 2. Lake Road Properties Construction Dates

Street No.	Acreage (1)	Building Type (1)	Assessor Date (1)	HRI Date (2)
11	6.27	Residence	2000	Not inventoried
14	0.56	Residence	1974	Not inventoried
19	2.00	Residence	1987	Not inventoried
22	59.00	Outbuilding	2000	Not inventoried
29	3.30	Residence	1954	Not inventoried
41	2.01	Residence	1994	Not inventoried
44	1.90	Residence	1963	Not inventoried
57	2.05	Residence	1994	Not inventoried
70	35.00	Outbuilding	1960	Not inventoried
71	2.86	Residence	2003	Not inventoried
83	0.53	Land	No buildings	Not inventoried
86	4.70	Residence	1923	1923
91	35.50	Residence	1977	Not inventoried
92	3.32	Residence	1800	ca. 1785
110	2.90	Residence	1945	Not inventoried
115	50.00	Land	No buildings	Not inventoried
122	3.20	Residence	1972	Not inventoried
125	1.84	Residence	1996	Not inventoried
131	4.36	Residence	1996	Not inventoried
134	2.49	Residence	2013	Not inventoried
137	2.35	Residence	1999	Not inventoried
144	2.17	Residence	2013	Not inventoried
149	3.55	Residence	1956	Not inventoried
154	3.10	Residence	1958	Not inventoried
161	30.00	Land	No buildings	Not inventoried
180	9.70	Outbuilding	1975	Not inventoried
189	62.00	Residence	1908	ca. 1865
199	1.80	Land	No buildings	Not inventoried
209	4.50	Land	No buildings	Not inventoried

Street No.	Acreage (1)	Building Type (1)	Assessor Date (1)	HRI Date (2)
217	0.33	Land	No buildings	Not inventoried
220	9.11	Land	No buildings	Not inventoried
251	46.00	Residence	1870	ca. 1875
260	29.78	Manufacturing	1989	Not inventoried
287	1.00	Residence	1950	Not inventoried
293	0.58	Residence	1939	1938
296	127.00	Residence	1964	Not inventoried
300	11.41	Manufacturing	1961	Not inventoried
312	7.80	Manufacturing	1995	Not inventoried
313	2.81	Manufacturing	1990	Not inventoried
328	8.00	Manufacturing	1999	Not inventoried
329	2.31	Manufacturing	1990	Not inventoried
349	20.74	Manufacturing	1978	Not inventoried
360	11.10	Outbuilding	1989	Not inventoried
389	36.85	Land	No buildings	Not inventoried
390	1.90	Residence	1973	Not inventoried
394	5.96	Office	2006	Not inventoried
417	0.93	Residence	1955	Not inventoried
429	5.25	Manufacturing	1971	Not inventoried

Key:
(1) Killingly Assessor 2016
(2) McCahon 1990; Shading, Killingly Power Center. Shaded properties are the Project.

Table 3. Historic Period Artifacts from Survey Areas at Killingly Energy Center

Survey Area	Total Shovel Tests	Positive Shovel Tests	Architectural							Domestic						Miscellaneous			Pers.	Total
			Nails - Cut	Nails - Wire	Nails - Unidentified	Window Glass	Bricks	Architecture - Other	Redware - Glazed	Redware - Unglazed	Creamware	Pearlware	Whiteware	Stoneware	Vessel Glass	Coal	Bone - Shell	Metal - Other	Personal	
1	41	29	17	8	2	17	0	0	4	0	1	3	3	1	6	1	0	2	5	70
2	14	13	37	21	15	24	3	9	5	24	1	1	10	0	15	3	1	17	12	198
3	16	8	3	0	0	3	0	1	2	0	0	0	2	0	2	0	0	3	1	17
4	24	4	5	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	9
5	7	4	0	1	0	2	0	0	1	0	0	0	0	0	0	0	2	0	1	7
6	26	10	4	0	1	4	0	1	0	0	0	0	3	0	1	0	3	6	1	24
7	36	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	31	2	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
11	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	7	3	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	4
13	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	245	74	66	30	20	51	3	12	13	24	2	4	20	1	27	4	6	28	21	332

Table 4. Shovel Test Soil Strata and Historic Artifact Distributions around the Lippitt Farm House

				Architectural						Domestic								Miscellaneous			Pers.	
Shovel Test	Stratum	Depths (cm)	Soils - Fill	Nails - Cut	Nails - Wire	Nails - Unidentified	Window Glass	Bricks	Architecture - Other	Redware - Glazed	Redware - Unglazed	Creamware	Pearlware	Whiteware	Stoneware	Vessel Glass	Coal	Bone - Shell	Metal - Other	Personal	Total
2A1	1	0-7	Fill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	7-20	Fill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	3	20-36	Fill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	4	36-43	Fill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
2A2	1	0-7	Fill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	7-20	Fill	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	3	20-46	Fill	10	6	4	4	0	0	0	0	0	0	1	0	0	0	0	2	4	31
	4	46-77	Fill	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
	5	77-99	Sand	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2A3	1	0-49	Fill	0	6	3	1	1	1	0	0	0	0	0	4	1	0	0	0	0	17
	2	49-62	Sand	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3	62-89	Sand	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2B2	1	0-20	Fill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	20-30	Fill	14	3	7	6	0	0	2	23	0	0	0	0	1	2	0	6	2	66
	3	30-50	Fill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4	50-55	Sand	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2B3	1	0-23	Fill	2	2	1	7	0	0	0	1	0	0	0	0	1	0	0	0	1	15
	2	23-39	Fill	3	0	0	0	0	0	1	0	0	1	0	0	1	0	0	9	0	15
	3	39-50	Sand	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4	50-62	Sand	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHOTOGRAPHS

Photograph 1. Survey Areas 2: Lippitt Cemetery, fieldstone walls east of Lake Road. View to the northwest (Photographer S.A. Reeve, March 16, 2016).

Photograph 2. Survey Area 2: Lippitt Cemetery, uncarved fieldstone headstones and footstones. View to the southwest (Photographer S.A. Reeve, March 16, 2016).

Photograph 3. Survey Area 2: Possible Lippitt house foundation east of Lake Road. View to the northwest (Photographer S.A. Reeve, March 16, 2016).

Photograph 4. Survey Area 2: graded platform and stone wall, possibly for a former outbuilding (left), drainage channel (center), and Lippitt house foundation (right). View to the west (Photographer S. Haugh, April 14, 2016).

Photograph 5. Survey Area 2: barn east of Lake Road, fieldstone foundations and collapsing roof. View to the north (Photographer S.A. Reeve, March 16, 2016).

Photograph 6. Survey Area 2: barn fieldstone west wall facing Lake Road. View to the east (Photographer S.A. Reeve, March 16, 2016)

Photograph 7. Barn and silo foundations on north wall. View to the southwest (Photographer S.A. Reeve, March 16, 2016).

Photograph 8. Fieldstone walls surrounding the barnyard. View to the southwest (Photographer S.A. Reeve, March 16, 2016).

Photograph 9. Survey Area 2: redware bowl with dark brown glaze, shovel test 2B3, stratum 2.

Photograph 10. Survey Area 2: creamware with pitted white glaze, shovel test 2E1, stratum 1.

Photograph 11. **Survey Area 2: pearlware cup with annular blue painted rim, shovel test 2B3, stratum 2.**

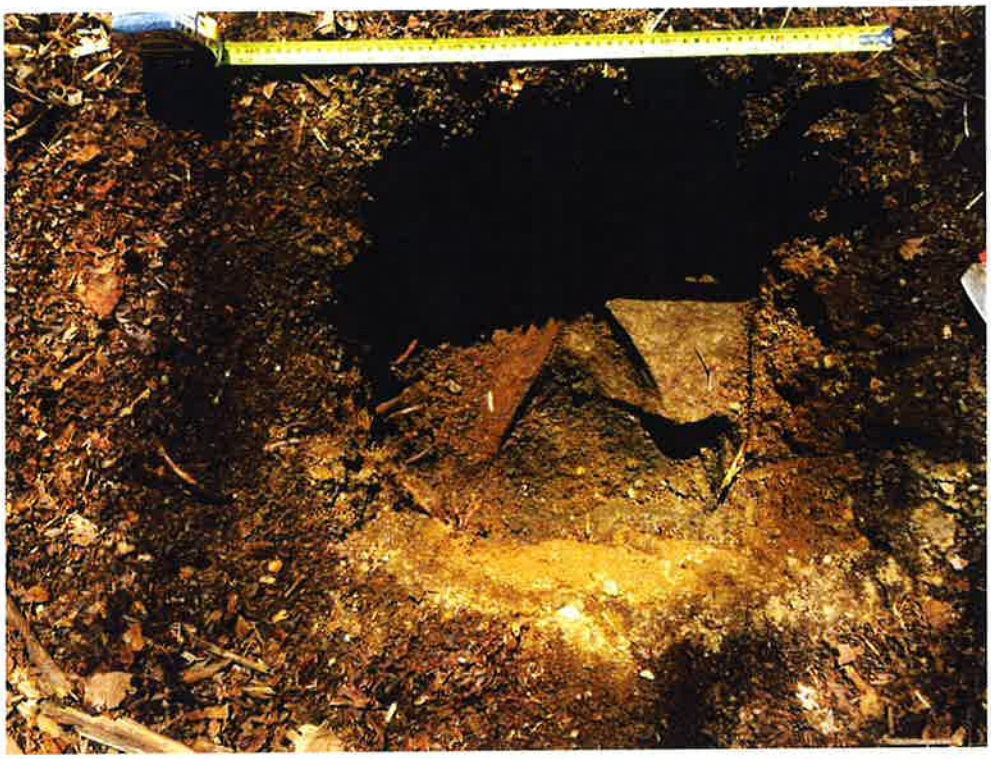
Photograph 12 Survey Area 2: iron latch handle and plate, shovel test 2B2, stratum 2.

Photograph 13. **Survey Area 2: whiteware with sponge blue design, shovel test 2C2, stratum 1.**

Photograph 14. **Survey Area 2: whiteware plate rim with impressed circles and green glaze, shovel test 2D1, stratum 2.**

Photograph 15. **Survey Area 2: Bakelite pipe stem, shovel test 2A1, stratum 3.**

Photograph 16. **Survey Area 2: leather glove fragment, shovel test 2A1, stratum 4.**



Photograph 17. Survey Area 2: shovel test 2B3 showing fill and angular rocks. View to the south
(Photographer S. Haugh, April 13, 2016).

Photograph 18. Survey Area 1: former fields east of Lake Road. A former chicken coop (left) was east of the walled barnyard (right). View to the southeast.
(Photographer S. Haugh, April 13, 2016).

Photograph 19. **Survey Area 1: kaolin pipe stem, shovel test 1C4, stratum 1.**

Photograph 20. **Survey Area 1: brass clock part, shovel test 1B4, stratum 1.**

Photograph 21. Sorrow house at 189 Lake Road, east façade (Photographer S.A. Reeve, March 16, 2016).

Photograph 22. Sorrow house, north façade (Photographer S.A. Reeve, March 16, 2016).

Photograph 23. Sorrow house, west façade (Photographer S.A. Reeve, March 16, 2016).

Photograph 24. Sorrow house, south façade (Photographer S.A. Reeve, March 16, 2016).

Photograph 25. **Survey Area 4: collapsed summer house west of Lake Road. View to the north (Photographer S.A. Reeve, March 16, 2016).**

Photograph 26. Wetland drainage ditches west of Lake Road. View to the southwest (Photographer S.A. Reeve, March 16, 2016).

Photograph 27. Survey Area 7: extensive 20th-Century household dumping east of the wetland. View to the west (Photographer S.A. Reeve, March 16, 2016).

Photograph 28. Survey Area 7: fieldstone springhead in Survey Area 7. View to the southwest (Photographer S.A. Reeve, March 16, 2016).

Photograph 29. Survey Area 7: fieldstone hearths from campers. View to the north (Photographer S. Haugh, April 18, 2016).

Photograph 30. Survey Area 13: "Lippitt Ledge" rock quarries west of the wetland. View to the west (Photographer S.A. Reeve, March 16, 2016).

Photograph 31. Survey Area 13: possible 19th-Century quarry trench, exposing bedrock face west of the wetland. View to the south (Photographer S.A. Reeve, March 16, 2016).

Photograph 32. Survey Area 13: terrace west of the wetland, cleared of rock scree from quarrying during the 1990s. View to the north (Photographer S.A. Reeve, March 16, 2016).

Photograph 33. Survey Area 11: level ridgetops overlooking the Quinebaug River to the west. View to the north (Photographer S.A. Reeve, March 16, 2016).

Photograph 34. Stone chimney on the Quinebaug River floodplain, west (outside) of the Project property. View to the east (Photographer S. Haugh, April 19, 2016).

APPENDIX A – KILLINGLY ENERGY CENTER SHOVEL TEST SOIL DESCRIPTIONS

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
001	A-1	I	0-26	10YR3/3	-	Sandy Loam	2-A	0	0	-
001	A-1	II	26-40	10YR5/6	-	Sand	2-A	0	2	Scatter
001	A-2	I	0-30	10YR3/3	-	Sandy Loam	2-A	0	0	-
001	A-2	II	30-40	10YR5/8	-	Sand	1-A	0	2	Scatter
001	A-3	I	0-27	10YR3/3	-	Sandy Loam	1-A	0	2	Scatter
001	A-3	II	27-40	10YR5/8	-	Sand	1-A	0	0	-
001	A-4	I	0-28	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
001	A-4	II	28-40	10YR5/8	-	Sand	2-A	0	0	-
001	B-1	I	0-16	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
001	B-1	II	16-22	10YR5/6	-	Sand	0	0	0	-
001	B-2	I	0-25	10YR3/3	-	Sandy Loam	3-A	0	3	Scatter
001	B-2	II	25-40	10YR4/6	-	Sand	0	0	0	-
001	B-3	I	0-23	10YR3/3	-	Sandy Loam	3-A	0	1	Scatter
001	B-3	II	23-41	10YR5/8	-	Sand	0	0	0	-
001	B-4	I	0-25	10YR3/3	-	Sandy Loam	3-A	0	1	Scatter
001	B-4	II	25-39	10YR5/8	-	Sand	0	0	0	-
001	B-5	I	0-39	10YR3/3	-	Sandy Loam	3-A	0	1	Scatter
001	B-5	II	39-42	10YR4/6	-	Sand	0	0	0	-
001	B-6	I	0-32	10YR2/2	-	Silt Loam	3-A	0	0	-
001	B-6	III	42-43	10YR4/2	-	Silty Sand	3-A	0	0	-
001	C-1	I	0-23	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
001	C-1	II	23-38	10YR5/8	-	Sand	2-A	0	0	-
001	C-2	I	0-26	10YR3/3	-	Sandy Loam	2-A	0	3	Scatter
001	C-2	II	26-42	10YR5/8	-	Sand	1-A	0	0	-
001	C-3	I	0-28	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
001	C-3	II	28-44	10YR5/8	-	Sand	2-A	0	0	-
001	C-4	I	0-36	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
001	C-4	II	36-50	10YR5/8	-	Sand	1-A	0	0	-
001	C-5	I	0-28	10YR3/3	-	Sandy Loam	2-A	0	2	Scatter
001	C-5	II	28-40	10YR5/8	-	Sand	2-A	0	0	-
001	C-6	I	0-29	10YR2/2	-	Silt Loam	2-A	0	1	Scatter
001	C-6	II	29-29	10YR6/6	-	Sand	2-A	0	0	-
001	C-7	I	0-35	10YR2/2	-	Silt Loam	2-A	0	2	Scatter
001	C-7	II	35-55	10YR4/4	-	Silt Loam	2-A	0	0	-
001	D-1	I	0-15	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
001	D-1	II	15-18	10YR5/6	-	Sand	0	0	0	-
001	D-2	I	0-28	10YR3/3	-	Sandy Loam	3-A	0	0	-
001	D-2	II	28-42	10YR5/6	-	Sand	0	0	0	-
001	D-3	I	0-34	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
001	D-3	II	34-50	10YR5/6	-	Sand	0	0	0	-
001	D-4	I	0-40	10YR3/3	-	Sandy Loam	2-A	0	8	Scatter
001	D-4	II	40-60	10YR5/6	-	Sand	0	0	0	-
001	D-5	I	0-33	10YR3/3	-	Sandy Loam	2-A	0	0	-
001	D-5	II	33-52	10YR5/6	-	Sand	0	0	0	-

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
001	D-6	I	0-34	10YR3/3	-	Silt Loam	3-A	0	0	-
001	D-6	II	34-43	10YR4/6	-	Sand	0	0	0	-
001	D-7	I	0-30	10YR3/3	-	Silt Loam	2-A	0	0	-
001	D-7	II	30-40	10YR4/6	-	Sand	0	0	0	-
001	D-8	I	0-39	10YR3/3	-	Silt Loam	2-A	0	0	-
001	D-8	II	39-50	10YR4/6	-	Sand	0	0	0	-
001	D-9	I	0-47	10YR3/3	-	Silt Loam	3-A	0	1	Scatter
001	D-9	II	47-53	10YR4/6	-	Sand	0	0	0	-
001	D-10	I	0-29	10YR3/3	-	Silt Loam	3-A	0	0	-
001	D-10	II	29-34	10YR4/6	-	Sand	0	0	0	-
001	D-11	I	0-35	10YR3/3	-	Silt Loam	3-A	0	1	Scatter
001	D-11	II	35-45	10YR4/6	-	Sand	1-A	0	0	-
001	D-12	I	0-40	10YR3/3	-	Silt Loam	3-A	0	0	-
001	D-12	II	40-51	10YR4/6	-	Sand	0	0	0	-
001	E-1	I	0-24	10YR3/3	-	Sandy Loam	0	0	1	Scatter
001	E-2	I	0-48	10YR2/1	-	Sandy Loam	2-A	0	1	Scatter
001	E-2	II	48-58	10YR5/8	-	Sand	2-A	0	0	-
001	E-3	I	0-26	10YR3/3	-	Sandy Loam	2-A	0	23	Scatter
001	E-3	II	26-40	10YR5/8	-	Sand	2-A	0	0	-
001	E-4	I	0-40	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
001	E-4	II	40-57	10YR5/6	-	Sand	2-A	0	0	-
001	E-4	III	57-67	10YR6/4	-	Sand	2-A	0	0	-
001	E-5	I	0-34	10YR3/3	-	Sandy Loam	1-A	0	4	Scatter
001	E-5	II	34-50	10YR5/8	-	Sand	1-A	0	0	-
001	E-6	I	0-30	10YR3/2	-	Sandy Loam	1-A	0	0	-
001	E-6	II	30-53	10YR5/6	-	Sand	1-A	0	0	-
001	E-7	I	0-33	10YR3/3	-	Sandy Loam	3-A	0	1	Scatter
001	E-7	II	33-39	10YR5/8	-	Sand	3-A	0	0	-
001	E-8	I	0-24	10YR3/3	-	Sandy Loam	2-A	0	0	-
001	E-8	II	24-37	10YR5/6	-	Sand	3-A	0	0	-
001	E-9	I	0-30	10YR3/3	-	Sandy Loam	2-A	0	0	-
001	E-9	II	30-40	10YR5/8	-	Sand	2-A	0	0	-
001	E-10	I	0-25	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
001	E-10	II	25-45	10YR5/8	-	Sand	2-A	0	0	-
001	E-11	I	0-20	10YR5/8	-	Sandy Loam	3-A	0	1	Scatter
001	E-11	II	20-30	10YR6/8	-	Sand	3-A	0	0	-
001	E-12	I	0-39	10YR3/3	-	Sandy Loam	2-A	0	0	-
001	E-12	II	39-49	10YR6/8	-	Sand	2-A	0	0	-
002	A-1	I	0-7	10YR3/3	-	Sandy Loam Fill	3-R	0	0	-
002	A-1	II	7-20	10YR6/8	-	Sand Fill	3-R	0	1	Site
002	A-1	III	20-36	10YR2/2	-	Sandy Loam Fill	3-R	0	1	Site
002	A-1	IV	36-43	10YR6/8	-	Sand Fill	3-R	0	1	Site
002	A-2	I	0-7	10YR3/3	-	Sand Fill	2-A	0	0	-
002	A-2	II	7-20	10YR5/8	-	Sand Fill	2-A	0	3	Site

