## STATE OF CONNECTICUT CONNECTICUT SITING COUNCIL

PETITION BY WALLINGFORD ENERGY, LLC
ON BEHALF OF THE TOWN OF WALLINGFORD
FOR A DECLARATORY RULING TO APPROVE
UPGRADES TO THE TOWN SUBSTATION AND
115-kV TRANSMISSION LINES
IN WALLINGFORD, CONNECTICUT

#### WALLINGFORD ENERGY, LLC

#### PETITION FOR DECLARATORY RULING

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## STATE OF CONNECTICUT CONNECTICUT SITING COUNCIL

PETITION BY WALLINGFORD	PETITION
ENERGY, LLC ON BEHALF OF THE	
TOWN OF WALLINGFORD FOR A	
DECLARATORY RULING TO	
APPROVE UPGRADES TO TOWN	
SUBSTATION AND 115-kV	
TRANSMISSION LINES IN	June 24, 2016
WALLINGFORD, CONNECTICUT	

#### PETITION FOR DECLARATORY RULING

#### I. INTRODUCTION

#### A. Statutory Authority

Pursuant to Section 16-50k of the Connecticut General Statutes ("C.G.S.") and Sections 16-50j-38 to 16-50j-40 of the Regulations of Connecticut State Agencies ("R.C.S.A."), Wallingford Energy, LLC ("WE") on behalf of the Town of Wallingford ("Town") hereby submits this Petition to the Connecticut Siting Council (the "Council") for a Declaratory Ruling approving WE's proposal to upgrade the Wallingford 13M substation and Town-owned 1208, 1305, 1630, and 1640 115-kV transmission lines (the "Project"). These modifications are located almost exclusively on Town-owned property within an industrially zoned area and do not require a Certificate as they will not have a substantial adverse environmental effect.

#### B. Purpose for the Project

An affiliate of WE, Wallingford Energy II, LLC ("WE II"), is proposing to install and operate two 50-megawatt (nominal) simple cycle electric generating units at the existing generating facility owned and operated by WE in Wallingford, CT. As is detailed in WE

II's approved petition to the Council, Petition No. 1183 approved November 12, 2016, the primary motivation for this addition is to help satisfy capacity and reserve requirements. The two additional combustion turbines will provide quick-start capacity in the Southwest Connecticut zone, a transmission-congested load pocket within the ISO-New England ("ISO-NE") electrical system.

WE II submitted a generator interconnection request to ISO-NE in February 2014, which was assigned to the QP-440 queue position. ISO-NE completed the System Impact Study Report for the proposed project in April 2015. The report showed that two upgrades were needed to support the interconnection of WE II's proposed project interconnection:

- Upgrade the approximately 75 feet long, 115-kV, 1305 line to a nominal rating of at least 255 mega-volt amps ("MVA");
- Replace four circuit switchers at the Wallingford 115-kV substation.

In addition to the generator interconnection studies, WE II's project was studied through the Overlapping Impact Analysis ("OIA") in the Forward Capacity Market qualification process. ISO-NE delivered the results of the OIA to WE II in August 2014. The OIA identifies six potential transmission issues, three of which are already being sufficiently upgraded independently of the Project per the 2014 ISO-NE Regional System Plan and one other which has been upgraded independent of the Project since the OIA was released.

The two remaining issues identified in the OIA address the potential loss of two outlet lines from the Wallingford 13M substation. Presently, there are two contingencies which may arise at the 13M substation that would cause this to occur.

- 1.) The 1630 and 1640 115-kV transmission circuits on shared structures makes the system susceptible to a double circuit tower contingency, in which both circuits are lost due to a single event.
- 2.) The failure of a single breaker and subsequent opening of the adjacent breakers resulting in the loss of both the 1630 and 1640 lines. Further, this same

contingency would result in all of Wallingford's distribution transformers being dropped from the system.

To remedy these contingency events, WE, working with the WED, has identified solutions to resolve the two contingencies:

- Placing the double-circuit portions of the 1630 and 1640 115-kV transmission lines on separate structures.
- 2. A minor reconfiguration of the Wallingford substation to resolve the stuck breaker issue. This also alleviates the potential for Wallingford to lose all of its distribution transformers upon a single breaker failure.

The upgrades identified within this section constitute the scope of this Petition and are discussed in greater detail in the sections below.

#### C. Applicant Information

Wallingford Energy, LLC, an independent power producer and affiliate of Wallingford Energy II, LLC, is a member of the LS Power Group which has developed, constructed, managed or acquired more than 32,000 MW of competitive power generation and over 500 miles of transmission infrastructure. Headquartered in East Brunswick, New Jersey, the LS Power Group owns and operates a diverse portfolio of energy infrastructure throughout the United States.

#### II. DESCRIPTION OF THE PROJECT

#### A. Site Description

The proposed Project will occur almost exclusively on Town-owned property that is utilized for various Town operations. The Project site is zoned industrial, designated by the Town of Wallingford as an Industrial District I-40. As illustrated within Attachment B, the Town water treatment facility, WED equipment storage yard, composting center, recycling and refuse drop-off site, and the former landfill are all in close proximately to the Project.

Upgrades to the Wallingford 13M substation will occur entirely within the existing fenceline and newly installed equipment will not exceed the height of existing equipment in the substation. The current double circuit 1630 and 1640 115-kV transmission line runs generally south-southwest from the Town's 13M substation for approximately ½ mile to the Pent Road Junction. The proposed separation of these lines would place the 1640 115-kV line on new monopole structures of the same general character as those that currently exist. The routing of the separated line would largely parallel the current alignment. The new 1640 alignment may necessitate a small segment - approximately 500 feet - of the 1208 115-kV transmission line to be re-routed to accommodate the separation. Attachments B, C, D, and E detail the Project components and show the Project area.

#### B. Project Elements

The proposed Project can be organized into two categories: (i) Wallingford 13M Substation upgrades and (ii) 115-kV transmission line upgrades. The elements which compose each segment of this Project are detailed in the following sections.

#### 1. Wallingford 13M Substation Upgrades

The existing Wallingford 13M substation is a 115- to 13.8-kV substation that has six 115-kV transmission line terminations, four 115- to 13.8-kV transformers, and six circuit breakers in a ring bus configuration. The list provided below details the upgrades proposed for the substation yard.

- Replace four existing 115-kV 25-kA circuit switchers, one on the high voltage side of each existing 115/13.8-kV power transformer at the 13M substation, with 115-kv 40-kA circuit switchers.
- Modify 115-kV bus work to change the point where the existing 1640 line attaches to the 13M ring bus. Install one new 115-kV 40-kA circuit breaker (7T) between the existing 13M-2T and 13M-3T circuit breakers.

This addresses the contingency of a breaker-failure causing loss of more than one 115-kV line out of 13M.

To accommodate the addition of the 7T breaker, the existing control house located at the Wallingford 13M substation will need to be expanded. This expansion will also provide additional workspace for WED staff, as the existing structure had already become a congested workspace.

The control house expansion will consist of a pre-engineered or factory fabricated metal control enclosure to contain the substation batteries and chargers so the space occupied by the existing batteries can become an engineering workspace. This arrangement is illustrated in Attachment E.

An alternative arrangement under consideration is to utilize the new expansion as an engineering workspace and maintain the batteries in their current location within the control house. WE will continue to work with the WED on the final design and notify the Council upon determination.

In either arrangement, the control house expansion will be sized to adequately contain required equipment. Roof slopes will be no less than 1 inch over 12 inches and shall overlap exterior walls by a minimum of 6 inches. A door will be provided between the new expansion and the existing relay room.

The control house expansion will be constructed of exterior wall, roofing, and wall structural member materials that match the existing control enclosure. The expansion will include all secondary steel roof structural members, secondary steel wall structural members, wind bracing, anchor and connection bolts, metal roof covering, metal wall covering including liner, insulation, flashings, closures, sealer and caulking, metal trim, fasteners and other miscellaneous metal building components or accessory items.

#### 2. Transmission Upgrades

The list provided below details the upgrades proposed for the Town-owned 115-kV transmission lines. These modifications are shown on Attachment B.

- Reconductor approximately 75 feet of 1305 line from WED pole to WED substation structure. The reconductored line will need to achieve a nominal rating of 255 MVA.
- Add one new 115-kV structure and two spans, totaling approximately 100 feet, of 115-kV conductor, to connect the new generator step-up transformer at Wallingford Energy to the 1305 line.
- Install approximately seven new 115-kV poles and install and/or transfer approximately 3,000 feet of three-phase line. This will place the 1630 and 1640 lines from Wallingford 13M to the Pent Road Junction on separate structures. To facilitate this line separation a small segment of the 1208 line may need to be re-routed, requiring one additional structure.

#### C. Site Aesthetics

The general visual character of the Project area is influenced by existing transmission structures, generation equipment, and Town operations in the vicinity of the Project. New transmission structures will be of the same general design as those currently found at the site. WE proposes to install single pole, self-supporting, galvanized tubular steel support structures that will be of comparable height and color to those already present at the Project site. These newly installed structures will generally parallel the existing structures.

As illustrated in the structure diagrams provided as Attachment F, the estimated heights for the new support structures range from 100 - 115 feet, with the majority being 100 feet tall. Due to the fact that various site investigations and surveys are still ongoing, the aforementioned structure heights have been conservatively projected to allow for some

flexibility in final engineering design. The existing structures range in height from 75 – 100 feet, with the majority of structures being 85 feet or taller.

Substation modifications will be contained within the existing fence-line and will not exceed the height of the tallest equipment currently at the site.

The Project scope as a whole primarily consists of upgrades to existing infrastructure with nominal height increases, if any. As such the anticipated impact to the predominant existing industrial character of the surrounding area would not represent a significant visual impact.

#### D. Sound Attenuation

The Connecticut noise control standards provided in the Connecticut State Code (RCSA Section 22a-69-1 to 22a-69-7.4), along with the Wallingford noise ordinance (Ordinance #499), limit noise generated by an industrial facility to 61 dBA and 51 dBA at any residential property during the day and night, respectively. Given WE does not propose to add new equipment which creates substantial noise, there will be no permanent changes expected to the noise levels that would violate the standards listed above. During construction, any impacts to existing noise levels would be short-term and localized in the vicinity of the work sites.

#### E. Lighting

Substation yard lighting may be slightly modified to accommodate the new circuit breaker (7T). Lighting will be designed for the performance of maintenance functions and installed in accordance with the existing lighting scheme. The newly added yard lights will also adhere to all industry and occupation safety standards. Impacts from these lights are anticipated to be negligible given the proposed additional lighting is limited and to be located within an already illuminated area.

#### F. Radio and Television Interference

No radio or television interference is anticipated to result from the Project.

#### G. Right-of-Way

The scope of the proposed Project includes upgrades to the Town-owned 13M Substation and 115-kV transmission system, which are operated and maintained by the WED. These systems will continue to be Town-owned, operated, and maintained upon completion of the Project. As such, the Project elements on Town property do not require new right-of-way ("ROW") to be acquired. A short aerial span of the proposed 1640 115-kV line separation, less than 200 feet in length, is the only Project component not to be constructed on or over Town property. WE has secured an easement across this property which will be transferred to the WED upon construction completion. This will supplement the existing 100 foot ROW, the Town currently holds for the existing 1630 & 1640 line.

#### III. ENVIRONMENTAL EFFECTS

The proposed transmission line and substation work will not result in substantial adverse environmental effect. Project components are to be located almost exclusively on Townowned property that is zoned industrial, has been previously disturbed, and already supports the infrastructure elements that are proposed to be modified by this Project.

#### A. Clearing

The clearing needed for the Project as proposed will be very limited, if any is required, and therefore will not have an adverse impact on the environment. The aerial depictions provided as Attachments B and C illustrate the minimal amount of vegetation which exists at the Project site. Currently, WE estimates the maximum potential total clearing area to be approximately one acre, none of which is located in environmentally or culturally sensitive areas. As an industrial area that has been previously developed and is currently utilized as a transmission corridor, most vegetation has already been removed.

Upon finalizing the detailed design supported LiDAR survey, WE will determine the areas, if any, to be cleared and the procedures to be implemented to do so.

#### B. Cultural Resources

Given the nature of the Project area as a previously disturbed industrial site with proposed line alignments over caped landfills, composting areas, and electric equipment storage, WE does not anticipate any impacts to cultural resources. Nevertheless, in seeking to fully evaluate any potential for cultural impact, WE has reached out to the Connecticut State Historic Preservation Office and asked that they perform a review of the proposed Project. WE will make the findings of this review available to the Council upon its completion.

#### C. Wetlands and Watercourses

Water resources in the Project area, and within 50-100 feet of the region defined as the "Survey Area" in the attached wetlands report (Attachment G), were delineated in accordance with Connecticut and Federal wetland characterization methodologies by a Professional Wetland and Soil Scientist. Results of this investigation revealed that there are no wetlands or watercourses within or adjacent to the Project area. Additionally, the maps generated as part of the wetlands report indicate that the Project area lies outside the 100 and 500 year flood zones, as determined by the Federal Emergency Management Agency. For these reasons, the Project will have no adverse impact on wetlands and watercourses.

#### D. Coastal Resources

The Project will not be located within the coastal boundary or the coastal area and therefore is not subject to the Coastal Management Act or a Coastal Consistency Review.

#### E. Natural Diversity Database

A preliminary review of the current version of DEEP's map of Natural Diversity Data Base ("NDDB") Areas, dated September 2015, was conducted and determined that the

Project is not located within a "shaded area" that depicts known locations of endangered or threatened species and significant natural communities. However, in the interest of going beyond the minimum requirements, WE submitted a Connecticut Natural Diversity Data Base Review Request form to DEEP's Bureau of Natural Resources Wildlife Division. This review yielded a finding of no anticipated negative impacts from the proposed Project. The submitted application and agency response is provided in Attachment I.

#### F. Soil Erosion and Sediment Control

Installation of the substation and transmission upgrades detailed within this Petition will require a construction area, including laydown space and access routes, of approximately 25 acres. Given this construction footprint exceeds the one acre threshold for locally exempt construction projects, WE intends to register under the State of Connecticut's General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (DEEP-WPED-GP-015). In addition, WE will develop and submit a Stormwater Pollution Control Plan (SWPCP) which will detail the erosion management and sediment control approach. The submitted SWPCP will conform to the guidelines provided in the CT DEEP document 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

Typical E&S control measures include, but are not limited to, those provided in the list below.

- Straw blankets
- Silt fencing and hay bales
- Berms
- Swales
- Sediment basins

All control measures implemented at the Project site would be maintained and inspected regularly throughout construction. Upon completion of the Project, all construction areas would be restored to a stable post-construction condition consistent with the SWPCP.

#### G. Electric and Magnetic Fields

All electrical devices create electric and magnetic fields (EMF). The strength of these fields is proportional to the voltage for electric fields (EF), and current for magnetic fields (MF). Both the electric and magnetic fields deteriorate rapidly as distance from the source of the respective field increases. As described further below, EMF levels from the proposed upgrades will be in compliance with the Council's best management practices.

Wallingford Energy performed a preliminary assessment of projected EMF levels for the Project using PLS-CADD, produced by Power Line Systems, Inc. In the interest of providing a conservative EMF analysis WE calculated field levels at the full normal rating of the lines. Further conditions and assumptions used in the calculations are detailed in the following:

#### • Calculation Data:

- Voltage 115-kV
- o Current 1815 A (Line 1630); 1090 A (Line 1640); 1602 A (Line 1208)
- Ambient Conditions 50°F; 3 ft/s wind speed
- All calculations were based on the EPRI Red Book methods (2nd Edition, 1982 infinite straight wire with flat earth approximation).
- Calculations apply at 1 meter above grade
- The effects of earth return currents (earth resistivity) were ignored.
- All calculations assumed ground was flat with same elevation as that of centerline.

EMF levels were analyzed for both the existing and proposed configurations at nine separate line sections, as displayed within Attachment J. While Connecticut has not established quantitative EMF limits, the results of this analysis indicates that the marginal

increase in EMF levels from the Project will remain well below protective EMF limits implemented by other states. As is detailed within the Connecticut Siting Council policy document *Best Management Practices for the Construction of Electric Transmission Lines in Connecticut*, issued December 14, 2007, EMF limits considered to be protective of health focus on magnetic fields rather than electric fields given the weight of scientific evidence indicates that exposure to electric fields, beyond levels traditionally established for safety, does not cause adverse health impacts. Provided in Table 1 below are the magnetic field limits imposed by Florida and New York - the only two states to implement such limits to date. Additionally, the Massachusetts Energy Facilities Siting Board has also implemented an edge-of-ROW benchmark level of 85 mG as a standard of comparison for evaluating proposed designs. Though this benchmark does not constitute a regulatory limit, proposed values in excess of 85 mG are noted to potentially require more extensive review.

**Table 1: State Magnetic Field Limits** 

State	Limit Boundary	Magnetic Field Limit (mG)
Florida	< 230-kV: Edge of right-of-way	150
New York	< 230-kV: Edge of right-of-way	200
Massachusetts	Edge of right-of- way	*85

<sup>\*</sup>This is a benchmark value established by the Massachusetts Energy Facilities Siting Board and is not prohibitive of magnetic field values exceeding this value.

The primary driver for the incremental increase in EMF is the separation of the lines. Because the 1630 and 1640 115-kV transmission lines are currently located on shared monopole structures, the field reduction through line spacing is optimized. However, placing transmission circuits on shared structures also brings inherent operational risk: a contingency affecting one line of a shared double circuit line may impact the other. If this were to occur, the 1208 line would be overloaded as the only operational line exiting the Wallingford 13M substation. By separating the 1630 and 1640 lines, WE is able to reduce the likelihood of any single event resulting in a loss of both lines.

Calculated electric and magnetic field profiles are provided in Attachment J. These profiles are the assessed electric and magnetic field levels, both pre- and post-Project, and extended up to 200 feet from the centerline of the proposed alignment for the separated 1640 line. Because the new 1640 routing places the line more than 200 feet from its current position at Sections 8 & 9 these sections compare the EMF levels using the 1630 alignment as the centerline. Field interactions with neighboring lines were incorporated in the calculations where applicable. Profiles for Sections 2 & 3 reflect field levels resulting from re-routing the 1208 line, labeled "Proposed B", and leaving the line as it is currently routed, labeled "Proposed A".

Table 2 summarizes the calculated electric and magnetic field levels pre- and post-Project. As has been discussed previously, the Project is being undertaken on behalf of the Town of Wallingford and is to be located nearly entirely on Town-owned property. As such, the newly separated line alignment has no continuously defined ROW corridor. Thus, EMF levels have been determined at the closest property line or ROW boundary for each mid-span line segment, depending on which is applicable for the evaluated line section.

Table 2: Summary of Electric and Magnetic Fields under Maximum Loading Conditions at the Nearest Extent of Town Property Rights

Section	Field	Electric and Magnetic Fields Under Maximum Loading Conditions	
		Pre	Post
1	Electric (kV/m)	<0.1	<0.1
1	Magnetic (mG)	26	26
2	Electric (kV/m)	<0.1	Proposed A: <0.1 Proposed B: <0.1
2	Magnetic (mG)	<10	Proposed A: <10 Proposed B: <10
3	Electric (kV/m)	0.2	Proposed A: <0.26 Proposed B: <0.26
3	Magnetic (mG)	54	Proposed A: 74 Proposed B: 74
4	Electric (kV/m)	0.34	0.50
4	Magnetic (mG)	58	80
5	Electric (kV/m)	<0.1	<0.1
3	Magnetic (mG)	<8	<10
6	Electric (kV/m)	0.2	0.3
6	Magnetic (mG)	40	62
7	Electric (kV/m)	N/A	<0.1
/	Magnetic (mG)	N/A	<4
0	Electric (kV/m)	0.1	<0.1
8	Magnetic (mG)	20	46
9	Electric (kV/m)	0.1	0.1
9	Magnetic (mG)	26	56

A comparison to existing EMF field levels was not provided for Section 7 due to the fact that the new alignment for the 1640 line is more than 200 feet from its current position. At this distance the fields would dissipate to negligible levels and thus there are no pre-existing EMF levels to compare. Similarly, EMF field levels for the short 1305 line upgrades were not included because this line will be more than 200 feet from the nearest property line EMF impacts would be negligible.

In summary, the evaluated EMF levels for the Project show the marginal increases remain well within all regulatory limits that have been established by states across the country. Magnetic field levels reported in Table 2 are also observed to fall within the 85-mG edge-of-ROW benchmark, set by the Massachusetts Energy Facilities Siting Board, used in design evaluation. The Project increases system reliability by diminishing the likelihood of both 1630 and 1640 lines being impacted by a single contingency event.

#### IV. Construction Details

Once all necessary pre-construction permits are received, WE plans to manage a third-party contractor for the construction of the Project. The contractor will be responsible for obtaining ordinary course construction permits, procuring materials and equipment, subcontracting as warranted and managing day-to-day construction activities.

#### A. Traffic

Construction related traffic would utilize public roads as well as already existing access roads located on Town property. The public roads in proximity to the Project are low volume and primarily serve as access points for Town facilities such as the WED and water treatment center. The access roads developed for the existing transmission lines are still present at the site and will be employed to minimize use of public roads during construction. With these considerations, construction traffic impacts are anticipated to be minimal.

#### B. Staging Areas & Access Roads

Preliminary identified options for staging areas are depicted in Attachment C. The proposed staging areas would be used to store construction materials, equipment, tools, and supplies for the Project. During the course of construction, E&S controls would be installed and maintained at all staging areas, as will be detailed in the SWPCP. Notice will be provided to the Council if the construction contractor ultimately selects staging areas that are not represented on Attachment C.

Site access routes have been provided as Figures 3 and 4 in Attachment C. The figures provided therein demonstrate the anticipated routes to be taken to facilitate construction of the various Project elements. These routes, as previously discussed, utilize public roads and access routes which already exist for the transmission lines. By using existing access roads, which do not require clearing of vegetation and do not cross any environmentally or culturally sensitive areas, WE is able to further minimize construction impact.

#### C. Foundations

Anticipated foundation design considerations and installation methods for both the substation equipment and transmission structures are detailed in the following sections.

