

June 11, 2021

Melanie Bachman, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Card to Willimantic Upgrade Project

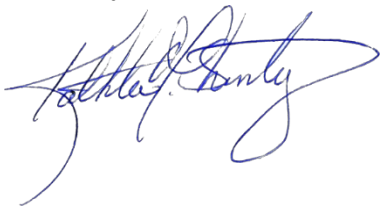
Dear Ms. Bachman:

The Connecticut Light and Power Company doing business as Eversource Energy (“Eversource”) is requesting a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed modifications to two existing 115-kilovolt transmission lines, (the Card to Willimantic Upgrade Project) in the Towns of Windham and Lebanon, Connecticut (“Petition”).

Prior to submitting this Petition, representatives from Eversource briefed municipal officials in Windham and Lebanon about the Project. Eversource provided written notice of the proposed work to all abutters and of the filing of this Petition with the Council. Maps and line lists identifying the abutting property owners who were notified of the Project are provided in the Petition as Attachment A: Card to Willimantic Upgrade Project.

Eversource is submitting this filing electronically and will be providing 15 hard copies for the Council’s records. Eversource understands that the Council will invoice the Company for the requisite \$625 filing fee.

Sincerely,



Kathleen M. Shanley

Enclosure

cc: The Honorable Kevin Cwikla, First Selectman, Town of Lebanon
The Honorable Tom DeVivo, May, Town of Willimantic
Mr. James Rivers, Town Manager, Town of Willimantic

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THE CONNECTICUT LIGHT AND POWER COMPANY

doing business as

EVERSOURCE ENERGY

PETITION TO THE CONNECTICUT SITING COUNCIL
FOR A DECLARATORY RULING OF
NO SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT
FOR THE PROPOSED MODIFICATIONS TO THE EXISTING
1210 and 1220 LINES IN THE TOWNS OF WINDHAM AND LEBANON, CONNECTICUT

1. Introduction

The Connecticut Light and Power Company doing business as Eversource Energy (“Eversource” or the “Company”) hereby petitions the Connecticut Siting Council (“Council”) for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required pursuant to Section 16-50g et seq. of the Connecticut General Statutes for the modifications to two 115-kilovolt (“kV”) transmission lines, the 1210 and 1220 Lines, located within existing rights-of-way (“ROWs”) and on Eversource fee owned property in the Towns of Windham and Lebanon, Connecticut (“Towns”) also referred to as the Card to Willimantic Upgrade Project as described herein (the “Project”) (See Figure 1, below). Eversource submits that a Certificate is not required because the proposed modifications would not have a substantial adverse environmental effect.

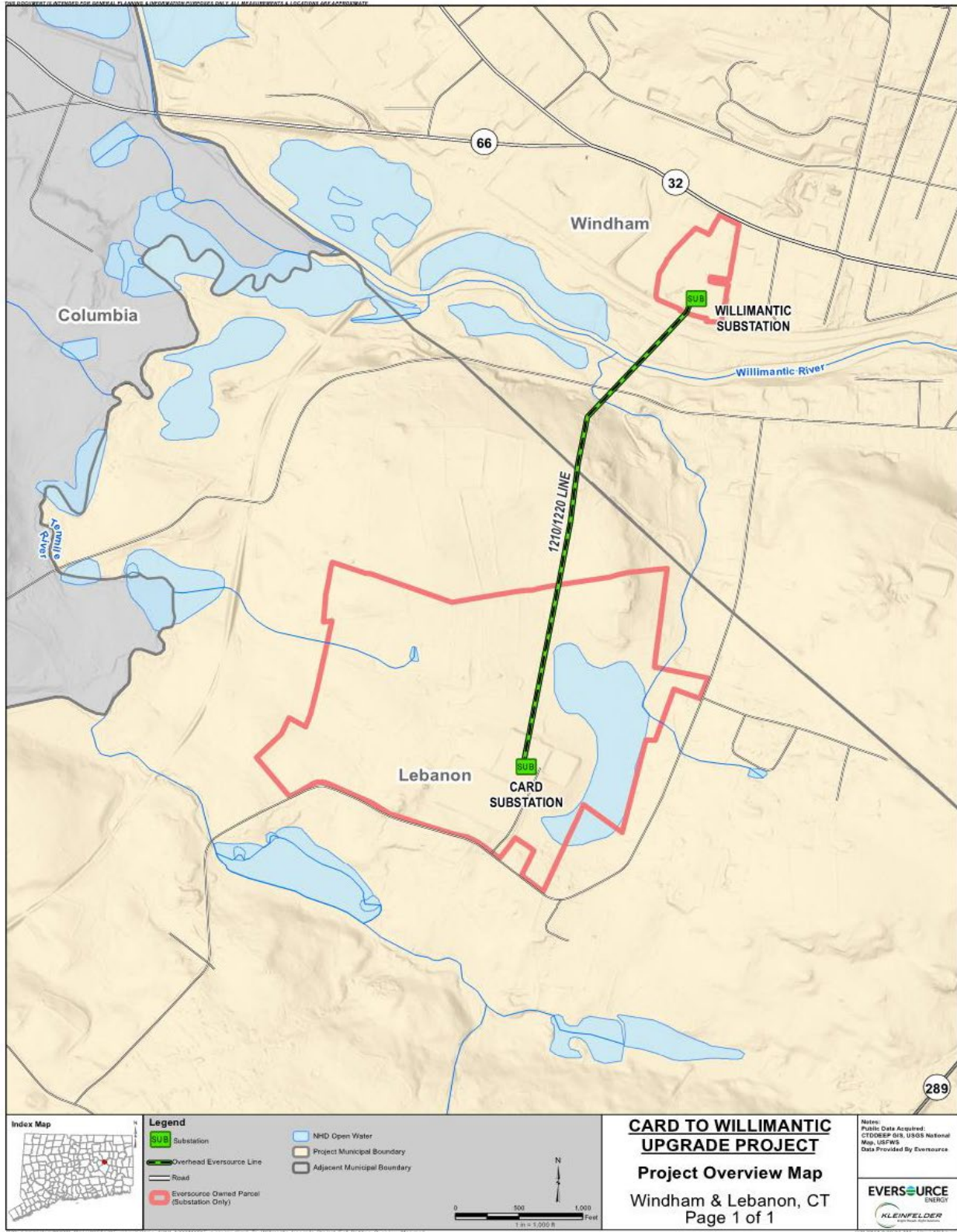
2. Purpose of the Project

The purpose of the Project is to improve system reliability on the 1210 and 1220 Lines by replacing thirteen wood pole structures and one lattice tower structure due to asset condition. The following conditions of concern have been identified on the wood pole structures: rotten and split pole tops, woodpecker damage, cracks, decay, insect damage and weathered and broken hardware. The steel lattice tower has rust, as well as a spalling concrete footing. The design of some of the replacement structures on the 1220 Line will change from the current

horizontal H-frame configuration to a vertical monopole configuration¹ in order to reduce a risk to reliability, as the 1220 Line currently crosses under the 69-kV 800 and 900 Lines shortly after exiting Card Substation in the Town of Lebanon. As the current industry standard of practice is to design crossings such that higher voltage lines cross over lower voltage lines; Eversource proposes to reconfigure the 1220 Line structures at this location to have the 1220 Line meet this current standard. This proposed reconfiguration will also improve clearances from the 1220 Line to the substation fence and to ground and allow for normal full-temperature operation of the line, which is currently de-rated to meet vertical clearances required by the National Electrical Safety Code (“NESC”).

¹ Structures 6500, 6501, and 6502

Figure 1: Project Overview Map



3. Project Description

The Project scope consists of replacing thirteen (13) wood H-frame structures with ten (10) weathering steel H-frame structures and three (3) weathering steel monopoles along approximately 0.77 mile of the 1210 Line and 0.81 mile of the 1220 Line, replacing one (1) steel lattice tower in Willimantic Substation with two weathering steel monopoles, replacing the existing static wire with OPGW on both the 1210 and 1220 lines, installation of approximately 0.10 mile of Alumoweld static wire along the 1220 Line just outside of Card Substation, and replacement of approximately 0.10 mile of existing conductor along the 1220 Line just outside of Card Substation.

The 1210 and 1220 Lines extend from the Card Substation located in the Town of Lebanon northerly to the Willimantic Substation located in the Town of Windham². The configuration and location of these two lines within the ROW are as follows:

- The 1210 Line exits Card Substation to the north on the single circuit Structure 6502A;
- The 1220 Line exits Card Substation to the northwest on the single circuit Structure 6500 and continues on the single circuit Structures 6501 and 6502;
- The 1210 and 1220 Lines then converge on the double circuit Structure 6503 and remain co-located on double circuit Structures 6503 through 6505;

² The 3271 Line is a 345-kV transmission line that extends from Card Substation to Lake Road Substation in Killingly. It exits Card Substation to the northwest. The 3271 Line structures 10701 and 10702 are in the general area of proposed 1220 Line monopole structures 6500, 6501, and 6502. Two of the 3271 Line structures, 10701 and 10702, are greater in height than the proposed 1220 Line structures 6500 and 6501.

- After double circuit Structure 6505, the two lines separate with the 1210 Line occupying single circuit Structures 6506A, 6507A and 6507.5A and the 1220 Line occupying single circuit Structures 6506, 6507 and 6507.5;
- Both lines enter the Willimantic Substation and co-locate again on the double circuit lattice Structure 6508;
- The Card Substation and Structures 6500 through 6504 are located on Eversource property;
- Structures 6505 through 6507.5A occupy a single ROW that varies in width from 187.5 feet to 250 feet; and
- Willimantic Substation and Structure 6508 are located on Eversource property.

Details of the proposed scope of work are summarized as follows:

- Replace 1 double circuit steel lattice structure within Willimantic Substation with 2 weathering steel monopole structures. The proposed poles would be constructed in a vertical configuration adjacent to the existing lattice structure within the existing Willimantic Substation yard;
- Replace 13 H-frame wood pole structures with 10 H-frame weathering steel pole structures and 3 weathering steel monopole structures. The single and double circuit configuration of the existing H-frame structures will remain the same with the replacement structures;
- Replace the existing 556 and 795 ACSR conductor along the 1220 Line for approximately 0.10 mile from the 1220 Line Card Substation terminal structure to Structure 6502. The proposed new replacement conductor is 795 ACSS;

- Replace the existing Alumoweld overhead static wire with OPGW on all 1210 Line structures between Card and Willimantic Substations. Replace the existing Alumoweld static wire with OPGW on 1220 Line structures from Structure 6502 to Willimantic Substation;
- Install new 19#10 Alumoweld static wire along the 1220 Line for approximately 0.10 mile from the 1220 Line Card Substation terminal structure to Structure 6502.
- Install new dielectric self-supporting (“ADSS”) cable underground from the terminal structures to the control enclosures located inside both the Willimantic and Card substations;
- Install new hardware, insulators, lightning arrestors and counterpoise; and
- Improve and/or install access roads and work pads to support the proposed scope of work.

The mapsheets in Attachment A: “Card to Willimantic Upgrade Project”, dated May 13, 2021, depict the locations of existing and proposed structures, existing and proposed access roads, and work pads to be used for the Project, wetland areas and other ROW features and Project elements.