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
002	A-2	III	20-46	10YR3/2	-	Sandy Loam Fill	2-A	0	31	Site
002	A-2	IV	46-79	10YR4/6	-	Sandy Loam Fill	2-A	0	4	Site
002	A-2	V	79-99	5YR4/6	-	Sand	1-A	0	0	-
002	A-3	I	0-49	10YR3/3	-	Sandy Loam Fill	1-A	0	17	Site
002	A-3	II	49-62	10YR5/6	-	Sand	1-A	0	0	-
002	A-3	III	62-89	10YR3/6	-	Sandy Loam	1-A	0	0	-
002	B-1	I	0-19	10YR3/3	-	Sandy Loam Fill	3-SA	0	2	Site
002	B-1	II	19-25	10YR3/3	-	Sandy Loam	2-SA	0	0	-
002	B-2	I	0-20	10YR3/3	-	Sandy Loam Fill	2-A	0	66	Site
002	B-2	II	20-30	10YR5/8	10YR6/3	Sandy Loam Fill	2-A	0	0	-
002	B-2	III	30-50	5YR4/6	-	Sandy Loam Fill	0	0	0	-
002	B-2	IV	50-55	2.5Y5/6	-	Sand	0	0	0	-
002	B-3	I	0-23	10YR3/3	-	Sandy Loam Fill	3-A	0	17	Site
002	B-3	II	23-39	10YR4/6	-	Sandy Loam Fill	2-A	0	15	Site
002	B-3	III	39-50	10YR3/3	-	Sandy Loam Fill	1-A	0	0	-
002	B-3	IV	50-62	2.5Y5/6	-	Sand	0	0	0	-
002	C-1	I	0-35	10YR3/3	-	Sandy Loam	3-A	0	4	Site
002	C-1	II	35-42	10YR4/6	-	Sand	1-A	0	0	-
002	C-2	I	0-19	10YR3/3	-	Sandy Loam	3-A	0	4	Site
002	C-2	II	19-47	10YR5/6	-	Sandy Loam	3-A	0	0	-
002	D-1	I	0-15	10YR3/6	-	Sandy Loam	2-A	0	0	-
002	D-1	II	15-45	10YR5/4	-	Sandy Loam	2-A	0	4	Site
002	D-1	III	45-55	10YR5/6	-	Sand	2-A	0	0	-
002	D-2	I	0-39	10YR3/6	-	Sandy Loam	2-A	0	0	-
002	D-2	II	39-58	10YR5/8	-	Sand	2-A	0	2	Site
002	D-3	I	0-30	10YR3/3	-	Sandy Loam	2-A	0	0	-
002	D-3	II	30-40	10YR5/6	-	Sand	2-A	0	0	-
002	D-3	III	40-53	2.5Y6/6	-	Sand	2-A	0	0	-
002	D-4	I	0-25	10YR3/3	-	Sandy Loam	2-A	0	3	Site
002	D-4	II	25-52	10YR5/8	-	Sand	2-A	0	0	-
002	E-1	I	0-22	10YR3/3	-	Sandy Loam	3-A	0	3	Site
002	E-1	II	22-40	10YR5/6	-	Sand	0	0	0	-
002	E-2	I	0-18	10YR3/3	-	Sandy Loam	2-A	0	20	Site
002	E-2	II	18-37	10YR4/6	-	Sand	0	0	0	-
003	A-1	I	0-44	10YR3/3	-	Sandy Loam	2-A	0	3	Scatter
003	A-1	II	44-54	10YR5/8	-	Sand	2-A	0	0	-
003	A-2	I	0-35	10YR3/3	-	Sandy Loam	3-A	0	3	Scatter
003	A-2	II	35-50	10YR4/6	-	Sand	3-A	0	0	-
003	A-3	I	0-18	10YR3/4	-	Sandy Loam	2-A	0	0	-
003	A-3	II	18-28	10YR4/6	-	Sand	3-A	0	0	-
003	B-1	I	0-23	10YR3/3	-	Sandy Loam	3-A	0	0	-
003	B-1	II	23-35	10YR5/6	-	Sand	3-A	0	0	-
003	B-2	I	0-25	10YR3/3	-	Sandy Loam	3-A	0	1	Scatter
003	B-2	II	25-40	10YR5/6	-	Sand	3-A	0	0	-

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
003	B-3	I	0-17	10YR3/3	-	Sandy Loam	2-A	0	0	-
003	B-3	II	17-35	10YR5/6	-	Sand	2-A	0	0	-
003	B-4	I	0-24	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
003	B-4	II	24-38	10YR5/6	-	Sand	1-A	0	0	-
003	B-5	I	0-30	10YR3/3	-	Sandy Loam	2-A	0	2	Scatter
003	B-5	II	30-43	10YR5/6	-	Sand	3-A	0	0	-
003	B-6	I	0-25	10YR3/3	-	Sandy Loam	2-A	0	5	Scatter
003	B-6	II	25-39	10YR5/6	-	Sand	3-A	0	0	-
003	C-1	I	0-30	10YR3/3	-	Sandy Loam	2-A	0	0	-
003	C-1	II	30-43	10YR4/6	-	Sand	2-A	0	0	-
003	C-2	I	0-24	10YR3/3	-	Sandy Loam	2-A	0	0	-
003	C-2	II	24-38	10YR4/6	-	Sandy Loam	2-A	0	0	-
003	C-3	I	0-28	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
003	C-3	II	28-28	10YR4/8	-	Sandy Loam	2-A	0	0	-
003	C-4	I	0-19	10YR3/3	-	Sandy Loam	2-A	0	0	-
003	C-4	II	19-38	10YR4/6	-	Sandy Loam	2-A	0	0	-
003	C-5	I	0-23	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
003	C-5	II	23-36	10YR4/6	-	Sandy Loam	2-A	0	0	-
003	C-6	I	0-24	10YR3/3	-	Sandy Loam	2-A	0	0	-
003	C-6	II	24-38	10YR4/6	-	Sandy Loam	2-A	0	0	-
003	C-7	I	0-22	10YR3/3	-	Sandy Loam	1-A	0	0	-
003	C-7	II	22-38	10YR4/6	-	Sandy Loam	1-A	0	0	-
004	A-1	I	0-22	10YR3/3	-	Sandy Loam	3-A	0	0	-
004	A-1	II	22-40	7.5YR4/6	-	Fine Sand	3-A	0	0	-
004	A-2	I	0-12	10YR3/3	-	Sandy Loam	0	0	0	-
004	A-2	II	12-40	7.5YR4/6	-	Fine Sand	3-A	0	0	-
004	A-3	I	0-25	10YR3/3	-	Sandy Loam	1-A	0	6	Scatter
004	A-3	II	25-45	7.5YR4/6	-	Fine Sand	3-A	0	0	-
004	A-4	I	0-22	10YR3/3	-	Sandy Loam	0	0	1	Scatter
004	A-4	II	22-44	7.5YR4/6	-	Fine Sand	3-A	0	0	-
004	B-1	I	0-20	10YR3/2	-	Sandy Loam	2-A	0	0	-
004	B-1	II	20-33	10YR5/6	-	Sand	2-A	0	0	-
004	B-2	I	0-28	10YR3/3	-	Sandy Loam	2-A	0	0	-
004	B-2	II	28-40	10YR5/8	-	Sand	2-A	0	0	-
004	B-3	I	0-24	10YR3/3	-	Sandy Loam	2-A	0	0	-
004	B-3	II	24-38	10YR5/6	-	Sand	3-A	0	0	-
004	B-4	I	0-27	10YR3/6	-	Sandy Loam	2-A	0	1	Scatter
004	B-4	II	27-48	10YR5/8	-	Sand	2-A	0	0	-
004	C-1	I	0-47	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
004	C-2	I	0-27	10YR3/3	-	Sandy Loam	2-A	0	0	-
004	C-2	II	27-38	7.5YR4/6	-	Sand	2-A	0	0	-
004	C-3	I	0-20	10YR3/3	-	Sandy Loam	2-A	0	0	-
004	C-3	II	20-33	7.5YR4/6	-	Sand	1-A	0	0	-
004	D-1	I	0-10	10YR2/1	-	Sandy Loam	2-A	0	0	-

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
004	D-1	II	10-30	7.5YR4/6	-	Sand	2-A	0	0	-
004	D-2	I	0-8	10YR3/2	-	Sandy Loam	2-A	0	0	-
004	D-2	II	8-28	7.5YR4/6	-	Sandy Loam	3-A	0	0	-
004	D-3	I	0-17	10YR3/2	-	Sandy Loam	2-A	0	0	-
004	D-3	II	17-38	7.5YR5/6	-	Sandy Loam	2-A	0	0	-
004	D-4	I	0-18	10YR3/2	-	Sandy Loam	2-A	0	0	-
004	D-4	II	18-30	7.5YR4/6	-	Sandy Loam	3-A	0	0	-
004	D-5	I	0-9	10YR3/2	-	Sandy Loam	2-A	0	0	-
004	D-5	II	9-28	7.5YR5/6	-	Sandy Loam	2-A	0	0	-
004	D-6	I	0-10	10YR3/2	-	Sandy Loam	2-A	0	0	-
004	D-6	II	10-24	7.5YR5/6	-	Sandy Loam	2-A	0	0	-
004	D-7	I	0-17	10YR3/2	-	Sandy Loam	2-A	0	0	-
004	D-7	II	17-33	7.5YR5/6	-	Sandy Loam	2-A	0	0	-
004	E-1	I	0-11	10YR3/6	-	Sandy Loam	2-A	0	0	-
004	E-1	II	11-22	7.5YR4/6	-	Sand	0	0	0	-
004	E-2	I	0-9	10YR3/2	-	Sandy Loam	0	0	0	-
004	E-2	II	9-20	7.5YR4/6	-	Sandy Loam	3-A	0	0	-
004	E-3	I	0-11	10YR3/1	-	Sandy Loam	0	0	0	-
004	E-3	II	11-23	7.5YR4/6	-	Sandy Loam	3-A	0	0	-
004	E-4	I	0-4	10YR3/2	-	Sandy Loam	0	0	0	-
004	E-4	II	4-16	7.5YR4/6	-	Sandy Loam	3-A	0	0	-
004	E-5	I	0-8	10YR3/2	-	Sandy Loam	0	0	0	-
004	E-5	II	8-19	7.5YR4/6	-	Sandy Loam	3-A	0	0	-
004	E-6	I	0-8	10YR2/1	-	Sandy Loam	0	0	0	-
004	E-6	II	8-20	7.5YR4/6	-	Sandy Loam	3-A	0	0	-
005	A-1	I	0-23	10YR3/6	-	Sandy Loam	2-A	0	2	Scatter
005	A-1	II	23-34	10YR6/8	-	Sand	2-A	0	0	-
005	A-2	I	0-23	10YR3/6	-	Sandy Loam	2-A	0	0	-
005	A-2	II	23-37	10YR6/8	-	Sand	2-A	0	0	-
005	A-3	I	0-23	10YR3/3	-	Sandy Loam	3-A	0	0	-
005	A-3	II	23-40	10YR5/8	-	Sand	3-A	0	0	-
005	A-4	I	0-28	10YR3/3	-	Sandy Loam	2-A	0	2	Scatter
005	A-4	II	28-44	10YR5/8	-	Sand	2-A	0	0	-
005	B-1	I	0-22	10YR3/3	-	Sandy Loam	2-A	0	0	-
005	B-1	II	22-35	10YR4/6	-	Sand	3-A	0	0	-
005	B-2	I	0-22	10YR3/3	-	Sandy Loam	2-A	0	2	Scatter
005	B-2	II	23-32	10YR4/6	-	Sand	3-A	0	0	-
005	B-3	I	0-20	10YR3/3	-	Sandy Loam	3-A	0	1	Scatter
005	B-3	II	20-30	10YR4/6	-	Sand	3-A	0	0	-
006	A-1	I	0-25	10YR3/4	-	Sandy Loam	2-A	0	0	-
006	A-1	II	25-42	10YR5/6	-	Sandy Loam	2-A	0	0	-
006	A-2	I	0-21	10YR3/4	-	Sandy Loam	2-A	0	2	Scatter
006	A-2	II	21-40	10YR5/6	-	Sandy Loam	2-A	0	0	-
006	A-3	I	0-30	10YR3/3	-	Sandy Loam	3-A	0	0	-

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
006	A-3	II	30-43	10YR5/6	-	Sand	3-A	0	0	-
006	A-4	I	0-28	10YR3/4	-	Sandy Loam	3-A	0	0	-
006	A-4	II	28-38	10YR5/6	-	Sandy Loam	3-A	0	0	-
006	A-5	I	0-28	10YR3/3	-	Sandy Loam	3-A	0	0	-
006	A-5	II	28-38	10YR5/6	-	Sand	3-A	0	0	-
006	A-6	I	0-20	10YR3/4	-	Sandy Loam	3-A	0	0	-
006	A-6	II	20-32	10YR5/6	-	Sandy Loam	3-A	0	0	-
006	B-1	I	0-28	10YR3/3	-	Sandy Loam	3-A	0	8	Scatter
006	B-1	II	28-40	10YR5/6	-	Sand	3-A	0	0	-
006	B-2	I	0-22	10YR3/4	-	Sandy Loam	3-A	0	0	-
006	B-2	II	22-34	10YR5/6	-	Sandy Loam	3-A	0	0	-
006	B-3	I	0-20	10YR3/3	-	Sandy Loam	3-A	0	0	-
006	B-3	II	20-30	10YR5/6	-	Sand	3-A	0	0	-
006	B-4	I	0-21	10YR3/4	-	Sandy Loam	3-SA	0	1	Scatter
006	B-4	II	21-34	10YR5/6	-	Sandy Loam	3-A	0	0	-
006	B-5	I	0-29	10YR3/3	-	Sandy Loam	3-A	0	1	Scatter
006	B-5	II	29-39	10YR5/6	-	Sand	3-A	0	0	-
006	C-1	I	0-27	10YR3/3	-	Sandy Loam	1-A	0	0	-
006	C-1	II	27-32	10YR5/6	-	Sand	1-A	0	0	-
006	C-2	I	0-36	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
006	C-2	II	36-46	10YR5/6	-	Sand	2-A	0	0	-
006	C-3	I	0-24	10YR3/3	-	Sandy Loam	2-A	0	0	-
006	C-3	II	24-35	10YR5/6	-	Sand	2-A	0	0	-
006	C-4	I	0-22	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
006	C-4	II	22-36	10YR5/6	-	Sand	2-A	0	0	-
006	C-5	I	0-30	10YR3/3	-	Sandy Loam	2-A	0	0	-
006	C-5	II	30-42	10YR5/6	-	Sand	2-A	0	0	-
006	C-6	I	0-30	10YR3/3	-	Sandy Loam	3-A	0	7	Scatter
006	C-6	II	30-45	10YR5/6	-	Sand	3-A	0	0	-
006	C-7	I	0-20	10YR3/3	-	Sandy Loam	2-A	0	0	-
006	C-7	II	20-32	10YR5/6	-	Sand	2-A	0	0	-
006	C-8	I	0-20	10YR3/3	-	Sandy Loam	2-A	0	0	-
006	C-8	II	20-36	10YR5/6	-	Sand	2-A	0	0	-
006	C-9	I	0-25	10YR3/3	-	Sandy Loam	2-A	0	0	-
006	C-9	II	25-40	10YR5/6	-	Sand	3-A	0	0	-
006	D-1	I	0-26	10YR3/3	-	Sandy Loam	2-SA	0	1	Scatter
006	D-1	II	26-30	10YR4/6	-	Sand	2-SA	0	0	-
006	D-2	I	0-20	10YR3/3	-	Sandy Loam	2-SA	0	0	-
006	D-2	II	20-30	10YR4/6	-	Sand	2-SA	0	0	-
006	D-3	I	0-24	10YR3/3	-	Sandy Loam	2-SA	0	0	-
006	D-3	II	24-40	10YR4/6	-	Sand	2-SA	0	0	-
006	D-4	I	0-17	10YR3/3	-	Sandy Loam	2-SA	0	1	Scatter
006	D-4	II	17-34	10YR4/6	-	Sand	2-SA	0	0	-
006	D-5	I	0-28	10YR3/3	-	Sandy Loam	2-SA	0	0	-

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
006	D-5	II	28-35	10YR4/6	-	Sand	2-SA	0	0	-
006	D-6	I	0-29	10YR3/3	-	Sandy Loam	2-SA	0	1	Scatter
006	D-6	II	29-35	10YR4/6	-	Sand	2-SA	0	0	-
007	A-1	I	0-28	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	A-1	II	28-40	7.5YR4/6	-	Sand	3-A	0	0	-
007	A-2	I	0-25	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	A-2	II	25-40	7.5YR4/6	-	Sand	3-A	0	0	-
007	A-3	I	0-15	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	A-3	II	15-25	7.5YR4/6	-	Sand	2-A	0	0	-
007	A-4	I	0-22	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	A-4	II	22-32	7.5YR4/6	-	Sand	3-A	0	0	-
007	A-5	I	0-20	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	A-5	II	20-33	7.5YR4/6	-	Sand	3-A	0	0	-
007	A-6	I	0-18	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	A-6	II	18-22	7.5YR4/6	-	Sand	3-A	0	0	-
007	A-7	I	0-15	10YR2/1	-	Sandy Loam	2-A	0	0	-
007	A-7	II	15-38	7.5YR5/6	-	Sand	3-A	0	0	-
007	A-7	III	38-46	2.5Y6/6	-	Sand	1-A	0	0	-
007	B-1	I	0-16	10YR3/3	-	Sandy Loam	2-A	0	0	-
007	B-1	II	16-30	7.5YR4/6	-	Sand	2-A	0	0	-
007	B-2	I	0-23	10YR3/3	-	Sandy Loam	3-A	0	0	Scatter
007	B-2	II	23-38	7.5YR4/6	-	Sand	0	0	0	-
007	B-3	I	0-18	10YR3/3	-	Other (see comments)	3-R	0	0	-
007	B-4	I	0-19	10YR2/1	-	Silt Loam	2-A	0	0	-
007	B-4	II	19-38	10YR5/2	-	Silt Loam	2-A	0	0	-
007	B-5	I	0-20	10YR2/1	-	Silt Loam	2-A	0	0	-
007	B-5	II	20-32	7.5YR4/6	-	Sandy Loam	2-A	0	0	-
007	B-6	I	0-18	10YR2/1	-	Silt Loam	2-A	0	0	-
007	B-6	II	18-30	7.5YR5/6	-	Sand	2-A	0	0	-
007	B-7	I	0-30	10YR2/1	-	Sandy Loam	3-A	0	0	-
007	B-7	II	30-40	2.5Y5/3	-	Sandy Loam	3-A	0	0	-
007	C-1	I	0-25	10YR3/3	-	Sandy Loam	3-A	0	0	-
007	C-1	II	25-35	7.5YR4/6	-	Sand	3-A	0	0	-
007	C-2	I	0-8	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	C-2	II	8-20	10YR3/2	10YR4/4	Sandy Loam	3-A	0	0	-
007	C-2	III	20-29	10YR2/2	-	Sandy Loam	3-A	0	1	Scatter
007	C-2	IV	29-40	7.5YR4/4	-	Sand	2-A	0	0	-
007	C-3	I	0-25	10YR2/2	-	Sandy Loam	2-A	0	0	-
007	C-3	II	25-35	7.5YR4/4	-	Sand	3-A	0	0	-
007	C-4	I	0-16	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	C-4	II	16-30	7.5YR4/4	-	Sand	3-A	0	0	-
007	C-5	I	0-20	10YR2/2	-	Sandy Loam	2-A	0	0	-
007	C-5	II	20-30	7.5YR4/4	-	Sand	3-A	0	0	-

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
007	C-6	I	0-15	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	C-6	II	15-30	7.5YR4/4	-	Sand	3-A	0	0	-
007	C-7	I	0-0	10YR3/3	-	Sandy Loam	0	0	0	-
007	C-8	I	0-7	10YR3/3	-	Sandy Loam	3-A	0	0	-
007	C-9	I	0-19	10YR2/2	-	Sandy Loam	2-A	0	0	-
007	C-9	II	19-31	7.5YR4/6	-	Sand	2-A	0	0	-
007	C-10	I	0-22	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	C-10	II	22-32	7.5YR4/4	-	Sand	3-A	0	0	-
007	C-11	I	0-6	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	C-11	II	6-16	7.5YR4/4	-	Sandy Loam	3-A	0	0	-
007	C-11	III	16-30	7.5YR5/6	-	Sand	3-A	0	0	-
007	C-12	I	0-8	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	C-12	II	8-17	7.5YR4/4	-	Sandy Loam	3-A	0	0	-
007	C-12	III	17-25	7.5YR5/6	-	Sand	3-A	0	0	-
007	C-13	I	0-5	10YR2/2	-	Sandy Loam	3-A	0	0	-
007	C-13	II	5-13	7.5YR4/4	-	Sandy Loam	3-A	0	0	-
007	C-13	III	13-24	7.5YR5/6	-	Sand	3-A	0	0	-
007	D-1	I	0-24	10YR3/4	-	Sandy Loam	1-A	0	0	-
007	D-1	II	24-3	7.5YR4/6	-	Sand	1-A	0	0	-
007	D-2	I	0-20	10YR3/2	-	Sandy Loam	1-SA	0	0	-
007	D-2	II	20-34	7.5YR4/6	-	Sand	1-SA	0	0	-
007	D-3	I	0-18	10YR3/2	-	Fill on Rock	2-SA	0	0	-
007	D-3	II	18-23	7.5YR4/6	-	Sand	2-SA	0	0	-
007	D-4	I	0-9	10YR3/2	-	Sandy Loam	3-SA	0	0	-
007	D-4	II	9-20	7.5YR4/6	-	Sand	3-SA	0	0	-
007	D-5	I	0-22	10YR3/6	-	Sand	2-A	0	0	-
007	D-5	II	22-30	10YR5/6	-	Sand	2-SA	0	0	-
007	E-1	I	0-19	10YR3/2	-	Sandy Loam	2-SA	0	0	-
007	E-1	II	19-34	7.5YR4/6	-	Sand	2-SA	0	0	-
007	E-2	I	0-15	10YR3/3	-	Sandy Loam	1-SA	0	0	-
007	E-2	II	15-30	7.5YR5/6	-	Sand	1-SA	0	0	-
007	E-3	I	0-14	10YR3/2	-	Sandy Loam	2-SA	0	0	-
007	E-3	II	14-26	7.5YR4/6	-	Sand	2-SA	0	0	-
007	E-4	I	0-12	10YR3/2	-	Sandy Loam	2-SA	0	0	-
007	E-4	II	12-22	7.5YR4/6	-	Sand	2-SA	0	0	-
008	A-1	I	0-11	10YR3/3	-	Sandy Loam	1-SA	0	0	-
008	A-1	II	11-22	10YR4/6	-	Sand	2-SA	0	0	-
008	A-1	III	22-36	7.5YR4/6	-	Sand	2-SA	0	0	-
008	A-2	I	0-12	10YR4/6	-	Sand	2-SA	0	0	-
008	A-3	I	0-17	10YR3/3	-	Sandy Loam	2-SA	0	0	-
008	A-3	II	17-34	7.5YR4/6	-	Sand	2-SA	0	0	-
008	A-4	I	0-12	10YR3/3	-	Sandy Loam	3-A	0	0	-
008	A-4	II	12-26	10YR6/8	-	Sand	3-A	0	0	-
008	A-5	I	0-9	10YR3/3	-	Sandy Loam	2-SA	0	0	-