#### 1. Substation Equipment and Structure Foundations

Substation equipment, such as the gas circuit breakers, will be supported by cast-in-place reinforced concrete slabs.

Foundations for the substation equipment support structures, such as bus supports, switches, etc., and transmission line dead end structures will be cast-in-place reinforced concrete drilled piers or spread footings, whichever is appropriate based on the subsurface soil information and construction considerations.

#### 2. Control House Expansion Foundation

The control house will be supported by cast-in-place reinforced concrete foundation appropriate for the soil conditions and building type.

#### 3. Transmission Structure Foundations

The 115 kV structures will be installed on pier foundations. The pier foundations will be designed for a maximum ground line movement of 4 inches under ultimate loading conditions, using the FAD program, produced by Electric Power Research Institute, for modeling and design optimization.

#### D. Construction Sequence and Schedule

A typical sequencing for construction is described below.

- Delineate field of construction and prepare staging and laydown areas
- Install E&S control measures and make any needed modification to access routes
- Prepare work areas around new structure erection locations
- Install foundations and erect new structures
- Remove existing conductors
- Install conductors and wires
- Return Project site to pre-construction condition, properly disposing of all construction materials.

Major development and construction activities and anticipated completion dates are as follows:

Issue Contractor Notice to Proceed October 2016

Substation Equipment and Structures Delivered February 2017

Transmission Insulator/Conductor/Hardware February 2017

Delivered

Transmission Structures Delivered March 2017

Finish Construction September 2017

A Project schedule is included as Attachment H.

#### V. MUNICIPAL OUTREACH

As this Project is being undertaken by Wallingford Energy on behalf of the Town of Wallingford there has been extensive coordination between Town representatives and WE. Members of both entities have meet on several occasions to discuss Project design and planning. WE has also engaged the Town IWWC and Planning and Zoning Commission to discuss the Project.

#### VI. CONCLUSION

Based on the foregoing and the associated attachments, WE respectfully requests on behalf of the Town of Wallingford that the Council approve the Project by Declaratory Ruling as allowed under C.G.S. § 16-50k. The Project will enhance the system reliability and address contingencies identified by ISO-NE without substantial adverse environmental effects.

Finally, in accordance with R.C.S.A. § 16-50j-39, the names addresses and telephone numbers of the persons to whom correspondence or communications in regard to this Petition are to be directed are:

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Respectfully submitted,

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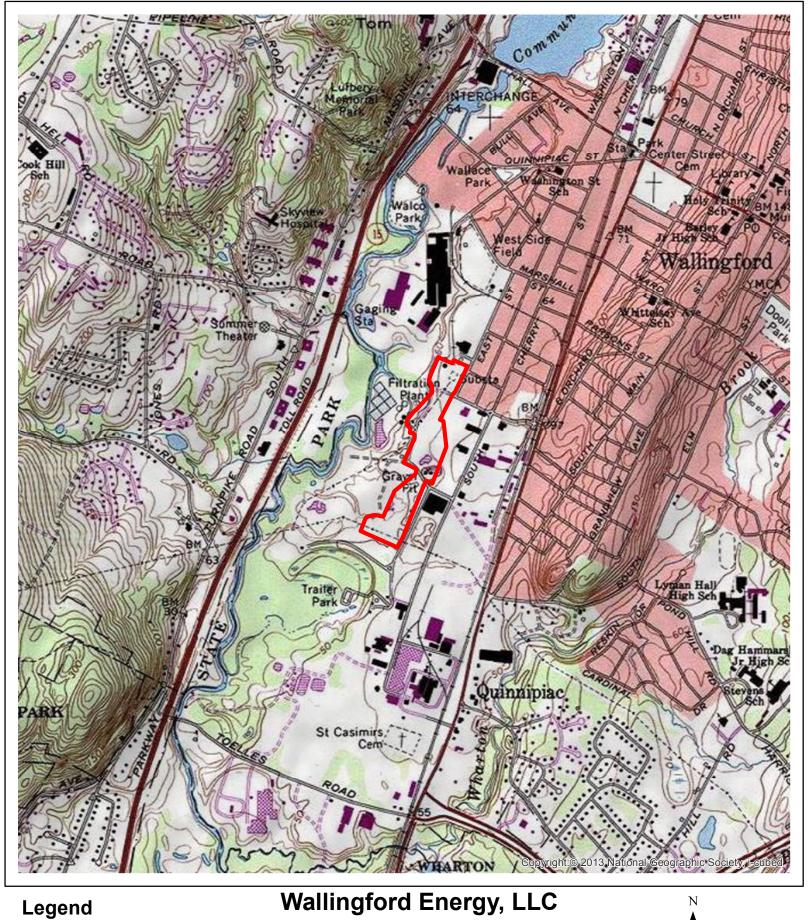
Telephone: (860) 240-6000

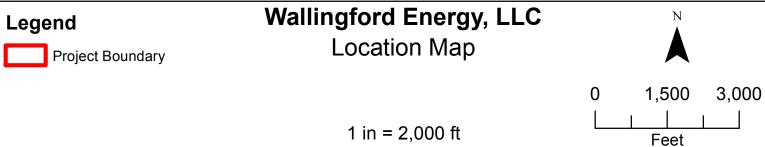
Its Attorneys

#### **ATTACHMENTS**

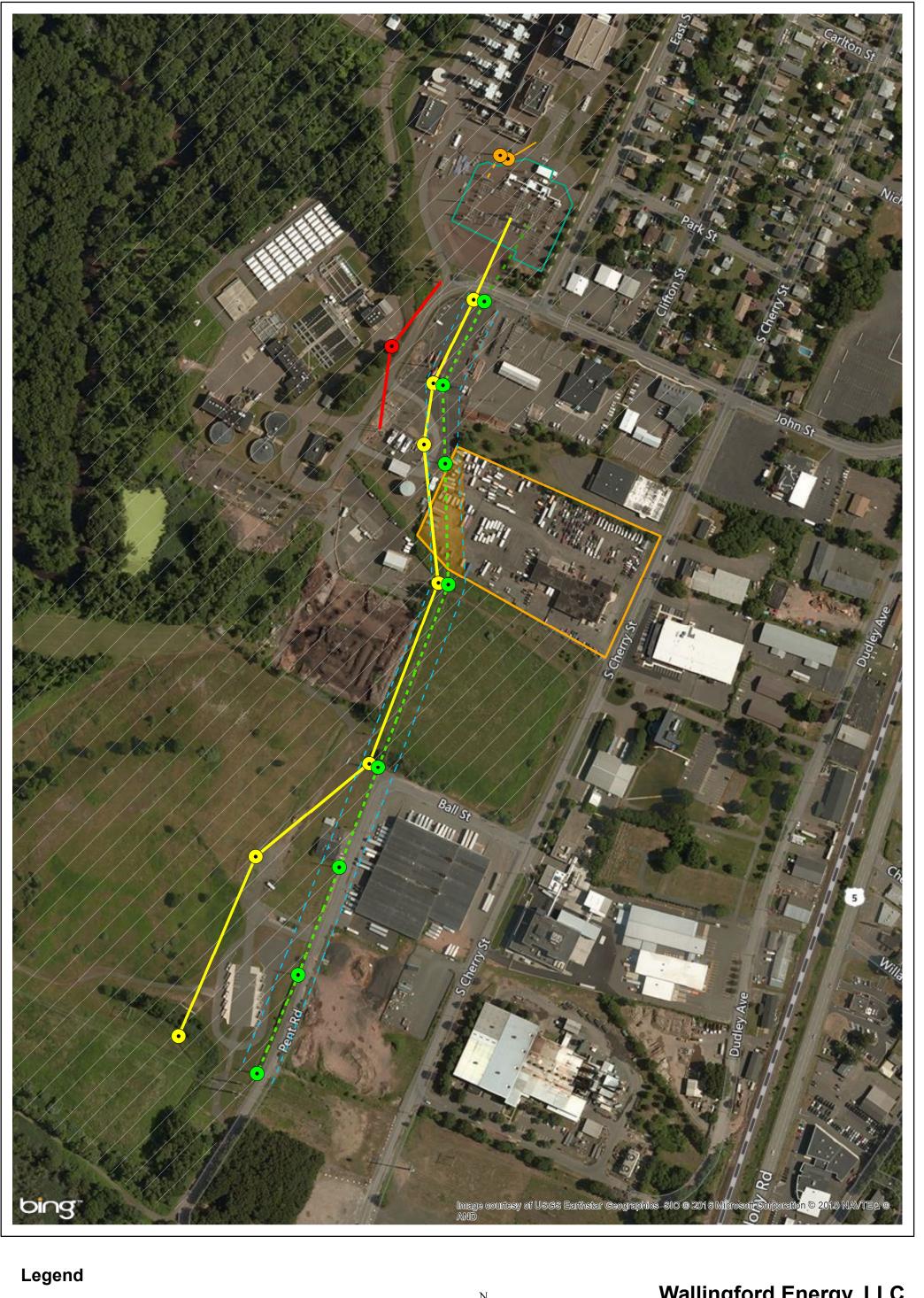
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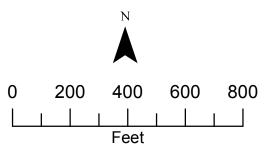






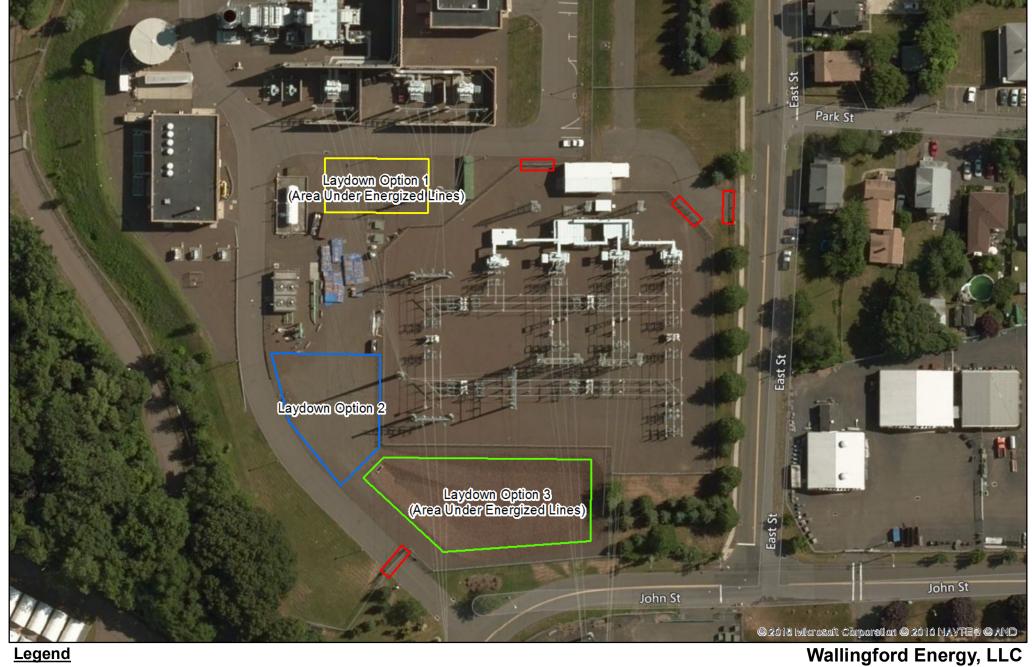






# Wallingford Energy, LLC Attachment B Transmission Modifications 1:4,000





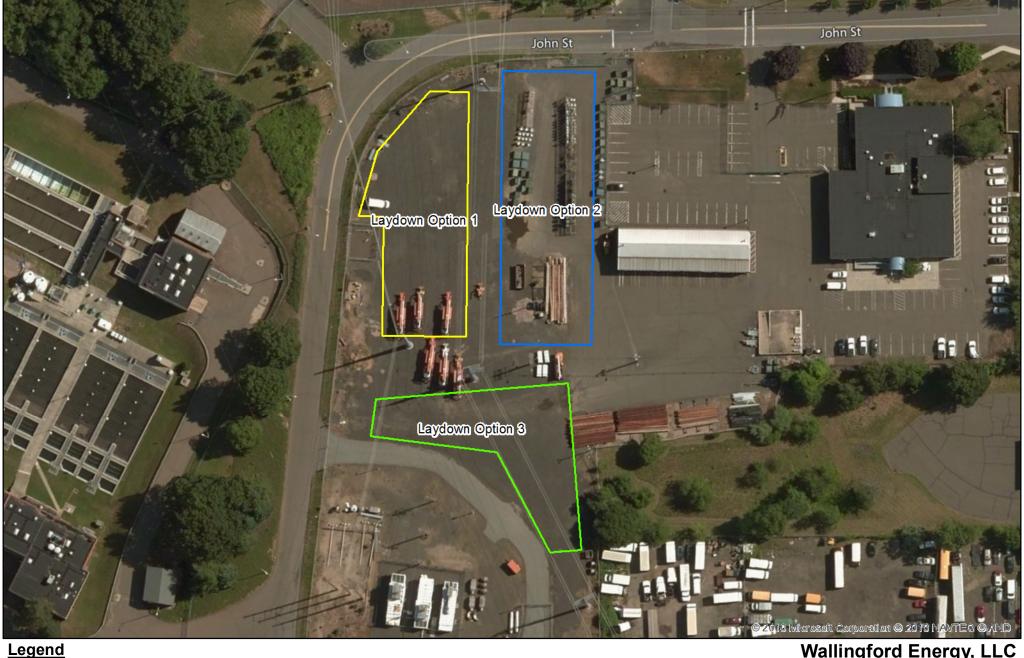
Feet

# Double Gate Laydown Option 1 Laydown Option 2

Laydown Option 3



Figure 1: Substation Staging & Laydown Areas



Laydown Option 1

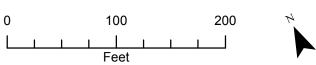
Laydown Option 2

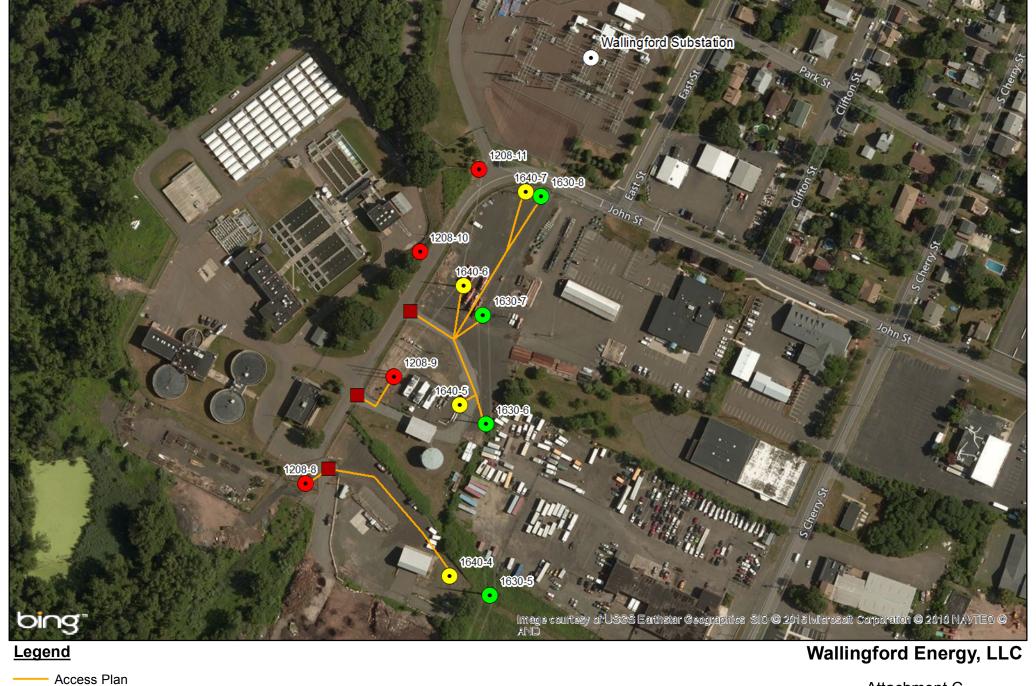
Laydown Option 3

### Wallingford Energy, LLC

Attachment C

Figure 2: Transmission Staging & Laydown Areas



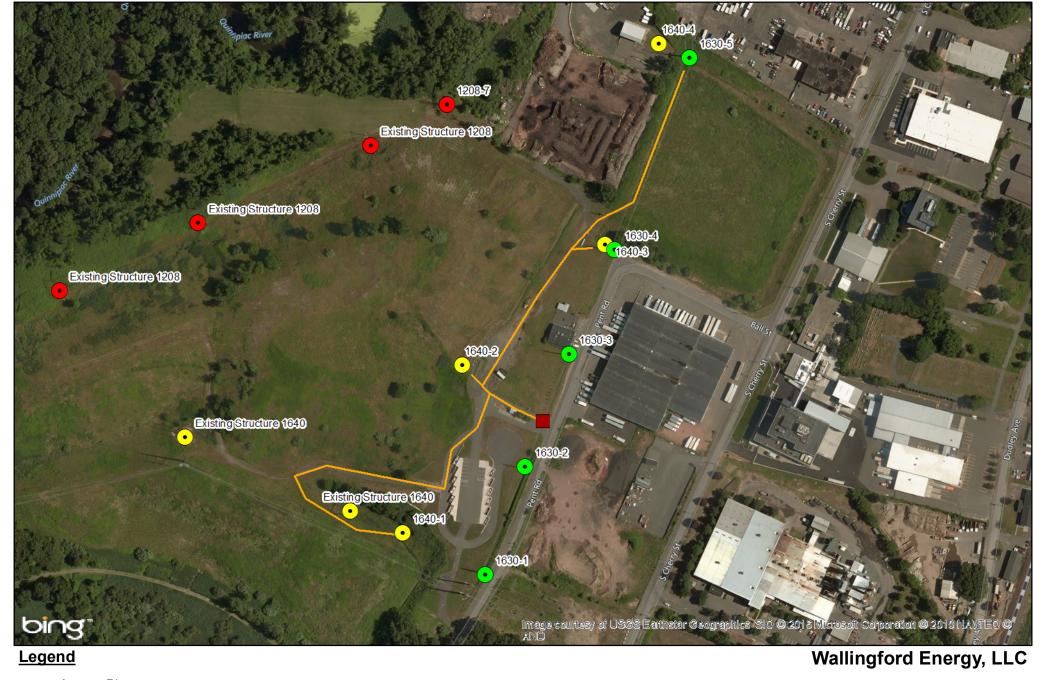


Attachment C

Figure 3: Access Plan View #1

200 0 400 Feet

Access Gate



200

Feet

0

400

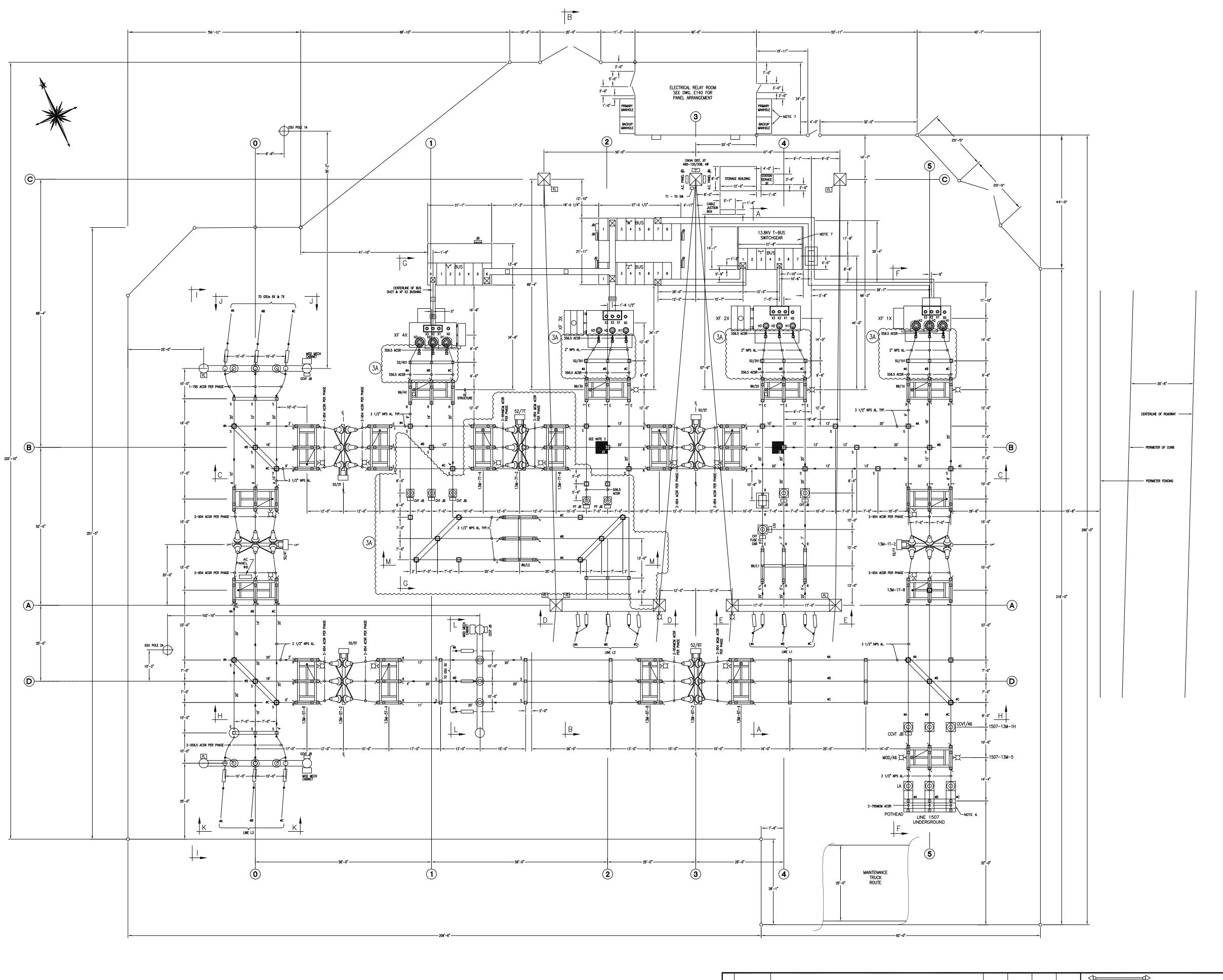
Access Plan

Access Gate

Attachment C

Figure 4: Access Plan View #2





LEGEI

- E EXPANSION CONNECTION
- R RIGID CONNECTION
- S SLIP BUS SUPPORT
- Ø − DISCONNECT SWITCH − MOTOR OPERATOR LOCATION
   Ø − DISCONNECT SWITCH − MANUAL OPERATOR LOCATION

#### NOTE

- FOR 3 1/2" NPS BUS WITH LENGTHS EXCEEDING 25'-0" BETWEEN SUPPORTS, INSERT 33.6.4 ACSR & TACK WELD AT LEAST ONE END OF THE CABLE TO THE INSIDE OF THE BUS.
- 2. FOR BUS WITH LENGTHS EXCEEDING 15'-0" BETWEEN SUPPORTS, DRILL THREE (3) 1/4" DIA. WEEP HOLES. DRILL MIDDLE HOLE DEAD CENTER BETWEEN SUPPORTS, THE OTHER TWO (2) HOLES 18" EACH SIDE OF THE CENTER HOLE.
- 3. FOR KEY ONE LINE DIAGRAM, SEE DWG. E105.
- 4. FOR ACTUAL LOCATION OF BUS CONNECTION (EXPANSION AND RIGID), SLIP, BUS SUPPORTS AND LUMINAIRES, SEE DIS—TRAN DWG. E201 AND E202.
- 5. ALL BUS CONNECTIONS SHALL BE WELDED AS THE EXISTING.
- 6. FOR 115KV CABLE TRENCH DETAILS, SEE GEMMA DWG. LATER.
- 7. FOR 13.8KV CABLE FEEDER & PLANT CONTROL CABLE UNDERGROUND DUCTBANK FROM PIERCE 55W PLANT TO THE 13.8KV T-BUS SWITCHGEAR, PRIMARY MANHOLES, AND BACKUP MANHOLES, SEE GEMMA DWG. LATER.