The cross-section drawings in Attachment B – “Card SS to Willimantic SS Right of Way Cross Sections” depict typical views along the ROW of the existing and proposed structures and the existing limits of the ROW areas. Attachment C – “List of Structure Replacements” provides information on structure heights and the type of configuration for the existing and replacement structures. The heights of the existing structures range from 47.5 to 80 feet above ground level and many of the replacement structures must be taller to meet current NESC clearance requirements. The replacement structures will range in height from 61 feet to 100 feet above

ground level. Replacement structures will generally be taller than the corresponding existing structures by 15 feet or less, but two structures (Structures 6500 and 6501) on which the 1220 Line is located are proposed to be greater than 15 feet taller so that the conductor can then cross over the 800 and 900 Lines. These two structures are located just outside of the northern fence line of the Card Substation, but both will still have overall heights less than two existing structures on the 3271 Line also located just outside of the northern fence line of Card Substation³.

4. Existing Environment, Environmental Effects and Mitigation

The Project construction would be performed entirely within Eversource existing transmission ROW, within Card and Willimantic Substations or on Eversource fee owned property. No expansion of the existing ROW or maintained corridor would be required for the Project work or the replacement structures and conductor. The Project would not have a substantial adverse environmental effect, for reasons explained more fully below.

Land Use

Land uses adjacent to the Project area consist of a mix of residential areas, commercial, transportation, and undeveloped lands such as forests and recreational properties. Though the Project would traverse through some of these areas, it will not impact adjacent land uses. Eversource will work with any affected property owners to restore property conditions upon completion of the Project.

³ These existing Structures 10701 and 10702 on the 3271 Line have an AGL of 124 feet and 157 feet, respectively.

Vegetation Removal

The Project maintained ROW in which both the 1210 and 1220 Lines are located, varies in width from approximately 160 feet to 162 feet wide, from Willimantic Substation south to a point just north of Structure 6504. Some limited tree removal and vegetation removal/tree trimming would be required in select areas to accommodate access road installation and improvements, for work pad installation, and along the Project ROW where conductor clearance needs to be improved to meet current NESC and Eversource clearance standards.

Vegetation removal would be accomplished using mechanical methods. This work typically requires the use of flat-bed trucks, brush hogs or other types of mowing equipment, skidders, forwarders, bucket trucks for canopy trimming, and chippers.

Eversource would require the clearing contractor to use low-impact clearing methods to remove brush vegetation to protect wetlands, watercourses, state-listed species and their habitats, and cultural resources. Low-impact clearing incorporates a variety of approaches, techniques, and equipment to minimize site disturbance. Eversource would require the contractor to use some or all of the following low impact clearing methods, depending on site-specific considerations:

- Take into consideration soil and weather conditions when scheduling vegetation removal activities, such as during periods of heavy rainfall.
- Maximize the use of uplands for clearing access routes.
- Use appropriately sized equipment for the site conditions, where possible, to minimize impacts.
- Where practical, cut brush close to the ground, leaving root systems and stumps, to retain soil stability.

The limited tree removal required for the Project would take place near existing structures 6507.5, 6507.5A, 6507, 6507A, 6506 and 6506A for work pad development and conductor clearance requirements. It is estimated that this work would result in a total permanent conversion of approximately 0.22 acre of forest habitat to scrub-shrub or herbaceous habitat areas, and approximately 0.04 acre at structures 6507A and 6507 would be permanently converted to gravel for the work pad. Given the overall limited extent of forest conversion to shrubland, or emergent vegetation, there will be no significant adverse effect to forested habitat. Further, additional shrubland and early successional habitat (and the preservation of such existing habitat) along the ROW or access roads is beneficial for many species of wildlife because shrubland habitat is otherwise declining in New England⁴.

After the installation of the structure replacements, new conductor and the OPGW, Eversource would perform ROW restoration in accordance with the protocols specified in Eversource's 2016 *Construction & Maintenance Environmental Requirements, Best Management Practices Manual for Massachusetts and Connecticut* (the "BMPs") and based on consultations with the property owners affected by the Project.

Scenic, Recreational and Cultural Resources

The Project is not anticipated to have a substantial adverse effect to scenic, recreational, and cultural resources. The replacement structures, conductors and OPGW will be very similar to the existing features of the lines and the replacement monopole structures will present a more

⁴ Connecticut's Wildlife Action Plan has identified 47 wildlife species of Greatest Conservation Need (GCN) as being associated with shrubland habitat and in need of active management.

streamlined appearance than the existing H-frame structures. No portion of the ROW traverses or other Project area is located near a locally or state designated scenic roadway⁵.

A desktop review of the Connecticut Department of Energy and Environmental Protection's ("CT DEEP") GIS and field investigations data was conducted to identify where portions of the ROW traverse or are adjacent to public open space property or trails. One area was identified and is detailed below. Eversource would coordinate with the CT DEEP park personnel to develop and implement measures to maintain public safety during Project construction, while also avoiding or minimizing short-term impacts to recreational users.

- The Air Line State Park Trail (see Attachment A, Map Sheets 1 - 2) is an approximately 22-mile multi-use rail trail between East Hampton and Windham. The trail crosses the ROW near Structures 6507.5 and 6507.5A (Map Sheet 2).

A cultural (archaeological and historical) resources review of the proposed Project area was conducted by Heritage Consultants, LLC ("Heritage") in November and December 2020 and April 2021. This review included the following:

- A Phase 1A assessment review of previously recorded cultural resources on file with the Connecticut State Historic Preservation Office identified two National Register of Historic Places districts, one individually listed National Register of Historic Places property, and one archaeological site recorded within 500 feet of the work areas. These historic resources include the Prospect Hill Historic District and Main Street Historic District, and the Willimantic Freight House & Office located in Willimantic. An identified archeological site is located within the Eversource ROW in Lebanon. These

⁵ Connecticut Department of Transportation (CTDOT), October 1, 2019 Connecticut State Scenic Roads. Accessed April 2, 2021. Available URL: <https://portal.ct.gov/DOT/Programs/Connecticut-Scenic-Roads>. The Towns of Lebanon and Windham do not have any listed scenic roads in proximity to the Project.

historical and archeological resources will not be impacted by the Project. Based on a review of historic maps, aerial photographs, and available soil profiles, six of the proposed work pad locations and four of the access road locations were identified to possess a potential for moderate to high archaeological sensitivity. These ten locations were evaluated in the field with a pedestrian survey by Heritage, resulting in the reclassification of eight of the items as no/low sensitivity areas. Two of the locations, in proximity to Structures 6502A and 6504, retained the potential for moderate to high archaeological sensitivity and a Phase 1B cultural reconnaissance survey (shovel pit testing) was completed at these locations. The shovel pit testing found no physical evidence of archaeological significance; therefore, it was determined that no further investigation is warranted.

Wetlands, Watercourses, Waterbodies and Flood Zones

Eversource identified and delineated water resources in the Project area during October 2020 (see Attachment D: Wetlands and Watercourses Report; see also the map sheets provided in Attachment A, which depict such water resources). Water resources include inland wetlands, watercourses (perennial and intermittent streams), vernal pools, and Federal Emergency Management Agency (“FEMA”) Flood Zones. All work in or near these areas would be conducted in accordance with the BMPs and with the conditions of applicable regulatory permits and approvals. Details on each of these resource areas are provided below.

Wetlands

Wetlands in the Project area were identified and delineated in accordance with industry standard methodology. Work activities in wetlands, will be conducted in accordance with the BMPs and comply with Project permits and approvals. A total of six wetlands were identified in or proximate to the Project area. There will be no permanent effects to these wetlands as a

result of the Project. The Project will result in approximately 0.41 acre of temporary effects to wetlands due to the placement of construction mats for work pads. All construction mats will be promptly removed upon Project completion and wetland areas will be restored in accordance with the BMPs. Anticipated effects to wetlands from the Project are detailed on Table W-1 below.

Watercourses and Waterbodies

Three watercourses were delineated within the Project area. These include the Willimantic River and two unnamed intermittent watercourses. One temporary watercourse crossing will be required for an access road during construction. The watercourse will be spanned using existing timber matting. All construction mats will be promptly removed upon Project completion. The following Table W-1 provides a summary of Project effects to wetlands and watercourses:

Table W-1: Summary of Project Effects to Wetlands and Watercourses

Wetland/Watercourse ID	200-Scale Petition Mapping Sheet No.	Wetland/Watercourse Effects (\pm square feet)		
		Temporary (Matting)	Permanent (Structures)	Secondary (Selective Tree Removal)
W01	03	2,004	0	0
W02	03	4,851	0	0
W03	03	10,902	0	0
W04/S01	02	0		
W05/S02 (Willimantic River)	02	0	0	0
W06/S02 (Willimantic River)	02	0	0	0
	Total	17,757 (0.41 acre)		

Vernal Pools

Project area wetlands were inspected for potential vernal pool habitat in October of 2020.

Wetlands were investigated for the presence of seasonally flooded depressional areas that

would support breeding by vernal pool indicator species. No indicators for vernal pools were observed within the Project area wetlands. Wetlands 01, 02, and 03 are a large PSS wetland complex that connect to a non-delineated section of intermittent Stream 01, outside of the Project area. No depressional areas that could support vernal pool hydrology were observed within Wetlands 01, 02, or 03. Wetland 04 is a small floodplain wetland associated with intermittent Stream 01, and Wetlands 05 and 06 are floodplain wetlands associated with the Willimantic River (Stream 02). These floodplain wetlands do not contain depressional areas with hydrology that would support vernal pool indicator species. A confirmed vernal pool along an access road, west of the Card Substation and associated with LS 900/800/3271/330, was mapped and characterized during a previous delineation effort, for a different project.

FEMA Flood Zones

The Project ROW extends across a 100-year FEMA Flood Zone associated with the Willimantic River. Structures 6507.5 and 6507.5A are proposed to be located within the 100-year Flood Zone. Since these structures will be replacing existing structures already within the same floodplain, no impacts to the floodplain are anticipated.

Water Supply

Based on Aquifer Protection Areas (“APA”) mapping maintained by CT DEEP, there are no APAs within or proximate to the Project ROW. The Project is not located within a public water supply watershed and no public supply reservoirs or public water supply wells are located within the Project area. No private water supply wells were observed within the Project area during field investigation activities.

Eversource would require its contractors to employ best practices for the proper storage, secondary containment, and handling of diesel fuel, motor oil, grease and other lubricants, to

protect water quality within the Project area. Construction activities would conform to the BMPs, as well as to the requirements of Project-specific plans (e.g., Stormwater Pollution Control Plan; Spill Prevention and Control Plan).

Wildlife and Habitat

The Project area straddles the Southeast Hills and Northeast Hills ecoregions of the state, and includes a variety of habitat types, including managed shrubland, forest edge, and scrub-shrub habitat types. The Project transmission line structure and conductor replacement work will occur within Eversource's maintained ROW or on Eversource-owned property and thus would not be anticipated to have a substantial adverse environmental effect on wildlife habitat.

In February of 2021, Eversource submitted a Natural Diversity Database ("NDDDB") State-listed Species Review request to the CT DEEP for the proposed structure replacement activities on the 1210/1220 Line within the NDDDB-mapped habitat area. The NDDDB response received in March 2021 identified one state-listed species⁶ known to occur within or near the Project area. Eversource will implement species-specific protection and mitigations measures to avoid impacts to the listed species and their habitats during Project construction.

Visual Effects

The Project would result in some change to the visual character of the line, though Eversource does not believe that the change would result in a substantial change. Eleven of the total fourteen replacement structures will increase in height by fifteen feet or less than the existing structures they are replacing and will be located as close as possible to the existing structures.

⁶ To protect the state listed rare, threatened and special concern species and their habitats, no details are included in this Petition regarding species/habitat types, names or locations. The Attachment A mapping provides only general areas of the Project area as identified publicly by NDDDB.