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
008	A-5	II	9-36	7.5YR4/6	-	Sand	2-SA	0	0	-
008	B-1	I	0-6	10YR3/3	-	Sandy Loam	3-A	0	0	-
008	B-1	II	6-12	10YR4/3	-	Sandy Loam	3-A	0	0	-
008	B-1	III	12-25	10YR6/8	-	Sand	3-A	0	0	-
008	B-2	I	0-17	10YR3/3	-	Sandy Loam	3-A	0	0	-
008	B-2	II	17-37	10YR6/8	-	Sand	3-A	0	0	-
008	B-3	I	0-9	10YR3/3	-	Sandy Loam	3-A	0	0	-
008	B-3	II	9-16	10YR6/8	-	Sand	3-A	0	0	-
008	B-4	I	0-15	10YR3/3	-	Sandy Loam	3-A	0	0	-
008	B-4	II	15-29	10YR6/8	-	Sand	3-A	0	0	-
008	B-5	I	0-8	10YR3/3	-	Sandy Loam	3-A	0	0	-
008	B-5	II	8-15	10YR6/8	-	Sand	3-A	0	0	-
009	A-1	I	0-18	10YR2/1	-	Sandy Loam	3-A	0	0	-
009	A-1	II	18-28	10YR4/2	-	Sandy Loam	3-A	0	0	-
009	A-2	I	0-18	10YR2/1	-	Sandy Loam	0	0	0	-
009	A-2	II	18-30	10YR4/2	-	Sandy Loam	0	0	0	-
009	A-3	I	0-30	10YR2/1	-	Sandy Loam	2-A	0	0	-
009	A-3	II	30-45	10YR4/2	-	Sandy Loam	0	0	0	-
009	A-4	I	0-14	10YR3/2	-	Sandy Loam	1-SA	0	0	-
009	A-4	II	14-29	10YR2/1	-	Sandy Loam	1-SA	0	0	-
009	A-4	III	29-37	10YR4/6	-	Sandy Loam	1-SA	0	0	-
009	B-1	I	0-22	10YR2/2	-	Silt Loam	1-SA	0	0	-
009	B-1	II	22-34	10YR2/2	10YR3/2	Silt Loam	1-SA	0	0	-
009	B-2	I	0-30	10YR2/2	-	Silt Loam	1-SA	0	0	-
009	B-3	I	0-20	10YR2/1	-	Sandy Loam	1-SA	0	0	-
009	B-3	II	20-30	10YR4/2	-	Sandy Loam	1-SA	0	0	-
009	B-4	I	0-18	10YR2/1	-	Sandy Loam	2-A	0	0	-
009	B-4	II	18-30	10YR4/2	-	Sandy Loam	0	0	0	-
010	A-1	I	0-25	10YR3/3	-	Sandy Loam	0	0	0	-
010	A-1	II	25-35	10YR5/8	-	Sand	2-SA	0	0	-
010	A-2	I	0-20	10YR3/3	-	Sandy Loam	0	0	1	Scatter
010	A-2	II	20-32	10YR5/8	-	Sand	1-SA	0	0	-
010	B-1	I	0-20	10YR3/3	-	Sandy Loam	0	0	0	-
010	B-1	II	20-38	10YR5/8	-	Sand	0	0	0	-
010	B-2	I	0-29	10YR3/3	-	Sandy Loam	0	0	0	-
010	B-2	II	29-36	10YR5/8	-	Sand	0	0	0	-
010	B-3	I	0-24	10YR3/3	-	Sandy Loam	2-A	0	0	-
010	B-3	II	24-36	10YR5/8	-	Sand	1-A	0	0	-
010	C-1	I	0-25	10YR3/3	-	Sandy Loam	0	0	0	-
010	C-1	II	25-38	10YR5/8	-	Sand	2-SA	0	0	-
010	C-2	I	0-24	10YR3/3	-	Sandy Loam	0	0	0	-
010	C-2	II	24-38	10YR5/6	-	Sand	2-SA	0	0	-
010	C-3	I	0-22	10YR3/3	-	Sandy Loam	0	0	0	-
010	C-3	II	22-34	10YR5/6	-	Sand	2-SA	0	0	-

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
010	D-1	I	0-20	10YR3/3	-	Sandy Loam	2-SA	0	0	-
010	D-1	II	20-34	10YR5/8	-	Sand	2-SA	0	0	-
010	D-2	I	0-6	10YR3/3	-	Sandy Loam	2-A	0	0	-
010	D-2	II	6-15	10YR4/3	-	Sandy Loam	1-A	0	0	-
010	D-2	III	15-34	10YR5/6	-	Sand	0	0	0	-
010	D-3	I	0-7	10YR3/3	-	Sandy Loam	2-SA	0	0	-
010	D-3	II	7-13	10YR4/3	-	Sandy Loam	2-SA	0	0	-
010	D-3	III	13-30	10YR5/6	-	Sand	2-SA	0	0	-
010	E-1	I	0-10	10YR3/3	-	Sandy Loam	2-A	0	0	-
010	E-1	II	10-20	10YR4/3	-	Sandy Loam	2-A	0	0	-
010	E-1	III	20-30	10YR5/6	-	Sand	3-A	0	0	-
010	E-2	I	0-7	10YR3/3	-	Sandy Loam	2-SA	0	0	-
010	E-2	II	7-19	10YR4/3	-	Sandy Loam	2-SA	0	0	-
010	E-2	III	19-30	10YR5/6	-	Sand	2-A	0	0	-
010	E-3	I	0-7	10YR3/3	-	Sandy Loam	3-A	0	0	-
010	E-3	II	7-17	10YR4/3	-	Sandy Loam	3-A	0	0	-
010	E-3	III	17-26	10YR5/6	-	Sand	3-A	0	0	-
010	E-4	I	0-8	10YR3/3	-	Sandy Loam	3-A	0	0	-
010	E-4	II	8-17	10YR4/3	-	Sandy Loam	3-A	0	0	-
010	E-4	III	17-28	10YR5/6	-	Sand	3-A	0	0	-
010	E-5	I	0-6	10YR2/1	-	Sandy Loam	2-SA	0	0	-
010	E-5	II	6-21	10YR3/3	-	Sand	2-SA	0	0	-
010	E-5	III	21-33	10YR5/6	-	Sand	2-SA	0	0	-
010	E-6	I	0-16	10YR2/1	-	Sandy Loam	2-SA	0	0	-
010	E-7	I	0-5	10YR2/1	-	Silt Loam	2-SA	0	0	-
010	E-8	I	0-19	10YR2/1	-	Silt Loam	2-SA	0	0	-
010	E-9	I	0-13	10YR2/1	-	Silt Loam	2-SA	0	0	-
010	E-9	II	13-20	10YR3/3	-	Loamy Sand	2-SA	0	0	-
010	E-9	III	20-31	10YR5/6	-	Sand	2-SA	0	0	-
010	E-10	I	0-12	10YR3/3	-	Sandy Loam	2-SA	0	0	-
010	E-10	II	12-27	10YR5/6	-	Sand	2-SA	0	0	-
010	F-1	I	0-8	10YR2/1	-	Sandy Loam	1-SA	0	0	-
010	F-1	II	8-18	10YR3/3	-	Sandy Loam	1-SA	0	0	-
010	F-1	III	18-30	10YR5/6	-	Sandy Loam	1-SA	0	0	-
010	F-2	I	0-8	10YR2/1	-	Sandy Loam	1-A	0	0	-
010	F-2	II	8-18	10YR3/3	-	Sandy Loam	2-A	0	0	-
010	F-2	III	18-28	10YR5/6	-	Sand	2-A	0	0	-
010	F-3	I	0-7	10YR2/1	-	Sandy Loam	1-A	0	0	-
010	F-3	II	7-19	10YR3/3	-	Sandy Loam	2-A	0	0	-
010	F-3	III	19-32	10YR5/6	-	Sandy Loam	3-A	0	0	-
010	F-4	I	0-24	10YR2/1	-	Sandy Loam	1-A	0	0	-
010	F-4	II	24-34	10YR5/6	-	Sand	1-A	0	0	-
010	F-5	I	0-18	10YR2/1	-	Sandy Loam	0	0	0	-
010	F-5	II	18-26	10YR5/6	-	Sand	0	0	0	-

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
010	F-6	I	0-21	10YR2/1	-	Sandy Loam	3-A	0	1	Scatter
010	G-1	I	0-17	10YR2/1	-	Sandy Loam	2-A	0	0	-
010	G-1	II	17-27	10YR5/6	-	Sand	2-A	0	0	-
010	G-2	I	0-16	10YR2/1	-	Sandy Loam	1-R	0	0	-
010	G-2	II	16-26	10YR5/6	-	Sand	1-A	0	0	-
010	G-3	I	0-21	10YR2/1	-	Sandy Loam	1-A	0	0	-
010	G-3	II	21-32	10YR4/6	-	Sand	2-A	0	0	-
010	G-4	I	0-19	10YR3/3	-	Sandy Loam	2-SA	0	0	-
010	G-4	II	19-30	10YR5/6	-	Sand	2-SA	0	0	-
011	A-1	I	0-6	10YR3/3	-	Sandy Loam	3-A	0	0	-
011	A-1	II	6-15	10YR6/8	-	Sand	3-A	0	0	-
011	A-2	I	0-5	10YR3/3	-	Sandy Loam	3-A	0	0	-
011	A-2	II	5-9	10YR2/2	-	Sandy Loam	3-A	0	0	-
011	A-2	III	9-25	7.5YR6/8	-	Sand	3-A	0	0	-
011	A-3	I	0-15	10YR3/3	-	Sandy Loam	3-A	0	0	-
011	A-3	II	15-27	10YR4/6	-	Fine Sand	3-A	0	0	-
011	A-4	I	0-10	10YR3/3	-	Sandy Loam	2-SA	0	0	-
011	A-4	II	10-25	10YR4/6	-	Sand	2-SA	0	0	-
011	A-5	I	0-8	10YR3/3	-	Sandy Loam	3-A	0	0	-
011	A-5	II	8-32	10YR4/6	-	Sand	3-A	0	0	-
011	A-6	I	0-14	10YR3/3	-	Sandy Loam	2-A	0	0	-
011	A-6	II	14-26	10YR4/6	-	Sand	2-A	0	0	-
011	A-7	I	0-8	10YR3/3	-	Sandy Loam	3-A	0	0	-
011	A-7	II	8-23	10YR4/6	-	Sand	3-A	0	0	-
011	A-8	I	0-7	10YR3/3	-	Sandy Loam	2-SA	0	0	-
011	A-8	II	7-11	10YR4/4	-	Sandy Loam	2-SA	0	0	-
011	A-8	III	11-20	10YR4/6	-	Sand	2-SA	0	0	-
011	B-1	I	0-9	10YR2/2	-	Sandy Loam	1-SA	0	0	-
011	B-1	II	9-34	10YR4/6	-	Sand	2-SA	0	0	-
011	B-2	I	0-8	10YR3/4	-	Sandy Loam	2-SA	0	0	-
011	B-2	II	8-34	10YR4/6	-	Sand	2-SA	0	0	-
011	B-3	I	0-14	10YR3/4	-	Sand	2-SA	0	0	-
011	B-3	II	14-25	10YR4/6	-	Sand	2-SA	0	0	-
011	C-1	I	0-12	10YR3/4	-	Sandy Loam	2-SA	0	0	-
011	C-1	II	12-30	10YR4/6	-	Sand	2-SA	0	0	-
011	C-2	I	0-10	10YR3/4	-	Sandy Loam	2-SA	0	0	-
011	C-2	II	10-25	10YR4/6	-	Sand	2-SA	0	0	-
011	C-3	I	0-7	10YR3/3	-	Sandy Loam	2-SA	0	0	-
011	C-3	II	7-32	10YR4/6	-	Sand	2-SA	0	0	-
011	D-1	I	0-10	10YR3/3	-	Sandy Loam	3-A	0	0	-
011	D-1	II	10-34	10YR4/6	-	Sand	3-A	0	0	-
011	D-2	I	0-8	10YR3/3	-	Sandy Loam	1-A	0	0	-
011	D-2	II	8-20	10YR4/6	-	Sand	1-A	0	0	-
011	D-3	I	0-9	10YR3/3	-	Sandy Loam	1-A	0	0	-

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

Appendix A. Killingly Energy Center Shovel Test Soil Descriptions

Survey Area	Shovel Test	Strat	Depth (cm)	Munsell Soil Color	Mottled	Soil Texture	Rock Shape / Abundance	Prehistoric Count	Historic Count	Site / Scatter
011	D-3	II	9-28	10YR4/6	-	Sand	0	0	0	-
011	E-1	I	0-8	10YR3/3	-	Sandy Loam	1-A	0	0	-
011	E-1	II	8-26	10YR4/6	-	Sand	2-A	0	0	-
011	E-2	I	0-8	10YR3/3	-	Sandy Loam	3-A	0	0	-
011	E-2	II	8-16	10YR4/6	-	Sand	3-A	0	0	-
011	E-3	I	0-10	10YR3/3	-	Sandy Loam	1-A	0	0	-
011	E-3	II	10-26	10YR4/6	-	Sand	2-A	0	0	-
011	E-4	I	0-16	10YR3/3	-	Sandy Loam	3-A	0	0	-
011	E-4	II	16-26	10YR4/6	-	Sand	3-A	0	0	-
012	A-1	I	0-18	10YR3/3	-	Sandy Loam	2-A	0	0	-
012	A-1	II	18-30	10YR5/6	-	Sand	3-A	0	0	-
012	A-2	I	0-22	10YR3/3	-	Sandy Loam	2-A	0	1	Scatter
012	A-2	II	22-35	10YR5/6	-	Sand	3-A	0	0	-
012	A-3	I	0-10	10YR3/3	-	Sandy Loam	1-SA	0	0	-
012	A-3	II	10-22	10YR4/3	-	Sandy Loam	2-SA	0	0	-
012	A-3	III	22-31	10YR5/6	-	Sand	3-SA	0	0	-
012	A-4	I	0-26	10YR3/3	-	Sandy Loam	1-A	0	1	Scatter
012	A-4	II	26-37	10YR5/8	-	Sand	2-A	0	0	-
012	B-1	I	0-22	10YR3/3	-	Sandy Loam	2-A	0	2	Scatter
012	B-1	II	22-30	10YR5/6	-	Sand	2-A	0	0	-
012	B-2	I	0-19	10YR3/3	-	Sandy Loam	3-A	0	0	-
012	B-2	II	19-34	10YR5/6	-	Sand	3-A	0	0	-
012	B-3	I	0-17	10YR3/3	-	Sandy Loam	2-A	0	0	-
012	B-3	II	17-30	10YR5/6	-	Sand	3-A	0	0	-
013	A-1	I	0-20	10YR3/3	Mixed	Sandy Loam, Boulder Tailings	3-A	0	0	-
013	A-1	II	20-37	10YR5/6	-	Sand, Boulder Tailings	3-A	0	0	-
013	A-2	I	0-17	10YR3/3	Mixed	Sandy Loam, Boulder Tailings	1-A	0	0	-
013	A-2	II	17-29	10YR5/6	-	Sand, Boulder Tailings	1-A	0	0	-
013	A-3	I	0-17	10YR3/3	Mixed	Sandy Loam, Boulder Tailings	3-A	0	0	-
013	A-4	I	0-3	10YR3/3	Mixed	Sandy Loam, Boulder Tailings	3-A	0	0	-

Legend: Rock Abundance 0 None, 1 Rare, 2 Common, 3 Abundant;
Rock Shape A Angular, S Subangular, R Rounded

APPENDIX B – KILLINGLY ENERGY CENTER ARTIFACT INVENTORY

APPENDIX B. KILLINGLY ENERGY CENTER PHASE I ARTIFACT CATALOGUE

Survey Area	Shovel Test	Strat	Culture/ Context	No.	Material	Form	Comments	Archaeological Site / Scatter
1	A1	2	H Arch	2	nails	2 cut nails	2 clinched	Scatter
1	A2	2	H Arch	2	nails	2 cut nails	1 bent, 1 broken	Scatter
1	A3	1	H Dom	1	redware	1 crock body sherd	1 brown-green lead glaze interior and exterior	Scatter
1	A3	1	H Pers	1	iron	1 lock plate, with rivits	1 diamond-shaped, circular keyhole	Scatter
1	A4	1	H Arch	1	nail	1 cut nail	1 bent	Scatter
1	B1	1	H Arch	1	window glass	1 flat sherd	1 clear glass	Scatter
1	B2	1	H Arch	1	nail	1 cut nail	1 straight	Scatter
1	B2	1	H Arch	1	window glass	1 flat sherd	1 clear glass	Scatter
1	B2	1	H Pers	1	kaolin pipe	1 pipestem	6/64" diameter	Scatter
1	B3	1	H Dom	1	whiteware	1 bowl body sherd	1 annular red painted line exterior, blue and red painted interior	Scatter
1	B4	1	H Pers	1	brass clock	1 clock circular spool and and wire hook		Scatter
1	B5	1	H Pers	1	kaolin pipe	1 pipestem	5/64" diameter	Scatter
1	C1	1	H Dom	1	vessel glass	1 body sherd	1 clear glass	Scatter
1	C2	1	H Dom	1	vessel glass	1 body sherd	1 clear glass	Scatter
1	C2	1	H Arch	2	nails	1 cut, 1 wire	2 straight	Scatter
1	C3	1	H Dom	1	pearlware	1 cup rim sherd	1 green painted floral design, eroded	Scatter
1	C4	1	H Pers	1	kaolin pipe	1 pipestem	5.5/64" diameter	Scatter
1	C5	1	H Dom	1	redware	1 bowl body sherd	1 brown lead glaze interior, unglazed exterior	Scatter
1	C5	1	H Dom	1	stoneware	1 platter rim	1 undecorated white interior and exterior, eroded	Scatter
1	C6	1	H Dom	1	whiteware	1 bowl body sherd	1 undecorated white interior and exterior, eroded	Scatter
1	C7	1	H Arch	1	nail	1 cut nail	1 rusted	Scatter
1	C7	1	H Dom	1	pearlware	1 bowl base sherd	1 undecorated white interior and exterior, eroded	Scatter
1	D1	1	H Dom	1	whiteware	1 unidentified body sherd	1 undecorated white interior, eroded exterior	Scatter
1	D3	1	H Dom	1	vessel glass	1 body sherd	1 clear glass, melted	Scatter
1	D4	1	H Arch	4	nails	3 cut, 1 wire	1 straight, 1 clinched, 2 loop-curled	Scatter
1	D4	1	H Dom	2	redware	1 crock base, 1 cup rim	1 crock eroded, 1 cup mocha glaze	Scatter
1	D4	1	H Dom	1	vessel glass	1 medicine bottle base sherd	1 1 light blue-green sherd, no marks	Scatter
1	D4	1	H Misc	1	coal	1 unburned		Scatter
1	D9	1	H Arch	1	nail	1 unidentified spike	1 rusted	Scatter
1	D11	1	H Misc	1	glass	1 burned, unidentified		Scatter
1	E1	1	H Dom	1	pearlware	1 plate base sherd	1 eroded interior, undecorated white exterior	Scatter
1	E2	1	H Arch	1	nail	1 unidentified spike	1 rusted	Scatter
1	E3	1	H Arch	6	nails	3 cut, 3 wire nails	2 clinched, 4 straight	Scatter
1	E3	1	H Arch	15	window glass	1 flat sherd	1 blue-green glass	Scatter
1	E3	1	H Dom	1	creamware	1 unidentified body shers	1 undecorated white interior and exterior, eroded	Scatter
1	E3	1	H Dom	1	vessel glass	1 medicine bottle neck sherd	1 manganese-tinted sherd	Scatter
1	E4	1	H Dom	1	vessel glass	1 milk bottle body sherd	1 frosted white, molded, possibly octagonal-sides	Scatter

Notes: Culture P prehistoric, H historic;
Context Arch architectural, Dom domestic, Lithic stone knapping, Pers personal, Misc miscellaneous.