WALLINGFORD ELECTRIC DIVISION

DEPARTMENT OF PUBLIC UTILITIES

100 JOHN STREET

WALLINGFORD, CONNECTICUT 06492

\_ Designed:\_\_\_\_JFL Ref:\_

Date 3/14/07 Scale: 1/16"=1'-0"

GRC RJC MRB RJL

MP REM REM RJC Drawn:\_\_\_\_

By Chkd. Engr. Supv. Checked: RCT

LJA

SWITCHYARD PLAN

115KV RING BUS MODIFICATION

NEW RING BUS A6 AND BREAKER 6T

NOT TO BE USED FOR CONSTRUCTION DATE OF ISSUE \_\_\_\_\_

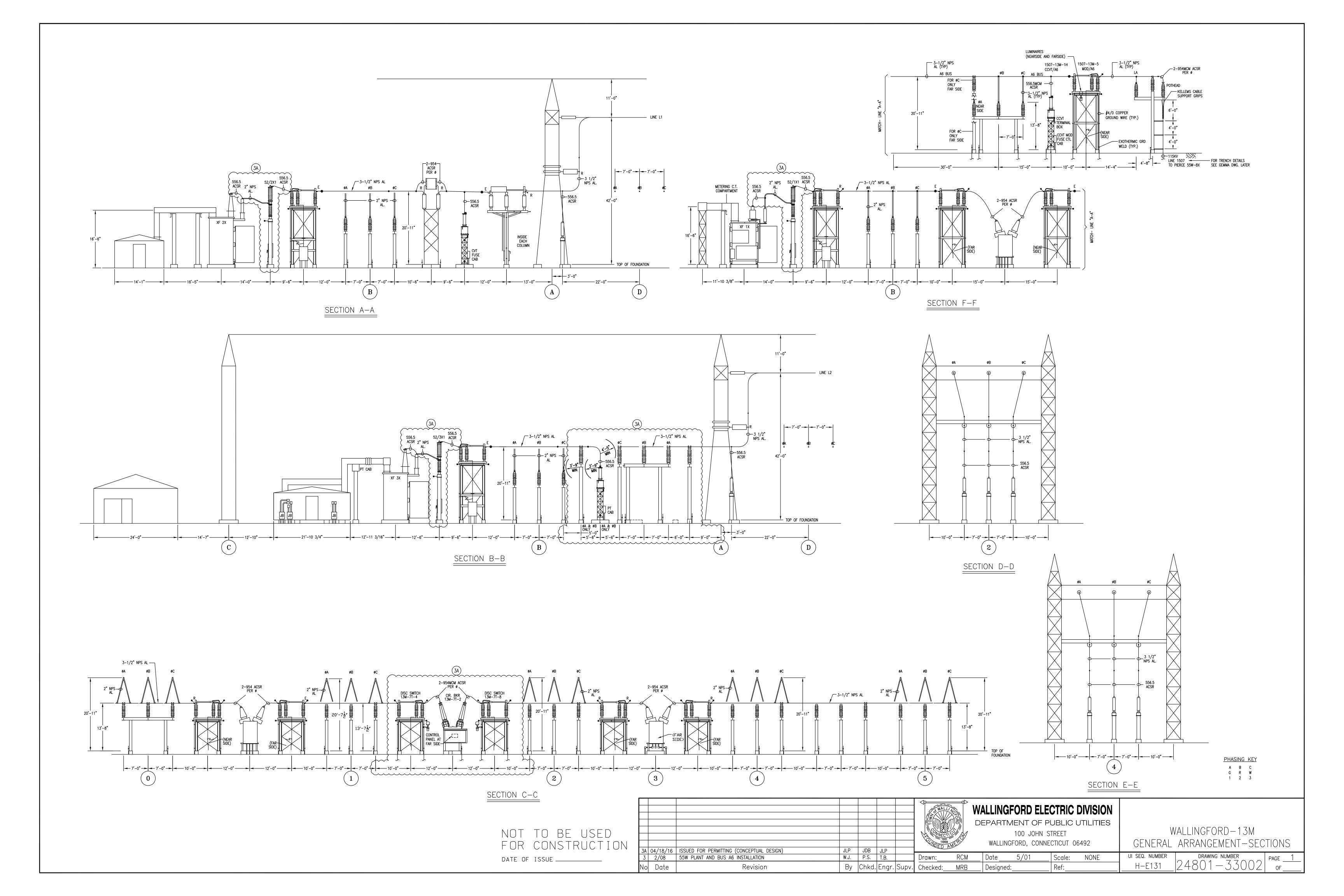
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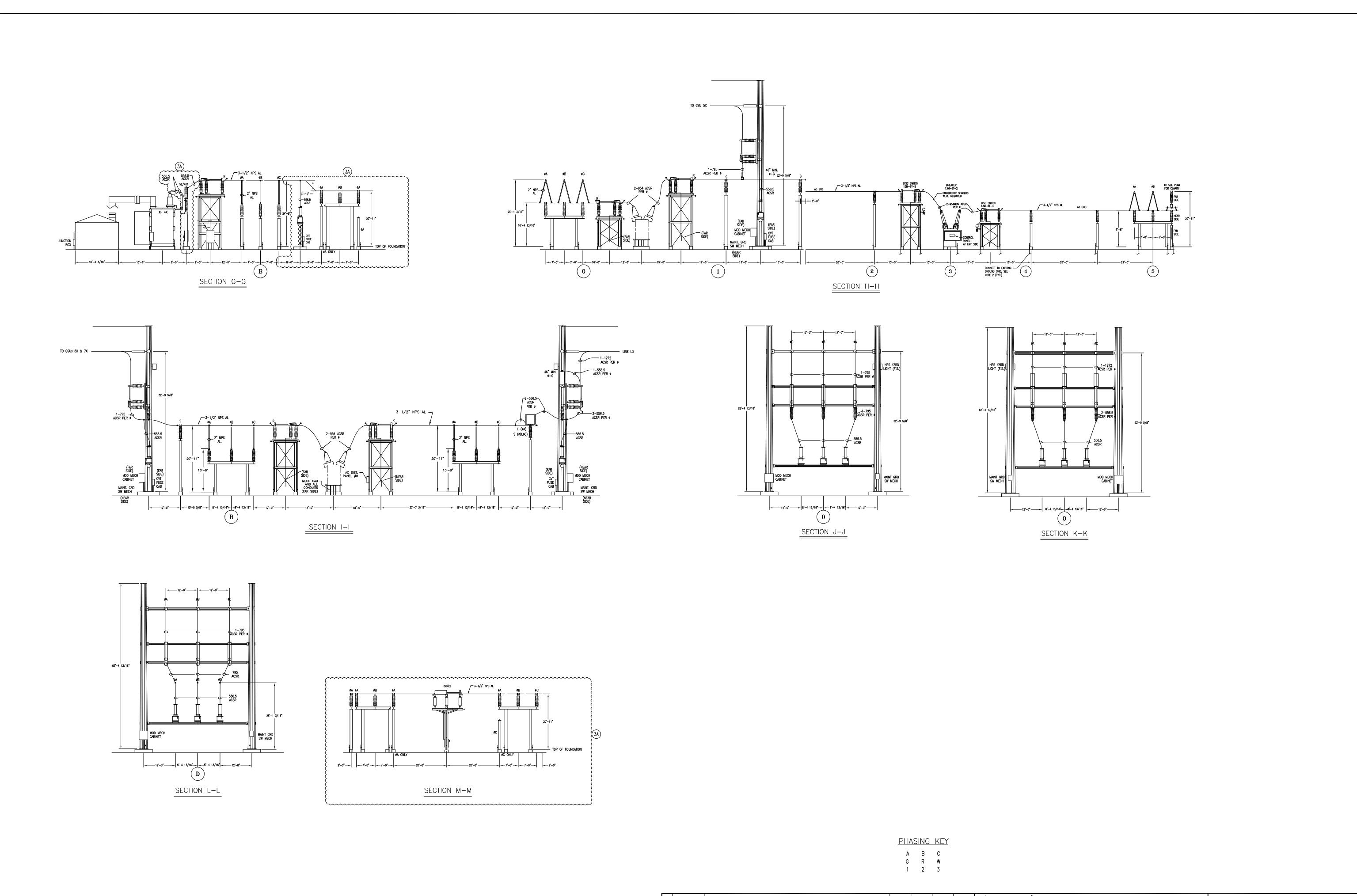
6/09

No Date

55W/A6 PROJECT. MODIFY AS BUILT

Revision





NOT TO BE USED FOR CONSTRUCTION DATE OF ISSUE \_\_\_\_\_

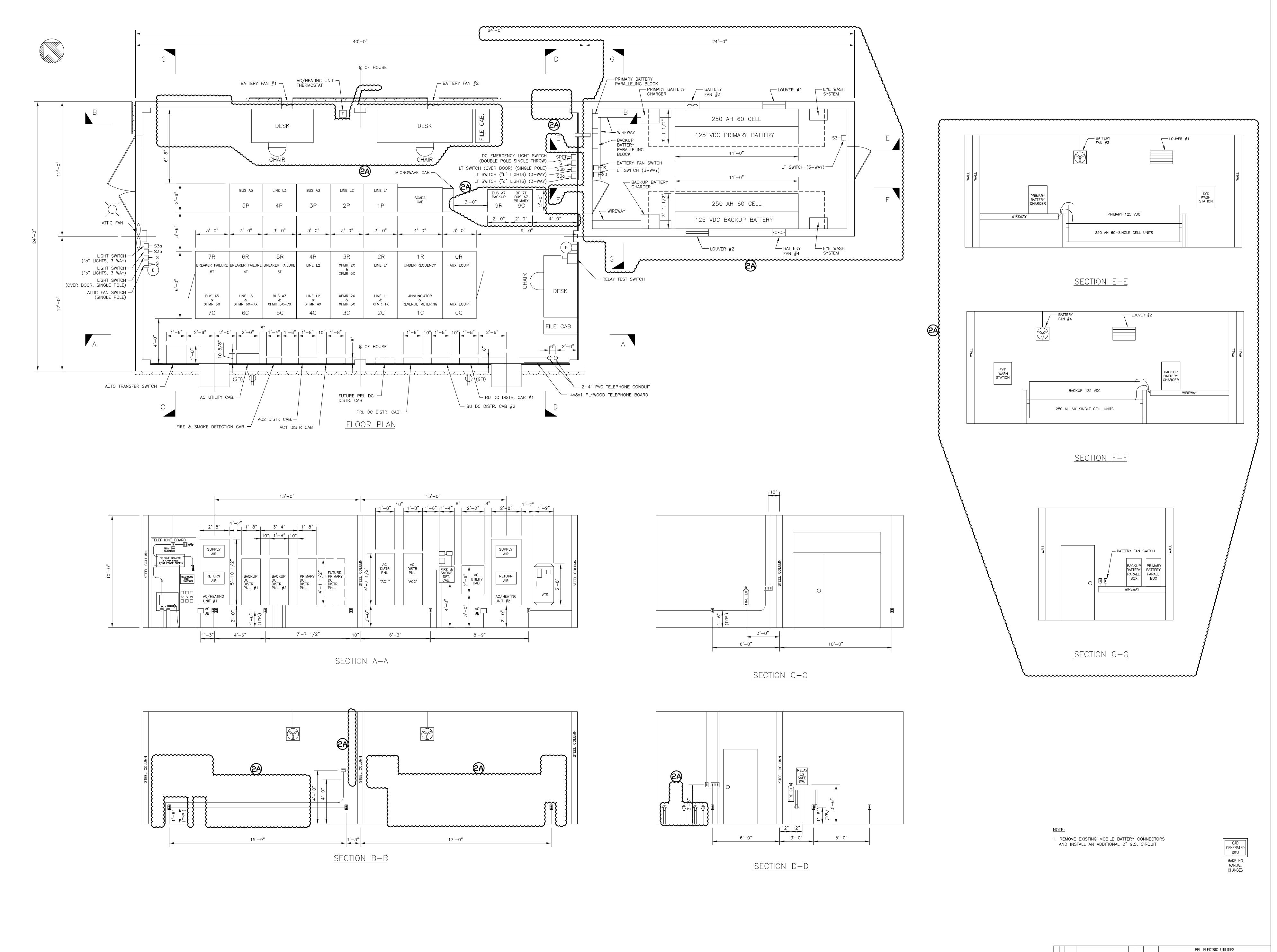
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	DEPARTMENT OF PUBLIC UTILITIES
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/	WALLINGEORD CONNECTICUT 06492

WALLINGFORD 13M GENERAL ARRANGEMENT-SECTIONS

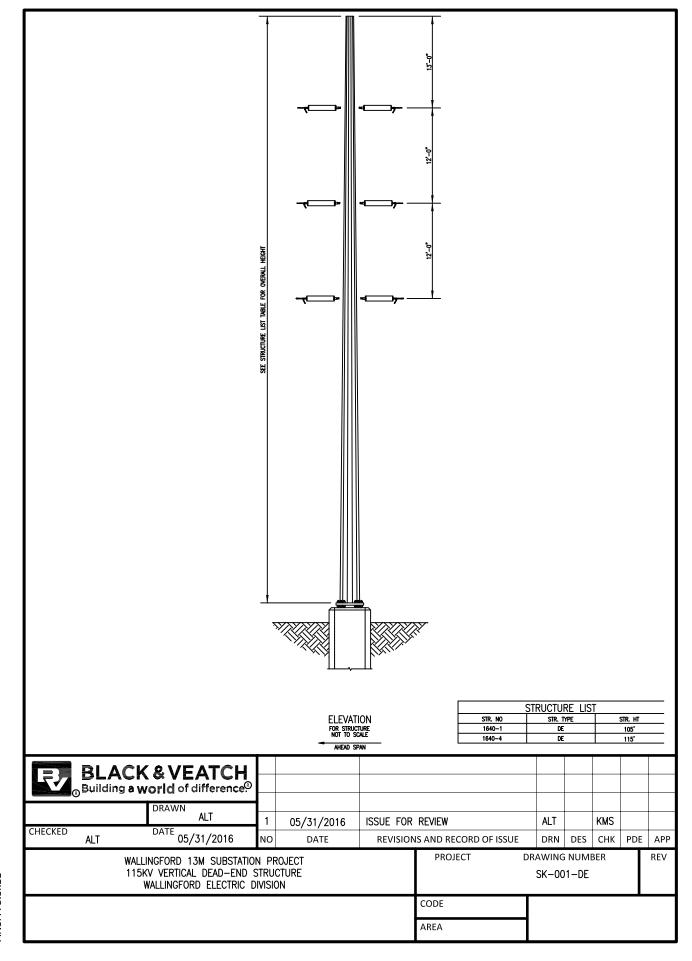
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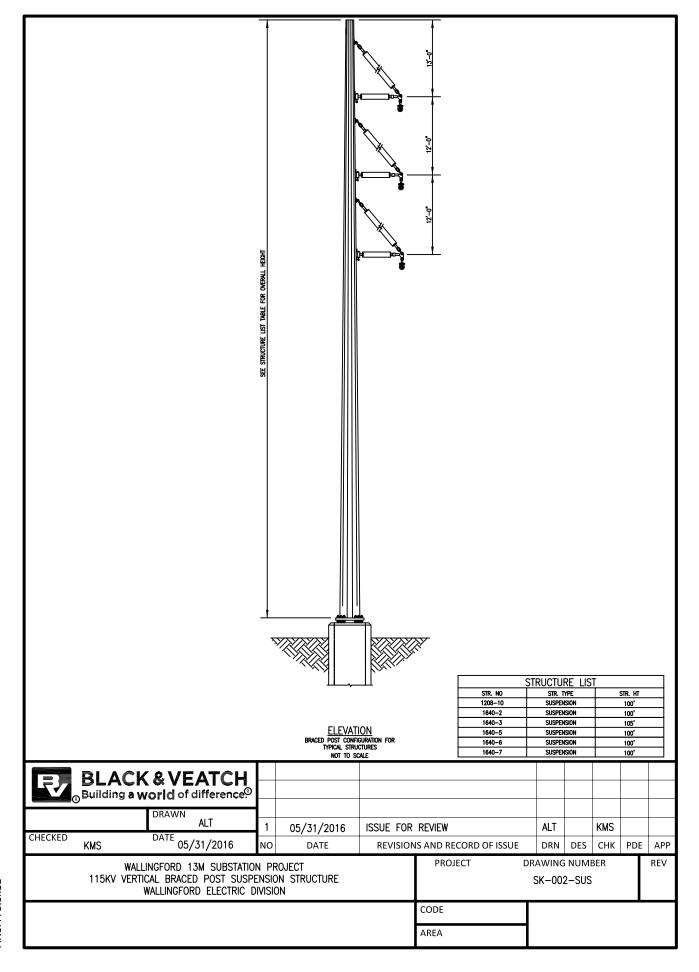


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#### PIETRAS ENVIRONMENTAL GROUP, LLC

#### WETLANDS, WATERCOURSES & SOILS INVESTIGATION REPORT

<u>Date:</u> May 26, 2016

PEG JOB#: 2016-83

Prepared for: Wallingford Energy, LLC

One Tower Center, 21st Floor East Brunswick, NJ 08816

<u>Project Location:</u> Wallingford Energy, LLC, survey area extending south from John Street substation to

Eversource Electrical Transmission lines west of Pent Road, Wallingford, CT

Report Site Map: Survey area portrayed onto aerial photo map

<u>Inspection Date:</u> May 17, 2016

Field Conditions: weather: partly sunny, 60's soil moisture: moist

#### **DEFINITIONS OF REGULATED RESOURCES**

**Federal Wetlands** are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33CFR Part 328.3(b)).

**State of CT Regulated Wetlands and Watercourses** (General Statutes, Chptr 440, Sec. 22a-28 to 22a-45)

<u>Tidal Wetlands</u> are defined as "those areas which border on or lie beneath tidal waters, such as, but not limited to banks, connected to tidal waters, and whose surface is at or below an elevation of one foot above local extreme high water; and which may grow or be capable of growing some, but not necessarily all of the following:" (includes plant list) sec. 22a-29(2).

<u>Inland Wetlands</u> "means land, including submerged land, not regulated pursuant to sections 22a-28 to 22a-35, inclusive, which consists of any of the soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey, as may be amended from time to time, of the Natural Resources Conservation Service.

<u>Watercourses</u> "means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private which area contained within, flow through or border upon this state or any portion thereof, not regulated pursuant to sections 22a-28 to 22a-35, inclusive. Intermittent watercourses shall be delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) Evidence of scour or deposits of recent alluvium or detritus, (B) the presence of standing or flowing water for a duration longer than a particular storm incident, and (C) the presence of hydrophytic vegetation" section 22a-38(16).