Replacing the existing lattice tower within the Willimantic Substation with two monopoles will not impact the visual character of the line as they will be located within the Substation. Similarly, the replacement monopoles are not anticipated to appreciably impact the visual character of the Substation.

Two of the total fourteen replacement structures (structures 6500 and 6501) located outside of Card Substation will be significantly higher than the structures they are replacing (42.5 feet and 39 feet, respectively), but at a total AGL elevation of 90 feet and 100 feet respectively, the two replacement structures will not be as high as existing structures also located outside of Card Substation.⁷ Visual effects would be further mitigated by utilizing weathering steel for the new structures allowing them to be consistent in appearance with the existing H-frame wood structures. As a result, the Project would not result in a detrimental change to the existing visual character of the line in this area, from nearby residential developments and publicly accessible land.

Sound Levels along the Transmission ROW

The construction of the Project would result in short-term and localized noise, as is typical of similar construction projects. The temporary increase in noise would likely raise localized ambient sound levels immediately surrounding the work areas due to the operation of standard types of construction equipment. (e.g., backhoe, bulldozer, crane, trucks, etc.)⁸. Upon completion of construction, the Project would not have any effect on noise or sound pressure levels. Once in service, the rebuilt lines would not result in any changes to ambient noise levels.

⁷ These existing Structures 10701 and 10702 on the 3271 Line have an AGL of 124 feet and 157 feet, respectively.

⁸ Construction noise is exempted under the Connecticut regulations for the control of noise, RCSA 22a-69-1.8(h).

Air Quality

Short-term, localized effects on air quality may result from the Project construction work, primarily from fugitive dust and equipment emissions. To minimize the amount of dust generated by construction activities, the extent of exposed/disturbed areas at any one time would be minimized. Vehicle emissions will be limited by requiring contractors to properly maintain construction equipment and vehicles, and by minimizing the idling time of equipment and vehicles, including diesel construction equipment, in accordance with Connecticut regulatory requirements⁹. Temporary gravel tracking pads would be installed at points of construction vehicle ingress/egress from the ROW to minimize the potential for equipment to track dirt onto local roads. To further minimize dust, water may be used to wet down disturbed soils or work areas with heavy tracking as needed.

Radio and Television Interference

There will be no increase in radio or television interference resulting from the operation of the new transmission facilities.

5. Traffic Management

Construction vehicles and equipment associated with the work would include, but are not limited to, pickup trucks, bucket trucks, flat-bed trucks, excavators, concrete trucks, drill rigs, front loaders, reel trailers, bulldozers, woodchippers, brush hogs/mowers, forklifts, side booms, dump trucks and cranes. Pullers and tensioners will be used for the line work. Guard trucks and/or temporary guard structures would be used for protection of roads during the line work.

⁹ Regulations of Connecticut State Agencies (RCSA) Section 22a-174-18(b)(3)(C) generally prohibits the idling of motor vehicles for more than three consecutive minutes when not in motion.

Construction-related vehicular and equipment movements would utilize public roads in the Project area to access the ROW. However, the Project-related traffic is generally expected to be temporary and highly localized in the vicinity of the ROW access points and at the staging areas. Due to phasing of construction work, these Project-related traffic movements are not expected to significantly affect transportation patterns or levels of service on public roads.

To safely move construction vehicles and equipment onto and off of the ROW while minimizing disruptions to vehicular traffic along public roads, Eversource or its Project contractor would work with the Towns and the Connecticut Department of Transportation, as appropriate, to develop and implement traffic management procedures, as needed. The construction contractor is typically responsible for posting and maintaining construction warning signs along public roads near work sites and for coordinating the use of flaggers or police personnel to direct traffic, as necessary.

6. Construction Sequence

Project construction would include the following activities:

Establishing Staging Areas

The Project is proposing to utilize an Eversource leased laydown yard located at 23 New Park Avenue in Franklin for a staging/laydown area. The staging area is approximately 3.2 acres total in size (See Figure 2 below).

The staging area would be used for surface storage of construction materials, equipment, tools, and supplies (including conductors, cable reels, insulators, hardware, poles, and mats) for the Project. Office trailers and Conex storage containers may be located at the staging area. Existing transmission line components removed during the work (structures, conductor, hardware, and insulators) may be temporarily accumulated and stored at the staging area

prior to removal off-site for salvage and/or disposal. The staging area may also be used by construction crews for parking personal vehicles as well as for construction vehicles and equipment storage, and for performing minor maintenance, when needed, on construction equipment. Appropriate erosion and sedimentation (“E&S”) controls would be installed and maintained until completion of the work in accordance with Project permits and the BMPs.

Figure 2: Proposed Staging and Laydown Area at 23 New Park Avenue, Franklin, CT (area defined by red cloud-like line)



Soil Erosion and Sediment Control Installation

Project construction would conform to best management practices for E&S control, including those provided in the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* ("*Connecticut Guidelines*") and BMPs. This will include the development of a project specific Stormwater Pollution Control Plan ("SWPCP") and registration under CT DEEP's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, effective 10/1/13* ("General Permit").

Typical E&S control measures include, but are not limited to, straw blankets, hay bales, silt fencing, gravel anti-tracking pads, soil and slope protection, water bars, check dams, berms, swales, plunge pools, and sediment basins. Silt fence would be installed prior to construction to intercept and retain sediment and/or construction materials from disturbed areas and prevent such materials from discharging to water resources or off ROW. Temporary E&S control measures would be maintained and inspected throughout the Project to ensure their integrity and effectiveness and for compliance with the General Permit. The SWPCP inspections will be in accordance with the General Permit requirements. Following completion of the rebuilt Project facilities, seeding and mulching would be completed to permanently stabilize the areas disturbed by the work. The temporary E&S control measures would remain in place until the Project work is complete and all disturbed areas have been deemed stabilized.

Access Roads and Work Pads

Access to each proposed transmission structure location will be required during Project construction. As a result of the operation and maintenance of the existing lines within this ROW, some access roads are already established and Eversource will utilize these existing access roads to the extent possible. However, some new access roads will be required.

Construction matting will be utilized to install temporary access roads through wetland areas to reach certain structure locations. The access roads expected to be used for the proposed Project are illustrated on the maps in Attachment A.

Existing access roads may need to be improved (graded, widened, and/or reinforced) with additional stone material to accommodate the safe passage of construction vehicles and equipment. Access road improvements typically include trimming adjacent vegetation and widening roads, as needed, to provide a maximum travel surface that is approximately 16 feet wide (additional width may be needed at turning or passing locations). Access roads would typically be graveled; however, where access roads traverse streams or wetlands, timber construction mats or rail car bridges would be used. E&S controls would be installed as necessary before the commencement of any improvements to or development of access roads.

At each transmission line structure location, a work pad is required to stage material for final on-site assembly and/or removal of structures, to pull conductors and to provide a safe, level work base for the construction equipment. Typical work pads are 100 feet by 100 feet but, due to terrain and spacing between the existing and proposed structures, the work pads may be up to approximately 110 feet by 120 feet. In areas where machinery is needed for pulling conductors through an angled structure, work pads of approximately 130 feet by 80 feet are required. Most work pads will be graveled, though some will use temporary matting to protect sensitive resource areas (e.g., lawn, meadow and identified cultural resource areas) or where work pads are in wetlands.

To facilitate future transmission line maintenance, access roads, structure work pads in uplands would be left in place (refer to Attachment A). If an individual property owner requests

their removal, the Project representatives will work with the property owner on mitigation options. No new permanent access roads or work pads are proposed in water resource areas.

The proximate locations and configuration of the work pads, as determined based on the environmental field studies and constructability reviews, are shown on Attachment A.

Foundation Installation

The proposed structures will have either drilled (caisson) foundations or direct embed foundations. Foundation installation work would require the use of equipment such as drill rigs, pneumatic hammers, augers, dump trucks, concrete trucks, grapple trucks and light duty trucks. If groundwater is encountered, and when working within wetlands, pumping (vacuum) trucks or other suitable equipment would be used to pump water from the excavated areas as the shaft is being drilled or as the structure is being set. The water would then be discharged in accordance with applicable local, state and federal requirements.

Excavated soils that are generated during construction activities would be stored or spread in an upland area within the ROW, to the extent practicable. Materials that cannot be utilized as backfill would be disposed in accordance with applicable regulations.

As needed, counterpoise installation may also take place at this time. Depending on site-specific soil conductivity, supplemental grounding will be installed. A quad "ditch-witch" plow-cable trencher would be used to install the counterpoise.

Structure Assembly/Installation

Structure sections, structure components and hardware would be delivered to the individual structure locations using flat-bed trucks and assembled on-site using a crane and bucket trucks. After assembly, the area around direct embed foundations would be backfilled with processed gravel.

Conductor and OPGW Installation

The installation of the new conductors and OPGW would occur after the new structures have been erected. The equipment required for these activities would include cable reels, pulling and tensioning rigs, and bucket trucks.

Structure, Conductor and Static Wire Removal

The removal of the existing conductor and static wire would take place during the active installation of the new conductor and OPGW because the existing conductor and static wire will be used as pulling lines, if possible. Conductor dead-ending and splicing will be accomplished with pressed hardware.

The existing structures would be removed after the new conductor, static wire and OPGW are installed.

Restoration

Once the new structures are erected, the line is energized and the existing structures have been removed, ROW restoration activities would commence. Restoration activities would include the removal of construction debris, signage, flagging, and temporary fencing, as well as the removal of construction mats and work pads that are designated for removal. Areas affected by construction would be re-graded as practical and stabilized using revegetation or

other measures before removing temporary E&S controls. Eversource would perform ROW restoration in accordance with the protocols specified in the BMPs and in consultation with affected property owners.

Waste Management

Waste materials, such as structure components (e.g., materials from the removed structures, conductor, static wire, associated hardware, etc.) and any other construction debris would be disposed of in accordance with the BMPs, applicable regulations or recycled consistent with applicable rules and regulations and Eversource policies. As described above, excess soils would be managed in accordance with the BMPs, applicable regulations and disposal facility policies. Dewatering during construction activities would be conducted in accordance with the *Connecticut Guidelines*, the BMPs and applicable regulations.

7. Construction Schedule and Work Hours

Eversource proposes to begin construction in the Fall of 2021. Normal work hours would be Monday through Saturday from 7:00 AM to 7:00 PM. Sunday work hours or evening work hours past 7:00 PM may be necessary due to delays caused by unforeseen circumstances, inclement weather and/or outage constraints. In the event this is necessary, the Council, Town(s) and abutters will be provided notice of the proposed Sunday and/or evening work hours.

8. Electric and Magnetic Fields

Eversource prepared calculations of the existing and post-Project Electric and Magnetic fields (“EMF”). The calculations were based on average annual loading conditions because these are most representative of typical conditions. The calculations are made relative to the centerline of the proposed, modified transmission lines. The calculations apply at one meter

(3.28 feet) above grade and assume that the lowest conductor for each 115-kV circuit is 30 feet above grade.

Eversource's proposes to replace single-circuit and double-circuit wood H-Frame structures with single-circuit and double circuit weathering steel monopoles or weathering steel H-Frame structures and replace the existing double-circuit lattice tower inside Willimantic Substation with two single-circuit weathering steel monopoles.¹⁰ Magnetic field levels will increase by approximately 0.8 mG within the ROW. Magnetic fields at and beyond the edges of the ROW will remain essentially unchanged.

Maximum electric field levels in the ROW are expected to increase slightly from 1.38 kV/m to 1.54 kV/m. Electric fields at and beyond the edges of the ROW will be essentially unchanged.