APPENDIX B. KILLINGLY ENERGY CENTER PHASE I ARTIFACT CATALOGUE

Survey Area	Shovel Test	Strat	Culture/ Context	No.	Material	Form	Comments	Archaeological Site / Scatter
1	E5	1	H Arch	4	nails	1 cut, 3 wire roofing nails		Scatter
1	E7	1	H Misc	1	brass sheet	1 unidentified sheet fragment	1 pollished interior, unidentified	Scatter
1	E10	1	H Arch	1	nail	1 cut nail	1 clinched	Scatter
1	E11	1	H Arch	1	nail	1 cut nail	1 straight	Scatter
2	A1	2	H Misc	1	asphalt	1 large asphalt road paving	discarded in laboratory	Site
2	A1	3	H Pers	1	Bakolite pipestem	1 ovate pipestem	brown Bakolite pipestem, 5/64" diameter	Site
2	A1	4	H Pers	1	leather	possible glove fragment	1 circular glove panel with folded edge	Site
2	A2	2	H Arch	3	nails	3 wire nails	3 corroded, 1 bent, 1 clinched, 1 straight	Site
2	A2	3	H Arch	20	nails	10 cut, 6 wire, 4 unidentified nails	2 clinched, 2 bent, 16 straight	Site
2	A2	3	H Arch	4	window glass	4 flat glass fragments	3 clear, 1 blue-green glass	Site
2	A2	3	H Dom	1	whiteware	1 body sherd	1 yellow glaze with brown linear abstract design	Site
2	A2	3	H Misc	1	wire	1 wire with curled end	1 unknown function	Site
2	A2	3	H Pers	1	mirror	1 silvered-back mirror		Site
2	A2	3	H Pers	3	glass auto part	3 headlight fragments	3 clear, thick, 1 marked "TIE"	Site
2	A2	3	H Pers	1	rubber	1 rubber fragment with turned edge	1 possible boot fragment	Site
2	A2	4	H Arch	3	nails	3 cut nails	3 corroded, straight	Site
2	A2	4	H Pers	1	iron machine part	1 circular machine part, broken	1 broken circular possible fly-wheel part, with slotted interior, and exterior ring	Site
2	A3	1	H Arch	1	brick	1 low-fired brick fragment	1 red brick, large grit temper	Site
2	A3	1	H Arch	9	nails	6 wire, 3 unidentified nails	1 clinched, 8 straight	Site
2	A3	1	H Arch	1	window glass	1 flat sherd	1 blue-green class	Site
2	A3	1	H Dom	4	vessel glass	4 body sherds	2 clear, 4 brown glass	Site
2	A3	1	H Misc	1	coal	1 unburned		Site
2	A3	1	H Arch	1	iron pipe	1 pipe fitting	1 circular pipe joint fitting	Site
2	B1	1	H Arch	1	nail	1 cut nail	1 straight nail	Site
2	B1	1	H Pers	1	iron machine part	1 triangular harvester blade with 2 rivit holes	1 rusted	Site
2	B2	2	H Arch	24	nails	14 cut, 3 wire, 5 unidentified nails, 2 long screws	1 clenched, 2 bent, 21 straight, 2 framing screws	Site
2	B2	2	H Arch	6	window glass	6 flat fragments	3 blue-green, 3 clear glass	Site
2	B2	2	H Dom	25	redware	25 eroded body sherds	23 unglazed probable flower pots, 1 dark brown, 1 light brown glazed fragments	Site
2	B2	2	H Dom	1	vessel glass	1 bottle body sherd	1 brown glass	Site
2	B2	2	H Misc	2	coal	2 unburned		Site
2	B2	2	H Misc	6	iron sheet	6 sheet iron fragments	1 folded possible can fragments	Site
2	B2	2	H Pers	2	iron latch	1 iron plate with hole, 1 turned latch handle		Site
2	B3	1	H Arch	5	nails	2 cut, 2 wire, 1 unidentified nails	2 clinched, 3 straight nails	Site

Notes: Culture P prehistoric, H historic;
Context Arch architectural, Dom domestic, Lithic stone knapping, Pers personal, Misc miscellaneous.

APPENDIX B. KILLINGLY ENERGY CENTER PHASE I ARTIFACT CATALOGUE

Survey Area	Shovel Test	Strat	Culture/ Context	No.	Material	Form	Comments	Archaeological Site / Scatter
2	B3	1	H Arch	7	window glass	7 flat sherds	7 blue-green glass	Site
2	B3	1	H Dom	1	redware	1 body sherd	1 eroded, no glaze	Site
2	B3	1	H Dom	2	whiteware	1 rim, 1 body sherd	2 white, undecorated	Site
2	B3	1	H Dom	1	vessel glass	1 vessel body sherd	1 clear glass	Site
2	B3	1	H Pers	1	glass auto part	1 ribbed headlight fragment	1 clear	Site
2	B3	2	H Arch	3	nails	3 cut nails	2 clinched, 1 broken nails	Site
2	B3	2	H Dom	1	redware	1 bowl platform base	1 dark brown glaze exterior and interior, eroded	Site
2	B3	2	H Dom	1	pearlware	1 rim sherd	1 blue annular interior and exterior	Site
2	B3	2	H Dom	1	vessel glass	1 bottle body sherd	1 brown glass	Site
2	B3	2	H Misc	9	iron sheet	1 sphirical, 1 turned edge, 7 flat sheet iron fragments	9 rusted, unidentified	Site
2	C1	1	H Arch	2	bricks	2 low-fired brick fragments	2 red, grit tempered, sandy paste	Site
2	C1	1	H Arch	1	nail	1 cut nail	1 straight nail	Site
2	C1	1	H Misc	1	bone	1 calcine bone fragment	1 unidentified bone	Site
2	C2	1	H Arch	2	nails	1 cut, 1 wire nails	2 straight nails	Site
2	C2	1	H Dom	2	whiteware	2 body sherds	2 sponge blue interior, white-eroded exterior	Site
2	D1	2	H Arch	1	nail	1 cut nail	1 clinched nail	Site
2	D1	2	H Dom	1	redware	1 body sherd	1 dark brown glaze interior, eroded exterior	Site
2	D1	2	H Dom	2	whiteware	2 rim sherds	1 green glazed with inpressed ring design, 1 burned with brown and red exterior rings, white interior	Site
2	D2	2	H Arch	1	window glass	1 flat sherd	1 blue-green glass	Site
2	D2	2	H Dom	1	redware	1 body sherd	1 dark greenish-brown glaze interior, eroded exterior	Site
2	D4	1	H Dom	3	vessel glass	3 vessel body sherds	3 clear, burned, partially melted	Site
2	E1	1	H Dom	1	creamware	1 body sherd	1 white, pitted glaze interior, eroded exterior	Site
2	E1	1	H Dom	2	whiteware	2 body sherds	1 white, undecorated, 1 burned	Site
2	E2	1	H Arch	1	nail	1 cut nail	1 straight	Site
2	E2	1	H Arch	5	window glass	5 flat sherds	5 blue-green glass	Site
2	E2	1	H Arch	8	tile	7 flat stoneware tile fragments	4 gray glazed exterior, eroded interior, 2 adhesive interior, eroded exterior, 2 eroded body	Site
2	E2	1	H Dom	1	whiteware	1 body sherd	1 sponge blue interior, eroded exterior	Site
2	E2	1	H Dom	5	vessel glass	5 bottle body sherds	5 blue-green glass, burned	Site
3	A1	1	H Arch	1	nail	1 cut nail	1 straight	Scatter
3	A1	1	H Arch	1	asbestos tile	1 tile fragment	1 adhesive on back	Scatter
3	A1	1	H Dom	1	vessel glass	1 blown bottle base with puntel	1 light olive green glass	Scatter
3	A2	1	H Dom	2	whiteware	2 body sherds	1 undecorated white, 1 green molded-embossed basket design	Scatter

Notes: Culture P prehistoric, H historic;
Context Arch architectural, Dom domestic, Lithic stone knapping, Pers personal, Misc miscellaneous.

APPENDIX B. KILLINGLY ENERGY CENTER PHASE I ARTIFACT CATALOGUE

Survey Area	Shovel Test	Strat	Culture/ Context	No.	Material	Form	Comments	Archaeological Site / Scatter
3	A2	1	H Pers	1	mirror	1 silver-backed flat glass		Scatter
3	B2	1	H Arch	1	nail	1 cut nail	1 clinched, twisted nail	Scatter
3	B4	1	H Arch	1	window glass	1 flat sherd	1 blue-green glass	Scatter
3	B5	1	H Arch	1	window glass	1 flat sherd	1 blue-green glass	Scatter
3	B5	1	H Dom	1	redware	1 bowl rim sherd	1 dark brown glazed interior and exterior	Scatter
3	B6	1	H Arch	1	window glass	1 flat sherd	1 clear glass	Scatter
3	B6	1	H Dom	1	redware	1 body sherd	1 dark brown glazed speck, interior and exterior eroded	Scatter
3	B6	1	H Misc	3	iron sheet	3 sheet iron, possible can	3 unidentified sheet iron	Scatter
3	C3	1	H Arch	1	nail	1 cut nail	1 bent nail	Scatter
3	C5	1	H Dom	1	table glass	1 vase or bowl base	1 wavy molded vase or bowl, floral design	Scatter
4	A3	1	H Arch	4	nails	3 cut, 1 unidentified	1 clinched, 1 bent, 2 straight	Scatter
4	A3	1	H Dom	2	vessel glass	1 bottle body, 1 bottle neck	1 light blue bottle molded mark "B&/14/T" 1 clear bottle unmarked.	Scatter
4	A4	1	H Arch	1	nail	1 cut nail	1 straight nail	Scatter
4	B4	1	H Arch	1	nail	1 cut nail	1 straight nail	Scatter
4	C1	1	H Arch	1	nail	1 unidentified nail	1 rusted, unidentified	Scatter
5	A1	1	H Arch	1	nail	1 wire nail	1 bent nail	Scatter
5	A1	1	H Arch	1	window glass	1 flat sherd	1 clear glass	Scatter
5	A4	1	H Dom	1	redware	1 vessel body sherd	1 light brown, grainy glaze	Scatter
5	A4	1	H Pers	1	iron horseshoe	1 small horseshoe with nails		Scatter
5	B2	1	H Arch	1	window glass	1 flat sherd	1 clear glass	Scatter
5	B2	1	H Misc	1	shell	1 clamshell	1 eroded	Scatter
5	B3	1	H Misc	1	bone	1 cow bone	1 cow Phalanges	Scatter
6	A2	1	H Dom	1	whiteware	1 body sherd	1 eroded exterior and interior	Scatter
6	A2	1	H Misc	1	bone	1 calcine bone fragment	1 unidentified bone	Scatter
6	B1	1	H Arch	2	nail	2 cut nails	1 straight nail	Scatter
6	B1	1	H Arch	1	window glass	1 flat sherd	1 clear glass	Scatter
6	B1	1	H Arch	1	tile	I ceramic tile	1 burned, unidentified	Scatter
6	B1	1	H Dom	1	whiteware	1 fragment	1 green glaze	Scatter
6	B1	1	H Misc	2	bone	2 calcine bone fragment	2 unidentified bone	Scatter
6	B1	1	H Pers	1	kaolin pipe	1 pipe bowl fragment	1 no bore hole	Scatter
6	B4	1	H Dom	1	whiteware	1 body sherd	1 burned, inscribed designs on interior and exterior	Scatter
6	B5	1	H Arch	1	nail	1 cut nail	1 clinched nail	Scatter
6	C2	1	H Arch	1	window glass	1 flat sherd	1 blue-green glass	Scatter
6	C4	1	H Arch	1	window glass	1 flat sherd	1 blue-green glass	Scatter
6	C6	1	H Arch	1	nail	1 cut nail	1 straight nail	Scatter

Notes: Culture P prehistoric, H historic;
Context Arch architectural, Dom domestic, Lithic stone knapping, Pers personal, Misc miscellaneous.

APPENDIX B. KILLINGLY ENERGY CENTER PHASE I ARTIFACT CATALOGUE

Survey Area	Shovel Test	Strat	Culture/ Context	No.	Material	Form	Comments	Archaeological Site / Scatter
6	C6	1	H Misc	6	iron sheet	6 sheet iron, possible can	6 unidentified sheet iron	Scatter
6	D1	1	H Dom	1	vessel glass	1 bottle body sherd	1 blue-green glass	Scatter
6	D4	1	H Arch	1	window glass	1 flat sherd	1 blue-green glass	Scatter
6	D6	1	H Arch	1	screw	1 large screw	1 framing screw	Scatter
7	C2	3	H Dom	1	whiteware	1 body sherd	1 undecorated white interior, eroded exterior	Scatter
10	A2	1	H Dom	1	redware	1 body sherd	1 light brown glaze interior, eroded exterior	Scatter
10	F6	1	H Arch	1	window glass	1 flat sherd	1 clear glass	Scatter
12	A2	1	H Arch	1	iron washer	1 circular washer	1 washer 27mm exterior diameter, 11mm hole diameter	Scatter
12	A4	1	H Pers	1	kaolin pipe	1 pipestem	1 pipestem 6/64" diameter bore	Scatter
12	B1	1	H Dom	1	whiteware	1 body sherd	1 undecorated white interior, eroded exterior	Scatter
12	B1	1	H Dom	1	vessel glass	1 bottle base sherd	1 blue-green glass	Scatter

Notes: Culture P prehistoric, H historic;
Context Arch architectural, Dom domestic, Lithic stone knapping, Pers personal, Misc miscellaneous.

APPENDIX C – CONNECTICUT HISTORIC RESOURCE INVENTORY FORMS

HISTORIC RESOURCES INVENTORY
HISTORIC ARCHAEOLOGICAL SITES
HIST-5 NEW 9/77

STATE OF CONNECTICUT
CONNECTICUT HISTORICAL COMMISSION
59 SOUTH PROSPECT STREET, HARTFORD,
CONNECTICUT, 06106

FOR OFFICE USE ONLY		
Town No.:	**Site no.:**	
UTM:		
QUAD:		**DISTRICT** ☐YES ☐NO
NR: ☐ACT ☐ELIG. ☐NO		
SR: ☐ACT ☐ELIG. ☐NO		

IDENTIFICATION

1. SITE NAME
Lippitt Farm Site

STATE SITE NO.
69-103

CAS NO.

2. TOWN/CITY
Killingly

VILLAGE

COUNTY
Whndham

3. STREET AND NUMBER (and/or location)
180 Lake Road, Killingly, CT

4. OWNER(S)
NTE-Connecticut, LLC
☐ **PUBLIC** ☒ **PRIVATE**

5. ATTITUDE TOWARD EXCAVATION
Supportive

6. USE *(Present)*
farm

(Historic)
farm

DESCRIPTION

7A. PERIOD
☐Contact ☐17th C. ☐18th C. ☒19th C. ☒20th C. ☐Unknown ☐Other*(specify)*

7B. ESTIMATED OCCUPATION RANGE
1801 to 1869

8. DATING METHOD	**DOCUMENTS**	**COMPARATIVE MATERIALS**	**OTHER**
	Killingly Land Records 16:72; Hale 1927 Headstone Inscription Survey; Woodford 1856 Map of Windham County, CT	Creamware, Pearlware, Redware ceramics	

9. SITE TYPE
☐Contact ☐Commercial ☒Rural ☐Other*(specify)*
☒Agrarian ☐Industrial ☐Urban ☐Unknown

10. APPROXIMATE SIZE AND BOUNDARIES
approximately 1 acre in area, extending 340 along the south side of Lake Road, and 150 feet to the southeast of Lake Road, bound on the north by the extant barnyard wall, and south by the cemetery wall.

11. STRATIGRAPHY
☐No Visible evidence ☒Standing Ruins ☐Stratified ☐Not Stratified ☐Other*(specify)*
☐Surface finds ☒Cellar hole ☐Plowed ☒Major Disturbance

ENVIRONMENT

12. SOIL

USDA SOIL SERIES
Canton-Charlton

CONTOUR ELEVATION
340 to 315 feet amsl

SLOPE %
☐ 0-5 ☒ 5-15 ☐ 15-25 ☐ over 25

TEXTURE
☒Sand ☐Clay ☐Silt
☐Other *(specify)*

ACIDITY
☐ less than 4.5 ☐ 4.5-5.5 ☐ 5.6-6.5 ☐ 6.6-7.3 ☐ 7.4-8.4

13. WATER

NEAREST WATER SOURCE
unnamed stream

SIZE AND SPEED
wetland

DISTANCE FROM SITE
250 feet

SEASONAL AVAILABILITY
spring-summer

14. VEGETATION

PRESENT
forest edge

PAST
farmland

CONDITION

15. SITE INTEGRITY
☐ Undisturbed ☐ Good ☒ Fair ☐ Destroyed

16. THREATS TO SITE
☐ None Known ☐ Highways ☐ Vandalism ☒ Developers ☐ Other *(specify)* ☐ Renewal
☐ Private ☐ Deterioration ☐ Zoning ☐ Unknown

17. SURROUNDING ENVIRONMENT

☐ Open Land ☐ Woodland ☐ Residential ☒ Scattered Buildings visible from site
☐ Commercial ☒ Industrial ☐ Rural ☐ High Building Density ☐ Coastal ☐ Isolated

18. ACCESSIBILITY TO PUBLIC – VISIBLE FROM PUBLIC ROAD

☒ Yes ☐ No

RESEARCH POTENTIAL

19. PREVIOUS EXCAVATIONS

	BY WHOM/AFFILIATION	DATE
☐ SURFACE COLLECTED		
☐ POT HUNTED		
☒ TESTED	Tetra Tech, Inc.	4/14/2016
☐ EXCAVATION		

20. PRESENT LOCATION OF MATERIALS

.Tetra Tech, Inc. 1000 The American Road, Morris Plains, NJ

21. PUBLISHED REFERENCES

.Tetra Tech, Inc. 2016. Phase 1 Cultural Resources Reconnaissance Survey, Killingly Energy Center, Town of Killingly, Windham County, Connecticut

22. RECOVERED DATA *(Identify in DETAIL, including features, burials, faunal material, etc.)*

Lippitt family cemetery with 6 fieldstone headstones and surrounding fielstone wall, disturbed house foundation, possible outbuildings, fieldstone barn foundation, and barnyard fieldstone walls. 14 shovel tests recovered 198 historic and recent artifacts, including 37 cut nails, 21 wire nails, 15 unidentified nails, 24 window glass, 3 bricks, 8 tiles, 5 glazed and 24 unglazed redware sherds, 1 creamware, 1 pearlware, 10 whiteware sherds, 15 vessel glass sherds, 3 coal, 1 bone, 12 personal artifacts and 18 other artifacts. Personal items include 1 Bakelite pipe stem (after 1907), 1 iron latch, 1 latch plate, 1 leather glove fragement, 1 rubber boot fragment, 4 auto glass fragments, 1 machine part, 1 harvester blade tooth.

SIGNIFICANCE

23. ARCHAEOLOGICAL OR HISTORICAL IMPORTANCE

The cemetery is undisturbed. The barn was rebuilt in 1975 and is collapsing. The Lippitt house foundation has been disturbed, but portions may remain undisturbed. The farm reflects a rural family context from 1800 to 1847. The farm continued to be utilized through the 20th Century. The site should be avoided by development, or additional Phase 2 testing is recommended to determine National Register eligibility. The cemetery is protected by state statute, and will be avoided by proposed development.

PHOTOGRAPH

PHOTOGRAPHER
Stuart A. Reeve

DATE
March 16, 2016

VIEW

NEGATIVE ON FILE

Place 35 mm contact print here

ADDITIONAL INFORMATION

REPORTED BY

NAME
Stuart A. Reeve

ADDRESS
PO Box 11024, Greenwich, CT 06831

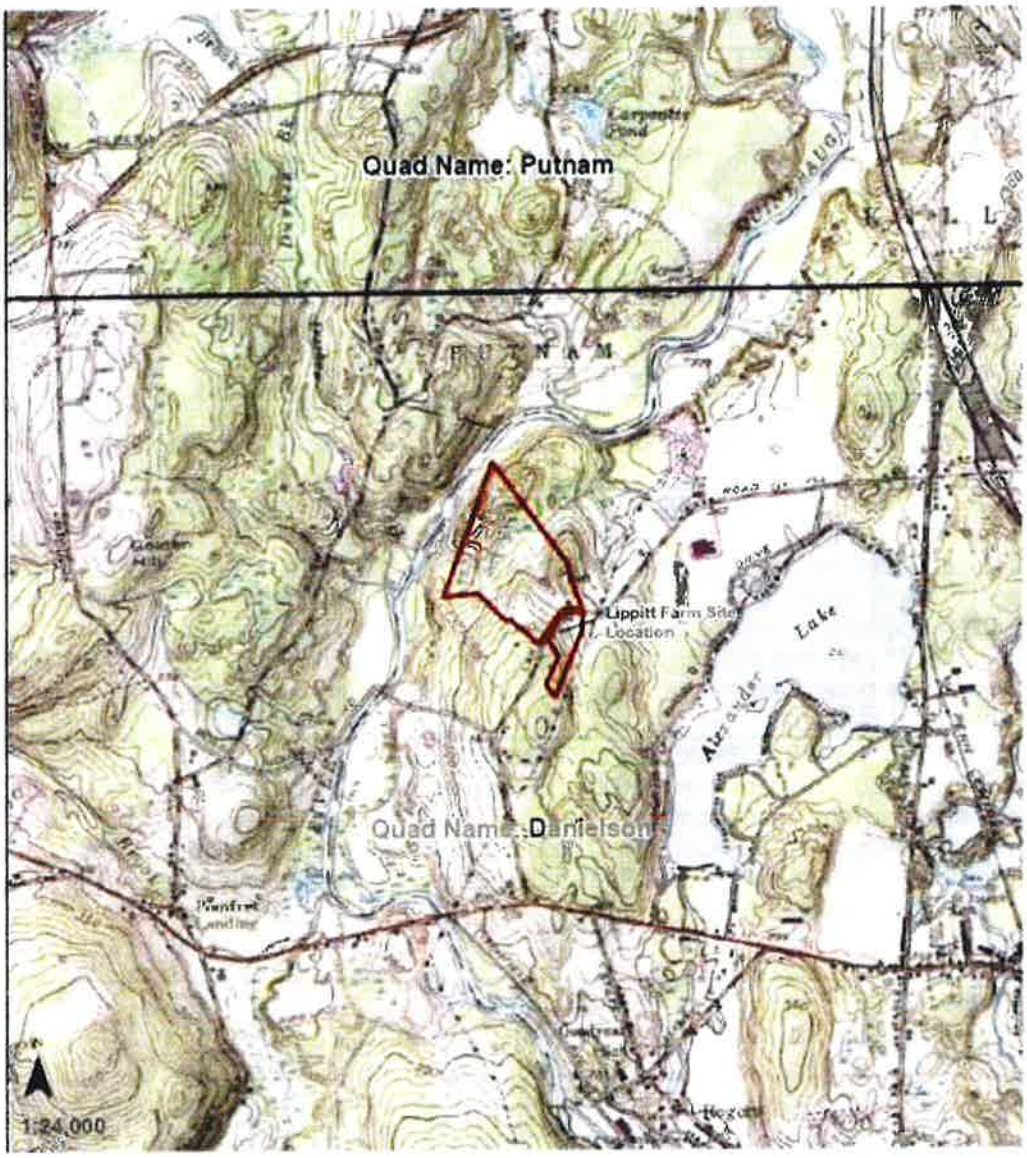
ORGANIZATION
Tetra Tech, Inc.