#### Regulated Wetlands and Watercourses Identified in survey area:

<u>Federal Wetlands:</u> **none** <u>Inland Wetlands:</u> **none** 

Watercourses: **none** river: brook: lake: pond: intermittent watercourse:

Thomas W. Pietras

Thomas W. Pietras, Professional Wetland and Soil Scientist

15 Briarwood Lane Wallingford, CT 06492 203-314-6636  $\label{lem:email_com} \begin{tabular}{ll} EMAIL Tom@pietrasen vironmental group.com \\ WEB SITE & pietrasen vironmental group.com \\ \end{tabular}$ 

Wetlands, Watercourses & Soils Investigation Report for Wallingford Energy, LLC, survey area extending south from John Street substation to Eversource Electrical Transmission lines west of Pent Road, Wallingford, CT page 2 of 3

#### METHODOLOGY FOR IDENTIFICATION & DELINEATION OF SOILS, WETLANDS & WATERCOURSES

- 1) <u>Federal Wetlands</u>: The 1987 U.S. Corps of Engineers Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (January 2012) provide information and procedures for conducting Federal Wetland delineation. The methodology established by the Federal Government uses a three parameter approach utilizing hydrologic indicators, hydrophytic vegetation and hydric soils for identifying Federal Wetlands.
- 2) <u>Soil Types:</u> Soils are investigated by digging test holes with a spade and auger. Test holes are typically dug to depths of between 15 and 40 inches. Based on soil features, including coloration patterns, texture and depths to restrictive layers, the soils are identified by soil series name utilizing the classification system of the National Cooperative Soil Survey. Soil series map numbers correspond with the State Soil Map Legend established by USDA, NRCS in the State of Connecticut Soil Survey. For further soils information, refer to the NRCS website for CT: www.ct.nrcs.usda.gov
- 3) <u>Inland Wetlands</u>: Soil test holes and borings are made in selected areas in order to determine the lateral extent of any Inland Wetlands. The boundaries of the Inland Wetlands are identified in the field and delineated with consecutively numbered survey tapes. The approximate locations of any wetland boundaries are hand drawn onto a map and are included with the wetlands report.
- 4) <u>Watercourses:</u> The lateral limits of U.S. Army Corps jurisdiction for non-tidal rivers, streams and water bodies extends to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. The Corps defines the term "ordinary high water mark" as the following: "means the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." 33 CFR 328.3(e). The Corps recommends that whenever possible the investigator should consider the former indicators along with a number of others, that include: wracking; vegetation matted down, bent or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; beds and banks; water staining; and change in plant community.

#### RESULTS OF INVESTIGATION FOR WETLANDS AND WATERCOURSES

Thomas W. Pietras, Professional Wetland and Soil Scientist, conducted a site inspection to the survey area on May 17, 2016. The proposed project is for construction of a new electrical transmission line that will extend south from the John Street substation and connect with the Eversource electrical transmission lines at a point to the west of Pent Road. The enclosed map portrays the proposed route for the new electrical transmission line. The 5/17/2016 investigation included all lands within the depicted survey area, as well as those lands extending 50 to 100 feet beyond the illustrated survey limits. All of the land contained within the survey area has historically been disturbed from a range of activities. At one time an airport was located within the survey area. A large section of the southern survey area is located within a former Town landfill. The lands in the survey area presently contain a number of Town of Wallingford facilities. These include the East Street electrical power plant, electric division, waste water treatment plant, leave & woody debris composting area, animal shelter and refuse disposal & recycling area.

The survey area is located within a broad valley containing sandy and gravelly, sandy glacial outwash deposits. The original soils in the survey area have all been altered from historic disturbance activities. The soil map units presently identified within the survey area are associated either with disturbed soils associated with filling,

Wetlands, Watercourses & Soils Investigation Report for Wallingford Energy, LLC, survey area extending south from John Street substation to Eversource Electrical Transmission lines west of Pent Road, Wallingford, CT page 3 of 3

excavation and/or grading; lands covered by pavement, building and/or gavel surfaces; and former landfill. Soil map units include: Udorthents, smoothed (308), Udorthents-Urban complex (306) and Dumps or Landfills (302). Udorthents are commonly referred to as "made land". These are all non-wetland soil map units. The soil maps field identified for the survey area along with brief descriptions of the soil map units are contained in Appendix I of this report.

A dry storm water detention basin is located to the south of the East Street power station. The basin is completely lined with stone rip-rap and does not support any vegetation. There was no water in the basin on 5/17/2016 and in addition there is no evidence that the basin ever retains water. The water table in the vicinity of the power plant is reported to be deeper than 10 feet. The storm water basin does not qualify as wetland or watercourse.

In conclusion, there are no CT Inland Wetlands, Federal Wetlands or Watercourses in the survey area. Furthermore, there are no CT Inland Wetlands, Federal Wetlands or Watercourses within 50 to 100 feet of the survey area limits as portrayed on the enclosed map.

In addition, a copy of the U.S. Fish and Wildlife Service, National Wetland Inventory Map is included in Appendix II and a USDA, Natural Resources Conservation Service, Custom Soil Resource Report is provided in Appendix III.

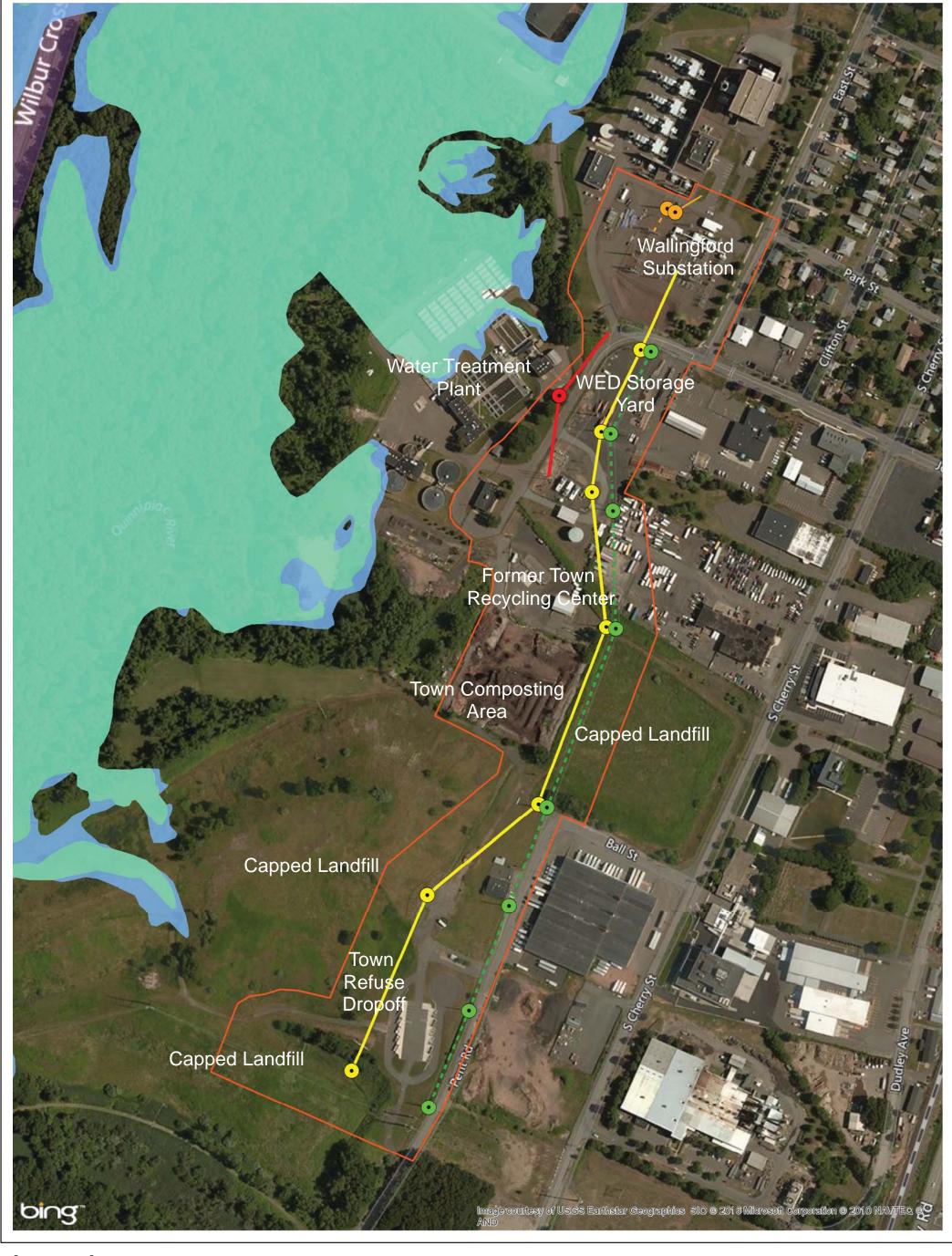
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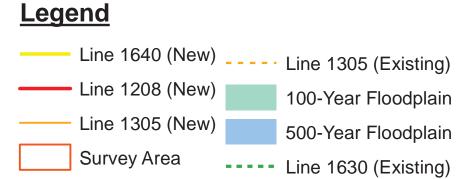
Thomas W. Pietras

PIETRAS ENVIRONMENTAL GROUP, LLC

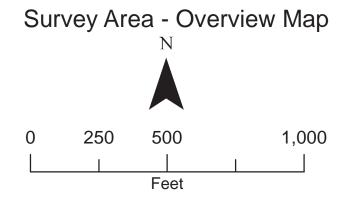
Thomas W. Pietras

Professional Wetland and Soil Scientist



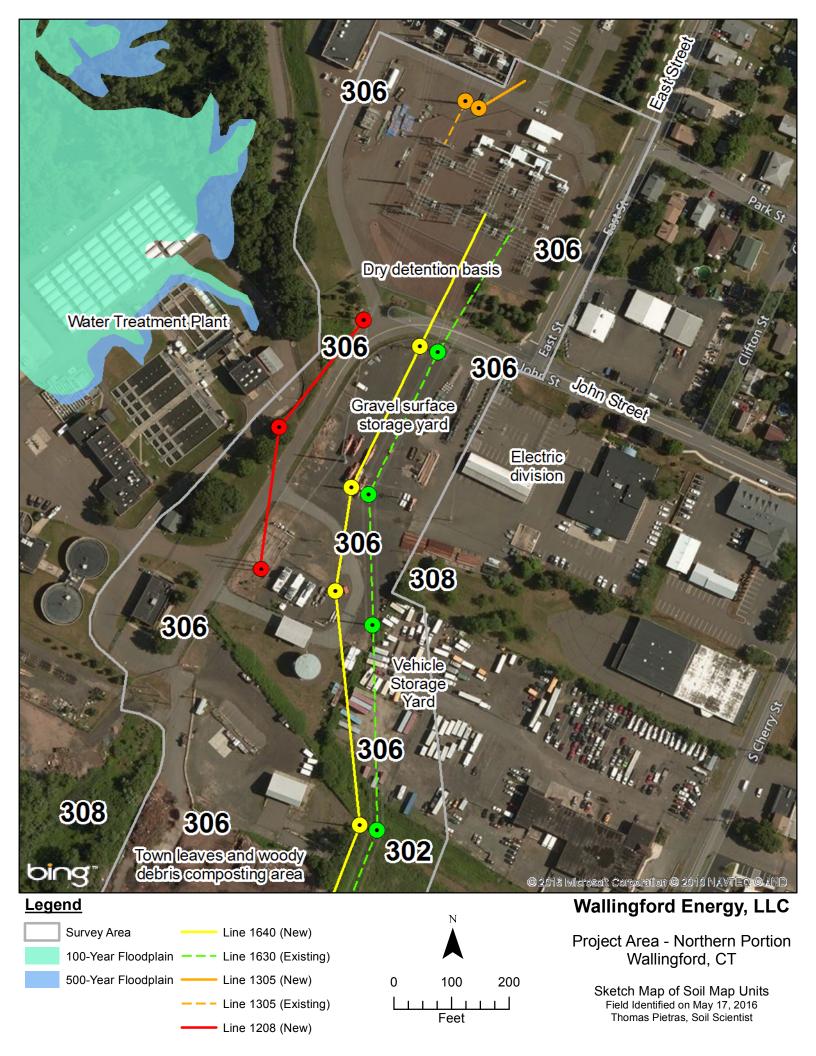


## Wallingford Energy, LLC



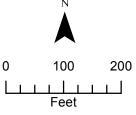
## Appendix I. Field Identified Soil Maps and brief descriptions of the soil map units identified in the survey area, Wallingford Energy, LLC, Wallingford, CT

- 302 Dumps or landfills These areas are currently being used or were historically utilized for disposal of general refuse or miscellaneous debris. Typically, these areas have been covered with soil materials and then smoothed over.
- 306 Udorthents-Urban land complex This map unit consists of extensive areas where soils have been disturbed from land development along with large areas of impervious surfaces associated with streets, parking lots, buildings and other structures.
- 308 Udorthents, smoothed This is a well drained to moderately well drained, disturbed soil area that has had two or more feet of the original soil surface altered by filling, excavation or grading activities. Udorthents, smoothed soils commonly occur









Wallingford, CT

Sketch Map of Soil Map Units Field Identified on May 17, 2016 Thomas Pietras, Soil Scientist



Estuarine and Marine Deepwater Freshwater Forested/Shrub

Estuarine and Marine Freshwater Pond

Riverine

Freshwater Emergent

May 24, 2016

**NWI Wetlands Map** 



This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

## **User Remarks:**



Natural Resources Conservation

Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for State of Connecticut



#### **Preface**

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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### **How Soil Surveys Are Made**

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

## Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



#### MAP LEGEND

#### Area of Interest (AOI)

Area of Interest (AOI)

#### Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

#### **Special Point Features**

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Miscellaneous Water

Mine or Quarry

Perennial Water

→ Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

#### LEGEND

۵

Spoil Area Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

#### **Water Features**

Streams and Canals

#### Transportation

+++ Rails

Interstate Highways



US Routes



Major Roads



Local Roads

#### Background

300

Aerial Photography

#### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut Survey Area Data: Version 14, Sep 22, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 27, 2014—Jul 22, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

#### Map Unit Legend

State of Connecticut (CT600)							
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI				
35A	Penwood loamy sand, 0 to 3 percent slopes	0.8	1.6%				
235B	Penwood-Urban land complex, 0 to 8 percent slopes	0.8	1.7%				
302	Dumps	15.4	32.2%				
306	Udorthents-Urban land complex	21.2	44.4%				
307	Urban land	1.6	3.3%				
308	Udorthents, smoothed	8.0	16.8%				
Totals for Area of Interest		47.9	100.0%				

#### **Map Unit Descriptions**

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

#### **State of Connecticut**

#### 35A—Penwood loamy sand, 0 to 3 percent slopes

#### **Map Unit Setting**

National map unit symbol: 9ln0 Elevation: 0 to 1,200 feet

Mean annual precipitation: 43 to 54 inches Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 185 days

Farmland classification: Farmland of statewide importance

#### **Map Unit Composition**

Penwood and similar soils: 80 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Penwood**

#### Setting

Landform: Outwash plains, terraces

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Sandy glaciofluvial deposits derived from sandstone and shale

#### **Typical profile**

Ap - 0 to 8 inches: loamy sand Bw1 - 8 to 18 inches: loamy sand Bw2 - 18 to 30 inches: sand C - 30 to 60 inches: sand

#### **Properties and qualities**

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95

to 99.62 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Very low (about 2.8 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: A

#### **Minor Components**

#### Manchester

Percent of map unit: 5 percent

Landform: Eskers, outwash plains, kames, terraces

Down-slope shape: Convex Across-slope shape: Convex

#### Hartford

Percent of map unit: 5 percent Landform: Outwash plains, terraces

Down-slope shape: Linear Across-slope shape: Linear

#### **Branford**

Percent of map unit: 5 percent Landform: Outwash plains, terraces

Down-slope shape: Linear Across-slope shape: Linear

#### **Ellington**

Percent of map unit: 3 percent Landform: Outwash plains, terraces

Down-slope shape: Linear Across-slope shape: Linear

#### Unnamed, gravelly substratum

Percent of map unit: 2 percent

#### 235B—Penwood-Urban land complex, 0 to 8 percent slopes

#### **Map Unit Setting**

National map unit symbol: 9lkn Elevation: 0 to 1,200 feet

Mean annual precipitation: 43 to 56 inches Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 185 days

Farmland classification: Not prime farmland

#### **Map Unit Composition**

Penwood and similar soils: 40 percent

Urban land: 35 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Penwood**

#### Setting

Landform: Outwash plains, terraces

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Sandy glaciofluvial deposits derived from sandstone and shale

#### Typical profile

Ap - 0 to 8 inches: loamy sand Bw1 - 8 to 18 inches: loamy sand Bw2 - 18 to 30 inches: sand C - 30 to 60 inches: sand

#### **Properties and qualities**

Slope: 0 to 8 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95

to 99.62 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Very low (about 2.8 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: A

#### **Description of Urban Land**

#### Typical profile

H - 0 to 6 inches: material

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: D

#### **Minor Components**

#### Manchester

Percent of map unit: 5 percent

Landform: Eskers, outwash plains, kames, terraces

Down-slope shape: Convex Across-slope shape: Convex

#### Hartford

Percent of map unit: 5 percent Landform: Outwash plains, terraces

Down-slope shape: Linear Across-slope shape: Linear

#### **Branford**

Percent of map unit: 5 percent Landform: Outwash plains, terraces

Down-slope shape: Linear Across-slope shape: Linear

#### **Ellington**

Percent of map unit: 5 percent Landform: Outwash plains, terraces

Down-slope shape: Linear Across-slope shape: Linear

#### **Udorthents**

Percent of map unit: 5 percent Down-slope shape: Convex Across-slope shape: Linear

#### 302—Dumps

#### **Map Unit Setting**

National map unit symbol: 9lmb

Elevation: 0 to 1,200 feet

Mean annual precipitation: 37 to 56 inches

Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 185 days

Farmland classification: Not prime farmland

#### **Map Unit Composition**

Dumps: 95 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Dumps**

#### **Typical profile**

C - 0 to 65 inches: variable

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

#### **Minor Components**

#### **Udorthents**

Percent of map unit: 2 percent

#### Westbrook

Percent of map unit: 1 percent

Landform: Salt marshes, tidal marshes

Down-slope shape: Concave Across-slope shape: Concave

#### **Rock outcrop**

Percent of map unit: 1 percent

#### Unnamed, frequently flooded

Percent of map unit: 1 percent Landform: Drainageways

#### 306—Udorthents-Urban land complex

#### **Map Unit Setting**

National map unit symbol: 9lmg Elevation: 0 to 2,000 feet

Mean annual precipitation: 43 to 56 inches Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 120 to 185 days

Farmland classification: Not prime farmland

#### **Map Unit Composition**

Udorthents and similar soils: 50 percent

Urban land: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Udorthents**

#### **Setting**

Down-slope shape: Convex Across-slope shape: Linear Parent material: Drift

#### **Typical profile**

A - 0 to 5 inches: loam

C1 - 5 to 21 inches: gravelly loam

C2 - 21 to 80 inches: very gravelly sandy loam

#### **Properties and qualities**

Slope: 0 to 25 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00

to 1.98 in/hr)

Depth to water table: About 54 to 72 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Moderate (about 6.8 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

#### **Description of Urban Land**

#### Typical profile

H - 0 to 6 inches: material

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: D

#### **Minor Components**

#### Unnamed, undisturbed soils

Percent of map unit: 8 percent

#### Udorthents, wet substratum

Percent of map unit: 5 percent Down-slope shape: Convex Across-slope shape: Linear

#### **Rock outcrop**

Percent of map unit: 2 percent

#### 307—Urban land

#### **Map Unit Setting**

National map unit symbol: 9lmh Elevation: 0 to 2.000 feet

Mean annual precipitation: 43 to 56 inches Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 120 to 185 days

Farmland classification: Not prime farmland

#### **Map Unit Composition**

Urban land: 80 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Urban Land**

#### Typical profile

H - 0 to 6 inches: material

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: D

#### **Minor Components**

#### Udorthents, wet substratum

Percent of map unit: 10 percent Down-slope shape: Convex Across-slope shape: Linear

#### Unnamed, undisturbed soils

Percent of map unit: 10 percent

#### 308—Udorthents, smoothed

#### Map Unit Setting

National map unit symbol: 9lmj Elevation: 0 to 2,000 feet

Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 120 to 185 days

Farmland classification: Not prime farmland

#### **Map Unit Composition**

Udorthents and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Udorthents**

#### Setting

Down-slope shape: Convex Across-slope shape: Linear

#### **Typical profile**

A - 0 to 5 inches: loam

C1 - 5 to 21 inches: gravelly loam

C2 - 21 to 80 inches: very gravelly sandy loam

#### **Properties and qualities**

Slope: 0 to 35 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00

to 1.98 in/hr)

Depth to water table: About 24 to 54 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Moderate (about 6.8 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

#### **Minor Components**

#### Udorthents, wet substratum

Percent of map unit: 7 percent

Unnamed, undisturbed soils

Percent of map unit: 7 percent

**Urban land** 

Percent of map unit: 5 percent

**Rock outcrop** 

Percent of map unit: 1 percent

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#### Wallingford Energy, LLC Engineering/Construction Schedule ID Task Name Start Finish 2017 2018 Feb Mar Apr May Jun Feb Mar Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Jul Aug Sep Oct Nov Dec Jan Mon 2/1/16 Sat 10/1/16 1 Engineering 2 Prelim Conceptual Design: Substation & Mon 2/1/16 Thu 3/31/16 **Transmission Line** 3 Substation Physical Detail Design Fri 4/1/16 Sat 10/1/16 4 Substation Schematics & Wiring Detail Fri 4/1/16 Sat 10/1/16 Design Fri 4/1/16 Sat 10/1/16 5 Transmission Line Detail Design 6 Thu 9/1/16 Fri 3/31/17 Procurement 7 **Substation Control & Relay Panels** Sat 10/1/16 Tue 2/28/17 Procurement 8 Substation Structure & Equipment Sat 10/1/16 Tue 2/28/17 Procurement 9 Substation 115kv Circuit Breaker Thu 9/1/16 Tue 2/28/17 Procurement 10 Substation Control Building Extension Thu 9/1/16 Tue 2/28/17 Procurement 11 Sat 10/1/16 Tue 2/28/17 **Transmission Line** Insulator/Conductor/Hardware Procurement 12 Transmission Line Pole Procurement Thu 9/1/16 Fri 3/31/17 Mon 8/1/16 Wed 2/28/18 13 Construction 14 Substation Construction Bid/Eval/Award Mon 8/1/16 Fri 9/30/16 15 Sat 10/1/16 **Substation Construction** Fri 9/15/17 16 **Transmission Line Construction** Mon 8/1/16 Fri 9/30/16 Bid/Eval/Award 17 **Transmission Line Construction** Sat 10/1/16 Fri 9/15/17 18 Wed 11/1/17 Wed 2/28/18 As Builts

Attachment I – DEEEP Natural Diversity Database Letter & Agency Response						





May 23, 2016

Central Permit Processing Unit
Department of Energy & Environmental Protection
79 Elm Street
Hartford, CT. 06106-5127

Subject: Wallingford Energy, LLC
Wallingford Substation and Transmission System Modification and Upgrade
Natural Diversity Data Base Review Request

Dear Environmental Reviewer,

Please find enclosed a completed Natural Diversity Data Base Review Request Form in support of Wallingford Energy, LLC's (WE) Wallingford Substation and Transmission System Modification and Upgrade project. Mapping provided in support of the form includes Attachment A, which provides a site location map created from the USGS Wallingford, CT Quadrangle map; Attachment B, a site aerial illustrating existing conditions at the project site; and Figures 1-4, which outline potential areas of construction laydown and site access.