Table 1 summarizes the calculated electric and magnetic fields at the ROW edges before and after the modifications.

Table 1 - Summary of Calculated Electric and Magnetic Fields

Summary of Fields		1210/1220 Line EMF Calculations		
		West Edge	Max	East Edge
MF (mG)	Existing	0.8	15.6	1.2
	Proposed	0.8	16.4	1.2
EF (kV/m)	Existing	0.04	1.38	0.16
	Proposed	0.05	1.54	0.19

The results of the calculations show that the proposed modifications would not substantially increase electric or magnetic fields at the edge of the corridor. See Attachment E: EMF Graphs and Tabulated Field Calculations.

¹⁰ Because these are the only transmission lines in the corridor, "No-cost" mitigation options are not available.

Comparison of Calculated Fields to International Guidelines

The anticipated fields from the proposed transmission lines are well below the internationally established exposure limits for 60-Hz electric and magnetic fields. Specifically, these fields are below the limits identified by the International Council on Electromagnetic Safety (“ICES”) and the International Council on Non-Ionizing Radiation Protection (“ICNIRP”). These standards are summarized below in Table 2.

Table 2 - International Guidelines for EMF Exposure

	<u>EF (kV/m)</u>	<u>MF (mG)</u>
ICES	5	9,040
ICNIRP	4.2	2,000

9. Municipal and Property Owner Outreach

In February 2021, Eversource consulted with the municipal officials of the towns of Lebanon and Windham to brief them on the proposed Project. Additionally, in May 2021, Eversource provided representatives of the Town with written notice of the Petition filing.

In February 2021, Eversource also initiated outreach to property owners located along the Project route. In conjunction with the submission of this Petition, all abutting property owners were notified of the filing and provided information on how to obtain additional information on the Project, as well as how to submit comments to the Council. Eversource representatives will continue contact with adjacent property owners to provide advance notification as to the start of construction activities and will continue to update property owners throughout construction and restoration.


10. Conclusion

Based on the foregoing, Eversource respectfully submits that the proposed modifications would not result in a substantial adverse effect on the environment, nor would they damage existing scenic, historical, or recreational values. Accordingly, Eversource requests that the Council issue a declaratory ruling that the proposed modifications would have no substantial adverse environmental effect.

Communications regarding this Petition for a Declaratory Ruling should be directed to:

Kathleen M. Shanley
Manager – Transmission Siting
Eversource Energy
PO Box 270
Hartford, CT 06141-0270
Telephone: (860) 728-4527

By:



Kathleen M. Shanley

List of Attachments

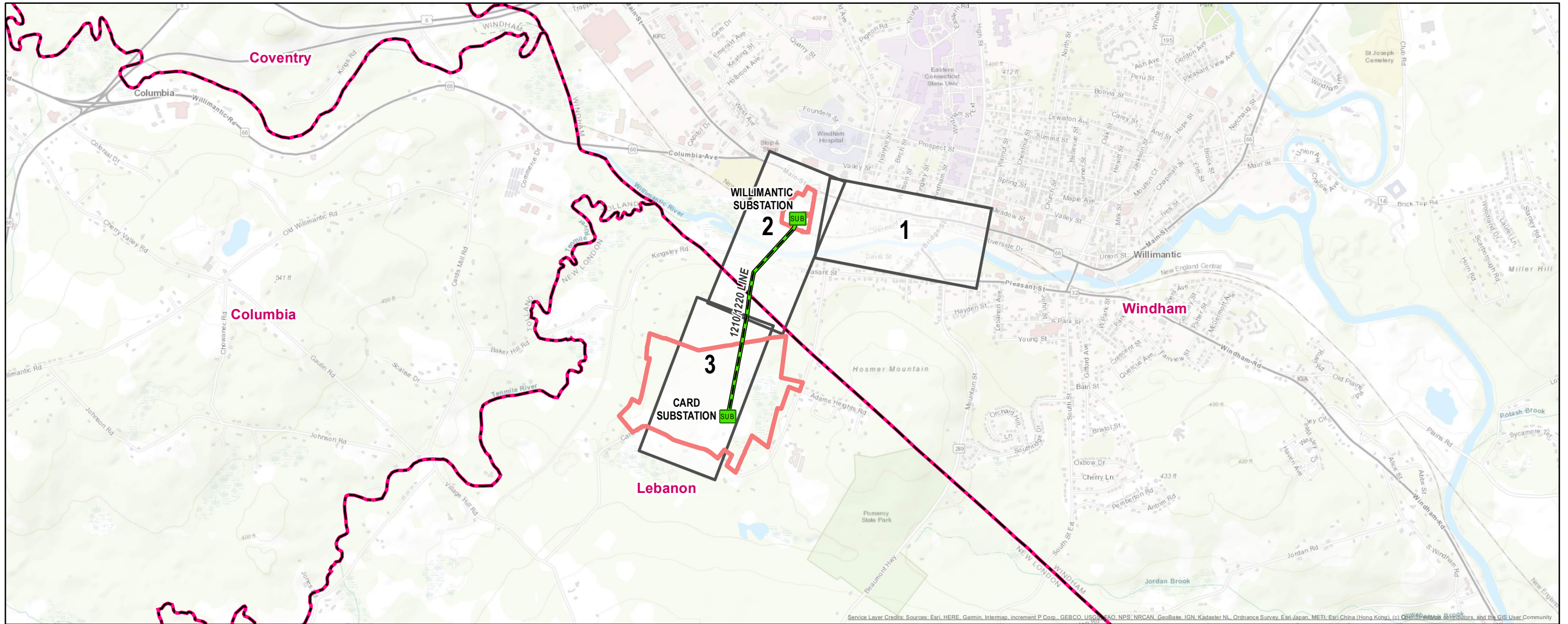
Attachment A: Card to Willimantic Upgrade Project -- Maps
Attachment B: Card to Willimantic Upgrade Project -- Right-of-Way Cross Sections
Attachment C: Card to Willimantic Upgrade Project -- List of Structure Replacements
Attachment D: Card to Willimantic Upgrade Project -- Wetlands and Watercourses Report
Attachment E: Card to Willimantic Upgrade Project -- EMF Graphs and Tabulated Field Calculations
Attachment F: Card to Willimantic Upgrade Project -- Letter to the Abutters and Affidavit of Notice of Service

Attachment A
Card to Willimantic Upgrade Project
Maps

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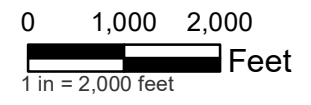
CARD TO WILLIMANTIC UPGRADE PROJECT

Windham & Lebanon, CT
June 11, 2021



Legend

- SUB Substation
- Overhead Eversource Line
- Municipal Boundary
- Eversource Owned Parcel (Substation Only)
- Map Sheet



INDEX OF FIGURES
TITLE SHEET/INDEX MAP
ABUTTERS TABLES & MAP SHEETS 1-3

PREPARED FOR:
EVERSOURCE
ENERGY
107 Selden Street
Berlin, CT 06037

PREPARED BY:
KLEINFELDER
Bright People. Right Solutions.
200 Corporate Place, Suite 310
Rocky Hill, CT 06067

MAP SHEET 1 of 3
Card to Willimantic Upgrade Project
Access Road Near Air Line State Park Trail
Town of Windham, Connecticut

Line List Number	Parcel Address	Owner First Name	Owner Last Name
226A-002		NEW ENGLAND CENTRAL RAILROAD, INC	
226A-003	55 BRIDGE STREET	TOWN OF WINDHAM BURDICK PARK	

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Residential
- Commercial
- Railroad
- Air Line State Park Trail
- Willimantic River
- FEMA 100-Year Flood Zone and Floodway
- Natural Diversity Database Area
- Eversource owned property, Willimantic Substation

RIGHT-OF-WAY DESCRIPTION

Right-of-Way Land Use & Resource Areas

- No ROW present

Water Resources

- Map sheet outside of delineation area

Wetland and Watercourse Crossings

- None

Right-of-Way Vegetation

- No ROW present

Access

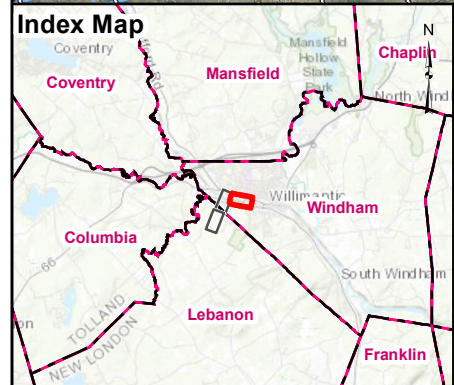
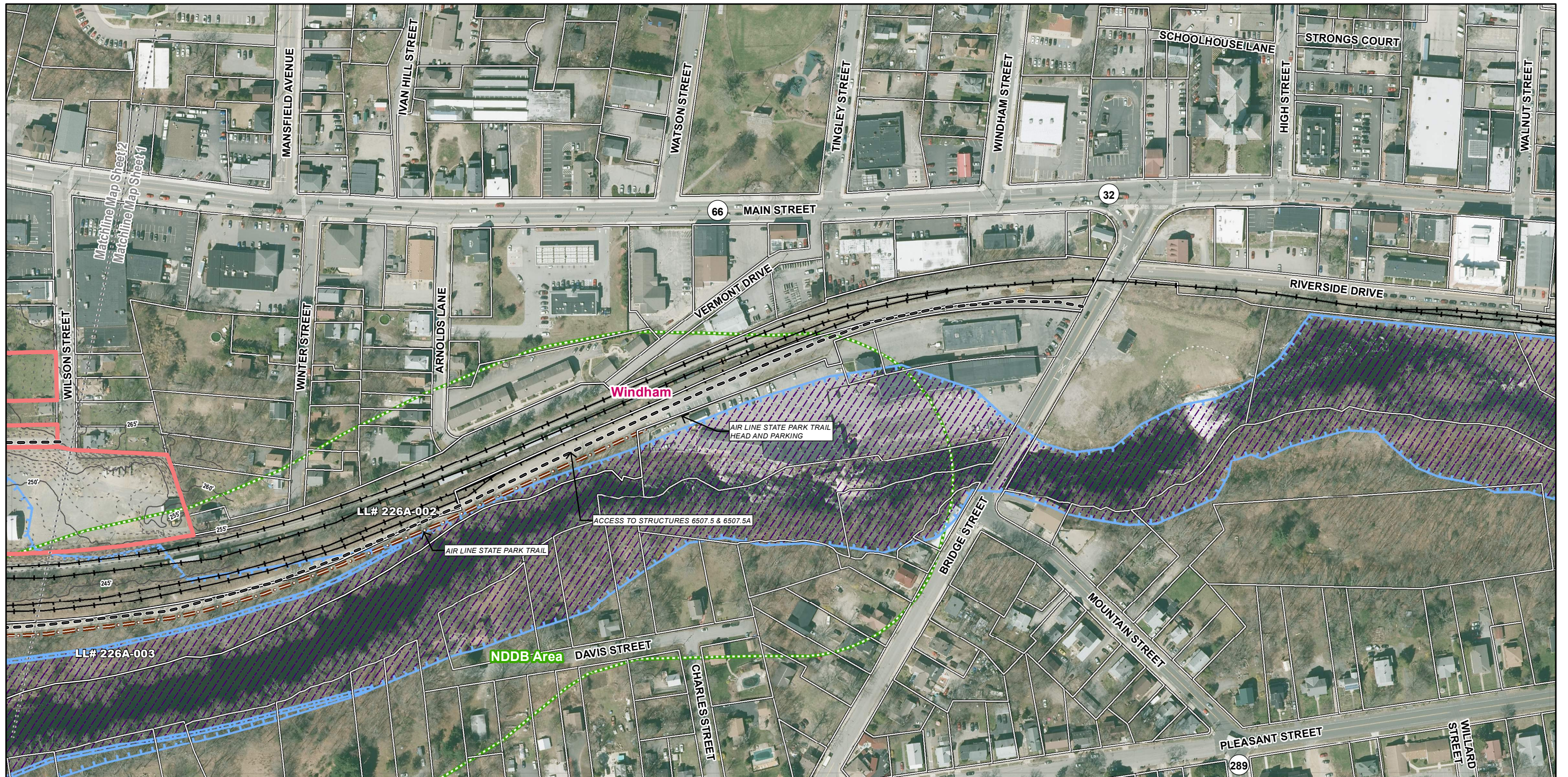
- Structures 6507.5A and 6507.5 on Map Sheet 02: Unnamed road off of Bridge Street