DATE
May 24, 2016

FOR OFFICE USE ONLY

FIELD EVALUATION

COMMENTS



Lippitt Farm Site Location, USGS Danielson Quadrangle

Figure 10
Survey Areas 1 and 2

Killingly Energy Center
Killingly, Connecticut

Lippitt Farm Site Boundary and Features

Photograph 1. Lippitt Farm Site cemetery, fieldstone walls east of Lake Road. View to the northwest (Photographer S.A. Reeve, March 16, 2016).

Photograph 2. Lippitt Farm Site house foundation in Survey Area 2: east of Lake Road. View to the northwest (Photographer S.A. Reeve, March 16, 2016).

Photograph 3. Lippitt Farm Site, barn and silo foundations on north wall. View to the southwest (Photographer S.A. Reeve, March 16, 2016).

Photograph 4. Lippitt Farm Site, fieldstone walls surrounding the barnyard. View to the southwest (Photographer S.A. Reeve, March 16, 2016).

McCahon, Mary Elizabeth, 1990. *Cultural Resources of Killingly, Connecticut, 1990 Survey: South Killingly and Environs/ East Killingly and Environs/ Ballouville/ Pineville and Environs/ Environs North of Dayville/ Rogers.* Prepared for the Town of Killingly and Connecticut Historical Commission, Hartford, CT. On file Dodd Research Center, University of Connecticut, Storrs.

HISTORIC RESOURCES INVENTORY
BUILDING AND STRUCTURES

HRI-6 REV. 6/83

STATE OF CONNECTICUT
CONNECTICUT HISTORICAL COMMISSION
59 SOUTH PROSPECT STREET, HARTFORD, CONNECTICUT 06106
(203) 566-3005

#143

FOR OFFICE USE ONLY
Town No.: | Site No.:
UTM:
QUAD:
DISTRICT ☐ S ☐ NR | IF NR, SPECIFY ☐ Actual ☐ Potential

IDENTIFICATION

1. BUILDING NAME (Common): Dunn House (Historic): Sabin Farm
2. TOWN CITY: Killingly | VILLAGE: | COUNTY: Windham
3. STREET AND NUMBER (and/or location): 189 Lake Road 4707/355/2
4. OWNER(S): Sorrow, Geoffrey, et. al. ☐ Public ☒ Private
5. USE (Present): Residential (Historic): Residential
6. ACCESSIBILITY TO PUBLIC: EXTERIOR VISIBLE FROM PUBLIC ROAD ☒ Yes ☐ No | INTERIOR ACCESSIBLE ☐ Yes ☒ No | IF YES, EXPLAIN:

DESCRIPTION

7. STYLE OF BUILDING: Italianate | DATE OF CONSTRUCTION: ca: 1865
8. MATERIAL(S) (Indicate use or location when appropriate)
☒ Clapboard ☐ Asbestos Siding ☐ Brick ☐ Other (Specify)
☐ Wood Shingle ☐ Asphalt Siding ☐ Fieldstone
☐ Board & Batten ☐ Stucco ☐ Cobblestone
☐ Aluminum Siding ☐ Concrete Type: ☐ Cut stone Type:
9. STRUCTURAL SYSTEM
☒ Wood frame ☐ Post and beam ☐ balloon
☐ Load bearing masonry ☐ Structural iron or steel
☐ Other (Specify)
10. ROOF (Type)
☐ Gable ☐ Flat ☐ Mansard ☐ Monitor ☐ sawtooth
☐ Gambrel ☐ Shed ☒ Hip ☐ Round ☐ Other (Specify)
(Material)
☐ Wood Shingle ☐ Roll Asphalt ☐ Tin ☐ Slate
☒ Asphalt shingle ☐ Built up ☐ Tile ☐ Other (Specify)
11. NUMBER OF STORIES: 2 | APPROXIMATE DIMENSIONS: 25 x 29 + ells
12. CONDITION (Structural): ☐ Excellent ☒ Good ☐ Fair ☐ Deteriorated (Exterior): ☐ Excellent ☒ Good ☐ Fair ☐ Deteriorated
13. INTEGRITY (Location): ☒ On original site ☐ Moved | WHEN ? | (Alterations): ☐ Yes ☒ No | IF YES, EXPLAIN:
14. RELATED OUTBUILDINGS OR LANDSCAPE FEATURES
☒ Barn ☐ Shed ☐ Garage ☒ Other landscape features or buildings (Specify) Picket Fence
☐ Carriage house ☐ Shop ☐ Garden
15. SURROUNDING ENVIRONMENT
☐ Open land ☐ Woodland ☐ Residential ☒ Scattered buildings visible from site
☐ Commercial ☐ Industrial ☐ Rural ☐ High building density
16. INTERRELATIONSHIP OF BUILDING AND SURROUNDINGS
Set on generous hill top site with mature maples at road. Meadow land on both sides of road.

(OVER)

DESCRIPTION (Continued)

17 OTHER NOTABLE FEATURES OF BUILDING OR SITE (Interior and/or exterior)

The boxy 4-bay 2-story shallow hip-roofed Italianate dwelling is simply detailed has a 2-story rear service ell. The original sash have been replaced by 2-over-2s. A late-19th century verandah with turned posts, lacey corner brackets, and a plain balustrade shelters the facade of the well-preserved house. The farm straddled the road, and farm buildings are located across from the distinctive house.

SIGNIFICANCE

18 ARCHITECT

BUILDER

19 HISTORICAL OR ARCHITECTURAL IMPORTANCE

Stylistically similar to the house built in 1866 at 56 Attawaugan Crossing Road, this Italianate dwelling is built on property historically known as the Sabin Farm, and if the house is from the same period as the Perry House, it was constructed for Dwight Sabin. He sold it and 55 acres to Samuel G. Appleton in 1868 (45:409). An earlier house that stood on the farm is shown as the dwelling of J. Sabin on the 1856 atlas map. The property passed to the Chase family, and in 1900 Crowell Chase sold it to Thomas Dunn, father of John Dunn (60:259). After Thomas Dunn's death about 1921, the house passed to his widow, Eliza, and then to son John. Mr. Dunn raised wards of the state. The house is one of the few examples of the Italianate mode in the rural portions of town. It succeeded the Greek Revival mode in popularity, but it was never that common in Killingly which hung onto the Greek Revival style well after it passed from fashion nationally.

SOURCES

Killingly Land Records
1856 Woodford Map, 1869 Gray Map.

PHOTO

PHOTOGRAPHER: Mary E. McCahon
DATE: 6/90
VIEW: South
NEGATIVE ON FILE: CHC 8:37

COMPILED BY

NAME: Mary E. McCahon
DATE: 8/90
ORGANIZATION: Town of Killingly
ADDRESS: 172 Main Street Danielson, CT 06239

20 SUBSEQUENT FIELD EVALUATIONS

21 THREATS TO BUILDING OR SITE

- [X] None known
- [ ] Highways
- [ ] Vandalism
- [ ] Developers
- [ ] Other
- [ ] Renewal
- [ ] Private
- [ ] Deterioration
- [ ] Zoning
- [ ] Explanation

HIST 6 REV 6/83 (Back)

APPENDIX D – PROFESSIONAL QUALIFICATIONS

Experience Summary

Stuart Reeve has more than 45 years' experience in professional archeology, including prehistoric and historic archeological studies with federal and state agencies, and cultural resources consulting in the New England, Middle Atlantic, Southeast, Rocky Mountains, Midwest, Northwest and Southwest regions. Dr. Reeve has been responsible for all aspects of cultural resource management plans, cultural resources sensitivity analyses, archeological field investigations, collection analyses and curation, technical and scientific report preparation, and coordination of multi-disciplinary environmental teams. Dr. Reeve maintains project management duties, and assists senior personnel in planning and directing field investigations, preparing reports and proposals, providing technical support, and reviewing cultural resource phases of projects and reports.

Education

PhD, Anthropology/Archeology, State University of New York, 1986
BA, Anthropology, State University of New York, 1971

Training

40-Hour OSHA Hazardous Waste Health and Safety Training; 2001
8-Hour OSHA Annual Refresher Training, March 2015

Corporation Project Experience

Archeologist/ Cultural Resources Specialist, 2016
NTE Connecticut, LLC. Killingly Energy Center, Town of Killingly, Windham County, CT

Senior author for cultural resource and historical background (Phase IA) report, and Phase I cultural resources reconnaissance report, describing historic landscapes and the 19th Century Lippitt Farm Site, recommending site avoidance or Phase II archaeological investigations.

Archeologist/ Cultural Resources Specialist, 2014-2016
Mountain Valley Pipeline, LLC, Pittsylvania, Franklin, Roanoke, Montgomery, Craig, and Giles Counties, VA

Senior author for cultural resource and historical background (Phase IA) report, sensitivity model for archeological field testing, and five Phase IB field testing reports for 100 miles of proposed pipeline and alternative routes across six counties in southern and western Virginia, including Jefferson National Forest, describing over 70 prehistoric and historic period archaeological sites, and recommending Phase II archeological testing for more than 30 sites needed for project permitting. Currently completing addendum Phase IB and Phase II archaeological reports.

Archeologist/ Cultural Resources Specialist, 2013–2014
National Grid New York Energy Solution, Oneida, Herkimer, Montgomery, Schenectady, Albany, Rensselaer, Columbia and Dutchess Counties, NY

Compiled historical background and cultural resource information for 153 miles of transmission line upgrades through the upper Hudson and Mohawk River valleys in compliance with Section 106 of the National Historic Preservation Act. Background studies identified archeological sensitivity among historic Mohawk and Mohegan tribes, Dutch and English colonization, and transportation and urban development. Research provides the basis for planning field investigations needed for project permitting.

Archeologist/ Cultural Resources Specialist, 2013
Confidential Client, Critical Issues Analyses for Wind Resource Areas in Kansas, Nebraska and Maryland
Compiled SHPO archeological site file data and National Register of Historic Places and historic map data for 12 wind resource areas for possible future wind farm developments

Archeologist/ Cultural Resources Specialist, 2012
U.S. Army Corps of Engineers, Crown Cleaners of Watertown, Inc. Superfund Project, Town of Wilna, Jefferson County, NY
Conducted Phase IB archeological investigations in compliance with Section 106 of the National Historic Preservation Act and SHPO consultations, discovering one new Native American archeological site. The site was fenced and protected during hazardous waste remediation.

Archeologist/ Cultural Resources Specialist, 2008–2011
CPV Cimarron Renewable Energy Company, LLC, Cimarron Wind Farm, Gray County, KS
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, local histories, historic trails, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources. Conducted a Phase I archeological investigation, initiating compliance with Section 106 of the National Historic Preservation Act under direction from TVA, the lead federal agency. Reviewed historic maps, deeds, census information and environmental studies to developed an archeological sensitivity model for prehistoric and historic period archeological sites and historic contexts and conducted a site visit to assess environments and disturbances in areas of proposed construction. Conducted Phase II and supplemental Phase II archeological field investigations including a pedestrian survey of areas of proposed construction and excavated more than 600 shovel tests in areas with poor surface visibility and near possible water sources. Two new historic period sites and isolated prehistoric and historic artifacts were recommended as not eligible for the National Register of Historic Places. TVA and SHPO concurred with survey findings.

Archeologist/ Cultural Resources Specialist, 2010
Georgia-Pacific Consumer Products LC, Hughesville Mill Remediation, Hunterdon County, NJ
Conducted Phase IB archeological shovel testing at a proposed infiltration basin along Masconetcong Creek. Reviewed historic maps, aerial photographs, soils and field testing to reconstruct historic landscape changes. The modern landscape has been altered and no archeological sites were identified.

Archeologist/ Cultural Resources Specialist, 2011
Seldom Seen Wind, LLC, Seldom Seen Wind Farm, Cambria County, PA
Conducted background research of National Register site files, SHPO archeological and architectural site files, historic maps and online historic resources and initiated SHPO consultations as part of a Critical Issues Analysis for a proposed wind farm.

Archeologist/ Cultural Resources Specialist, 2010–2012
Ridgeline Energy, LLC, Lewis Ranch Wind Project, Albany County, WY
Conducted a Phase I archeological investigation, initiating compliance with Section 106 of the National Historic Preservation Act under direction from the Western Area Power Administration, the lead federal agency. Reviewed SHPO site files, historic maps, deeds and environmental studies to developed historic contexts and an archeological sensitivity model for prehistoric and historic period archeological sites. A site visit assessed local environments and disturbances in areas of proposed construction. Phase II archeological field investigations have been recommended.

Archeologist/ Cultural Resources Specialist, 2009–2011
CPV Ashley Renewable Energy Company, LLC, Ashley Wind Energy Project, McIntosh County, ND
Conducted a Class I Cultural Resources Survey for SHPO site file research, conducting SHPO site file research for archeological sites, survey reports and properties listed on the National Register of Historic Places, historic maps, local histories, historic trails, historic cemeteries, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources. Conducted Class III archeological field investigations of over 990 acres, identifying 6 archeological sites. Five (5) sites were avoided through project redesigns. A sixth site, a twentieth-century farmstead, was recommended as not eligible for the National Register. The project complied with Section 106 of the National Historic Preservation Act, and SHPO and the Tennessee Valley Administration (TVA), the lead federal agency, concluded that the proposed project would have no adverse effects on cultural resources. Assisted in a Traditional Cultural Properties Survey with interested Native American Tribes, compiled cultural resources sections for and Environmental Assessment, and submitted a draft Unanticipated Discoveries Plan for procedures relating to cultural resources during facility construction and operation.

Archeologist/ Cultural Resources Specialist, 2010
Confidential Client, Wind Energy Project, Edgar County, IL
Conducted background research of National Register site files, SHPO archeological and architectural site files, historic maps and online historic resources for an area of over 12,000 acres as part of a Critical Issues Analysis for a proposed wind farm.

Archeologist/ Cultural Resources Specialist, 2010
Confidential Client, Wind Energy Project, Pratt County, KS
Conducted background research of National Register site files, SHPO archeological and architectural site files, historic maps and online historic resources for an area of over as part of a Critical Issues Analysis for a proposed wind farm. At least 38 homesteads or other structures formerly stood within the lease area. These may survive as archaeological sites. Many homesteads were associated with unmarked family cemeteries that are protected by state statutes.

Archeologist/ Cultural Resources Specialist, 2010
Confidential Client, Wind Energy Project, Audubon and Guthrie Counties, IA
Conducted background research of National Register site files, SHPO archeological and architectural site files, historic maps and online historic resources for an area of over as part of a Critical Issues Analysis for a proposed wind farm. In total, 49 architectural sites and 21 archeological sites have been recorded by SHPO within the Study Area.

Archeologist/ Cultural Resources Specialist, 2009
U.S. Army, Fort Dix, NJ. Joint Base Personnel Training Course, Burlington County, NJ
Prepared a base-wide online cultural resources training course defining cultural resources, identifying Federal and State laws protecting cultural resources, base standard operating procedures.

Archeologist/ Cultural Resources Specialist, 2009
OwnEnergy, Blackwell Wind Energy Project, Kay County, OK
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, local histories, historic cemeteries, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources. Completed an archeological sensitivity model for prehistoric and historic period archeological sites, and an unanticipated discoveries plan in order to reduce possible project impacts on cultural resources.

Archeologist/ Cultural Resources Specialist, 2009
Confidential Client, Wind Energy Project, Ford County, KS
Conducted archeological and National Register site file research and BIA and SHPO consultations for a Kansas NPDES permit as part of a Critical Issues Analysis for a proposed wind farm.

Archeologist/ Cultural Resources Specialist, 2009
Confidential Client, Wind Energy Project, Thomas Co., KS
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, local histories, historic trails, historic cemeteries, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources.

Archeologist/ Cultural Resources Specialist, 2008–2009
Horizon-Alabama Ledge Wind Farm, LLC, Alabama Ledge Wind Farm, Town of Alabama, Genesee County, NY
Supervised and conducted a Phase 1B archeological investigation of a wind farm that included 40 turbines and 152,138 feet of linear construction involving excavation of 1,597 shovel tests and 75,188 feet of pedestrian surveys. In total one historic-period and 14 prehistoric-period archeological sites, and 9 isolated finds were identified. SHPO consultations are continuing concerning possible requirements for additional archeological investigations.

Archeologist/ Cultural Resources Specialist, 2009
Confidential Client, Wind Energy Project, Mercer and Rock Island Counties, IL
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, local histories, historic trails, historic cemeteries, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources.

Archeologist/ Cultural Resources Specialist, 2009
Confidential Client, Wind Energy Project, Schuylkill County, PA
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, local histories, historic trails, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources.

Archeologist/ Cultural Resources Specialist, 2009
Lucent Technologies Inc., Baseline Ecological Risk Assessment, Morris County, NJ
Conducted SHPO consultations concerning soil remediation plans. Based on documentation of disturbance, no archeological investigations were required

Archeologist/ Cultural Resources Specialist, 2009
Confidential Client, Wind Energy Project, Schuylkill County, PA
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, local histories, historic trails, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources.

Archeologist/ Cultural Resources Specialist, 2009
Confidential Client, Wind Energy Project, Barton and Ellsworth Counties, KS
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, local histories, historic trails, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources.

Archeologist/ Cultural Resources Specialist, 2009
Confidential Client, Wind Energy Project, Summerset County, PA
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, local histories, historic trails, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources.

Archeologist/ Cultural Resources Specialist, 2008
Confidential Client, Wind Energy Project, Trago, Ellis, Ness, Rush and Pawnee Counties, KS
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, local histories, historic trails, historic cemeteries, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources.

Archeologist/ Cultural Resources Specialist, 2008
Horizon Wind Energy, Jericho Rise Wind Farm, Franklin County, NY
Supervised Phase 1B archeological fieldwork, including excavations of nearly 3,500 shovel tests. Conducted environmental analyses and contributed fieldwork summaries for the final report.

Archeologist/ Cultural Resources Specialist, 2008
FPL, Horse Hollow and Blue Summit Transmission Lines, TX and OK
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, local histories, historic trails, historic cemeteries, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources.

Archeologist/ Cultural Resources Specialist, 2008
Confidential Client, Wind Energy Project, Yuma County, CO
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, historic cemeteries, local histories, historic trails, ethnographic data, interested Native American Tribes and paleontological finds in order to avoid impacts on historic, archeological resources and paleontological resources.

Archeologist/ Cultural Resources Specialist, 2008
Confidential Client, Wind Energy Project, Roosevelt County, NM
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, archeological sites, historic maps, local histories, historic trails, historic cemeteries, ethnographic data, and interested Native American tribes in order to avoid impacts on historic, archeological resources.

Archeologist/ Cultural Resources Specialist, 2008
CPV Renewable Energy Company, LLC, Keenan Wind Farm, Woodward County, OK
Contributed cultural resources sections for a Critical Issues Analysis, including desk-top background research of properties listed on the National Register of Historic Places, National Archeological Database references, historic maps, local histories, historic trails, ethnographic data and interested Native American tribes, in order to avoid impact on historic and archeological resources. Procured supplemental funding for sensitivity modeling and an Unanticipated Finds Plan, submitted to SHPO.

Archeologist/ Cultural Resources Specialist, 2008
Montana Construction Corp. Charlotte Circle Siphon, Northeast Interceptor Improvements, City of Jersey City, Hudson County, NJ
Conducted archeological monitoring, field mapping and photograph documentation of National Register-listed water pipelines during new siphon installation. Compiled an archeological letter report for the New Jersey Department of Environmental Protection.

Archeologist/ Cultural Resources Specialist, 2007–2008
BP Alternative Energy Cultural Resources Inventory for the Golden Hills Wind Energy Development, Sherman County, OR
Conducted SHPO consultations and supervised Phase 1 archeological surveys, sensitivity modeling, and report preparation for over 7,000 acres for turbine strings, crane paths, underground collector lines and other components in satisfaction of Oregon Department of Energy, Oregon Energy Facility Siting Council Site Certification Application and SHPO requirements. In total, nine archeological sites and seven isolated finds were identified during the Phase 1 fieldwork. Assisted the client in avoiding impacts to identified sites including the Oregon Trail.