WE has reviewed the September 2015 version of the Department of Environmental Protection's "State and Federal Listed Species and Significant Natural Communities" (NDDB) map and has determined that the project site is not located within a "shaded area" that depicts known locations of endangered or threatened species and significant natural communities. However, the project site is in proximity to a shaded area, so in the interest of enhanced environmental diligence, Wallingford Energy is submitting this request for review.

A brief description of the proposed project, which is further detailed in the data base review request form, is provided below.

An affiliate of WE, Wallingford Energy II, LLC (WE II), is proposing to install and operate two 50-megawatt (nominal) simple cycle electric generating units at the existing generating facility owned and operated by WE in Wallingford. Upon study of the project proposed by WE II elements of the Wallingford 13M substation and transmission system were identified by ISO-NE to be in need of modification to support the interconnection of the project. A list of the modifications/upgrades WE proposes to undertake to address these items is provided in Part IV of the enclosed Natural Data Base Review Request Form.

The detailed site map, included as Attachment B, as well as the maps illustrating potential construction laydown and access points, provided as Figures 1-4, provide additional details about the Project.

If there are any questions, or if more information is required to support the review of this request, please do not hesitate to contact Brandon Pollpeter at (636) 532-2200 or bpollpeter@lspower.com.

Sincerely,

Brandon Pollpeter Environmental Engineer

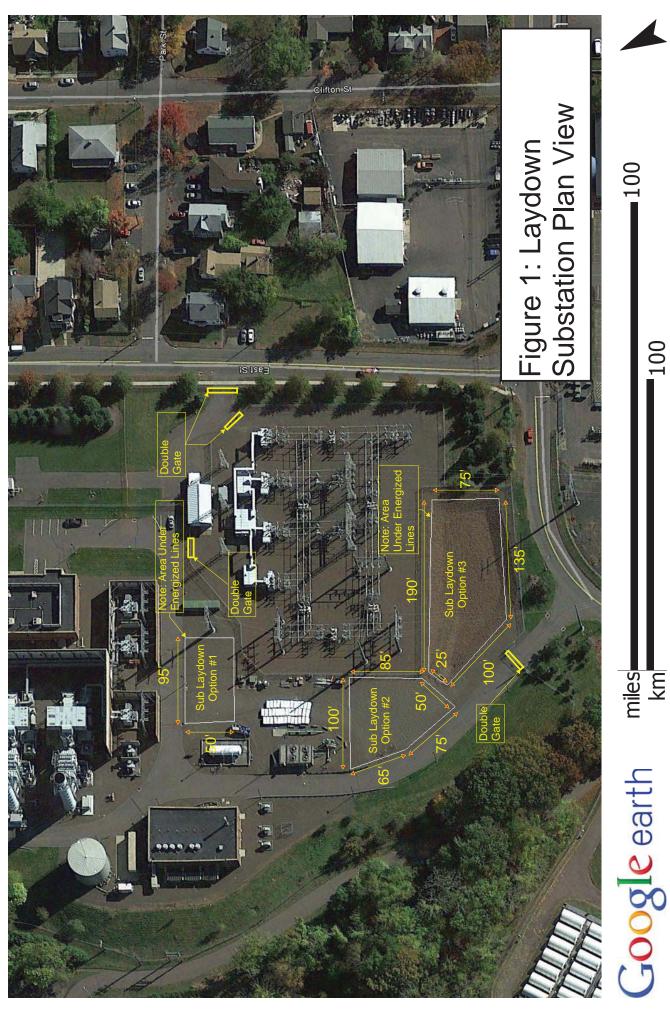
Enclosures (5) – Figure 1: Laydown Substation Plan View

A PME

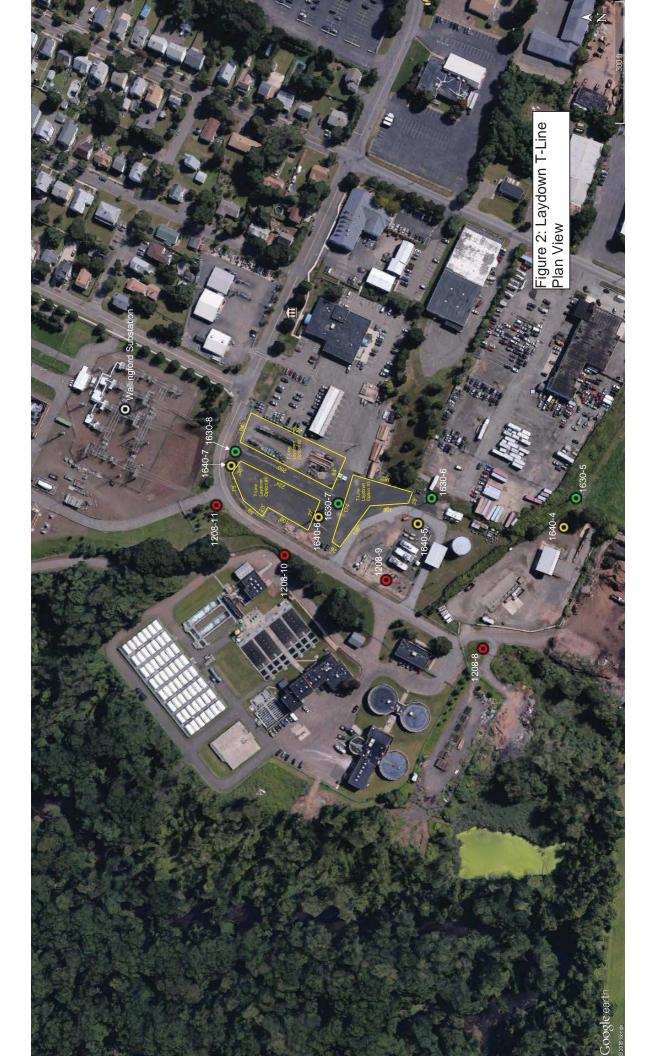
Figure 2: Laydown T-Line Plan View

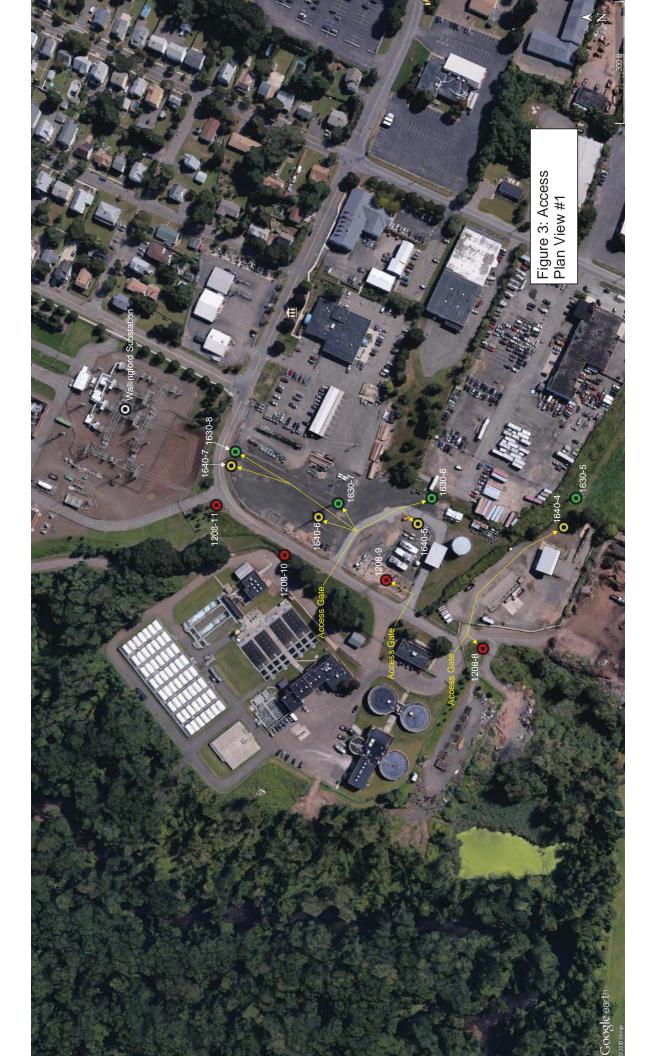
Figure 3: Access Plan View #1 Figure 4: Access Plan View #2

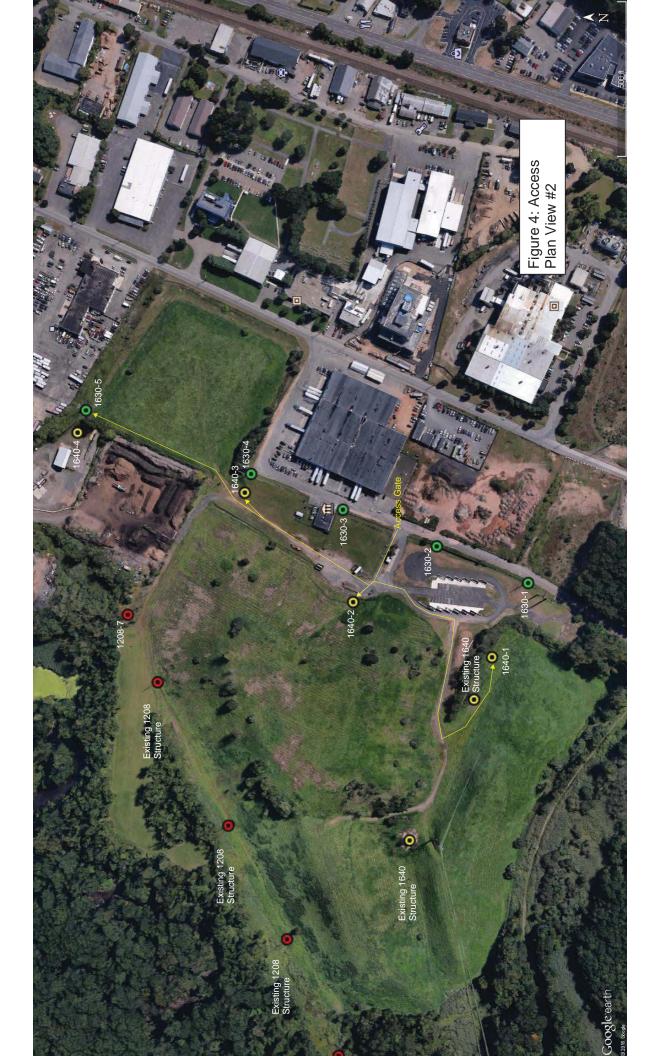
Request for Natural Diversity Data Base (NDDB) State Listed Species Review













CPPU USE ONLY
App #:
Doc #:
Check #: No fee required
B
Program: Natural Diversity Database Endangered Species
Hardcopy Electronic

# Request for Natural Diversity Data Base (NDDB) State Listed Species Review

Please complete this form in accordance with the <u>instructions</u> (DEEP-INST-007) to ensure proper handling of your request.

There are no fees associated with NDDB Reviews.

# Part I: Preliminary Screening & Request Type

Before submitting this request, you must review the most current Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the <a href="DEEP website">DEEP website</a> . These maps are updated twice a year, usually in June and December.			
Does your site, including all affected areas, fall in an NDDB Area according to the map instructions:  ☐ Yes ☐ No ☐ Enter the date of the map reviewed for pre-screening: September 2015			
This form is being submitted for a :			
<ul> <li>New NDDB request</li> <li>Renewal/Extension of a NDDB Request, without modifications and within one year of issued NDDB determination (no attachments required)</li> <li>[CPPU Use Only - NDDB-Listed Species Determination # 1736]</li> </ul>	<ul> <li>New Safe Harbor Determination (optional) must be associated with an application for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities</li> <li>Renewal/Extension of an existing Safe Harbor Determination</li> <li>With modifications</li> <li>Without modifications (no attachments required)</li> <li>[CPPU Use Only - NDDB-Safe Harbor Determination # 1736]</li> </ul>		
Enter NDDB Determination Number for Renewal/Extension:	Enter Safe Harbor Determination Number for Renewal/Extension:		

#### **Part II: Requester Information**

\*If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of the State's database CONCORD. (www.concord-sots.ct.gov/CONCORD/index.jsp)

If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the Request to Change company/Individual Information to the address indicated on the form.

1.	Requester*		
	Company Name: Wallingford Energy, LLC		
	Contact Name: Brandon Pollpeter		
	Address: 400 Chesterfield Center, Suite 110		
	City/Town: Chesterfield	State: MO	Zip Code: <b>63017</b>
	Business Phone: (636) 532-2200	ext.	
	**E-mail: bpollpeter@LSPower.com		
	**By providing this email address you are agreeing to receive this electronic address, concerning this request. Please remen can receive emails from "ct.gov" addresses. Also, please notif	nber to check you	ur security settings to be sure you
a)	Requester can best be described as:		
,	☐ Individual ☐ Federal Agency ☐ State agence	cy 🗌 Municip	pality 🗌 Tribal
	★ business entity (* if a business entity complete i through)	iii):	
	i) Check type $\ \square$ corporation $\ \boxtimes$ limited liability comp	oany 🗌 limi	ted partnership
	☐ limited liability partnership ☐ statutor	ry trust	ner:
	ii) Provide Secretary of the State Business ID #: 0641777	This information	can be accessed at the
	Secretary of the State's database (CONCORD). (www	w.concord-sots.	ct.gov/CONCORD/index.jsp)
	iii) $\square$ Check here if your business is <b>NOT</b> registered with the	ne Secretary of S	State's office.
b)	Acting as (Affiliation), pick one:		
	☐ Property owner ☐ Consultant ☐ Engineer ☐	Facility owner	Applicant
	☐ Biologist ☐ Pesticide Applicator ☐ Other re	epresentative:	
2.	List Primary Contact to receive Natural Diversity Data Badifferent from requester.	se correspond	ence and inquiries, if
	Company Name:		
	Contact Person:	Title:	
	Mailing Address:		
	City/Town:	State:	Zip Code:
	Business Phone:	ext.	
	**E-mail:		

### **Part III: Site Information**

This request can only be completed for one site. A separate request must be filed for each additional site.

1.	SITE NAME AND LOCATION
	Site Name or Project Name: Wallingford Energy, LLC
	Town(s): Wallingford
	Street Address or Location Description:
	The Project will include modifications within the existing Wallingford 13M substation as well as the separation of the 1630 and 1640 115-kV transmission lines which run generally south-southwest from the substation to the Pent Road junction (approximately 1/2 mile). The separation of these lines may also necessitate that a small segment (approximately 600 ft.) of the 1208 115-kV transmission line be re-routed.
	One new structure and two spans of 115-kV conductor (totaling approximately 160 ft.) will be added at the southwestern end of the existing Wallingford Energy facility to connect a new generator step-up transformer that is to be installed. The existing span of the 1305 line, also located at the southwestern end of the Wallingford Energy facility, (approximately 75 ft.) will be reconductored.
	The Project area and above described activities are illustrated in Attachment B.
	Size in acres, or site dimensions: Total project area will incorperate approximetely 25 acres to
	facilitate site access and laydown. These areas are shown in the figures enclosed as part of this
	submittal.
	Latitude and longitude of the center of the site in decimal degrees (e.g., 41.23456 -71.68574):
	Latitude: <b>41.44339</b> Longitude: <b>-72.83704</b>
	Method of coordinate determination (check one):
	☐ GPS ☐ Photo interpolation using CTECO map viewer ☐ Other (specify):
2a.	Describe the current land use and land cover of the site.
	The project site is zoned industrial, designated by the Town of Wallingford as an Industrial District I-40. Land around the proposed project is nearly entirely Town owned and utilized for Town operations. As can be seen on the aerial map provided as Attachment B, the Town water treatment facility, WED equipment storage yard, compost center, former recycling center, recycling and refuse drop off site, and the now capped landfill are all in the vicinity of the project. Thus, all project activities will occur on land which has previously been disturbed.
b.	Check all that apply and enter the size in acres or % of area in the space after each checked category.
	☐ Industrial/Commercial 98% ☐ Residential ☐ Forest
	□ Wetland □ Field/grassland □ Agricultural
	☐ Water ☐ Utility Right-of-way 2%
	☐ Transportation Right-of-way ☐ Other (specify):

# Part IV: Project Information

1.	PROJECT TYPE:
	Choose Project Type: Utility construction/modification , If other describe:
2.	Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint?    Yes    No    If yes, explain.

#### Part IV: Project Information (continued)

3. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used. Include a description of steps that will be taken to minimize impacts to any known listed species.

Results from ISO-NE's System Impact Study and Overlapping Impact Analysis for Wallingford Energy II, LLC identified components of the Town of Wallingford's substation and transmission system that must be modified/upgraded to support the facility. The list of proposed activities to address the findings of ISO-NE is provided below.

- 1. Re-conductor approximately 75 feet of 1305 line from Wallingford Electric Division ("WED") pole to WED substation structure.
- 2. Add one (1) new 115-kV structure and two (2) spans of 115-kV conductor, to connect the new generator step-up transformer at Wallingford Energy to the 1305 line.
- 3. Replace (4) existing 115-kV 25-kA circuit switchers, one on the high voltage side of each existing 115/13.8-kV power transformer at the 13M substation, with 115-kv 40-kA circuit switchers.
- 4. Revise 115-kV bus work to change the point where the existing 1640 line attaches to the 13M ring bus. Install new 115-kV 40-kA SF6 circuit breaker (7T) between the existing 13M-2T and 13M-3T circuit breakers. This work addresses the contingency of any single breaker-failure causing loss of more than one 115-kV line out of 13M. All of the work proposed at the substation will occur within the existing fenceline.
- 5. Install approximately seven (7) new 115-kV poles and install and/or transfer approximately 3,000 feet of three-phase line. This will place the 1630 and 1640 lines from Wallingford 13M to the Pent Road Junction on separate structures. To facilitate this line separation a small segment of the 1208 line may need to be re-routed.
- 6. Expansion of existing control building to provide additional workspace for Wallingford Electric Division Staff

As is illustrated within Attachment B all of the proposed activities listed above are planned to occur within previously disturbed and industrial zoned land. There will be no disturbance to any area identified on DEEP maps as a "shaded area", and in this way the project will be protective of areas which have the potential to hold protected species. Additionally, construction of the project will conform to best management practices for E&S control, including those provided in the Connecticut Guidelines for Soil Erosion and Sediment Control, as well as the BMPs.

4.	If this is a renewal or extension of an existing Safe Harbor request with modifications, explain what about
	the project has changed.

5.	Provide a contact for questions about the project details if different from Part II primary contact.
	Name:
	Phone:
	E-mail:

# Part V: Request Requirements and Associated Application Types

Check one box from either Group 1, Group 2 or Group 3, indicating the appropriate category for this request.

Group 1. If you check one of these boxes, complete Parts I – VII of this form and submit the required attachments A and B.
□ Preliminary screening was negative but an NDDB review is still requested
Request regards a municipally regulated or unregulated activity (no state permit/certificate needed)
☐ Request regards a preliminary site assessment or project feasibility study
Request relates to land acquisition or protection
Request is associated with a <i>renewal</i> of an existing permit, with no modifications
<b>Group 2.</b> If you check one of these boxes, complete Parts I – VII of this form and submit required attachments A, B, <i>and</i> C.
Request is associated with a <i>new</i> state or federal permit application
Request is associated with modification of an existing permit
Request is associated with a permit enforcement action
Request regards site management or planning, requiring detailed species recommendations
Request regards a state funded project, state agency activity, or CEPA request
☐ Group 3. If you are requesting a Safe Harbor Determination, complete Parts I-VII and submit required attachments A, B, and D. Safe Harbor determinations can only be requested if you are applying for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities
If you are filing this request as part of a state or federal permit application(s) enter the application information below.
Permitting Agency and Application Name(s): Connecticut Siting Council Petition for Declaratory Ruling
State DEEP Application Number(s), if known:
State DEEP Enforcement Action Number, if known:
State DEEP Permit Analyst(s)/Engineer(s), if known:
Is this request related to a previously submitted NDDB request?   Yes   No
If yes, provide the previous NDDB Determination Number(s), if known:

#### **Part VI: Supporting Documents**

Check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all new requests and Safe Harbor renewals/extensions with modifications.** Renewals/Extensions with no modifications do not need to submit any attachments. Attachments C and D are supplied at the end of this form.