Road Crossings

- None

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- No ROW present



Legend	
● Proposed Structure	— Delineated Perennial Watercourse
○ Existing Structure To Be Removed	— Delineated Intermittent Watercourse
● Existing Structure	--- Map Sheet Matchline
⊕ Gate	- - - 100' Contour Line
● Culvert (Centerpoint)	- - - 2' Contour Line
— Proposed Access (all necessary rights in place)	— Railroad
— Existing Access (all necessary rights in place)	— Existing Right-of-Way
— Overhead Eversource Line	— 100' Vernal Pool Envelope
— Delineated Wetland Boundary	— Confirmed Vernal Pool Extent
×=× Fence	— Temporary Construction Matting
○ Trail	□ Stone Work Pad
	□ Area of Limited Tree Removal OR Tree Clearing
	□ Open Water
	□ Delineated Wetland Area
	□ FEMA 100-Year Flood Zone
	□ Floodway
	□ Natural Diversity Database - December 2020
	□ Eversource Owned Property
	□ Parcel Boundary
	□ Municipal Boundary

CARD TO WILLIMANTIC UPGRADE PROJECT

Environmental Resource Map

Windham, CT
Map Sheet 1 of 3

Notes:
 Basemap Imagery: CT ECO Imagery, Ortho 2019
 Public Data Acquired: CTDDEP GIS, USGS National Map, USFWS
 Data Provided By: Eversource
 KLF created data. The existing access roads are based on 2019 CT ECO imagery that shows gravel areas.
 W-55 and Confirmed Vernal Pool delineated around Card Substation delineated by Others



MAP SHEET 2 of 3
Card to Willimantic Upgrade Project
Existing Structures 6508 to 6505
Town of Windham and Town of Lebanon, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Commercial
- Residential
- Eversource owned property, Willimantic Substation
- Railroad
- Air Line State Park Trail
- Willimantic River
- FEMA 100-Year Flood Zone and Floodway
- Natural Diversity Database Area
- Undeveloped, forest

RIGHT-OF-WAY DESCRIPTION

Right-of-Way Land Use & Resource Areas

- Maintained ROW
- Eversource owned property, Willimantic Substation, at Structure 6508
- Railroad between Structures 6508 and 6507.5, 6507.5A
- Air Line State Park Trail between Structures 6508 and 6507.5, 6507.5A
- Willimantic River between Structures 6507.5, 6507.5A and 6507, 6507A
- FEMA 100-Year Flood Zone from Structures 6507.5, 6507.5A to 6507, 6507A
- Natural Diversity Database Area from Structures 6507.5, 6507.5A to 6507, 6507A
- Meadow/lawn south of Willimantic River

Water Resources

- Wetlands - W06, W05, W04
- Wetland Cover Types - PSS1, PEM1
- Watercourses - S02 (Willimantic River), S01
- Vernal Pools - None

Wetland and Watercourse Crossings

- None

Right-of-Way Vegetation

- Scrub-shrub
- Meadow/lawn
- Forest

Access

- Structures 6507.5A and 6507.5: Unnamed road off of Bridge Street
- Structures 6507, 6507A, to 6505: existing and proposed access from Card Street
- Structures 6508 and 6508A: existing access from Wilson Street through Willimantic Substation

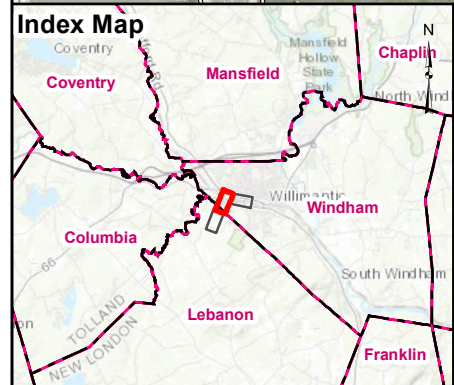
Road Crossings

- Unnamed road off of Bridge Street
- Pleasant Street

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- ± 120' / Limited Tree Removal or Tree Clearing Around Structures 6507.5 and 6507.5A
- ± 160' / Limited Tree Removal or Tree Clearing Around Structures 6507, 6507A, 6506 and 6506A (No proposed clearing between Structures 6506, 6506A and 6505)

Line List Number	Parcel Address	Owner First Name	Owner Last Name
226A-002		NEW ENGLAND CENTRAL RAILROAD, INC	
226A-003	55 BRIDGE STREET	TOWN OF WINDHAM BURDICK PARK	
226A-004	1320 MAIN STREET	ALEXANDER TYLER CORPORATION TACO BELL	
226A-005	1310 MAIN STREET	NORWICH REALTY INC., C/O RITE AID CORP #2468	
226A-006	1270 MAIN STREET	THE CONNECTICUT LIGHT & POWER COMPANY (EVERSOURCE)	
226A-013	20 FITCH STREET	THE CONNECTICUT LIGHT & POWER COMPANY (EVERSOURCE)	
226A-016	700 PLEASANT STREET	WINFIELD H	ELWELL
226A-026	677 PLEASANT STREET	GERI & SHERRY	LANGLOIS & DALESSANDRO
226A-027.01	736 PLEASANT STREET	MARTHA M	LAVOY
226A-028	131 CARD STREET	GORDON E & ROBIN L	MARROTTE, JR & MARROTTE
226A-029	137 CARD STREET	GORDON E & ROBIN L	MARROTTE, JR & MARROTTE
226A-030	680 PLEASANT STREET	GORDON E	MARROTTE, JR & MARROTTE
226A-031	650R PLEASANT STREET	MARTHA M	LAVOY
226A-057	624R PLEASANT STREET	GORDON E	MARROTTE



Legend

- Proposed Structure
- Existing Structure To Be Removed
- Existing Structure
- Gate
- Culvert (Centerpoint)
- Proposed Access (all necessary rights in place)
- Existing Access (all necessary rights in place)
- Overhead Eversource Line
- Delineated Wetland Boundary
- Fence
- Trail
- Delineated Perennial Watercourse
- Delineated Intermittent Watercourse
- Map Sheet Matchline
- 100'- 10' Contour Line
- 2' Contour Line
- Railroad
- Existing Right-of-Way
- 100' Vernal Pool Envelope
- Confirmed Vernal Pool Extent
- Temporary Construction Matting
- Stone Work Pad
- Area of Limited Tree Removal OR Tree Clearing
- Open Water
- Delineated Wetland Area
- FEMA 100-Year Flood Zone
- Floodway
- Natural Diversity Database - December 2020
- Eversource Owned Property
- Parcel Boundary
- Municipal Boundary

CARD TO WILLIMANTIC UPGRADE PROJECT

Environmental Resource Map

Windham & Lebanon, CT
Map Sheet 2 of 3

0 100 200
1 in = 200 ft

Notes:
 Basemap Imagery: CT ECO Imagery, Ortho 2019
 Public Data Acquired: CTDDEEP GIS, USGS National Map, USFWS
 Data Provided By: Eversource
 KLF created data. The existing access roads are based on 2019 CT ECO Imagery that shows gravel areas.
 W-55 and Confirmed Vernal Pool delineated around Card Substation delineated by Others

EVERSOURCE
ENERGY

KLEINFELDER
Bright People. Right Solutions.

6/8/2021 4:21:36 PM User: ADAmario

MAP SHEET 3 of 3
Card to Willimantic Upgrade Project
Existing Structures 6505 to 6500
Town of Windham and Town of Lebanon, Connecticut

Line List Number	Parcel Address	Owner First Name	Owner Last Name
226A-028	131 CARD STREET	GORDON E & ROBIN L	MARROTTE, JR & MARROTTE
226A-035	141 CARD STREET	THE CONNECTICUT LIGHT & POWER COMPANY (EVERSOURCE)	
226A-045	184 CARD STREET	PHILIP J	INSALACO

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Eversource owned property, Card Substation
- Undeveloped, forest
- Residential

RIGHT-OF-WAY DESCRIPTION

Right-of-Way Land Use & Resource Areas

- Maintained ROW
- Eversource owned property, Card Substation

Water Resources

- Wetlands - W03, W02, W01, W-55 (Located on Eversource Property Outside of ROW)
- Wetland Cover Types - PSS1
- Watercourses - Unnamed Stream at Confirmed Vernal Pool
- Confirmed Vernal Pool (Located on Eversource Property Outside of ROW)

Wetland and Watercourse Crossings

- W01 – construction mats for work pad
- W02 – construction mats for work pads
- W03 – construction mats for work pads
- Unnamed Stream at Confirmed Vernal Pool - utilize existing mats to span stream for access