Archeologist/ Cultural Resources Specialist, 2007
FPL Cultural Resource Investigation, Oliver II Wind Energy Center, Oliver County, ND
Conducted surface investigations of proposed wind turbine relocations and identified one rock-cache prehistoric site. Coordinated field results for an amended Phase 1B archeological report.

Archeologist/Cultural Resource Specialist, 2006–2009
Alabama Ledge Wind Farm, LLC. Cultural Resources Investigations at the Alabama Ledge Wind Farm Project, Town of Alabama, Genesee County, NY
Conducted environmental modeling and historical background research and completed a Phase 1A archeological survey report for a proposed wind energy project that included 56 proposed turbines, 16 miles of gravel access roads, 22 miles of buried electrical interconnect lines, a 0.6 mile transmission line and other facilities. The Project is located along post-glacial shorelines south of Lake Ontario, and straddles the Onondaga Escarpment, an area important to Prehistoric Native Americans for quarrying high quality chert. Several large Paleo-Indian camp sites and mastodon remains have been identified in the Project vicinity. Phase 1B archeological testing included surface collections and shovel testing at more than 2,700 locations.

Archeologist/Cultural Resource Specialist, 2005–2008
U.S. Department of the Army, TACOM-ARDC-Picatinny, Phase 1 Cultural Resources Investigation, Picatinny Applied Research Center, NJ
Conducted background research, shovel testing and compiled an archeological report for 40 acres at Picatinny Arsenal. Archeologists were accompanied by UXO technicians to scan for unexploded ordinance. More than 350 shovel test units were excavated at three project areas. Historic landscape features were recorded, including one historic cistern archeological site. One prehistoric archeological site was identified. Conducted Phase 2 excavations at the Current Ballfield Prehistoric Site (28Mr314),

including 62 shovel tests and nine one-meter test units were excavated. The site contained limited spatial and stratigraphic integrity and low artifact densities. No additional archeological investigations were recommended. Artifact collections were accepted by the US Army for curation.

Archeologist/Cultural Resource Specialist, 2006–2008
Central Hudson Electric and Gas, Phase 1A and Phase 1B Cultural Resources Investigations of the WL Line, Towns of Montgomery, Hamptonburg and New Windsor, Villages of Waldon, Montgomery and Maybrook, Orange County, NY
Compiled a Phase 1A report describing background research and field walkover for over 25 miles of alternate rights-of-way, compiled prehistoric and historic sensitivity models (including local mastodon finds) for alternate route selection, and recommendations for Phase 1B archeological testing. Conducted Phase 1B testing including excavation of 362 shovel tests at replacement pole locations and along new rights of way, identified two prehistoric isolated finds, one prehistoric site and one historic site. Assembled information for project review by the local Historic District Commission.

Archeologist/Cultural Resource Specialist, 2006–2009
St. Lawrence Windpower, LLC. Cultural Resources Investigations at the St. Lawrence Wind Energy Project, Towns of Cape Vincent and Lyme, Jefferson County, NY
Conducted environmental modeling and historical background research and completed a Phase 1A archeological survey report for a proposed wind energy project that included 96 proposed turbines, 30 miles of gravel access roads, 44 miles of buried electrical interconnect lines, an 8 mile transmission line and other facilities. The Project is at the outlet of Lake Ontario and south of the St. Lawrence River. Prehistoric sites in the project vicinity range from Paleo-Indian fluted points to Late Woodland Iroquoian villages. Historic sites include nineteenth-century farms from French expatriates fleeing the French Revolution and Napoleon Bonaparte's defeat in Europe. Assembled cultural resource sections for the DEIS.

Archeologist/Cultural Resource Specialist, 2006–2008
U.S. Environmental Protection Agency, Crown Cleaners of Watertown, Inc. Remediation Investigation/Feasibility Study, Jefferson County, NY
Conducted background research and field walkover for prehistoric and historic archeological sites for a six-acre Superfund site along the Black River at the Village of Herrings, Jefferson County, New York. The property formerly contained a nineteenth-century sawmill and paper mill. Compiled a Phase 1A cultural resources report, integrating results of a preliminary architectural and archeological assessment.

Archeologist/Cultural Resource Specialist, 2006–2008
Central Hudson Electric and Gas, Phase 1A and Phase 1B Cultural Resources Investigations of the CL Line, Town of Catskill and Village of Catskill, Greene County, NY
Conducted background research and field walkover for prehistoric and historic archeological sites over more than 15 miles of right-of-way. Prepared a cultural resources report describing environmental contexts, and cultural and historical contexts, areas of archeological sensitivity, and recommendations for Phase 1B testing. Conducted shovel testing at replacement pole locations and identified one prehistoric site. Phase 2 testing determined that the site was not eligible for the National Register of Historic Places.

Archeologist/Cultural Resource Specialist, 2006–2008
West Hill Windpower, LLC, Cultural Resource Investigations of the West Hill Wind Farm, Towns of Stockbridge, Smithfield and Lincoln, Madison County, NY
Completed background research, Phase 1 fieldwork at 25 wind turbine locations and more than 12 miles of roads, interconnects and transmission lines, identified prehistoric and historic archeological sites including historic Oneida Nation villages, on West Hill and Cowaselon Creek. Completed Phase 1A and

Phase 1B archeological reports, including sensitivity modeling for field investigations. Field director for Phase 1B field investigations, including more than 1,840 shovel test units, identified seven prehistoric sites and three historic archeological sites.

Archeologist/Cultural Resource Specialist, 2006
Atlantic Energy, Phase 1A Cultural Resources Letter Report for the Atlantic Energy LNG Facility, Chesapeake, VA
Conducted background research for archeological sites, architectural resources and properties listed on the national Register of Historic Places in the vicinity of a proposed liquid natural gas (LNG) facility. Conducted a site visit to document the Glimerton Canal National Register-listed property and prior land disturbances in the area of proposed construction.

Archeologist/Cultural Resource Specialist, 2005
New York Power Authority, Phase 1A Cultural Resources Investigation Tri-Lakes Reliability Project, St. Lawrence County, NY
Compiled environmental archeological and historic data for more than 55 miles of proposed alternative transmission line upgrades through Adirondack State Park in New York. Supervised a pedestrian survey leading to discovery of 40 historic archeological sites. Compiled models for Phase 1B archeological testing for satisfying compliance with the New York State Environmental Quality Review Act. Compiled architectural survey study background research and compiled architectural inventory forms.

Archeologist/Cultural Resource Specialist, 2005
PSEG, Historic Documentary Research, PSEG New Brunswick MPG Site in the Vicinity of the Delaware and Raritan Canal and Washington Street, New Brunswick, NY
Compiled historic maps and photographs for residential and industrial land use along the Delaware and Raritan Canal from 1840 to 1980 in New Brunswick, New Jersey.

Archeologist/Cultural Resource Specialist, 2005
Invenergy Wind LLC. Cultural Resources Background Literature Review-Stamford Wind Project, Stamford and Roxbury Townships, Delaware County, NY
Compiled environmental archeological and historic data for state permitting of proposed wind energy-generating facilities in the western Catskill Mountain region or southern New York.

Archeologist/Cultural Resource Specialist, 2005
Invenergy Wind LLC. Cultural Resources Background Literature Review High Sheldon Wind Farm Project, Wyoming County, NY
Compiled environmental archeological and historic data for state permitting of proposed wind energy-generating facilities in the Allegheny Plateau region or western New York.

Archeologist/Cultural Resource Specialist, 2004–2005
NASA, Marshall Space Flight Center Huntsville, Alabama NASA Contract No. NAS8-00149, Task Order No. 0105. Letter Report Cultural Resources Pedestrian Survey, Marshall Space Flight Center, Madison County, AL
Compiled environmental archeological and historic data for prehistoric and historic land use on the Marshall Space Flight Center. Developed a statistical predictive model for prehistoric site locations and graphic models for historic sites. Conducted a pedestrian survey of 700 acres within 30 separate areas to document past ground disturbances and evidence for archeological sites. Seven new historic archeological sites were identified. Recommended priorities for future cultural resource investigations to comply with Section 110 of the National Historic Preservation Act and other federal laws and executive orders.

Archeologist/Cultural Resource Specialist, 2004
U.S. Fish and Wildlife Service, Region 5. Archeological, Historical and Geomorphic Study Prime Hook National Wildlife Refuge, Sussex County, DE
A TtEC team conducted a coordinated geomorphological study, a historic records study and oral history related to historic minority communities. The geomorphological study included extraction of six vibracores from wetlands near archeological sites to study soil formation and pollen evidence. The historic records study assembled information pertaining to prehistoric and historic archeological sites, historic maps, deeds, census data and other records reflecting past land use. The oral history involved documentary research and informant interviews concerning Native Americans and African Americans living in the vicinity of the refuge.

Archeologist/Cultural Resource Specialist, 2003
Anderson-Mulholland & Associates, Inc. Supplemental Intensive Archeological Investigations at the Flat Swamp Cemetery #2 (413-9), Newtown, CT
Documented an historic graveyard and conducted test excavations before well drilling and groundwater testing to avoid impacts on grave markers and human remains. Conducted consultations with SHPO and the State Archaeologist.

Archeologist/Cultural Resources Specialist, October 2002–2004
Department of the Navy Engineering Field Activities-Northeast, Jamaica Island Landfill, Portsmouth Naval Shipyard, Kittery, ME
Compiled environmental, archeological and historic data for an archeological sensitivity model of pre-landfill landforms and conducted archeological testing at sensitive areas. Monitored landfill excavations for historic landforms and possibly preserved archeological sites. Documented an 1871 schooner shipwreck beneath the landfill. Compiled cultural resource reports detailing environmental and cultural contexts and results of field investigations.

Archeologist/Cultural Resources Specialist, February–May 2003
U.S. Environmental Protection Agency Region 2, Cornell-Dubilier Electronics Superfund Site, South Plainfield Borough, Middlesex County, NJ
Compiled environmental, archeological and historic information for an archeological sensitivity model of industrial development and landscape modification. Compiled a descriptive cultural resources report.

Archeologist/Cultural Resources Specialist, August 2002–November 2004
U.S. Environmental Protection Agency Region 2, Rockaway Borough Wellfield Superfund Site, Rockaway Borough, Morris County, NJ
Compiled historic and land-use data for 62 properties within Rockaway Borough Wellfield Superfund Site, including industrial sites and portion of the Morris Canal. Completed a cultural resources report detailing historic and archeological sensitivity of an urban community.

Archeologist/Cultural Resources Specialist, November 2002–November 2003
Niagara Mohawk, Historic Manufactured Gas Plants, NY
Conducted historic and documentary research at seven historic manufactured gas plants in New York State. Compiled historic maps, and industrial data concerning industrial designs, preserved architectural features and environmental residues.

Archeologist/Cultural Resources Specialist, October 2002
Bay Energy LLC, Generating Station, Gowanus Canal, Brooklyn, NY
Compiled a cultural resources sensitivity model and report for a draft EIS for a proposed generating station, submitted to the New York State Department of Environmental Conservation. Contributed sections to the EIS describing cultural resources.

Archeologist/Cultural Resources Specialist, June 2002
Pennsylvania Department of Environmental Protection, Valley Forge National Park, PA
Conducted archeological monitoring for environmental testing in historic industrial areas of Valley Forge National Park. Completed sections for the final environmental report that described results of cultural resources monitoring.

Archeologist/Cultural Resources Specialist, May 2002
Royal D'Iberville Casino and Marina, Draft EIS, Cultural Resources. Biloxi and D'Iberville, MI
Conducted background research and prepared a technical cultural resources report describing sensitivity for prehistoric and historic archeological sites, and architectural resources at three alternative development sites along the Mississippi Gulf Coast.

Archeologist/Cultural Resources Specialist, February 2002
Florida Power and Light; Tesla Power Project, Alameda and San Joaquin Counties, CA
Senior historical archeologist for cultural resources issues pertaining to California Energy Commission (CEC) power plant licensing, conducted archeological testing at an early 20th-Century ranch, completed professional cultural survey report for the power plant site and lateral facilities, a Phase 1 archeological report for the Walter Gorman ranch (Site A), and compiled CEC data requests for cultural resources.

Archeologist/Cultural Resources Specialist, October 2001–October 2004
Department of the Navy Engineering Field Activities-Northeast, Naval Weapons Industrial Reserve Plant, Site 1-Northeast Disposal Area, Calverton, NY
Conducted environmental and archeological sensitivity modeling at glacial kettles in Long Island. Conducted Phase 1 and Phase 2 archeological testing and monitoring of machine access and debris storage area, and conducted monitoring for buried archeological sites during land fill remediation. Completed a technical archeological survey reports for prehistoric Native American occupations.

Archeologist/Cultural Resources Specialist, December 2001–February 2002
Calpine, Chippokes Energy Center, Surry County, VA
Conducted background research and archeological sensitivity modeling for prehistoric Native American sites, 17th-Century English settlements, and historic Euro-American and African American sites for a project area along the lower James River in Virginia. Completed a technical cultural resources report.

Archeologist/Cultural Resources Specialist, November 2001
Niagara Mohawk. Gravestone Documentation and Preliminary Recommendations for Preservation at the Johnstown Colonial Cemetery, Johnstown, NY
Photographed and analyzed 359 historic gravestones for effects from remediation activities planned at the adjacent Niagara Mohawk property. Prepared a preliminary technical report and protection plan for historic Johnstown Colonial Cemetery listed on the National Register of Historic Places.

Archeologist/Cultural Resources Specialist, November 2001
Texas Eastern Transmission LP. Phase 1 Cultural Resources Investigation, TIME Project, Lambertville Compressor Station, Hunterdon County, NJ
Conducted archeological and historical investigations for proposed natural gas compressor upgrades. Prepared a final cultural resources technical report.

Archeologist/Cultural Resources Specialist, November 2001
Texas Eastern Transmission LP. TIME Project, PA, NJ, and NY
Conducted consultations for a FERC application, including SHPO consultations, Native American consultations, and reviews of archeological reports. Prepared Resource Report 4 and an Unanticipated Discovery Plan for the FERC application.

Archeologist/Cultural Resources Specialist, October 2001
Niagara Mohawk. Stone Retaining Wall Documentation, Niagara Mohawk Johnstown (N. Market Street) Site, Johnstown, NY
Photo-documented a stone retaining wall before and after interim remedial measures at a former manufactured gas plant. Prepared a final cultural resources technical report.

Archeologist/Cultural Resources Specialist, October 2001–October 2004
National Aeronautics and Space Administration, Marshall Space Flight Center. Environmental Resource Document and Environmental Assessment, Huntsville, AL
Assembled archeological, architectural, historical and environmental information about Marshall Space Flight Center. Developed a predictive archeological model for prehistoric and prehistoric sites. Prepared a final cultural resources technical report. Assembled archeological, architectural, historical and environmental information about the proposed site of the Propulsion Research Laboratory. Prepared a final cultural resources technical report.

Cultural Resources Specialist, October 2001–October 2004
Department of the Navy. Archeological Test Pit Monitoring at the Debris Area, Nomans Land Island, MA
Monitored machine test pitting at a former Navy debris areas in conjunction with waste removal and UXO-remediation, activities not defined as federal actions under Section 106 of the National Historic Preservation Act. Prepared a final cultural resources technical report.

Archeologist/Cultural Resources Specialist, September 2001
U.S. Army Corps of Engineers, Philadelphia, Airport Apron Environmental Assessment; Cultural Resources, Fort Dix, NJ
Reviewed archeological, historical and environmental information for Fort Dix, New Jersey. Prepared the final cultural resources technical report.

Consultant, August 2001
Trunkline LNG Company, Lake Charles Terminal, Calcasieu Parish, LA
Conducted consultations for a FERC application, including SHPO consultations, Native American consultations, and reviews of archeological reports. Prepared Resource Report 4 and an Unanticipated Discovery Plan for the FERC application.

Cultural Resources Specialist, June 2001
U.S. Army Engineering and Support Center, Huntsville, Delivery Order 0015, Contract No. DACA 87-94-D-0020, Savanna Army Depot Activity Engineering Evaluation/Cost Analysis, Savanna, IL
Analyzed cultural resources identified during geophysical magnetometer and unexploded-ordinance investigations at the Savannah Army Depot Activity. Prepared a cultural resources technical report.

Previous Employment

Archeological Consultant, December 1995–Present
Town of Redding Board of Selectmen and Redding Planning Commission, Redding, Connecticut
Major tasks included conducting a town-wide historical and archeological survey documenting 106 archeological sites, 852 historic structures, and archeological sensitivity modeling for more than 20,000 acres. Conducted Phase 1-3 excavations at archeological sites on town lands, including preparing 17 cultural resources reports. Procured funding for compiling a town history in cooperation with the Redding Historical Society. Developed a town-wide volunteer archeology program. Reviewed all subdivision applications for impacts of historic and archeological sites for the Redding Planning Commission. Developing a National Register Nomination for the Poverty Hollow Historic District.

Archeological Consultant, October 2000–January 2001
Friends and Neighbors of Putnam Memorial State Park, Redding, Connecticut
Nominated Putnam State Park as Connecticut's First State Archeological Preserve for the protection of 1778-1779 Revolutionary War encampments.

Archeological Consultant, June 1998–April 2000
Florence Griswold Museum and Connecticut College
Conducted an archeological field school for Phase 1-3 excavations at the Lyme Art Colony, Old Lyme, Connecticut, including specialized analyses of 18,000 historic artifacts from studios and other features, prepared a detailed archeological report and museum cultural resources management plan.

Environmental Specialist, GS-12, January 2000–May 2001
Federal Emergency Management Agency, Region 1, Boston, Massachusetts
On-call disaster assistance for cultural resources, certified training in federal cultural resource and environmental regulations.

Project Archeologist, September 1992–May 1995
John Milner Associates, Inc., Danbury, Connecticut
Conducted sensitivity modeling for diverse utilities, pipelines and transmission lines, Phase 1-3 archeological investigations for state and private clients, and completed 17 cultural resources technical reports, from the Southeast, Middle Atlantic and New England regions.

Assistant Administer of Research, January 1987–September 1992
Maryland Historical Trust, Jefferson Patterson Park and Museum, St. Leonard, Maryland
Museum duties included conducting archeological surveys an excavations at prehistoric and Colonial archeological sites in Southern Maryland, exhibit development and Maryland Archeological Curation and Conservation Laboratory design, reviewed development projects and CRM reports for compliance with federal and state regulations, conducted volunteer training and education programs, compiled 7 technical reports, presented 3 professional papers and 2 publications, series editor for Jefferson Patterson Park and Museum Occasional Papers No 1-5.

Archeologist GS5-7, 1976–1989 (intermittent)
National Park Service, Midwest Archeological Center, Lincoln, Nebraska
Environmental modeling and Phase 1-3 archeological investigations in Grand Teton and Yellowstone National Parks, Wyoming, and Glen Canyon National Recreation Area, Utah, authored or co-authored 19 technical cultural resources reports, professional papers and publications.

Other Cultural Resources Experience (non-Tetra Tech)
In preparation, Supplemental Historical and Archeological Assessment of the Town of Redding, Connecticut. Prepared for the Redding Selectmen. Prepared by Aspetuck Landways, Greenwich, CT.

2014, Historical Assessment of the Barn at 163 Umpawaug Road, Redding, Connecticut (senior author). Prepared for the Town of Redding, Historic Review Committee. Prepared by Aspetuck Landways, Greenwich, CT.

2014, Historical Assessment of the Garage at 6 Long Ridge Road, Redding, Connecticut (senior author). Prepared for the Town of Redding, Historic Review Committee. Prepared by Aspetuck Landways, Greenwich, CT.

2014, Historical Assessment of the House at 244 Black Rock Turnpike, Redding, Connecticut (senior author). Prepared for the Town of Redding, Historic Review Committee. Prepared by Aspetuck Landways, Greenwich, CT.