Attachment A:	Overview Map: an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.	
Attachment B:	<b>Detailed Site Map:</b> fine scaled map showing site boundary and area of work details on aerial imagery with relevant landmarks labeled. (Site and work boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)	
Attachment C:	Supplemental Information, Group 2 requirement (attached, DEEP-APP-007C)  Section i: Supplemental Site Information and supporting documents  Section ii: Supplemental Project Information and supporting documents	
Attachment D:	Safe Harbor Report Requirements, Group 3 (attached, DEEP-APP-007D)	

#### **Part VII: Requester Certification**

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."		
Brandon Pollpeter	05/23/2016	
Signature of Requester (a typed name will substitute for a handwritten signature)	Date	
Brandon Polipeter	Environmental Engineer	
Name of Requester (print or type)	Title (if applicable)	
Signature of Preparer (if different than above)	Date	
Name of Preparer (print or type)	Title (if applicable)	

Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION 79 ELM STREET HARTFORD, CT 06106-5127

Or email request to: deep.nddbrequest@ct.gov

# **Attachment C: Supplemental Information, Group 2 requirement**

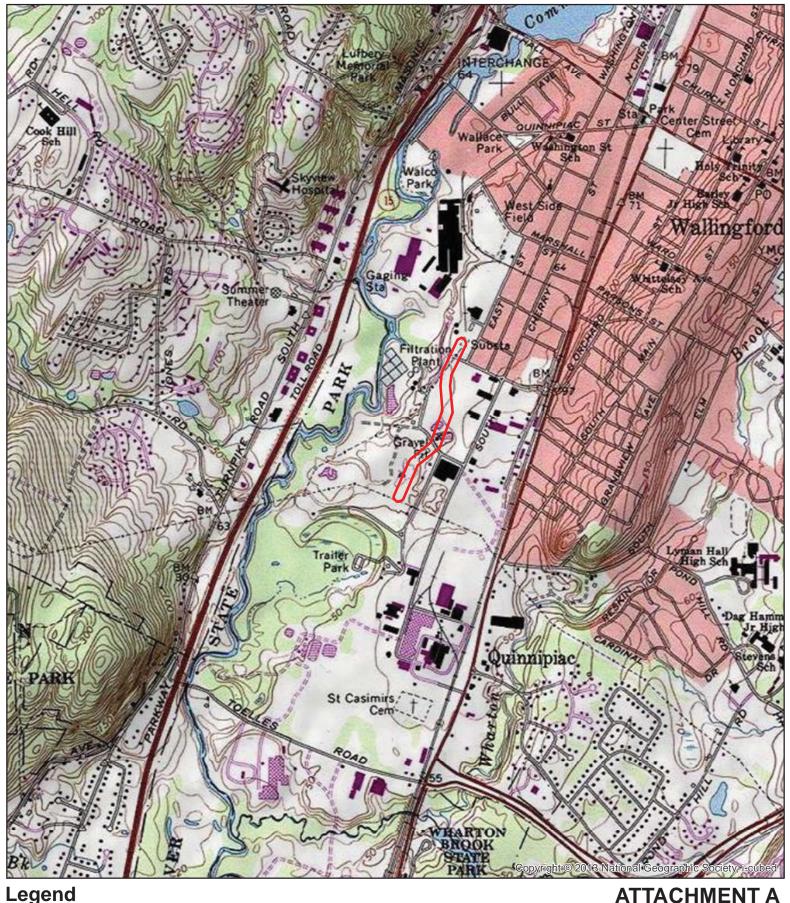
# Section i: Supplemental Site Information

1.	Existing Conditions
	Describe all natural and man-made features including wetlands, watercourses, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted and labeled on the site plan that must be submitted. Photographs of current site conditions may be helpful to reviewers.
	☐ Site Photographs (optional) attached
	☐ Site Plan/sketch of existing conditions attached
2.	Biological Surveys
	Has a biologist visited the site and conducted a biological survey to determine the presence of any endangered, threatened or special concern species
	If yes, complete the following questions and submit any reports of biological surveys, documentation of the biologist's qualifications, and any NDDB survey forms.
	Biologist(s) name:
	Habitat and/or species targeted by survey:
	Dates when surveys were conducted:
	☐ Reports of biological surveys attached
	☐ Documentation of biologist's qualifications attached
Sec	tion ii: Supplemental Project Information
1.	Provide a schedule for all phases of the project including the year, the month and/or season that the proposed activity will be initiated and the duration of the activity.
2.	Describe and quantify the proposed changes to existing conditions and describe any on-site or off-site impacts. In addition, provide an annotated site plan detailing the areas of impact and proposed changes to existing conditions.
	☐ Annotated Site Plan attached

### **Attachment D: Safe Harbor Report Requirements**

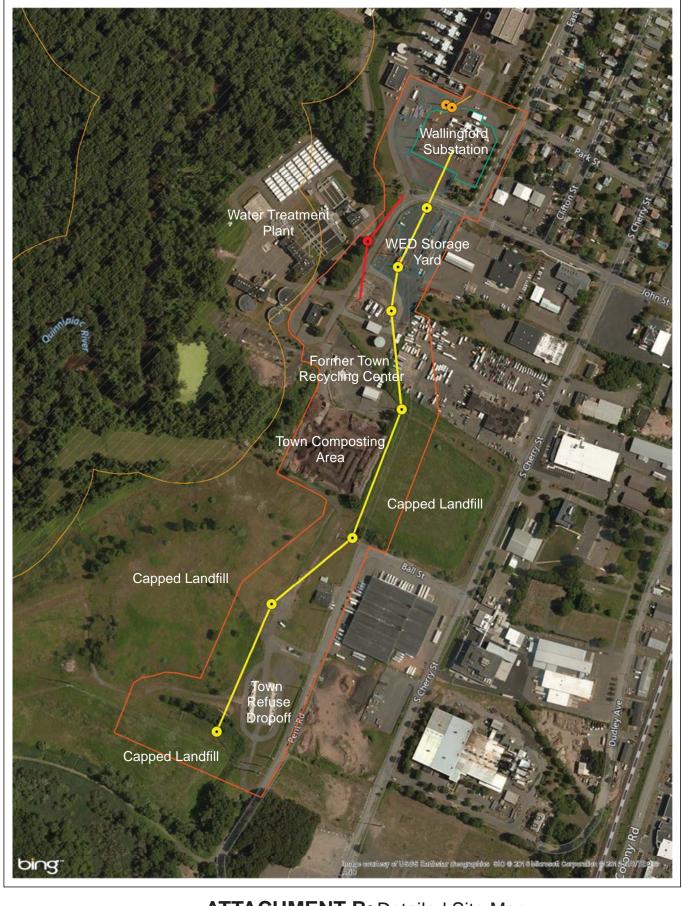
Submit a report, as Attachment D, that synthesizes and analyzes the information listed below. Those providing synthesis and analysis need appropriate qualifications and experience. A request for a safe harbor determination shall include:

- 1. Habitat Description and Map(s), including GIS mapping overlays, of a scale appropriate for the site, identifying:
  - wetlands, including wetland cover types;
  - plant community types;
  - topography;
  - soils;
  - bedrock geology;
  - floodplains, if any;
  - land use history; and
  - · water quality classifications/criteria.
- 2. **Photographs** The report should include photographs of the site taken from the ground and also all reasonably available aerial or satellite photographs and an analysis of such photographs.
- **3. Inspection** A visual inspection(s) of the site should be conducted, preferably when the ground is visible, and described in the report. This inspection can be helpful in confirming or further evaluating the items noted above.
- **4. Biological Surveys** The report should include all biological surveys of the site where construction activity will take place that are reasonably available to a registrant. A registrant shall notify the Department's Wildlife Division of biological studies of the site where construction activity will take place that a registrant is aware of but are not reasonably available to the registrant.
- 5. Based on items #1 through 4 above, the report shall include a Natural Resources Inventory of the site of the construction activity. This inventory should also include a review of reasonably available scientific literature and any recommendations for minimizing adverse impacts from the proposed construction activity on listed species or their associated habitat.
- 6. In addition, to the extent the following is available at the time a safe harbor determination is requested, a request for a safe harbor determination shall include and assess:
  - Information on Site Disturbance Estimates/Site Alteration information
  - Vehicular Use
  - Construction Activity Phasing Schedules, if any; and
  - Alteration of Drainage Patterns



Approximate Site Location

0 750 1,500 3,000 Feet Scale = 1:24,000 ATTACHMENT A
Overview Map



# Legend Line 1640 (New) ATTACHMENT B: Detailed Site Map Substation

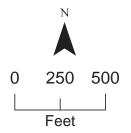
Line 1208 (New)

Line 1305 (New)

Natural Diversity Area

Project Boundary

Potential Laydown Areas
---- Line 1305 (Existing)





June 6, 2016

Brandon Pollpeter Wallingford Energy LLC 400 Chesterfield Center Chesterfield, MO 63017 bpollpeter@lspower.com

Project: Modifications to Existing Wallingford 13M Substation and Separation of Transmission Lines

Running South and Southwest to Pent Road Junction in Wallingford

NDDB Determination No.: 201606820

Dear Brandon Pollpeter,

I have reviewed Natural Diversity Data Base (NDDB) maps and files regarding the area delineated on the map provided for the proposed Modifications to Existing Wallingford 13M Substation and Separation of Transmission Lines Running South and Southwest to Pent Road Junction in Wallingford, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDB. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits. This determination is good for one year. Please re-submit an NDDB Request for Review if the scope of work changes or if work has not begun on this project by June 6, 2017.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at (860) 424-3592, or <a href="mailto:dawn.mckay@ct.gov">dawn.mckay@ct.gov</a> . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Dawn M. McKay