Right-of-Way Vegetation

- Scrub-shrub
- Forest

Access

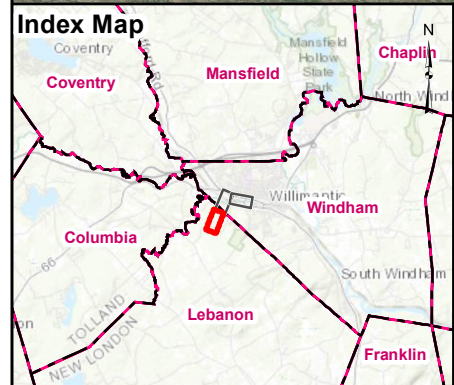
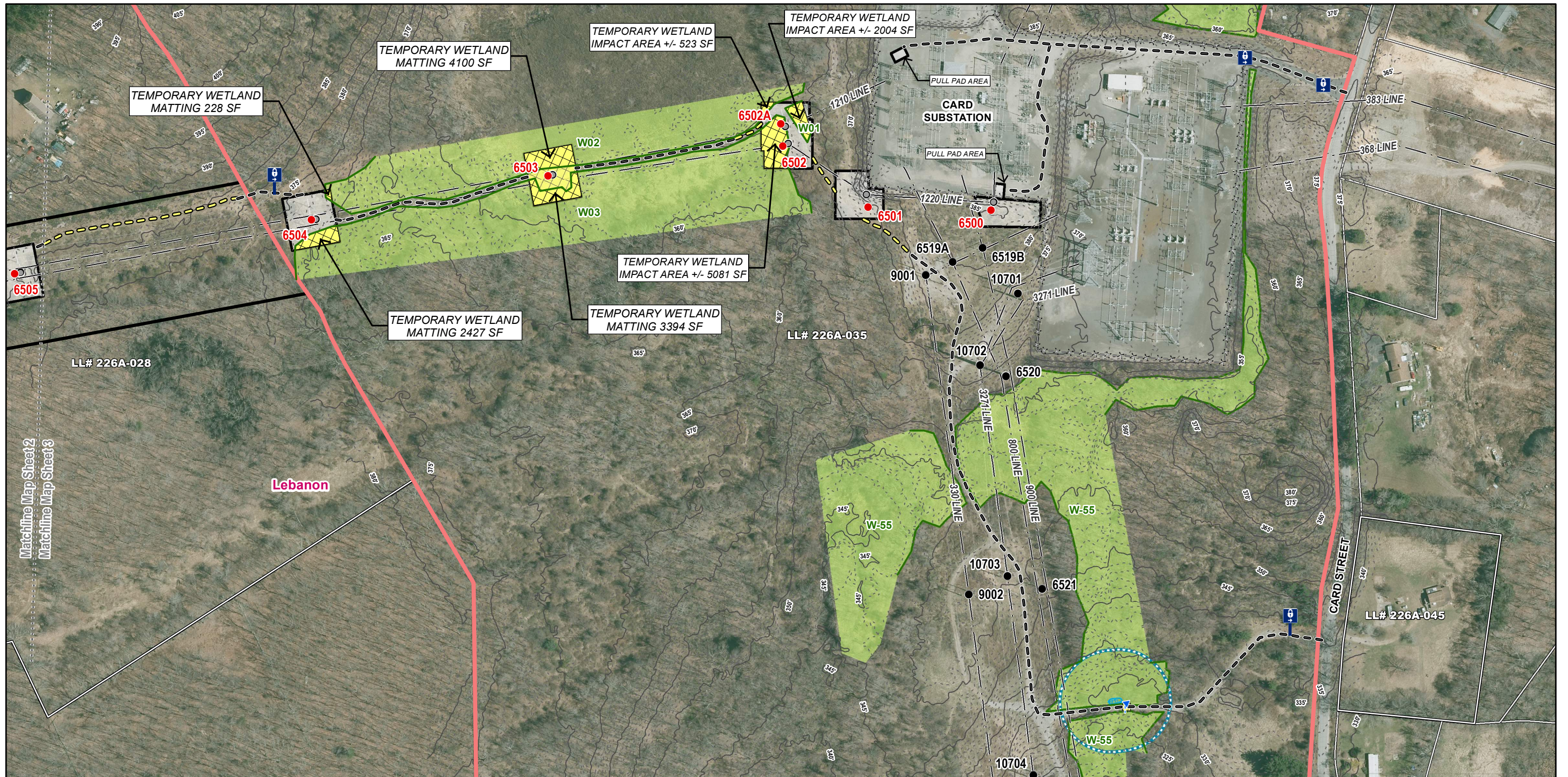
- Structures 6505 to 6501: existing and proposed access from Card Street
- Structure 6500: existing access from Card Street through Card Substation

Road Crossings

- None

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- ± 160' / no proposed clearing



Legend

● Proposed Structure	— Delineated Perennial Watercourse	□ Stone Work Pad
○ Existing Structure To Be Removed	— Delineated Intermittent Watercourse	□ Area of Limited Tree Removal OR Tree Clearing
● Existing Structure	--- Map Sheet Matchline	□ Open Water
Ⓜ Gate	--- 100'- 10' Contour Line	□ Delineated Wetland Area
● Culvert (Centerpoint)	--- 2' Contour Line	□ FEMA 100-Year Flood Zone
— Proposed Access (all necessary rights in place)	— Railroad	□ Floodway
— Existing Access (all necessary rights in place)	— Existing Right-of-Way	□ Natural Diversity Database - December 2020
— Overhead Eversource Line	— 100' Vernal Pool Envelope	□ Eversource Owned Property
— Delineated Wetland Boundary	□ Confirmed Vernal Pool Extent	□ Parcel Boundary
×=× Fence	□ Temporary Construction Matting	□ Municipal Boundary
○ Trail		

**CARD TO WILLIMANTIC
UPGRADE PROJECT**

Environmental Resource Map

Lebanon, CT
Map Sheet 3 of 3

0 100 200
1 in = 200 ft

Notes:
Basemap Imagery: CT ECO Imagery, Ortho 2019
Public Data Acquired: CTDDEEP GIS, USGS National Map, USFWS
Data Provided by Eversource
KLF created data. The existing access roads are based on 2019 CT ECO Imagery that shows gravel areas.
W-55 and Confirmed Vernal Pool delineated around Card Substation delineated by Others

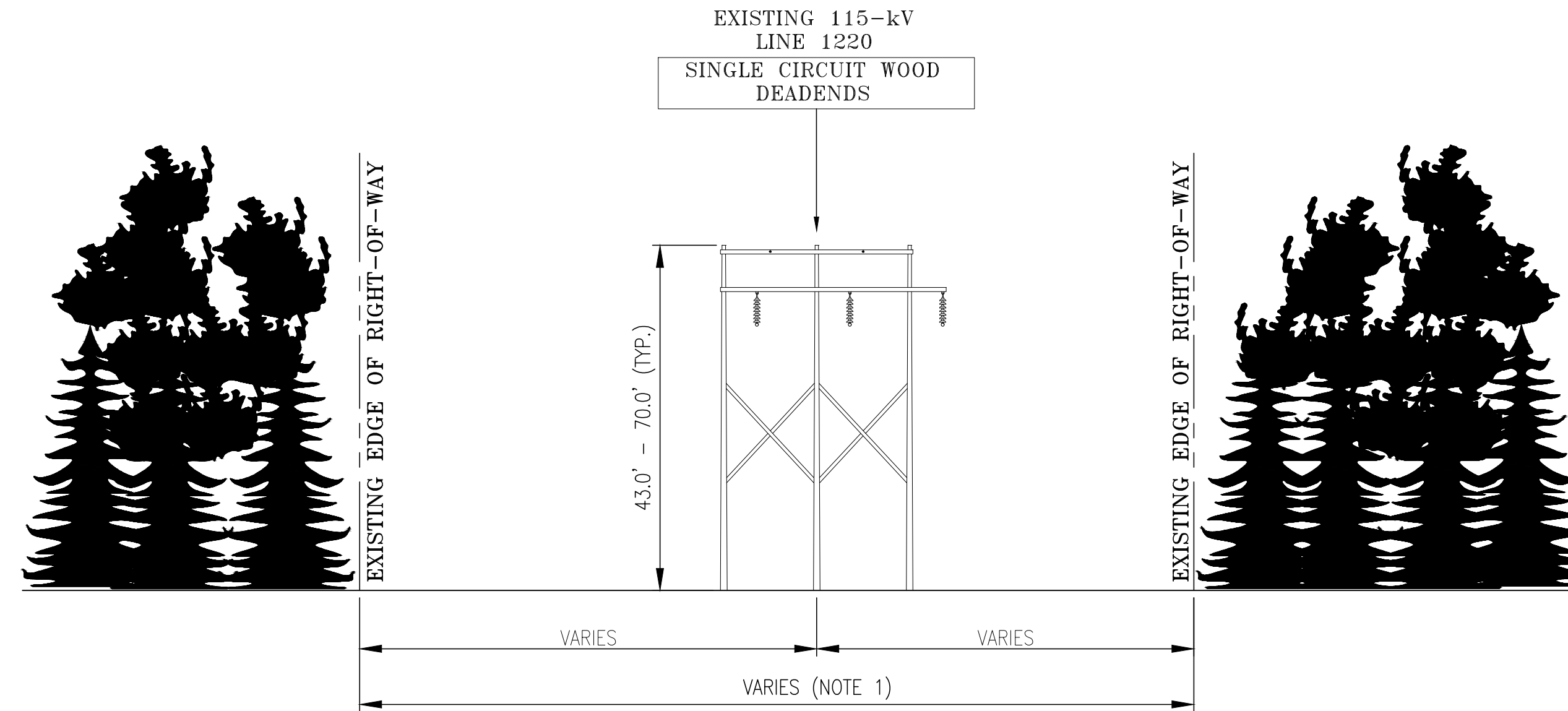
EVERSOURCE ENERGY

KLEINFELDER
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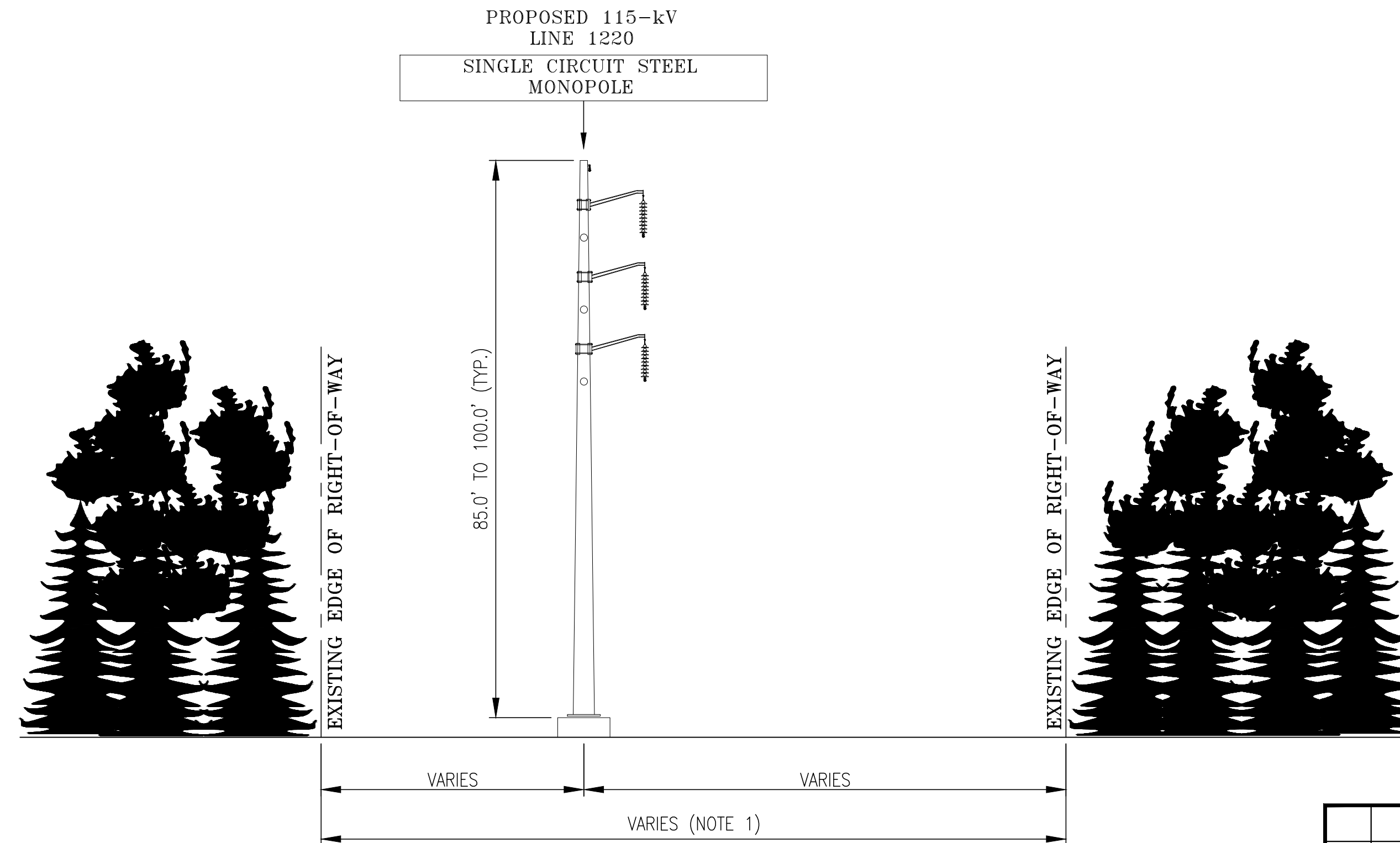
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Attachment B
Card to Willimantic Upgrade Project
Right-of-Way Cross Sections