2014, Historical Assessment of the House at 216 Poverty Hollow Road, Redding, Connecticut (senior author). Prepared for the Town of Redding, Historic Review Committee. Prepared by Aspetuck Landways, Greenwich, CT.013 Ceramic Analysis of Sites Alloway Creek Prehistoric Archaeological Sites, Salem County, New Jersey. Prepared for PSE&G, New Jersey. Prepared by AKRF, New York, NY

2012, An Agricultural History of 53 and 63 Center Road, Easton, Connecticut (senior author). Prepared for the Historical Society of Easton. Prepared by Aspetuck Landways, Greenwich, CT

2012, Proposed telecommunications facility at 50 Adams Road, Easton, CT. Letter Report prepared for Giagraphics. Prepared by Aspetuck Landways, Greenwich, CT

2009, Stage 1A Documentation and Survey Development Report, Germany Flats Water Pump Station, Township of Sparta, Sussex County, New Jersey. Prepared for the Township of Sparta. Prepared by Aspetuck Landways, Budd Lake, NJ

2009, Historical and Archeological Assessment Survey of Easton, Connecticut (senior author). Prepared for the Town of Easton and the Connecticut Trust for Historic Preservation, with funding from the Connecticut Humanities Council. Prepared by Aspetuck Landways, Budd Lake, NJ, Redding, CT and Easton, CT

2007, Historical and Archeological Assessment of Easton, Connecticut, Interim Report (senior author). Prepared for the Town of Easton Planning and Zoning Commission and the Connecticut Trust for Historic Preservation. Prepared by Aspetuck Landways, Redding, CT

2006, South Richmond Drainage: Conference House Park Watershed, Archeological Reconnaissance, Monitoring, and Mitigation, Satterlee Street and Massachusetts Street, Richmond County, New York (senior author). Prepared for Cruz Construction and NYC Department of Design and Construction. Prepared by Historical Perspectives, Inc., Westport, CT

2005, Phase 3 Archaeological Investigations at Area 11 Locus 1 Seven Springs Farms, North Castle, New Castle, Bedford, Westchester County, New York. Prepared for Trump Partners, Seven Springs, LLC. Prepared by Historical Perspectives, Inc., Westport, CT

2004, Seven Springs Phase 2 Archeological Evaluations: Area 2, Locus 2; Area 2 Locus 3; Area 6, Locus 1; Area 14 and Area 15, Bedford, North Castle and New Castle, NY (senior author). Prepared for Seven Springs, LLC. Prepared by Historical Perspectives, Inc., Westport, CT

2004, Stage 1A Archaeological Assessment, The Ridge At Winchester, Town of Winchester, Litchfield County, Connecticut. Prepared for Mitchandrew Development, LLC. Prepared by Historical Perspectives, Inc., Westport

2003, Stage 1A Archaeological Assessment, Proposed Javdan Project, Town of Wallkill, Orange County, New York (senior author). Prepared for the Kushner Companies. Prepared by Historical Perspectives, Inc., Westport, CT

2002, Archeological Reconnaissance Survey of the Sunset Revival Subdivision, 65 Sunset Hill Road, Redding, CT (coauthor). Prepared for Redding Open Lands, Inc. Prepared by K. von Jena and S. A. Reeve, Consultants for the Redding Planning Commission, Redding, CT

2001 Archeological Monitoring, Empire-Fulton Ferry State Park, Brooklyn, NY. Prepared for New York State Office of Parks, Recreation and Historic Preservation. Prepared by Historical Perspectives, Inc., Westport, CT

2001, Archeological Reconnaissance Survey of the Home Depot Property, Old Saybrook, Connecticut (senior author). Prepared for TPA Design Group. Prepared by Historical Perspectives, Inc., Westport, CT

2001, Putnam Park State Archaeological Preserve Nomination. Prepared for the Friends and Neighbors of Putnam Memorial State Park. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1999, Phase 1 Archaeological Survey Report of the Crown Atlantic Telecommunications Facility in the Town of Guilford, Connecticut (senior author). Prepared for Crown Atlantic Company, LLC. Prepared by Archaeological Consulting Services, Guilford, CT

2001, Phase 1 Archaeological Survey Report of Three Crown Atlantic Telecommunications Facilities in the Town of Old Lyme, Connecticut (senior author). Prepared for Crown Atlantic Company, LLC. Prepared by Archaeological Consulting Services, Guilford, CT

2001, Archaeological Reconnaissance Survey (Phase 1B) Of Lots 3, 4, and 5 Old Stagecoach Estates, Redding, Connecticut (senior author). Prepared for Arrowhead Hills LLP. Prepared by Archaeological Consulting Services, Guilford, CT

2001, Archeological Reconnaissance Survey of the Nevas Property, Post Road West, Westport, Connecticut. Prepared for Alan Senie, Attorney at Law. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

2000, Archeological Reconnaissance Survey at AT&T Wireless Tower Site L16, New Hartford, Litchfield County, CT, Docket No.184. Prepared for URS Greiner Woodward Clyde. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

2000, Archeological Reconnaissance Survey of the Proposed Yard Waste Facility, Sherwood Island Connector, Westport, Connecticut. Prepared for the Town of Westport, Department of Public Works. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

2000, Archeological Investigations Beneath the Old Town House (117-30), Redding, Connecticut. Prepared for the Office of the First Selectman, Town of Redding. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1999, Archeological Investigations (Phase 3) of the Telephone Line at the Lonetown Manor Site (117-24), Redding, CT. Prepared for the Redding Planning Comm. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1999, Intensive Archeological Survey for Proposed Swimming Pool Construction within the Lonetown Manor Site (117-24), Redding, Connecticut. Prepared for the Redding Planning Commission. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1999, Archeological Assessment Survey of the Krueger/Jarkow Property, Gallows Hill Road and Old Stagecoach Road, Redding, Connecticut. Prepared for the Redding Planning Commission. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1999, An Historical and Archeological Assessment Survey of Redding, Connecticut. Prepared for the Office of the First Selectman, Town of Redding. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1999, Archeological Reconnaissance Surveys at Great Pond and Rippowam Road, Ridgefield, Connecticut. Prepared for the Federal Emergency Management Agency, Boston. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1998, Intensive Archeological Survey (Phase 2) of Portions of Lot 1 (Sites 117-23 and 117-24) and Lot 4 (Site 117-29), Lonetown Manor, Redding, CT. Prepared for the Redding Planning Commission. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1998, Archeological Assessment Survey, Fort Trumbull MPD Area, New London, Connecticut (senior author). Prepared for Milone & MacBroom, Inc. and New London Development Corporation. Prepared by S.A. Reeve, Archeological Consultant, West Redding and Keegans Associates LLC, Willington, CT

1998, Native American Uses for Redding Plant Communities. Prepared for the Office of the First Selectman, Town of Redding. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1998, Archeological Investigations at the Burritt Property, Redding, CT (senior author). Prepared for the Office of the First Selectman, Town of Redding. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1998, Archeological Reconnaissance Survey, AT&T Wireless Tower Site L18, Colebrook, Litchfield County, CT. Prepared for Land-Tech Consultants, Inc. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1998, Archeological Reconnaissance Survey, AT&T Wireless Tower Site L16A, New Hartford, Litchfield County, CT. Prepared for Land-Tech Consultants, Inc. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1998, Archeological Investigations at Three Sites in Redding Center Historic District, Redding, Connecticut. Prepared for the Town of Redding, Office of the First Selectmen. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1998, Archeological Reconnaissance Survey of Lonetown Manor, Redding, Connecticut. Prepared for the Redding Planning Commission. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1997, Archeological Assessment Survey of Lonetown Manor, Redding CT. Prepared for Alfred and Sharon Dietzel, and Cohn and Wolf, P.C. Attorneys at Law. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1997, Preliminary Report, Archeological Reconnaissance Survey of Lots 1 and 4, Dietzel Subdivision, Redding, Connecticut. Prepared for Alfred and Sharon Dietzel, and Cohen and Wolf, P.C. Attorneys at Law. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1997, Intensive Archeological Survey at Flat Swamp Cemetery #2 (413-9), Newtown, CT. Prepared for Holahan, Gumpper & Dowling, Attorneys at Law, and Island Transportation Corporation. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1997, Archeological Assessment Survey, Harbor Brook Flood Control Project (MMI #621-4), Meriden, Connecticut. Prepared for Milone and MacBroom, Inc. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1997, Phase 1 Archaeological Reconnaissance Survey, Proposed Facilities Expansion, First Church of Christ, Congregational, Redding, Connecticut (coauthor). Prepared for the First Church of Christ, Congregational. Prepared by Ernest Wiegand, III, Consultants in Archaeology, Wilton, CT

1997, Archeological Reconnaissance Survey of the Flat Swamp #2 (413-9) Cemetery, Newtown, CT. Prepared for Holahan, Gumpper & Dowling, Attorneys at Law, and Island Transportation Corporation. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1997, Archeological Reconnaissance Survey of the Flat Swamp #1 (413-8) Cemetery, Newtown, CT. Prepared for Holahan, Gumpper & Dowling, Attorneys at Law, and Island Transportation Corporation. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1996, Archeological Assessment/Reconnaissance Survey, Silver Brook Stream Improvement Project (Project No. 93-2), Westport, Connecticut. Prepared for Milone & MacBroom, Inc., and Westport Department of Public Works. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1996, Archeological Reconnaissance Survey of the Raymond Family Burial Ground, Darien, Connecticut. Prepared for Mrs. Joanne Hart and Rucci, Burnham, Carta & Edelberg, Attorneys At Law. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1996, Archeological Assessment Survey of the Lampitelli Subdivision, PL #466, Whortleberry Hill Road, Redding, CT. Prepared for the Redding Planning Comm. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1996, Luzerne County, S.R. 1018, Section 370, Dallas Township Bridge Replacement Phase I Archeological Survey and Historic Resources Investigation, E.R.#92-1690-079 (coauthor). Prepared for the Pennsylvania Department of Transportation. Prepared by John Milner Associates, Inc., West Chester, PA

1995, Cliffdale Road Bridge (No. 0516) Replacement, Greenwich DPW No. 93-44, CT. Letter report to the Office of the State Archeologist, Storrs, CT, August 26, 1995. Prepared for the Cliffdale Road Homeowners Association. Prepared by S.A. Reeve, Archeological Consultant, West Redding, CT

1995, Cultural Resources Contribution to the U.S. Forest Service DEIS for the Appalachian Power Company 750 kV Transmission Line from Oceana, West Virginia to Cloverdale, Virginia (coauthor). Prepared for Woodward Clyde Consultants, Inc. and Jefferson National Forest. Prepared by John Milner Associates, Inc., Alexandria, VA

1995, A Phase IB Archeological Survey in Association with the Upgrade of Segment 3 of the Cady's Falls to Johnson Transmission Line Facility, Johnson and Hyde Park, Vermont (senior author). Prepared for the Village of Morrisville Water and Light Department. Prepared by John Milner Associates, Inc., Danbury, CT

1995, Wyoming County S.R. 0292, Section 770, Bowman's Creek Bridge Replacement, Phase I Archeological Survey, E.R. No. 93-0454-131-D (senior author). Prepared for the Pennsylvania Department of Transportation. Prepared by John Milner Ass., Inc., West Chester, PA

1995, Archeological Reconnaissance Survey, State Receiving Home, East Windsor, Connecticut, DPW Project No. BI-YS-105-1, DTC No. 92-129-120 (coauthor). Prepared for Diversified Technologies Corporation. Prepared by John Milner Associates, Inc., Danbury, CT

1994, A Phase IA Cultural Resources Investigation of the Portland Natural Gas Transmission System Pipeline, North Troy to the Connecticut River, Orleans, Caledonia, and Essex Counties, Vermont (coauthor). Report prepared for Stone and Webster Engineering Corporation. Prepared by John Milner Associates, Inc., Danbury, CT

1994, Phase IA and IB Archeological Investigations for the City of Bethlehem Raw Water Main Project, Upper and Lower Towanensing Townships, Carbon County, Pennsylvania, Northampton, Pennsylvania (coauthor). Report prepared for Gannett Fleming, Inc. Prepared by John Milner Associates, Inc., West Chester, PA

1994, A Phase I Cultural Resources Reconnaissance in Association with the Upgrade of Segment 3 of the Cady's Falls to Johnson Transmission Line Facility, Johnson and Hyde Park, Vermont (senior author). Prepared for the Village of Morrisville Water and Light Department. Prepared by John Milner Associates, Inc., Danbury, CT

1994, A Phase I Archeological Survey of Three U.S. Marine Corps Housing Locations, Craven County, North Carolina, Base Realignment, MCAS Cherry Point, North Carolina (senior author). Prepared for TAMS Consultants, Inc. Prepared by John Milner Ass., Inc., Alexandria, VA

1994, A Phase I Archeological Survey, Fountain Lake Commerce Park, Ansonia and Seymour, Connecticut (senior author). Prepared for the Ansonia Redevelopment Agency. Prepared by John Milner Ass., Inc., Danbury, CT

1994, Supplemental Stage IB Archeological Survey and Stage II Archeological Evaluation Report, King of Prussia Technical Corporation Site, Winslow Township, Camden County, New Jersey (coauthor). Prepared for The King of Prussia Technical Corporation Site Committee. Prepared by John Milner Associates, Inc., West Chester, PA

1994, A Phase I Archeological Survey for the Proposed By-Pass Road, Fairfield Hills Hospital, Newtown, Connecticut: DPW Project No. B1-JA-343-Archeological (coauthor). Prepared for the Connecticut, Department of Public Works. Prepared by John Milner Associates, Inc., Danbury, CT

1993, A Stage IB Archeological Survey of Proposed Remedial Activities at the King of Prussia Technical Corporation Site, Winslow Township, Camden County, New Jersey (senior author). Prepared for the King of Prussia Technical Site Committee. Prepared by John Milner Associates, Inc., West Chester, PA

1993, Phase I and Phase II Archeological Investigations; Station Square Project, Cumberland, Maryland (coauthor). Maryland State Highway Administration Archeological Report 62. Baltimore. Prepared by John Milner Associates, Inc., Alexandria, VA

1993, A Phase IA Archeological Survey of the Proposed Haverhill to Portland Pipeline Project, New Hampshire and Maine (senior author). Report prepared for Stone & Webster Engineering Corporation. Prepared by John Milner Associates, Inc., Danbury, CT

1993, Phase II Archeological Evaluation of Site 36CR83 City of Bethlehem Water Transmission Main, Carbon County, Pennsylvania (senior author). Report prepared for Gannett Fleming, Inc. Prepared by John Milner Associates, Inc., West Chester, PA

1992, Phase I Archeological Investigations, Pahaquarry Copper Mines Parking Area, Delaware Water Gap National Recreation Area, Warren County, New Jersey (senior author). Report prepared for the National Park Service. Prepared by John Milner Associates, Inc., Alexandria, VA

1992, A Phase I Shovel Test Pit Survey of the MAC/MSC Utility Corridor, And a Proposal for Phase II Testing. Report on file, Jefferson Patterson Park and Museum, St. Leonard, MD

1992, Patuxent Point Radiometric Dates. Grant Report submitted to the PRAD Foundation, and the Maryland Historical Trust, Annapolis, MD

1991, Shovel Test Pit Survey of the Kings Reach House (18CV17N) Septic System. Report on file, Jefferson Patterson Park and Museum, St. Leonard, MD

1991, Results of Shovel Testing Under the Asbury House. Report on file, Jefferson Patterson Park and Museum, St. Leonard, MD

1989, Prehistoric Settlements at the Yellowstone Lake Outlet, Yellowstone National Park, Wyoming. Prepared in partial fulfillment of Package 294 and Purchase Order PX-6115-7-0115. National Park Service, Midwest Archeological Center, Lincoln, NE.

1988, Results of Phase I Shovel Testing of the Asbury House Septic System. Report on file, Jefferson Patterson Park and Museum, St. Leonard, MD

1987, The St. Leonard Creek Archeological Survey. Research report, Maryland Historical Trust, Annapolis, MD.

1985, Data Recovery and Analysis at the Chittenden Bridge Site (48YE516), Yellowstone National Park, Wyoming (coauthor). Report in partial fulfillment of Package 141. NPS, Midwest Archeological Center, Lincoln, NE

1984, The Chittenden Bridge Site (48YE516) and the Paleoecology of Yellowstone National Park, Wyoming. Report in partial fulfillment of Package 141. National Park Service, Midwest Archeological Center, Lincoln, NE

1983, The Lizard Creek Sites (48TE700 and 48TE701): The Prehistoric Root Gathering Economy of Northern Grand Teton National Park, Wyoming. Report in partial fulfillment of Package 201. National Park Service, Midwest Archeological Center, Lincoln, NE

1983, The Foraging Potential of the Little Wahweep Creek Blackbrush Community, Glen Canyon National Recreation Area, Utah. In Five Sites Near the Lone Rock Development, Glen Canyon National Recreation Area (Coauthor). National Park Service, Midwest Archeological Center, Lincoln, NE

1982, Index to the Pollen Flora of Grand Teton National Park. Research report on file, Midwest Archeological Center, Lincoln, NE

1982, Palynology and Archeology: New Applications in Northwestern Wyoming. Research report on file, Midwest Archeological Center, Lincoln, NE

1980, The Northern Jackson Hole-Southern Yellowstone Park Cultural Ecology Model. Research report on file, Midwest Archeological Center, Lincoln, NE

1980, Archeological Investigations of the Lawrence Site (48TE509), Grand Teton National Park, Wyoming (senior author). Report in partial fulfillment of Purchase Order No. PX-6115-7-0126. National Park Service, Midwest Archeological Center, Lincoln, NE

1979, Mitigation of the Sheepeater Bridge Site (48YE320), Yellowstone National Park, Wyoming and Montana (senior author). Report in partial fulfillment of Purchase Order No. PX-6115-7-0126. NPS, Midwest Archeological Center, Lincoln, NE

1977, Blacktail Butte Ecology and Resources. In Report on Excavations at Blacktail Butte, Grand Teton National Park, Wyoming (coauthor). Report in partial fulfillment of Purchase Order No. CX-6000-5-0181. National Park Service, Midwest Archeological Center, Lincoln, NE

1976, A Preliminary Report on Two Ocean Lake 1 (48TE357): A Seasonal Camp in Grand Teton National Park (coauthor). Report in partial fulfillment of Purchase Order No. CX-6000-5-0181. National Park Service, Midwest Archeological Center, Lincoln, NE

1975, Report on Archeological Investigations and Excavations of Revolutionary Sites, Saratoga National Historical Park, New York (senior author). Report in partial fulfillment of Contract No. CX-200-4-0030. National Park Service, Washington, D.C.

Publications & Presentations

Reeve, S.A. in preparation Before the Age of Reason: The Church of England and and the Secret Affair of Young Benjamin Franklin. Under editorial review.

Reeve, S.A., D. Silverglade and K. von Jena, 2011. The Archaeology and Ethnohistory for Frontiers and Cultural Brokers: Examples from Redding and Easton, Connecticut. Bulletin of the Archaeological Society of Connecticut 73:51-90.

Reeve, S.A. 1999. An Historical and Archeological Assessment Survey of Redding, Connecticut. Office of the First Selectman, Town of Redding, Connecticut.

Reeve, S.A. 1992. Changes in Time: A Seriation Chronology for Southern Maryland Projectile Points. Journal of Middle Atlantic Archaeology. 8:107-138.

Reeve, S.A. 1986. Root Crops and Prehistoric Social Process in the Snake River Headwaters, Northwestern Wyoming. Ph.D. dissertation. SUNY Albany, University Microfilms, Ann Arbor.

Reeve, S.A. 1978. Ethnobotany and Archeology in Yellowstone and Grand Teton National Parks. In: Proceedings of the Conference on Scientific Research in the National Parks (2nd). 1:362-380. National Technical Information Service, Springfield, Ohio.

Reeve, S.A., L. Bradt, H.D. Juli and R. Gradie. 2000. The Archeology of the Lyme Art Colony, Florence Griswold Museum, Old Lyme, Connecticut. Connecticut College Archaeology Laboratory Report No. 11, New London, Connecticut.

Reeve, S.A. and K. Forgacs. 1999. Connecticut Radiocarbon Dates: A Study of Prehistoric Cultural Chronologies and Population Trends. Bulletin of the Archaeological Society of Connecticut. 62:19-66.

Reeve, S.A., J.C. Russo, D.J. Pogue and J.M. Herbert. 1991. Myrtle Point: The Changing Land and People of a Lower Patuxent River Community. Jefferson Patterson Park and Museum, Occasional Papers 3, St. Leonard, Maryland.

Reeve, S.A., and P. Siegel. 1996. Phase III Data Recovery at the Aud Site (Site 18ST634), St. Mary's County, Maryland. Maryland State Highway Administration Archeological Report 111. John Milner Associates, Inc., West Chester, New York.

Von Jena, K., and S.A. Reeve. 2005. Poverty Hollow: The Preservation of and Evolving Historic Landscape in Redding, Connecticut. Bulletin of the Archaeological Society of Connecticut 67:49-76.

Wright, G.A., S.J. Bender and S.A. Reeve. 1980. High Country Adaptations. Plains Anthropologist. 25:191-207.

Wright, G.A and S.A. Reeve. 1981. Prehistoric Resource Procurement and Climatic Change in Northwestern Wyoming, pp. 423-448. In: Quaternary Paleoclimate, W.C. Mahaney (ed.). Geo Abstracts Ltd. Norwich, UK.

Presentations

Reeve, S.A., and K. von Jena 2014. *Redding: Founding a Frontier Community, 1714-2014.* Exhibit at Mark Twain Library, Redding, CT, from January 11 to February 22, 2014. Prepared for the Redding Selectmen, Redding, CT, in cooperation with the Redding Historical Society.

Reeve, S.A. 2013 *A Path from England to Lonetown: History of the Hill and Read Families of Redding, Connecticut.* Privately published, Danbury, CT.

Reeve, S.A., and K. von Jena 2013. *Chickens Reservation and the Colonial Frontier in Redding, Connecticut.*

Presentation at the Institute for Native American Studies, Native American-Archaeological Roundtable, Washington, CT (11/3/2013).

Reeve, S.A., and K. von Jena 2012-2013. *Lonetown: Warrups, Reads and the Colonial Frontier* (Public lectures presented by Aspetuck Landways at Highstead-Harvard Forest, Redding, CT (10/20/2012); Institute for American Indian Studies, Washington, CT (3/10/2013); Norwalk Community College, Norwalk, CT (3/14/2013).

Reeve, S.A., D. Silverglade and K. von Jena, 2012. *Historical and Archeological Assessment Survey of Easton, Connecticut* (senior author). Presentation by Aspetuck Landways to the Town of Easton Planning and Zoning Commission, Easton, CT.

Reeve, S.A., D. Silverglade and K. von Jena, 2009. The Archaeology and Ethnohistory for Frontiers and Cultural Brokers: Examples from Redding and Easton, Connecticut. Paper presented at the Archaeological Society of Connecticut Meetings, Danbury, CT.

Reeve, S.A. 1997. Redding Archeology, New Appreciation for Old Places. Lecture presented at the Institute for American Indian Studies, Washington, Connecticut.