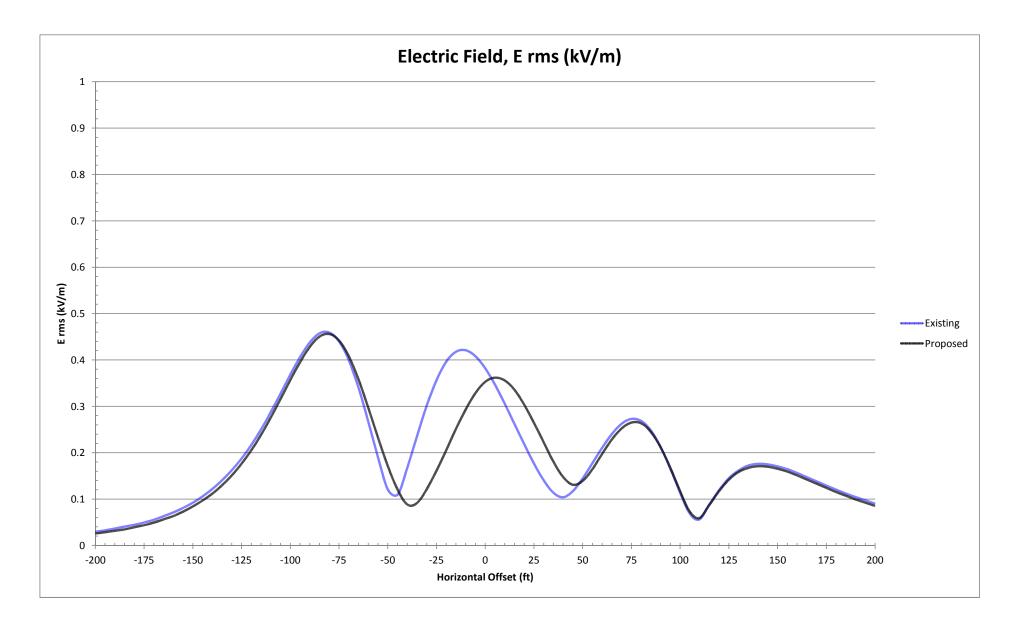
Coun M. moka

Environmental Analyst 3

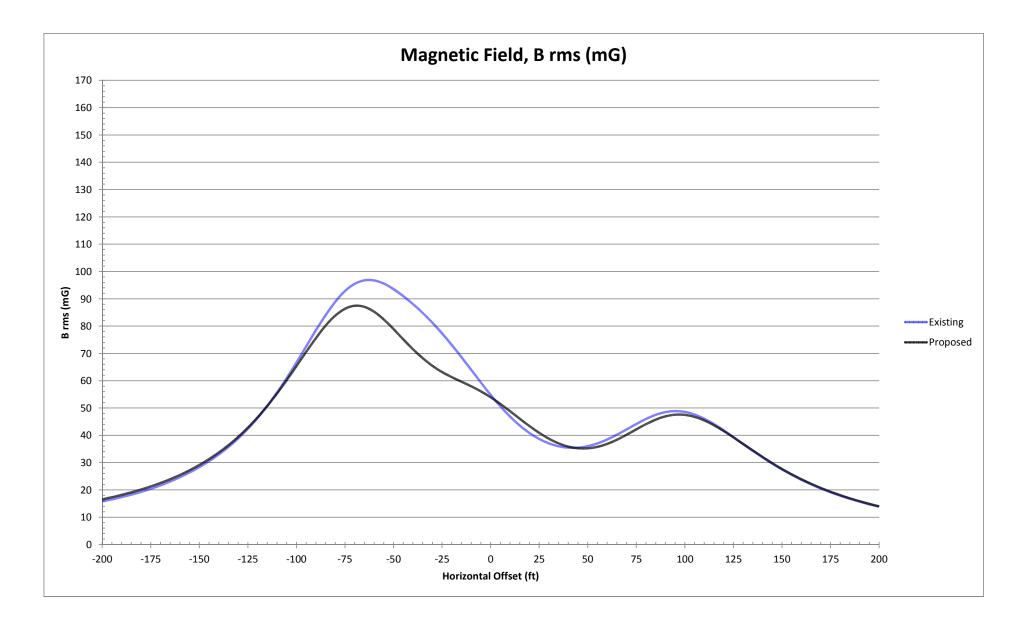
Attachment J – EMF Profiles	



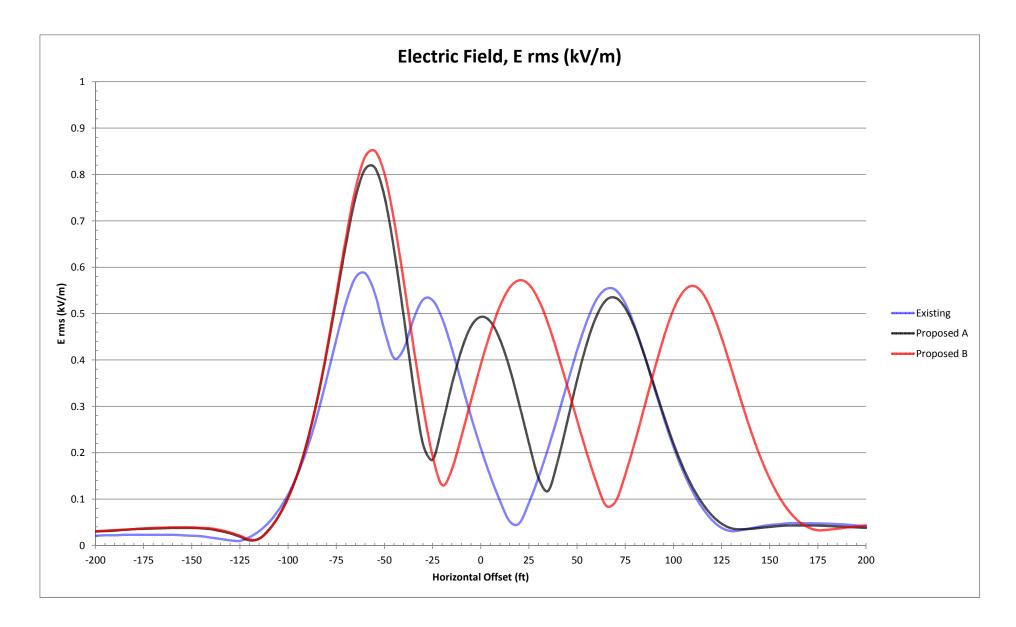
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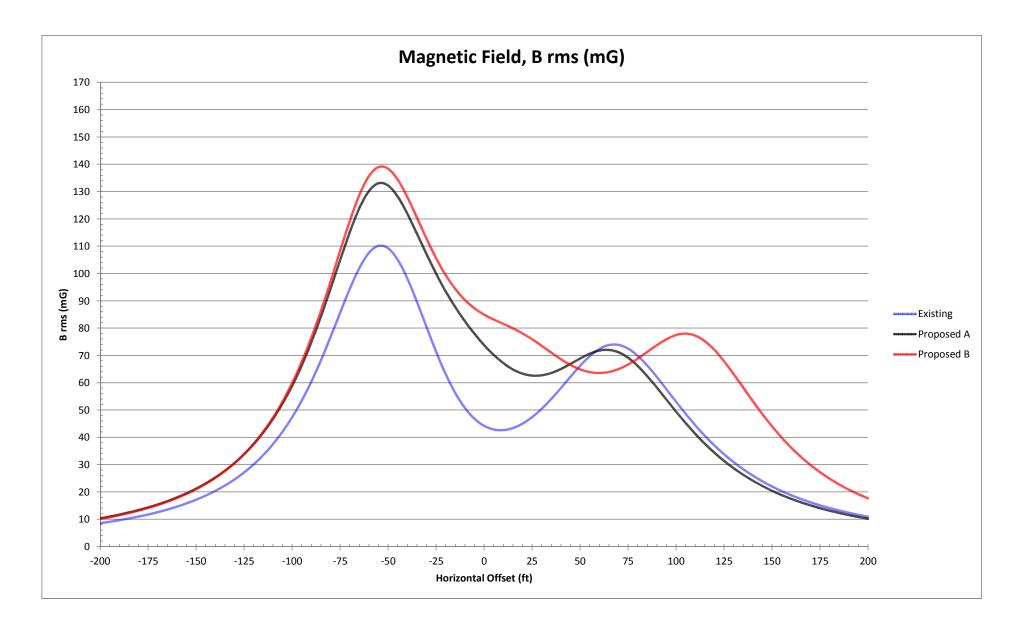
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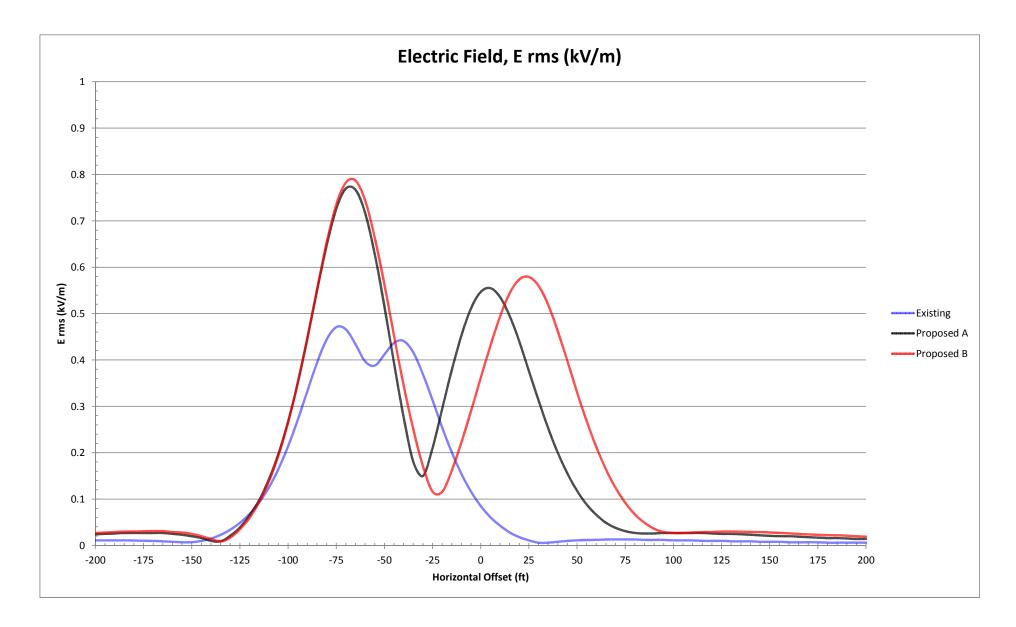
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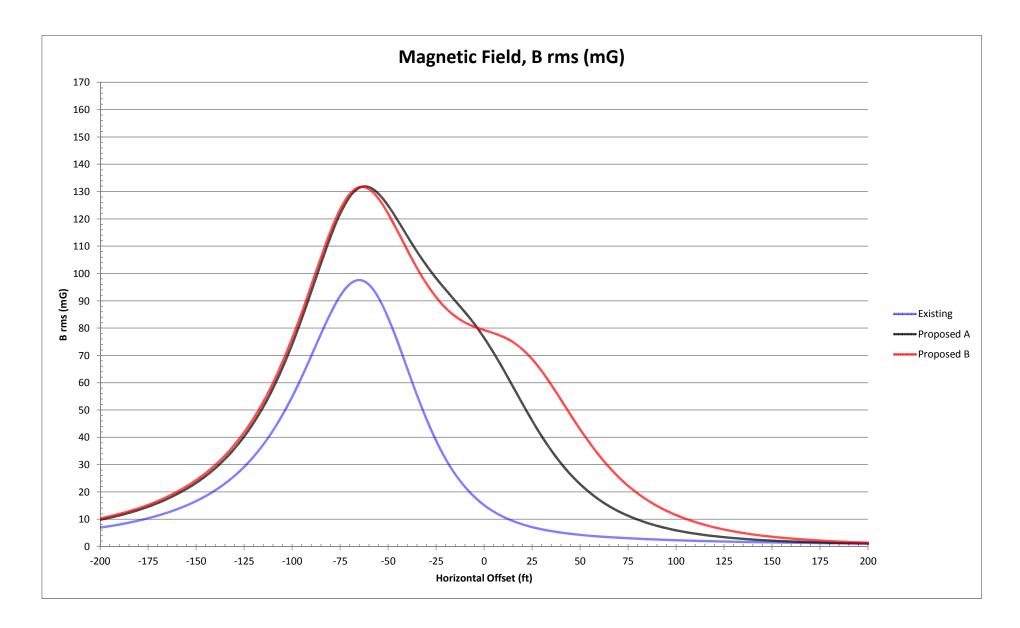
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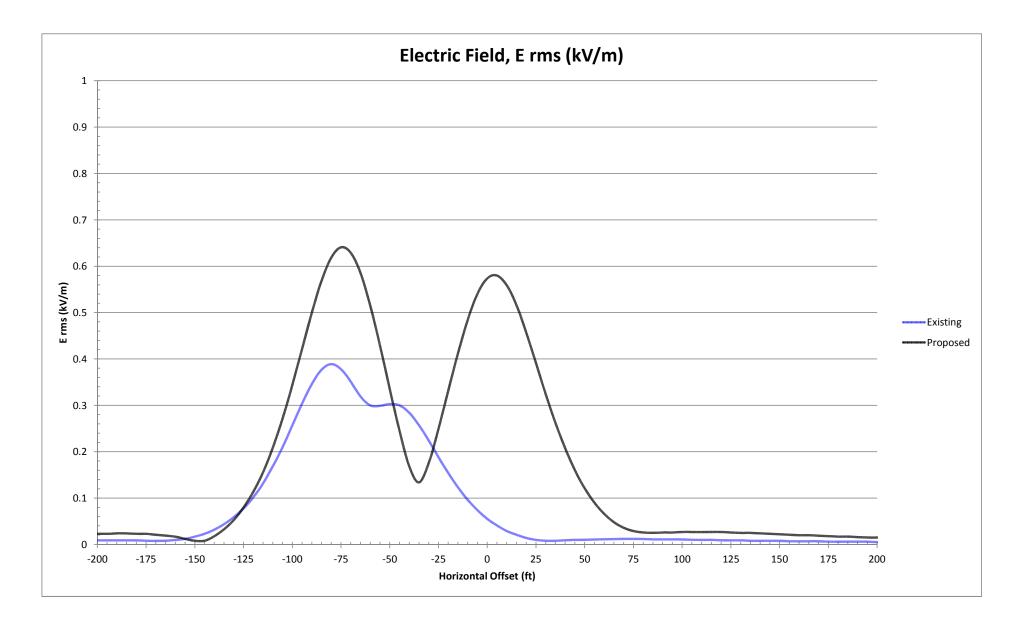
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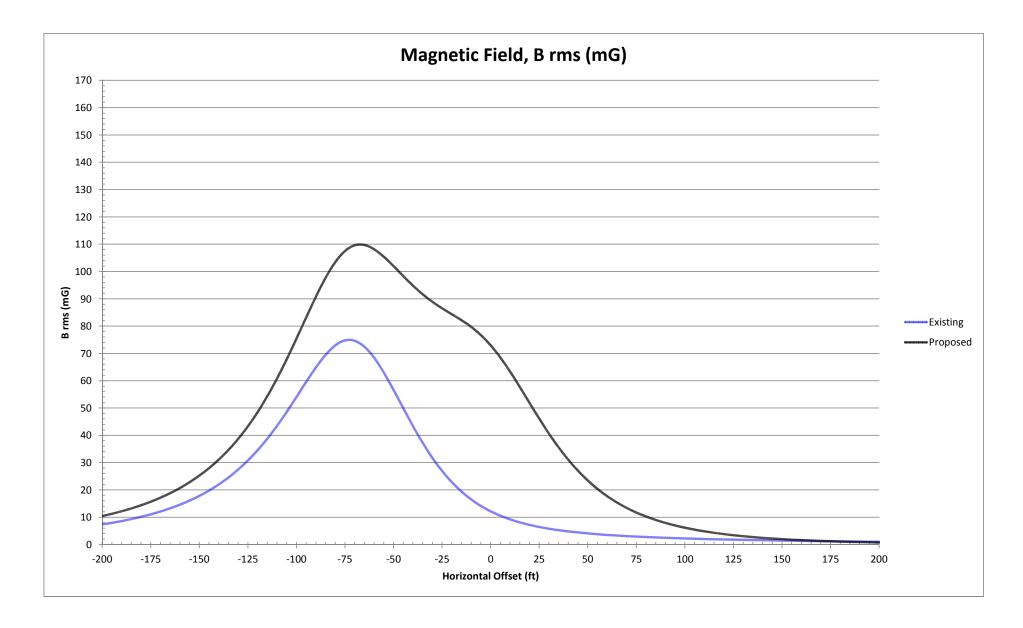
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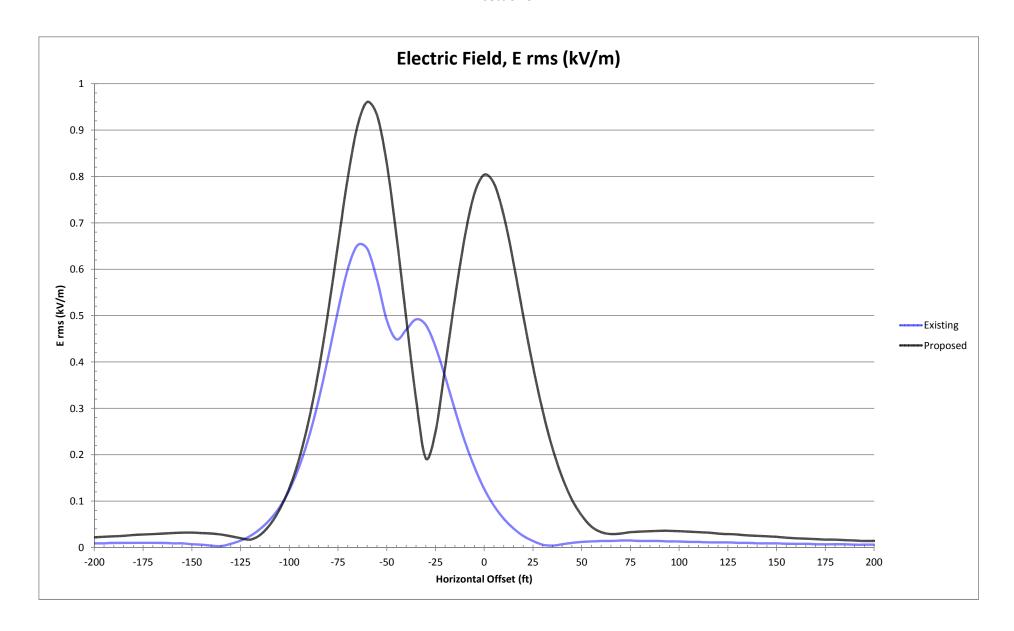
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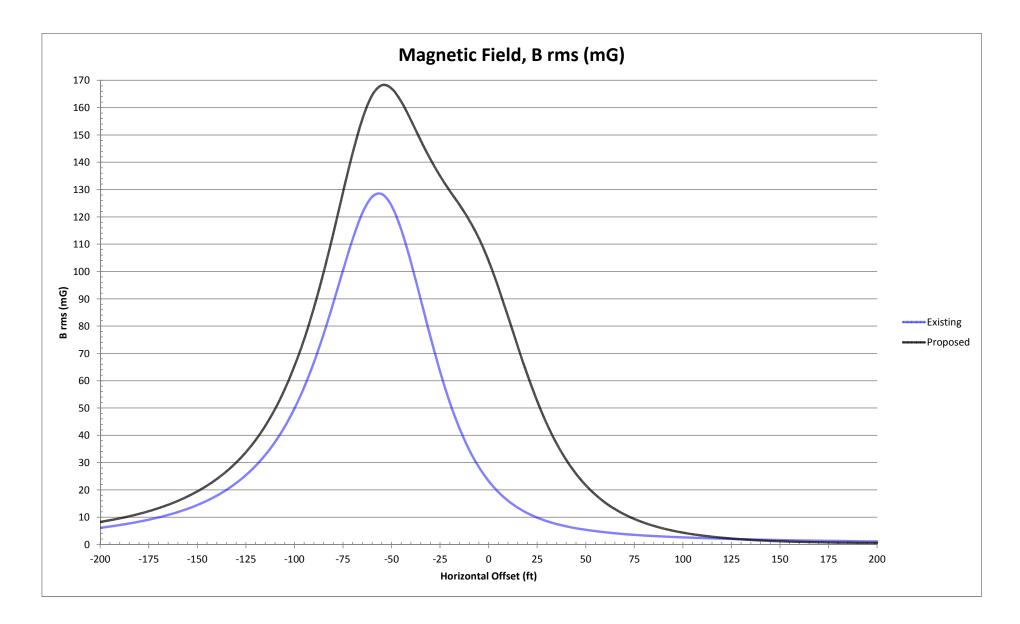
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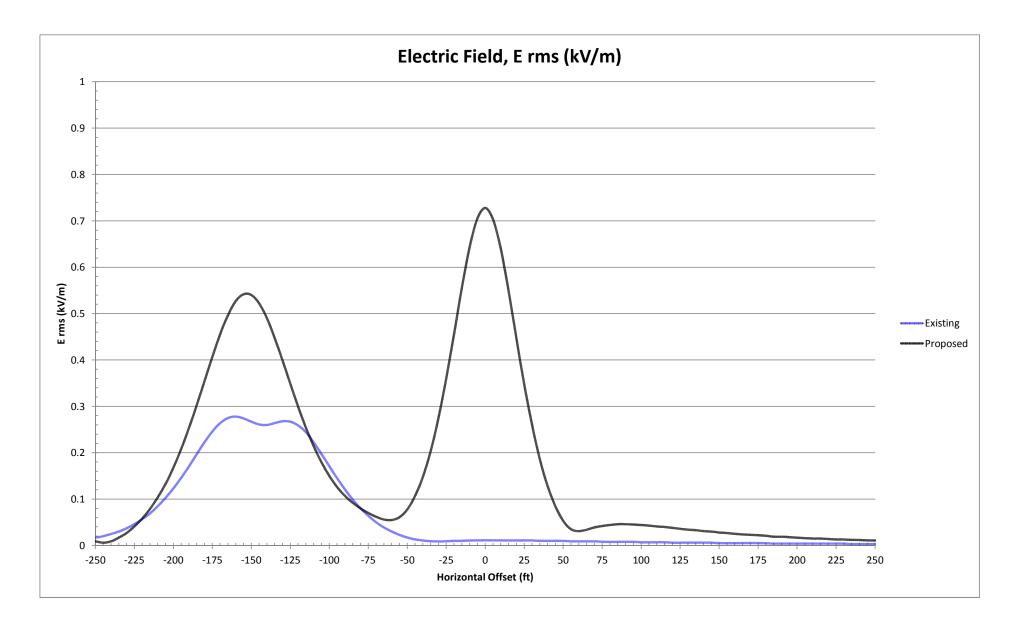
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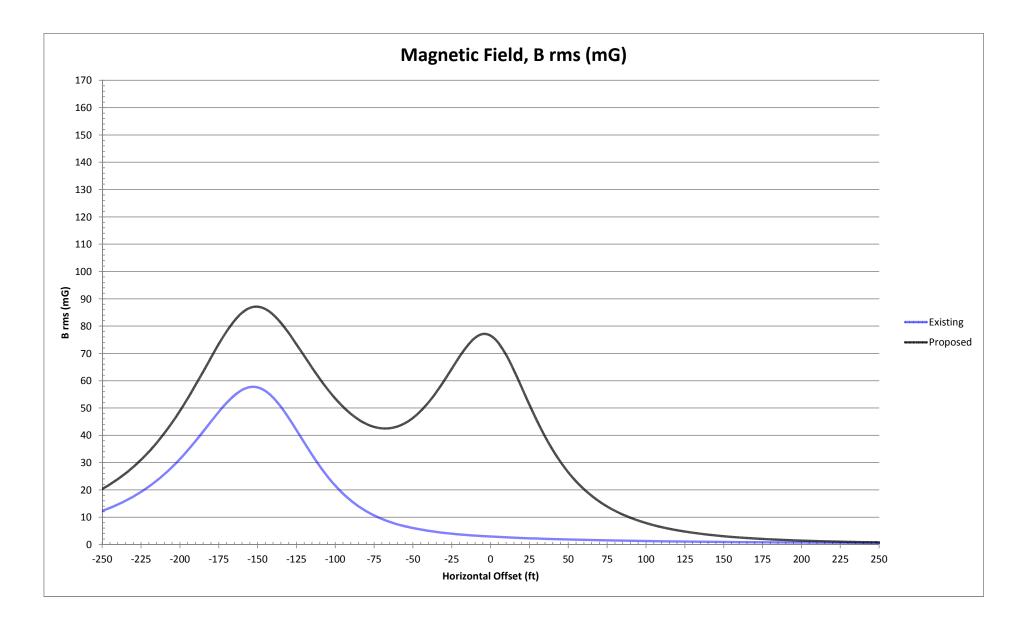
#### Section 5



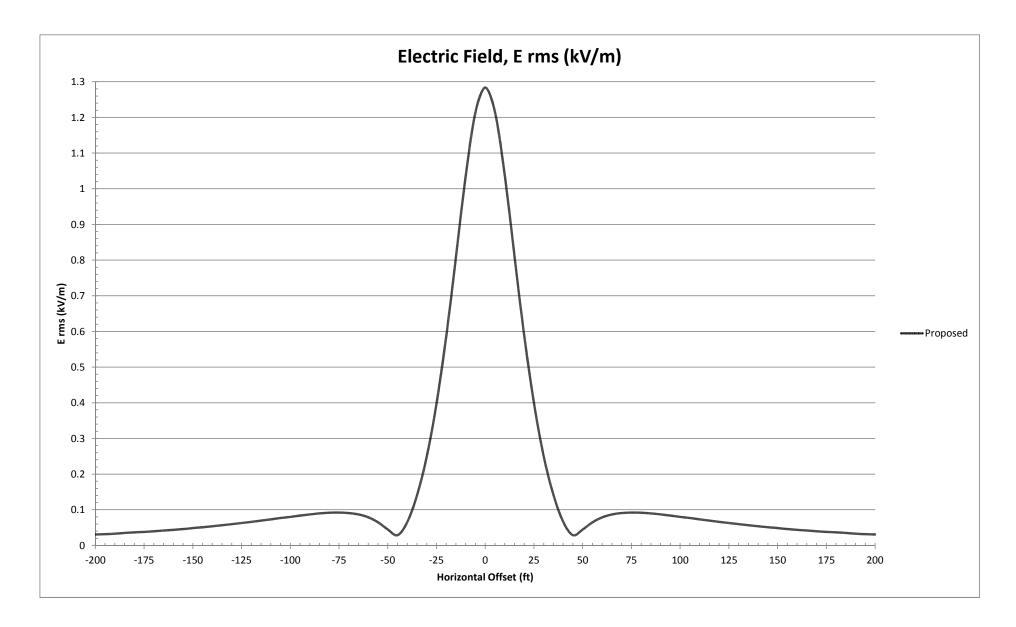
#### Section 6



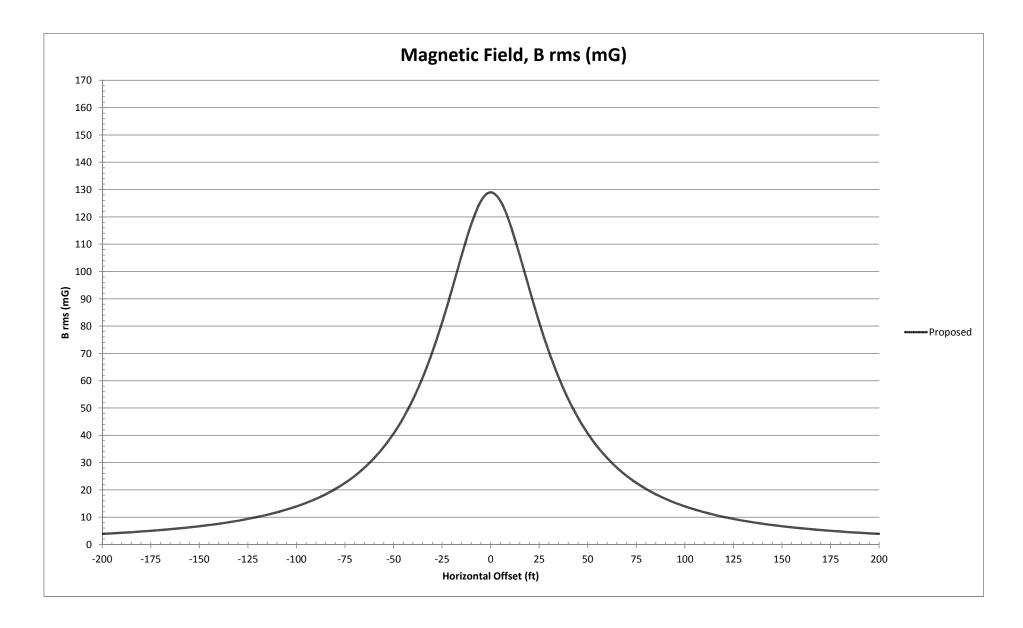
#### Section 6



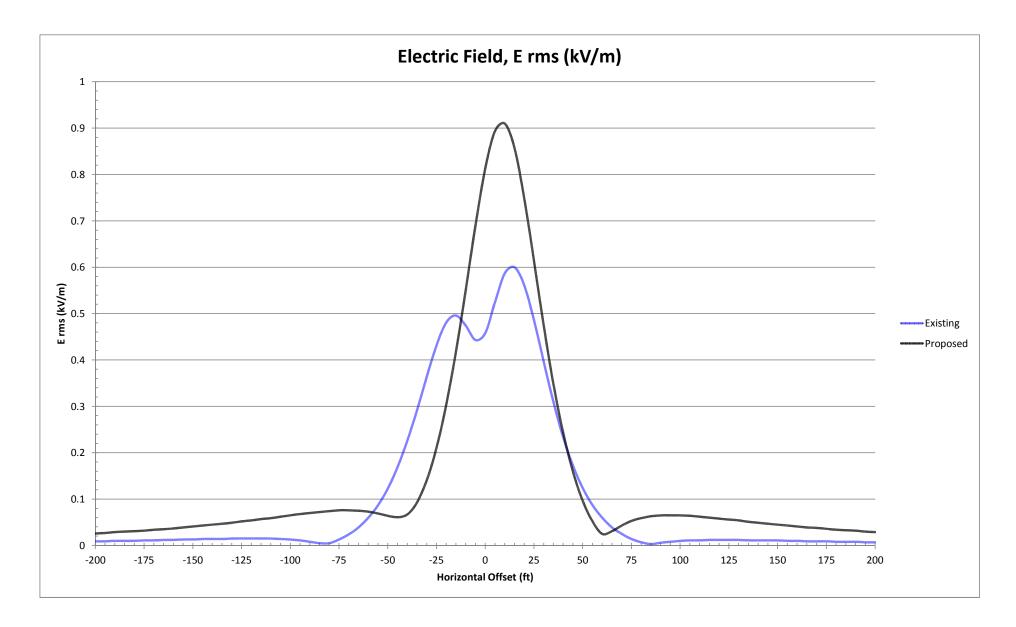
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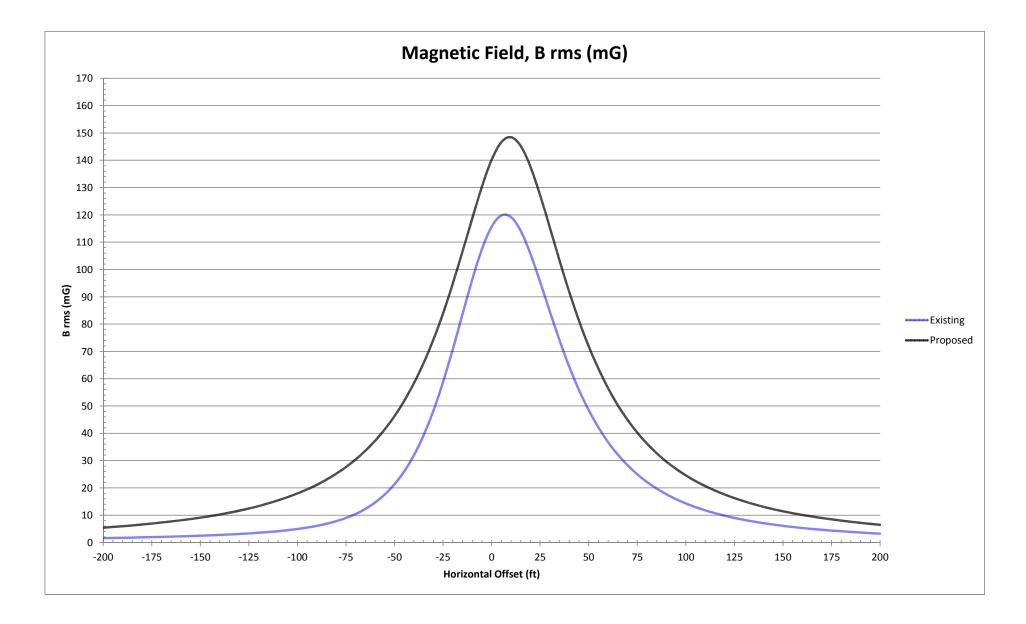
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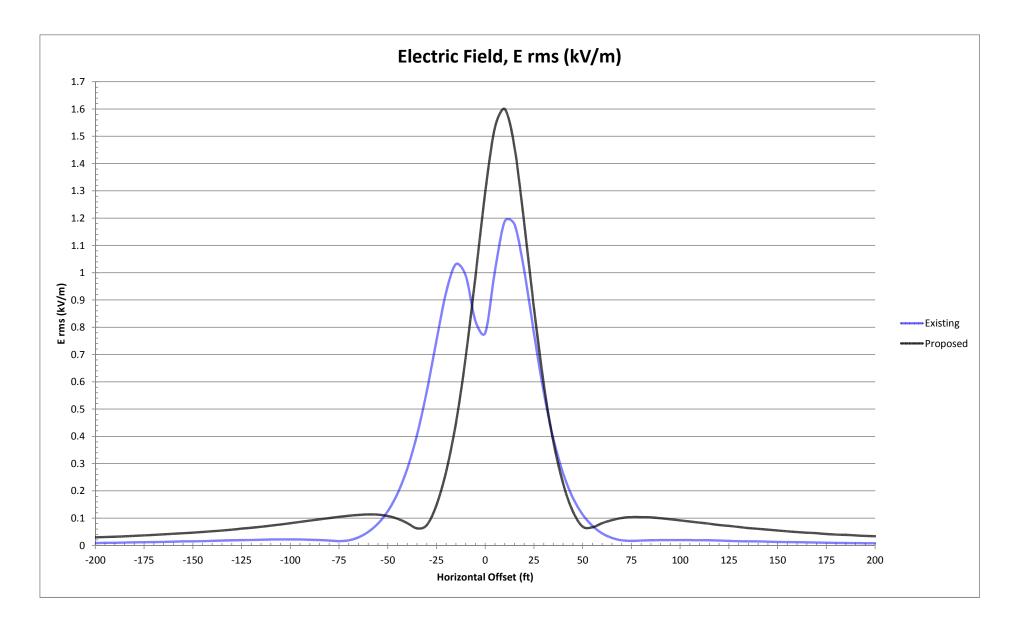
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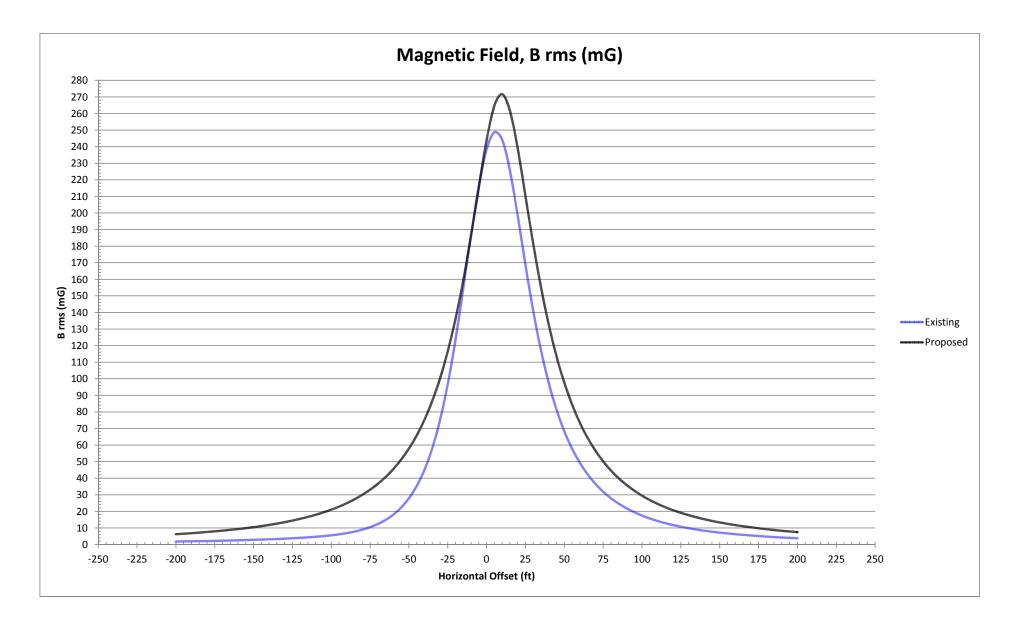
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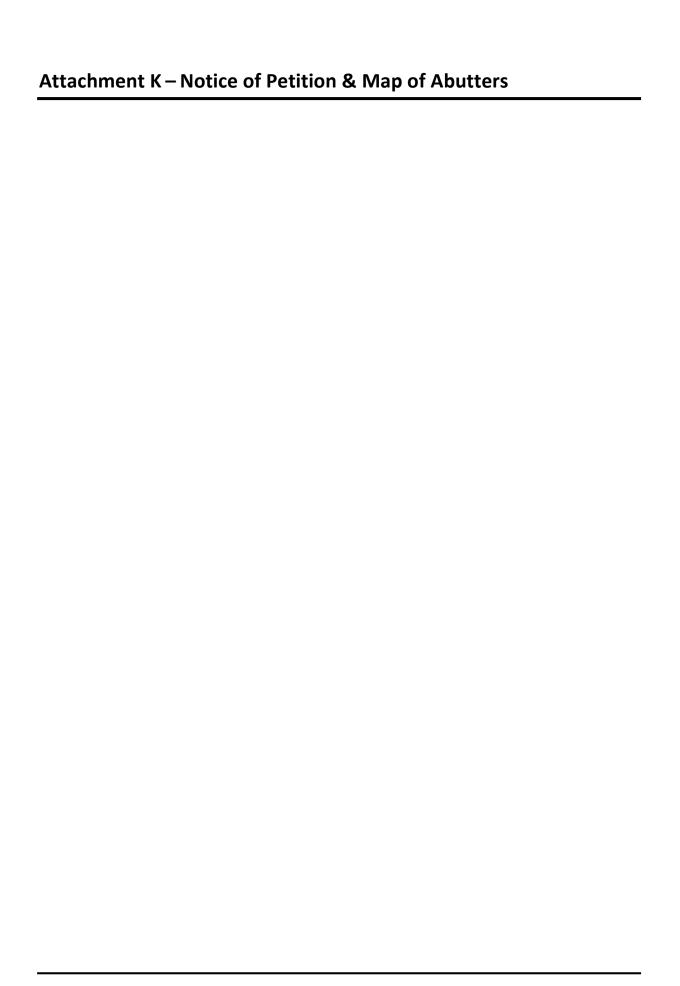