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**EXISTING R.O.W. CONFIGURATION
SINGLE CIRCUIT WOOD DEADENDS
LOOKING TOWARD WILLIMANTIC SUBSTATION,
TOWN OF LEBANON, CONNECTICUT
0.1 MILES BETWEEN CARD S/S - STR. #6502**



**PROPOSED R.O.W. CONFIGURATION
SINGLE CIRCUIT STEEL MONOPOLES
LOOKING TOWARD WILLIMANTIC SUBSTATION,
TOWN OF LEBANON, CONNECTICUT
0.1 MILES BETWEEN CARD S/S - STR. #6502**

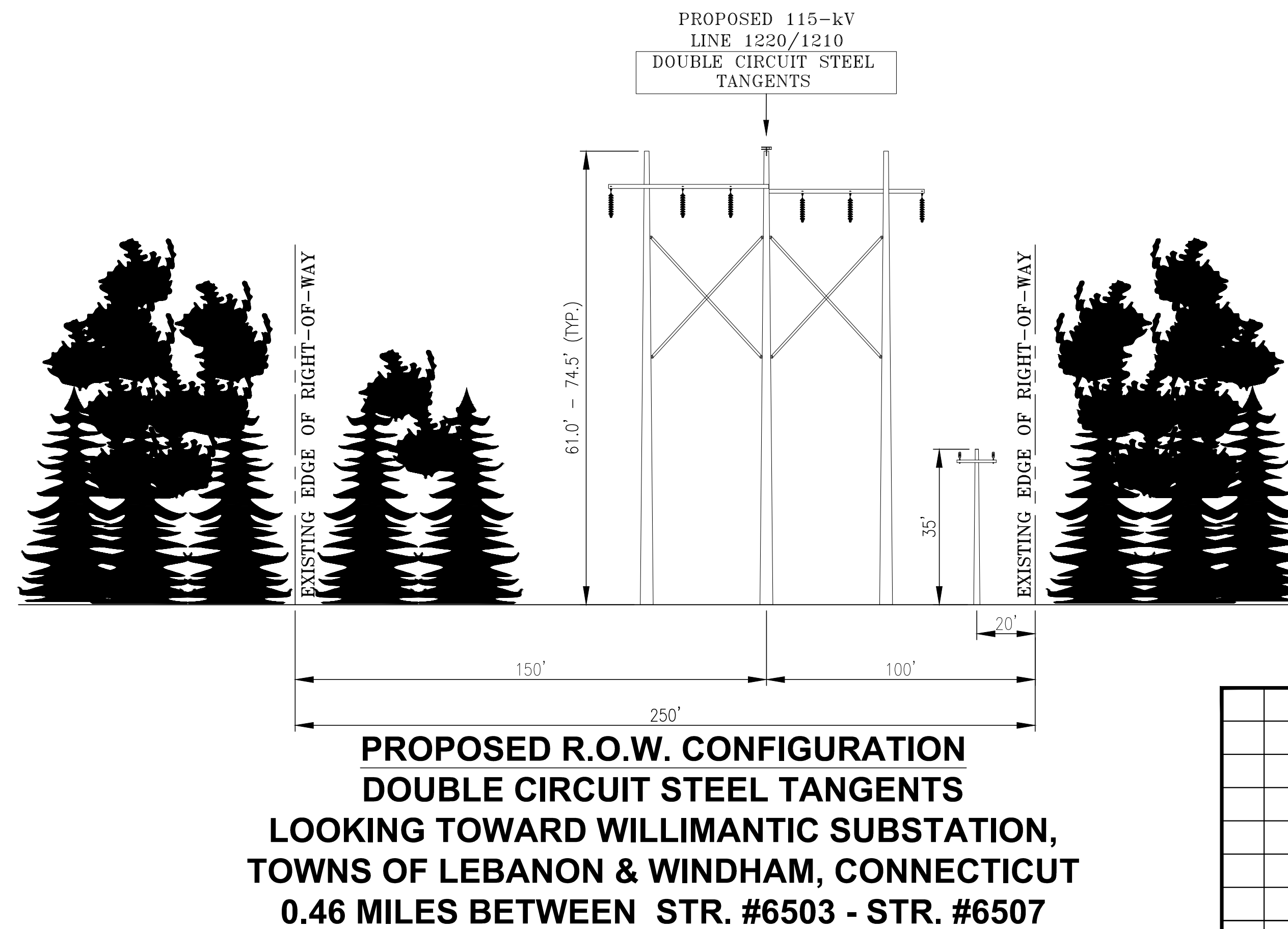
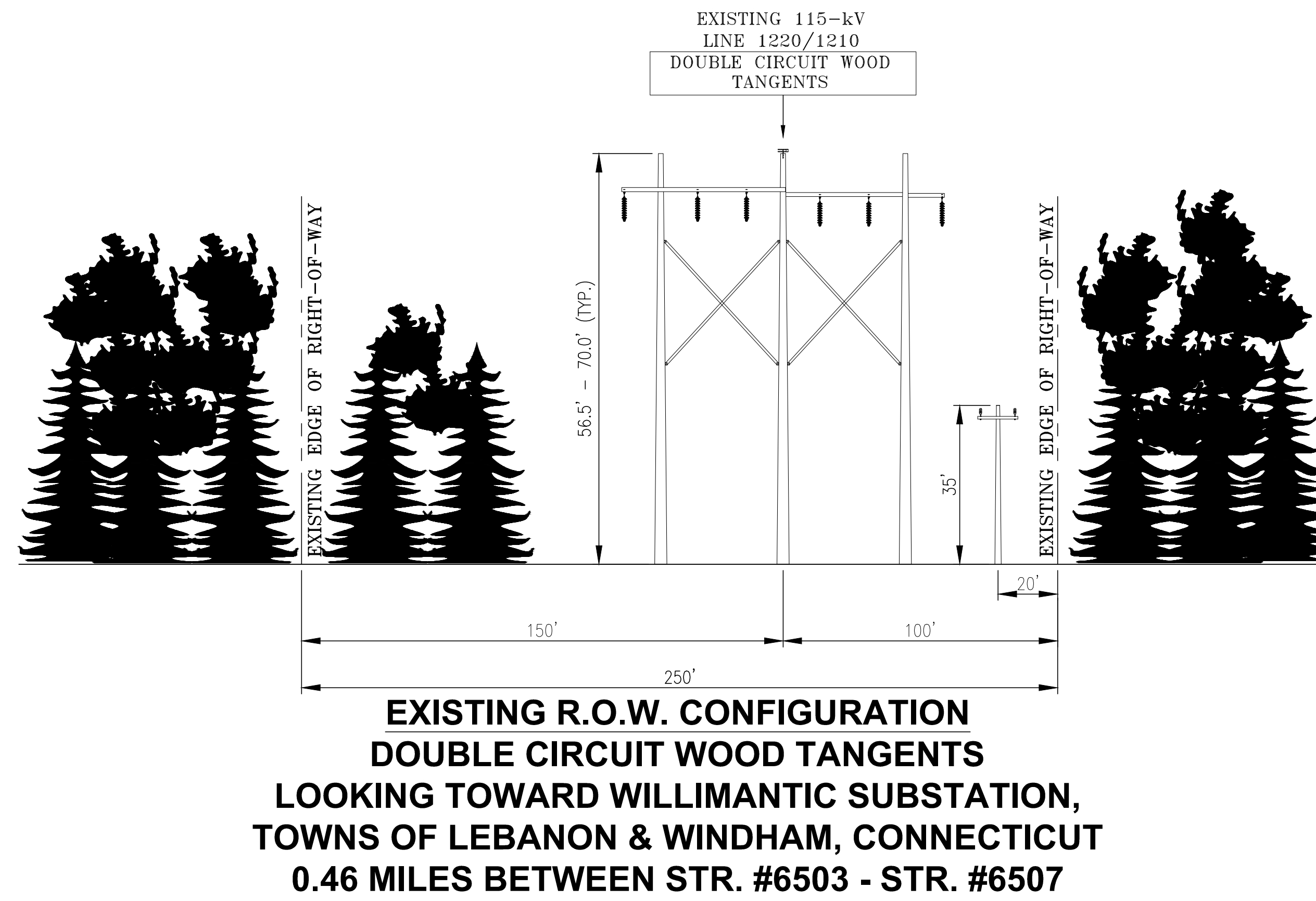
NOTE:
1. CROSS SECTION DEPICTS EVERSOURCE OWNED PROPERTY WITH VARYING WIDTHS TO EDGE OF BOUNDARY.

REVISIONS DURING CONSTRUCTION				
1	10/14/20	ISSUED FOR CONSTRUCTION	WO #TPC00801	SAL CJS GEL
2	03/02/21	RE-ISSUED FOR CONSTRUCTION	WO #TPC00801	RDW GEL BRS
3	05/14/21	RE-IFC	WO #TPC00701 (1210) & WO #TPC00801 (1220)	SAL BRK GEL

**EVERSOURCE
ENERGY**

TITLE				
CARD S/S TO WILLIMANTIC S/S 115-kV TRANSMISSION LINE 1220 RIGHT OF WAY CROSS SECTION LEBANON, CONNECTICUT				
BY	SAL	CHKD	CJS	APP
DATE	08/05/20	DATE	08/11/20	DATE
H-SCALE	N.T.S.	SIZE	D	FIELD BOOK & PAGES
V-SCALE	N.T.S.	V.S.		R.E. DWG
R.E. PROJ. NUMBER	TPC00701 & TPC00801	DWG NO.	01080-85000p001	