Reeve, S.A. 1997. Mitigating Environmental Disaster: Archeological Investigations at the Flat Swamp Cemeteries, Newtown. Presented to the Archaeological Society of Connecticut Meeting, Connecticut River Museum, Essex, Connecticut.

Reeve, S.A. 1997. Connecticut Radiocarbon Dates: Compilation and Comparisons. Presented to the Archeological Society of Connecticut Meeting, Fairfield Historical Society, Fairfield, Connecticut.

Reeve, S.A. 1991. The Material Relationships of Prehistoric Territoriality: PIXE Trace-Element Characterizations of Middle Woodland Rhyolite in Southern Maryland. Presented to the Conference of Middle Atlantic Archeology, Ocean City, Maryland.

Reeve, S.A. 1989. New Data on the Prehistoric Cultural Sequence for Southern Maryland. Presented to the Conference for Middle Atlantic Archeology, Rehoboth Beach, Delaware.

Reeve, S.A. 1988. A Middle Woodland Shell-Pit Burial along the Patuxent River, Maryland. Presented to the Archeology Society of Maryland Annual Meeting, Elkton, Maryland.

Reeve, S.A. 1978. Ethnobotany and Archeology in Yellowstone and Grand Teton National Parks. Presented to the Conference on Scientific Research in the National Parks (2nd), San Francisco, California.

Reeve, S.A. 1976. Plant Resources and Prehistoric Transhumance in Jackson Hole, Wyoming. Presented to the 23rd Plains Conference, Minneapolis, Minnesota.

Reeve, S.A., and A. Burger. 1998. Redding: Archeological Modeling and Historic Preservation in an Old Connecticut Town. Presented to the Archeological Society of Connecticut Meeting, Central Connecticut State University, Bristol, Connecticut.

Reeve, S.A., and K. Forgacs. 1999. Connecticut Radiocarbon Dates: A Study of Prehistoric Cultural Chronology and Population Trends. Presented to the Archeological Society of Connecticut Meeting for Connecticut Archeology Today, Peabody Museum of Natural History, Yale University, New Haven, Connecticut.

Reeve, S.A., S.B. Marshall, J.C. Sexton, M.A. Carper, and C.L. Borstel,2009. Assessing the Past to Secure the Future: Cultural Resources and Wind Energy. Poster presentation American Wind Energy Association Conference, Chicago, IL.

Reeve, S.A., and P. Siegel. 1996. Estuarine Habitats and Plant Gathering During the Woodland Period in Southern Maryland. Presented to the Conference on Archeobotany in the Northeast, New York State Museum, Albany, New York.

Reeve, S.A., and P. Siegel. 1995. Woodland Period Activity Organization in Southern Maryland: A View from the Aud Site. Presented to the 62nd Annual Meeting of the Eastern States Archeological Federation, Wilmington, Delaware.

Reeve, S.A, D. Silverglade and K. von Jena. 2010. The Archeology and Ethnohistory of Frontiers and Cultural Brokers, Examples from Easton and Redding, CT. Presented to the Archaeology Society of Connecticut, Danbury, CT

Professional Accomplishments

Russell Award for Contributions to Connecticut Archaeology, Archaeological Society of Connecticut. 2016.
Paul C, Lemon Award for Distinguished Research in Ecology and the Environmental Sciences, SUNY Albany. 1987.
Society for American Archaeology, Ph.D. Dissertation Competition: Honorable Mention. 1990.

Professional Affiliations

Member, Archeology Society of Connecticut
Member, Easton Historical Society of Easton, CT
Member, New England Historical and Genealogical Society

Experience Summary

Ms. Haugh has over 13 years of professional experience in cultural resource management and heritage preservation in the United States and West Indies working with clients, private landowners, public agencies, and nonprofit organizations. Ms. Haugh has experience performing all aspects of Phase I, II, and III Cultural Resource Investigations including preliminary background research, fieldwork, laboratory analysis, and report production. She has proven proficiency with map and field skills, GPS, site photography and documentation, and leading teams in fieldwork. Ms. Haugh has served as Principle Investigator for multiple Phase I cultural resource investigations in Maine, as well as Project Archaeologist for numerous cultural resources investigations nationally. She currently serves on the Board of Directors for the Maine Archaeological Society. As well, Ms. Haugh has acted as a Cultural Interpreter and Lab Director for the Virgin Islands National Park Service and has worked for the University of Southern Maine supervising undergraduate archaeological field schools in Maine and the US and British Virgin Islands.

Education

MA, American & New England Studies, University of Southern Maine, In Progress
BA, Geography-Anthropology-Archaeology, University of Southern Maine, 2003

Registrations/Certifications

State of Maine Prehistoric Archaeological Certification, Level / Phase I

Training

Standard First Aid and CPR-AED; American Red Cross; 2011
Wilderness First Aid Certification; 2013

Corporation Project Experience

Cultural Resources Coordinator, 2012-Present
Hywind Maine Pilot Project, Boothbay Harbor, ME

Cultural Resources Coordinator and Archaeologist for a four 3-megawatt floating wind turbine pilot project. Responsibilities included coordinating and monitoring cultural resources surveys including: offshore marine survey, onshore archaeological survey, architectural survey, and a visual impact assessment. Additionally served as the principal investigator for onshore archaeological surveys.

Principal Investigator, 2012-Present
Three Ring Binder Replacement Pole Project, ME

Principal Investigator for Archaeological Investigations (Phase 0/IA/IB) per MOA between National Telecommunications and Information Administration, Maine SHPO, and Maine Fiber Company, for 1,100-mile fiber optic installation project. Responsibilities include agency coordination, survey, excavation, GPS data collection, and figure and report production.

Principal Investigator, 2012
DeLuca-Hoffman Associates, Inc., Cascade Falls Subdivision Project, Shapleigh, ME

Principal Investigator for a Phase I cultural resource survey of a 36-acre subdivision development. Responsibilities included survey, excavation, GPS data collection, download, figure production, report production, and coordination with the Maine Historic Preservation Commission by Tetra Tech, Inc. for DeLuca-Hoffman Associates, Inc.

Principal Investigator, 2012
Lutheran Outdoor Ministries of New England, Camp Calumet Shoreline Stabilization Project, Freedom, NH
Project Archaeologist for a Phase I cultural resource survey a 500 linear foot shoreline embankment planned for stabilization improvements. Responsibilities included survey, excavation, GPS data collection, download, figure production, report production, and coordination with the New Hampshire Division of Historical Resources by Tetra Tech, Inc. for the Lutheran Outdoor Ministries of New England.

Project Archaeologist, 2012
SBA Towers, Inc., Washington North Telecommunications Facility Project, 426 Old Marlow Road, Town of Washington, Sullivan County, NH.
Project Archaeologist for a Phase I cultural resource survey a proposed cell tower development Responsibilities included survey, excavation, GPS data collection, download, figure production, report production, and coordination with the New Hampshire Division of Historical Resources by Tetra Tech, Inc. for SBA Towers, Inc.

Principal Investigator, 2012
DeLuca-Hoffman, Inc., Cascade Falls Subdivision Project, Shapleigh, ME
Principal Investigator for a Phase I cultural resource survey of a 36-acre subdivision development. Responsibilities included survey, excavation, GPS data collection, download, figure production, report production, and coordination with the Maine Historic Preservation Commission by Tetra Tech, Inc. for DeLuca-Hoffman Associates, Inc.

Principal Investigator, 2011
Town of Eustis, Eustis Water Department Project, Eustis, ME
Principal Investigator for a Phase I archaeological survey of a new well and water transmission pipeline located within a 1-acre parcel. Responsibilities included survey, excavation, GPS data collection, download, figure production, report production, and coordination with the Maine Historic Preservation Commission by Tetra Tech, Inc. for The Town of Eustis.

Project Archaeologist, 2010
Fire Island Lighthouse Preservation Society, First Order Fresnel Lens Building Project, Fire Island Light Station, Fire Island National Seashore, NY
Project Archaeologist for a Phase II cultural resource survey in support of the relocation of the Fire Island Light Station Boathouse for the Fire Island Lighthouse Preservation Society and the National Park Service. Responsibilities included survey, excavation, GPS data collection, download, figure production, ANCS+ database management, artifact curation, and report production.

Project Archaeologist, 2010
US Army Corps of Engineers, Buffalo District, USACE Customs and Border Protection – Swanton Sector – Cultural Resources Investigation, Franklin and St. Lawrence Counties, New York and Franklin County, VT
Project Archaeologist for Phase IA/B cultural resource investigations at three locations slated for communication upgrades for US Customs and Border Protection sites in New York and Vermont for USACE Buffalo District.

Project Archaeologist, 2009-2010
Patriot Renewables, Inc., Saddleback Mountain Wind Development Project, Carthage, ME
As Project Archaeologist, assisted with a Phase 0 archaeological sensitivity assessment and lead the subsequent Phase I field investigation for a 17 turbine wind development project in Woodstock Maine.

Assisted with the development and negation of work plans with state and federal agencies, assisted with a pedestrian reconnaissance of the entire Project area, lead the Phase I Project excavations, and co-authored Project reports.

Project Archaeologist, 2009
Patriot Renewables, Inc., Spruce Mountain Wind Development Project, Woodstock, ME
As Project Archaeologist, assisted with a Phase 0 archaeological sensitivity assessment and lead the subsequent Phase I field investigation for an 11 turbine wind development project in Woodstock Maine proposed by Patriot Renewables, LLC. Assisted with the development and negation of work plans with state and federal agencies, assisted with a pedestrian reconnaissance of the entire Project area, lead the Phase I Project excavations, and co-authored Project reports.

Project Archaeologist, 2009
DeLuca-Hoffman Associates, Inc., Gorham Road Development Project, Scarborough, ME
Project Archaeologist for a Phase IA/IB cultural resource survey of an 89-acre mixed-use development. Responsibilities included survey, excavation, GPS data collection, download, figure production, and report production by Tetra Tech, Inc. for DeLuca-Hoffman Associates, Inc.

Principal Investigator, 2009
Portland Trails, Presumpscot River Trail Expansion Project, Portland, ME
Principal Investigator Phase I prehistoric cultural resource survey of a 2,000 linear foot trail development. Responsibilities included survey, excavation, GPS data collection, download, figure production, and report production by Tetra Tech, Inc. for Portland Trails.

Project Archaeologist, 2008-2010
Horizon Wind Energy, Meadow Lake Wind Farm Project, White and Benton Counties IN
Project Archaeologist for a Phase IA cultural resource survey of an approximately 10,000-acre wind farm, developed in five construction phases by Horizon Wind Energy. Responsibilities included background research, systematic pedestrian survey, GPS navigation and data collection, and report production.

Section 106 Specialist, 2008-2009
US Army Corps of Engineers, New York District, Environmental Assessment and Phase I Cultural Resource Assessment for the Admiral's Row section of the former Brooklyn Navy Yard, NY.
Section 106 Specialist assisting the US Army Corps of Engineers, New York District (District), and the National Guard Bureau (NGB) comply with Federal regulations and requirements associated with transferring and developing the existing Admiral's Row section of the former Brooklyn Navy Yard, located in the Greenpoint section of Brooklyn, King's County, New York. In particular, this work includes complying with the National Environmental Policy Act (NEPA), taking into account the potential environmental effects of any proposed action on the property, in accordance with the NGB NEPA Handbook. The specific tasks associated with the project include: preparing an Environmental Assessment; conducting a Phase IA Cultural Resource investigation and preparing a Documentary Report; conducting an Alternatives Analysis to evaluate the range of development alternatives for the 7-acre property; and, assisting the NGB with meetings related to the Section 106 of the National Historic Preservation Act, including assisting in preparations for two public meetings and developing a website for the project.

Project Archaeologist/Crew Chief, 2009
Horizon Wind Energy, Arkwright Summit Wind Farm Project, Arkwright, NY
Archaeologist/Crew Chief for a Phase I cultural resources and architectural survey for a 47 turbine wind development project proposed by Horizon Wind Energy. Responsibilities included: turbine sighting, survey, excavation, and GPS data collection, artifact analysis, and report production.

Principal Investigator, 2008
Sebago Technics, Inc., L.L. Bean Outdoor Adventure Center Project Freeport, ME
Principal Investigator for Phase IA/IB cultural resource survey, including a historic structure survey, of a 300 acre outdoor adventure center development. Responsibilities included survey, excavation, GPS data collection, download, figure production, and report production by Tetra Tech, Inc. for Sebago Technics.

Project Archaeologist, 2008
Maine Public Service Cooperation, Maine Public Service Transmission Line 6910 Upgrade Project, Mars Hill and Presque Isle, ME
Project Archaeologist for a Phase IA/IB cultural resources survey of 12.3-mile transmission line Project. Responsibilities included survey, excavation, GPS data collection, and report production by Tetra Tech, Inc. for the Maine Public Service Corporation.

Project Archaeologist, 2007-2008
US Department of the Interior, National Park Service, Governor's Island National Monument ARPA Damage Assessment, Governors Island, New York Harbor, NY
Project Archaeologist for an Archaeological Resource Protection Act (ARPA) Damage Assessment of portions of the Governors Island National Monument for the US Department of the Interior, National Park Service, Governors Island National Monument. Responsibilities included: survey, hand and mechanical trench excavation, GPS data collection, download, figure production, ANCS+ database management, artifact curation, and report production.

Project Archaeologist/Environmental Inspector, 2007-2008
Vermont Public Service Board / Vermont Electric Power Company (VELCO), 115kV Northwest Vermont Reliability Project, Chittenden and Addison Counties, VT
Archaeological and Environmental Inspector, Third Party Inspection of Archaeological and Environmental Resources, including erosion prevention and sediment control (EPSC), for the construction of a 27-mile, 115kV transmission line and associated substation construction projects by NEA/Tetra Tech, Inc., for the Vermont Public Service Board (PSB). Responsibilities included weekly inspections of active and restored construction areas, weekly internal reporting and monthly public reporting of inspection activities, concerns, and violations of relevant Federal or State project permits. Third Party Inspection was conducted under the aegis of the PSB; agencies such as the US Army Corps of Engineers, Vermont Department of Environmental Conservation, and the Vermont Division for Historic Preservation maintained permits with VELCO that third party inspectors ensured compliance

Project Archaeologist, 2007-2012
Green Mountain Power Corporation, Cultural Resources Services, Chittenden County, VT
Cultural Resources Team, Project Archaeologist providing cultural resource support services to Green Mountain Power Corporation (GMP) in support of the Essex No. 19 Hydroelectric Project. Services provided include Federal and State agency consultation, maintaining Project compliance with the Project Historic Properties Management Plan (HPMP) and Programmatic Agreements (PAs), and Phase I through III cultural resource surveys supporting FERC re-licensing, recreation plan, and construction projects.

Project Archaeologist/Crew Chief, 2007
Bemus Bay Investments Bemus Bay Site Phase III Data Recovery Project, Village of Bemus Point, Chautauqua County, NY
Archaeologist/Crew Chief for a Phase III Data Recovery/Archaeological Mitigation of the Bemus Bay Site, a multi-component, Paleo-Indian through Late Woodland, prehistoric habitation site. Responsibilities included survey, excavation, feature and profile mapping, artifact analysis, and GPS data collection for Bemus Bay Investments.

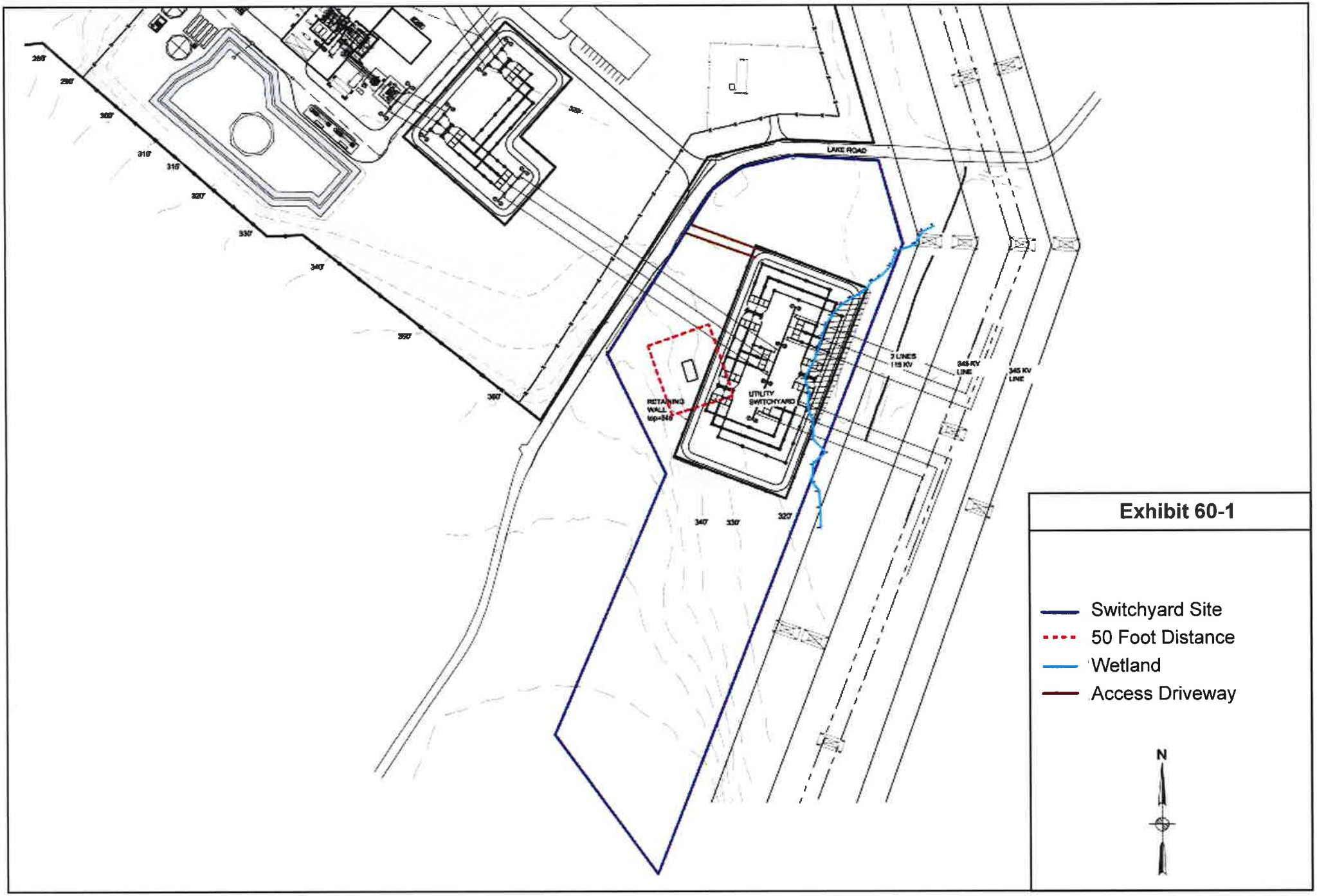
Project Archaeologist, 2006-2012
Central Vermont Public Service Corporation, Cultural Resources Services, Lamoille, Chittenden, Franklin, Addison, and Rutland County, VT
Cultural Resources Team, Project Archaeologist providing cultural resource support services to the Central Vermont Public Service Corporation (CVPS) in support of four hydroelectric impoundments: the Lamoille River Hydroelectric Project, the Carver Falls Hydroelectric Project; the Silver Lake Hydroelectric Project, and the Weybridge Hydroelectric Project. Services provided include Federal and State agency consultation, developing Historic Properties Management Plans (HPMPs), maintaining Project compliance HPMPs and Programmatic Agreements (PAs), and providing Phase I through III cultural resource surveys supporting FERC re-licensing, recreation plan, and construction projects.

Project Archaeologist, 2006
United States Department of the Interior, National Park Service, Saint-Gaudens National Historic Site (SAGA) Hemlock Nursery Development Project, Cornish, NH
Project Archaeologist / GIS Technician for Phase IA/IB cultural resources survey. Responsibilities included: survey, excavation, GPS data collection, download, figure production, and report production by NEA, Inc. for United States Department of the Interior, National Park Service, Northeast Region Archaeology Program and Saint-Gaudens National Historic Site.

Project Archaeologist, 2005-2011
Haley & Aldrich, Baha Mar Resort Development Project, Nassau, New Providence Island, Bahamas
Project Archaeologist responsible for Phase IA/IB cultural resources survey of a 1,070 acre resort development. Responsibilities include survey, excavation, GPS data collection, download, figure production historic site inventory, historic structure mapping, archival research, and coordination with the Bahamas Antiquities, Monuments, and Museums Corporation by NEA, Inc./Tetra Tech, Inc. for Haley & Aldrich on behalf of Baha Mar Corporation.

Project Archaeologist / GIS-Total Station Technician, 2005-2006
United States Forest Service, White Mountain National Forest, Ore Hill Historic Mine Project, Warren, NH
Project Archaeologist / GIS-Total Station Technician responsible for mapping of historic structural and landscape features, Phase IA site walkovers, and architectural photography of a 13 acres historic mine complex for cultural resource management services by NEA, Inc. for United States Forest Service, White Mountain National Forest.

Archaeological technician, 2003
United States Forest Service, White Mountain National Forest, Ore Hill Historic Mine Project, Warren, New Hampshire (2003).
Archaeological technician for Phase IA/IB cultural resources survey of a 13 acre historic mine and associated features. Responsibilities included survey, excavation, and artifact analysis by NEA, Inc. for United States Forest Service, White Mountain National Forest.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