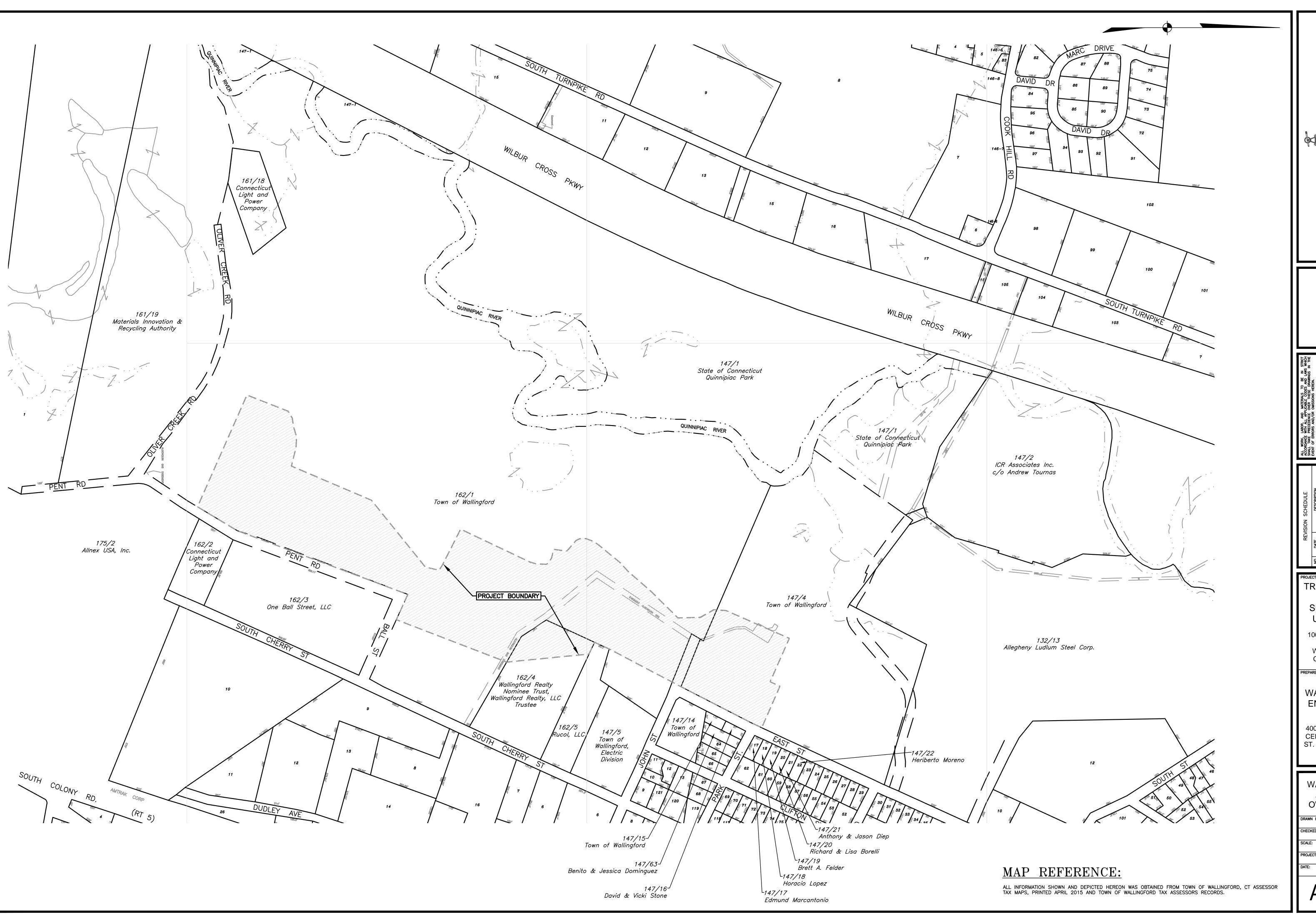
Section 9



Section 9







GODFREY HOFFMAN
ASSOCIATES, LIC
PROFESSIONAL LAND SURVEYORS & CIVIL ENGINEERS

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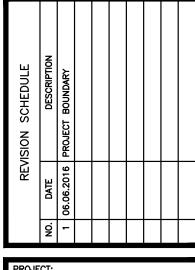
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SHALL TAKE PRECEDENCE OVER THESE DRAWINGS IN THE EVENT OF ERRORS AND/OR OMISSIONS HEREIN.

THE WORD "CERTIFY" OR "DECLARE" IS UNDERSTOOD TO BE AN EXPRESSION OF PROFESSIONAL OPINION BY THE LAND SURPRIVED AND/OR ENGINEER, WHICH IS BASED ON THEIR BEST KNOWLEDGE, INFORMATION AND BELLEF. AS SUCH THE INFORMATION OF GONEREY-HOFFMAN ASSOCIATES, LLC. REPRODUCTIONS, PUBLICATION, DISTRIBUTION, OR DIPLICATION IN WHOLE OR IN PART REPROJUES OF ASSOCIATES, LLC. THIS DOCUMENT AND COMPERTY-HOFFMAN ASSOCIATES, LLC. THIS DOCUMENT AND COMPEX THEREOF ARE WALLD ONLY IF THEY BEAR THE LIVE SIGNATURE AND LIVE SEAL OF THE DESIGNATED LICENSED PROFESSIONAL.



TRANSMISSION AND SUBSTATION UPGRADES

100 JOHN STREET

WALLINGFORD, CONNECTICUT

WALLINGFORD ENERGY, LLC

400 CHESTERFIELD CENTER, SUITE 110 ST. LOUIS, MO 63017

WALLINGFORD ADJACENT OWNERS MAP

DRAWN BY: MP

CHECKED BY: JR

SCALE: 1"=200'

PROJECT: 15-011

DATE: 05.31.2016

ADJ-1

June 7, 2016

## Via Certified Mail

**Re:** Notice of Petition by Wallingford Energy, LLC on Behalf of the Town of Wallingford for a Declaratory Ruling to Approve Upgrades to the Town of Wallingford's 13M Substation and Approximately 3,700 ft of Relocated 115-kV Transmission Line

To the Recipients on the Attached Service List:

Pursuant to Section 16-50j-40 of the Connecticut Siting Council's (the "Council's") regulations, this letter is to serve as notification that Wallingford Energy, LLC ("WE") intends to file on or shortly after June 10, 2016, a petition on behalf of the Town of Wallingford (the "Town") for declaratory ruling with the Council. The petition seeks approval for proposed upgrades to the Wallingford 13M substation and associated 115-kV tranmission system owned by the Town of Wallingford (the "Project"). These proposed upgrades will be performed by WE on behalf of the Town.

The Project is proposed to facilitate the aproved expansion of Wallingford Energy's electric generating facility, and increases the reliabity of the Town's's electrical transmission system. Upgrades proposed to the Town's substation will occur entirely within the fenceline of the existing facility. Transmission line modifications will consist primarily of the separation of the existing double circuit 1630 & 1640 115-kV line running from the 13M substation to the Pent Road Junction (approximately 3,000 feet). The newly separated line will largely parallel the existing route and run almost exclusively over Town owned property. To facilitate the line installation, approximately 700 feet of the 1208 115-kV tranmission line may need to be rerouted. The relocation of the 1208 line would occur entirely within Town owned property located directly east of the water treatment facility.

If you have any questions regarding the proposed Project, please contact any of the following:

Gordon Holk Wallingford Energy, LLC 115 John Street Wallingford, CT 06492

Tel: (732) 249-6750 Fax: (732) 249-7290 gholk@LSPower.com Patricia L. Boye-Williams, Esq. Murtha Cullina LLP 185 Asylum Street Hartford, CT 06103

Tel: (860) 240-6168 Fax: (860) 240-6150 pboyewilliams@murthalaw.com Connecticut Siting Council Ten Franklin Square New Britain, CT 06051

Tel: (860) 827-2935 Fax: (860) 827-2950 siting.council@ct.gov

Best regards,

Andrew Dera Vice President

Enclosure – Service List

## **Attachment**

## **Service List**

## Transmission and Substation Upgrades Wallingford 13M Substation to Pent Road Junction

Municipal Official/Agency	Name/Address
Chief Executive Officer	William W. Dickinson, Jr., Mayor Wallingford Town Hall 45 South Main Street, Room #310 Wallingford, CT 06492
Inland Wetlands Commission	Erin O'Hare, Environmental and Natural Resources Planner Wallingford Town Hall 45 South Main Street Room #G-40 Wallingford, CT 06492
Conservation Commission	Erin O'Hare, Environmental and Natural Resources Planner Wallingford Town Hall 45 South Main Street Room #G-40 Wallingford, CT 06492
Planning & Zoning Commission	Kacie Costello, Town Planner Wallingford Town Hall 45 South Main Street Room #G-40 Wallingford, CT 06492
Regional Planning Agency	Carl J. Amento, Executive Director 127 Washington Avenue 4 <sup>th</sup> Floor West North Haven, CT 06473
Town Engineer	Robert V. Baltramaitis, P.E. Engineering Department 45 South Main Street, Room #203 Wallingford, CT 06492
State Senator	Len Fasano, Senate District 34 7 Sycamore In. North Haven, CT 06473-1283

Municipal Official/Agency	Name/Address
State Representative	Mary Mushinsky, House District 85 188 S. Cherry St. Wallingford, CT 06492-4016
Connecticut Attorney General	George Jepsen, Attorney General Office of the Attorney General 55 Elm Street Hartford, CT 06106
State Department of Energy and Environmental Protection	Rob Klee, Commissioner Department of Energy and Environmental Protection 79 Elm Street Hartford, CT 06106
State Public Utilities Regulatory Authority	Arthur House, Chairman Public Utilities Regulatory Authority 10 Franklin Square New Britain, CT 06051
State Department of Public Health	Dr. Jewel Mullen, Commissioner Department of Public Health 410 Capitol Avenue P.O. Box 340308 Hartford, CT 06134
State Council on Environmental Quality	Susan D. Merrow, Chair Council on Environmental Quality 79 Elm Street Hartford, CT 06106
State Department of Agriculture	Steven K. Reviczky, Commissioner Department of Agriculture 165 Capitol Avenue Hartford, CT 06106
Office of Policy & Management	Benjamin Barnes, Secretary Office of Policy and Management 450 Capitol Avenue Hartford, CT 06106

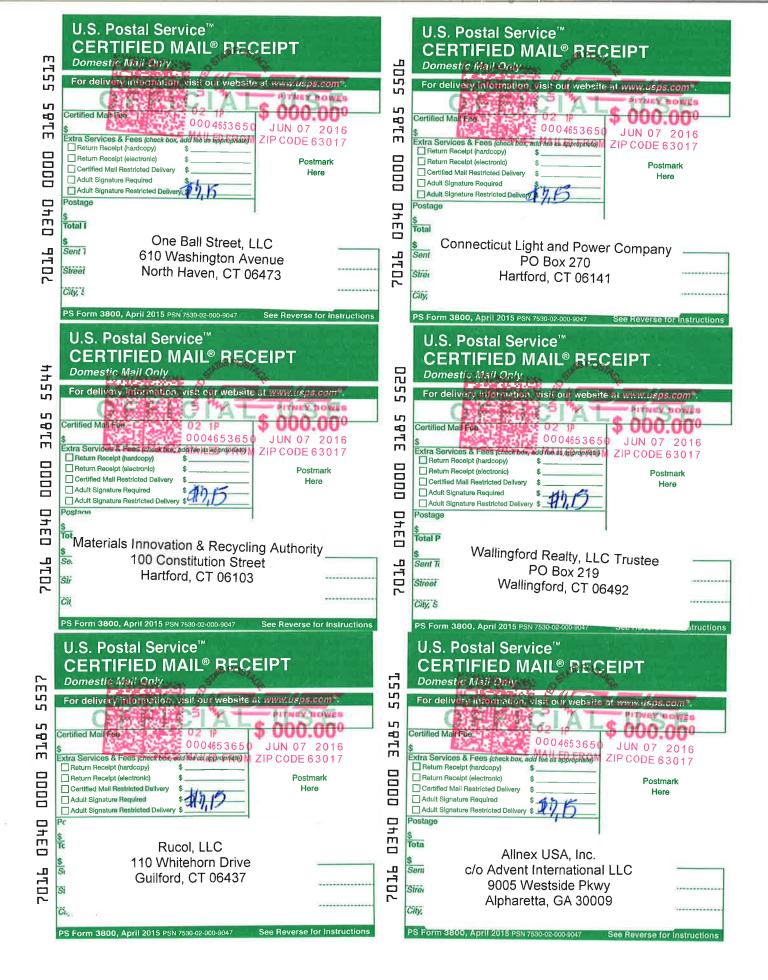
Municipal Official/Agency	Name/Address
State Department of Economic & Community Development	Catherine Smith, Commissioner Department of Economic and Community Development 505 Hudson Street Hartford, CT 06106
State Department of Transportation	James P. Redeker, Commissioner Department of Transportation 2800 Berlin Turnpike Newington, CT 06111
Any Federal Agencies with Jurisdiction Over the Site	None

Abutter Property	Abutter Name/Mailing Address
Tax Map:147 Lot: 1	Quinnipiac River State Park c/o Sleeping Giant State Park 200 Mount Carmel Avenue Hamden, CT 06518  State of Connecticut – Quinnipiac Park 80 Washington Street Hartford, CT 06106
Tax Map: 147 Lot: 2	ICR Associates Inc. c/o Andrew Tournas 233 Carrington Road Bethany, CT 06524 ICR Associates Inc. 155 East St. Wallingford, CT 06492
Tax Map: 147 Lot: 5	Town of Wallingford Electric Division 100 John Street Wallingford, CT 06492
Tax Map: 147 Lot: 14	Town of Wallingford Electric Division 100 John Street Wallingford, CT 06492

Abutter Property	Abutter Name/Mailing Address
Tax Map:147 Lots: 15 Tax Map: 162 Lot: 1	Town of Wallingford 45 South Main Street Wallingford, CT 06492
Tax Map: 147 Lot: 16	David K. Stone & Vicki Stone 9 Cornelia Drive Wallingford, CT 06492
Tax Map: 147 Lot: 17	Edmund Marcantonio 226 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 18	Horacio Lopez 222 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 19	Brett A. Felder 216 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 20	Richard A. Borelli & Lisa A. Borelli 210 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 21	Anthony Diep & Jason T. Diep 204 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 22	Heriberto Moreno PO Box 561 Aguada, PR 00602
Tax Map: 147 Lot: 22	Benito Dominguez & Jessica Dominguez 54 Park Street Wallingford, CT 06492
Tax Map: 147 Lot: 23	Lizabeth Mercado & Silvia Sandoval 192 East Street Wallingford, CT 06492

Abutter Property	Abutter Name/Mailing Address
Tax Map: 147 Lot: 24	Lan Duong & Nguyen Duong 190 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 25	Samir Duracak & Senada Duracak 108 Wallace Row Wallingford, CT 06492
Tax Map: 147 Lot: 26	Kurt D'Onfro & Danielle D'Onfro 186 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 27	Thomas H. Bruneau& Cheryl K. Bruneau 184 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 28	Abdus Salam & Rehana Salam 52 North Turnpike Road Wallingford, CT 06492
Tax Map: 147 Lot: 29	Jeffrey R. Busa & Donna L. Busa PO Box 216 Wallingford, CT 06492
Tax Map: 147 Lot: 30	Marotta, Paul and Katherine Wanat, et al 152 East Street Wallingford, CT 06492
Tax Map: 132 Lot: 13	Allegheny Ludlum Steel Corp. 100 River Road Brackenridge, PA 15014
Tax Map: 162 Lot: 2	Connecticut Light and Power Company PO Box 270 Hartford, CT 06141
Tax Map: 161 Lot: 18 Tax Map: 162 Lot: 3	One Ball Street, LLC 610 Washington Avenue North Haven, CT 06473

Abutter Property	Abutter Name/Mailing Address
Tax Map: 162 Lot: 4	Wallingford Realty, LLC Trustee PO Box 219 Wallingford, CT 06492
Tax Map: 162 Lot: 5	Rucol, LLC 110 Whitehorn Drive Guilford, CT 06437
Tax Map: 161 Lot: 19	Materials Innovation & Recycling Authority 100 Constitution Street Hartford, CT 06103
Tax Map: 175 Lot: 2	Allnex USA, Inc. c/o Advent International LLC 9005 Westside Pkwy Alpharetta, GA 30009

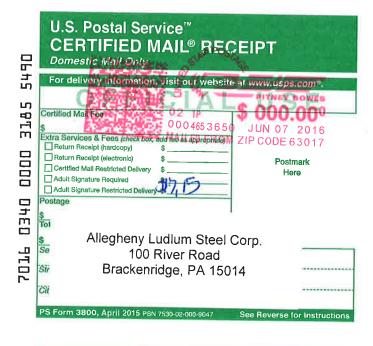








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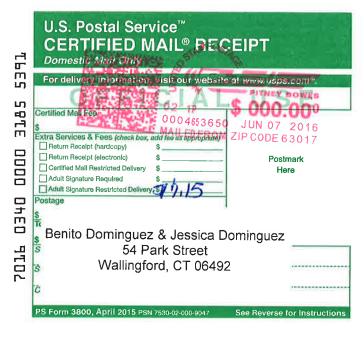






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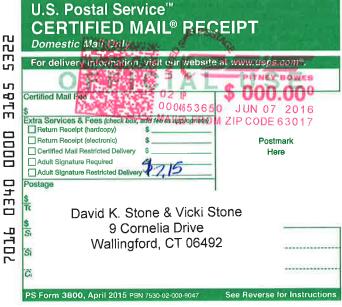












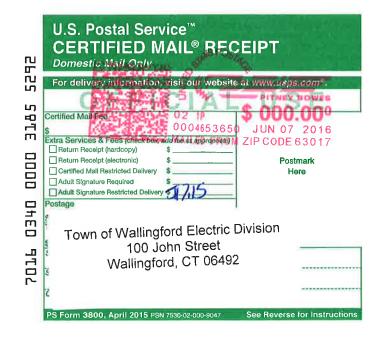








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7016 0340	Chief Executive Officer  William W. Dickinson, Jr., Mayor  Wallingford Town Hall  45 South Main Street, Room #310  Wallingford, CT 06492  PS Form 3800,