NO.	DATE	AS BUILT	REVISIONS	BY	CHK	APP	APP



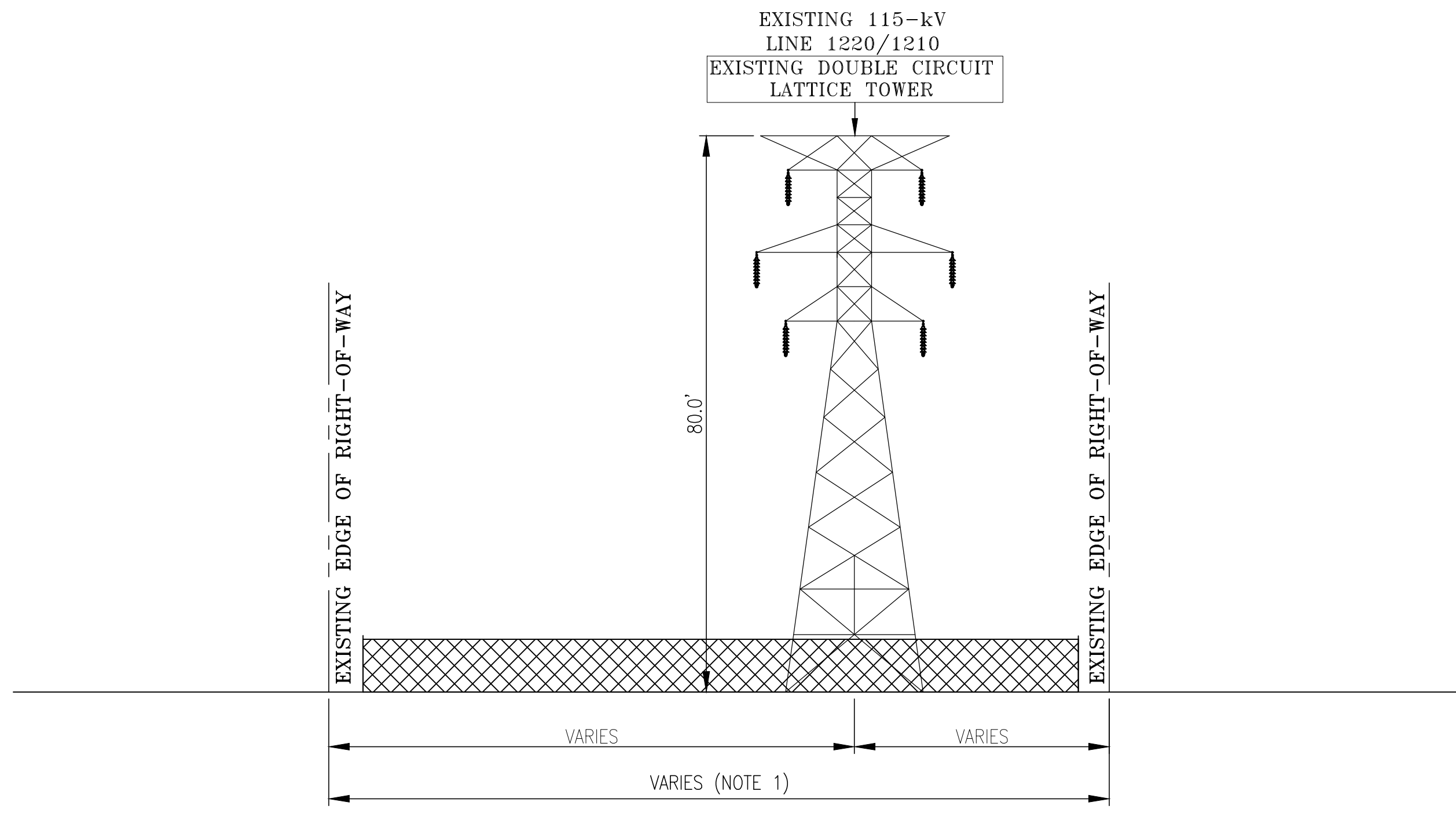
NO.	DATE	AS BUILT	REVISIONS	BY	CHK	APP	APP

REVISIONS DURING CONSTRUCTION					
3	03/24/21	RE-IFC WO#TPC00701 (1210) & WO #TPC00801 (1220)	JAM	GEL	BRS
4	05/14/21	RE-IFC WO#TPC00701 (1210) & WO #TPC00801 (1220)	SAL	BRK	GEL
5	05/18/21	RE-IFC WO#TPC00701 (1210) & WO #TPC00801 (1220)	SAL	BRK	GEL
6	05/20/21	RE-IFC WO#TPC00701 (1210) & WO #TPC00801 (1220)	MMM	BRK	GEL

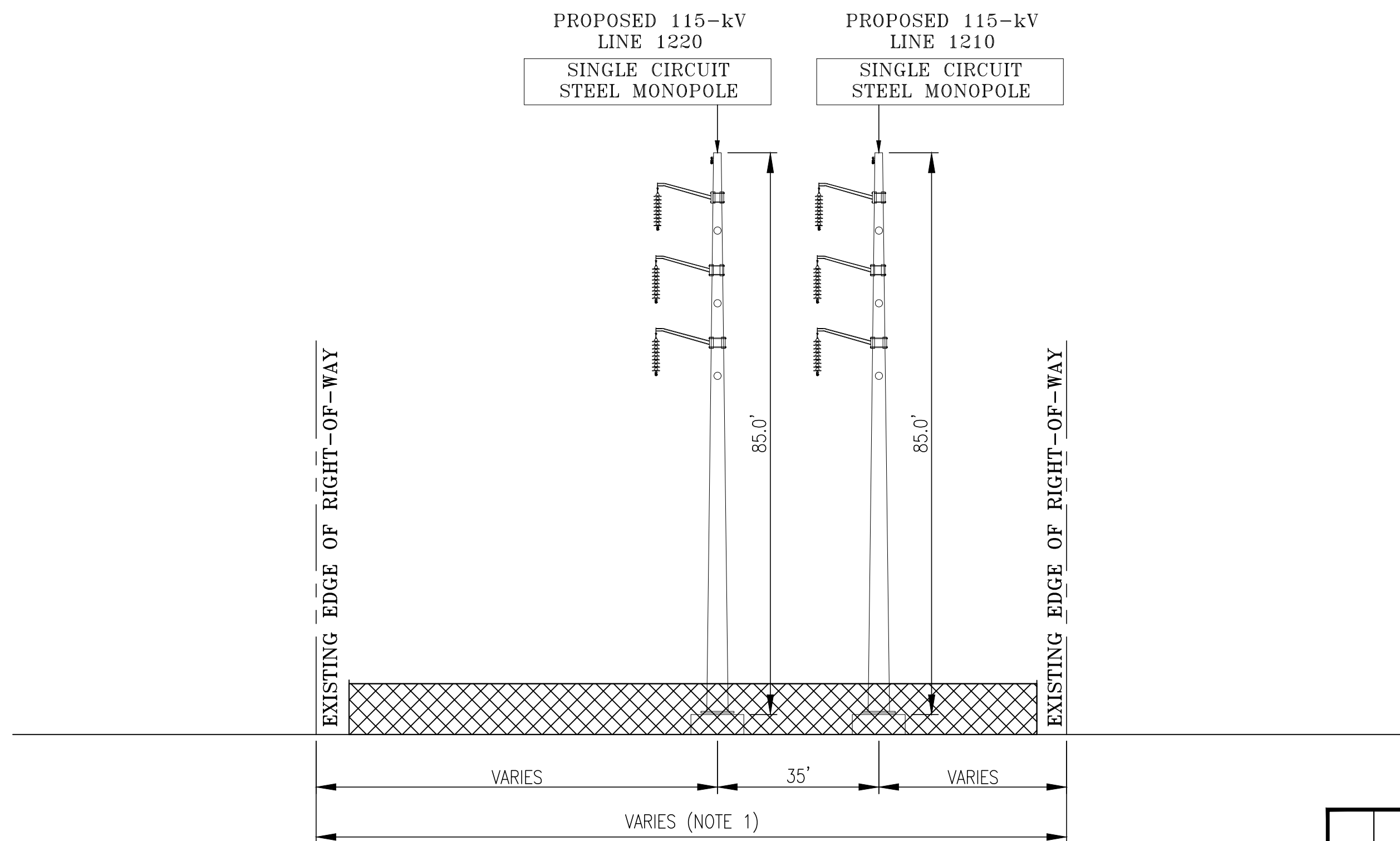
EVERSOURCE ENERGY

**CARD S/S TO WILLIMANTIC S/S
115-kV TRANSMISSION LINE 1210/1220
RIGHT OF WAY CROSS SECTION
LEBANON AND WINDHAM, CONNECTICUT**

BY	SAL	CHKD	CJS	APP	GEL	APP	PE
DATE	08/05/20	DATE	08/11/20	DATE	08/14/20	DATE	
H-SCALE	N.T.S.	SIZE	D	FIELD BOOK & PAGES			
V-SCALE	N.T.S.	VS.		R.E. DWG			
R.E. PROJ. NUMBER	TPC00701 & TPC00801			DWG NO.	01080-8500p002		



**EXISTING SUBSTATION CONFIGURATION
DOUBLE CIRCUIT LATTICE TOWER
LOOKING TOWARD WILLIMANTIC SUBSTATION,
TOWN OF WINDHAM, CONNECTICUT
STR. #6508**



**PROPOSED SUBSTATION CONFIGURATION
SINGLE CIRCUIT STEEL MONOPOLES
LOOKING TOWARD WILLIMANTIC SUBSTATION,
TOWN OF WINDHAM, CONNECTICUT
STR. 6508 & 6508A**

NOTE:
1. CROSS SECTION DEPICTS EVERSOURCE OWNED PROPERTY WITH VARYING WIDTHS TO EDGE OF BOUNDARY.

REVISIONS DURING CONSTRUCTION					
2	03/02/21	RE-IFC WO #TPC00701 (1210) & WO #TPC00801 (LINE 1220)	RDW	GEL	BRS
3	03/24/21	RE-IFC WO #TPC00701 (1210) & WO #TPC00801 (1220)	JAM	GEL	BRS
4	05/14/21	RE-IFC WO #TPC00701 (1210) & WO #TPC00801 (1220)	SAL	BRK	GEL
4	05/20/21	RE-IFC WO #TPC00701 (1210) & WO #TPC00801 (1220)	MMM	BRK	GEL

EVERSOURCE ENERGY

TITLE
**CARD S/S TO WILLIMANTIC S/S
115-kV TRANSMISSION LINE 1210/1220
RIGHT OF WAY CROSS SECTION
WINDHAM, CONNECTICUT**

BY	CHK	APP	DATE	DATE	DATE	DATE
SAL	CJS	APP	GEL	APP	PE	
DATE	08/12/20	DATE	08/12/20	DATE	08/14/20	DATE
H-SCALE	N.T.S.	SIZE	D	FIELD BOOK & PAGES		
V-SCALE	N.T.S.	V.S.		R.E. DWG		
R.E. PROJ. NUMBER	TPC00701 & TPC00801	DWG NO.	01080-85000p004			

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

Attachment C
Card to Willimantic Upgrade Project
List of Structure Replacements

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Structure	Existing Structure Type	Height (ft.)	Replacement Structure Type	Height (ft.)/increase
6500	Single circuit, Wood 3-pole	47.5	Single circuit weathering steel monopole	90.0/42.5
6501	Single circuit, Wood 3-pole	61.0	Single circuit weathering steel monopole	100.0/39.0
6502	Single circuit, Wood 3-pole	70.0	Single circuit weathering steel monopole	85.0/15.0
6502A	Single circuit, Wood 3-pole	70.0	Single circuit weathering steel 3-pole	74.5/4.5
6503	Double circuit, Wood 3-pole	61.0	Double circuit weathering steel 3-pole	70.0/9.0
6504	Double circuit, Wood 3-pole	70.0	Double circuit weathering steel 3-pole	74.5/4.5
6505	Double circuit, Wood 3-pole	70.0	Double circuit weathering steel 3-pole	74.5/4.5
6506	Single circuit, Wood 3-pole	61.0	Single circuit weathering steel 3-pole	61.0/0.0
6506A	Single circuit, Wood 2-pole	61.0	Single circuit weathering steel 2-pole	65.5/4.5
6507	Single circuit, Wood 3-pole	56.5	Single circuit weathering steel 3-pole	61.0/4.5
6507A	Single circuit, Wood 3-pole	56.5	Single circuit weathering steel 3-pole	61.0/4.5
6507.5	Single circuit, Wood 2-pole	79.0	Single circuit weathering steel 2-pole	88.0/9.0
6507.5A	Single circuit, Wood 2-pole	79.0	Single circuit weathering steel 2-pole	88.0/9.0
6508	Steel double circuit lattice tower	80.0	Single circuit weathering steel monopole	85.0/5.0
6508A	**	0.0	Single circuit weathering steel monopole	85.0/85.0**

** Structure 6508A is a new single circuit steel monopole

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Attachment D

Card to Willimantic Upgrade Project

Wetlands and Watercourses Report

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Inland Wetlands and Watercourses Report

Project: Card to Willimantic Upgrade Project

Project Location: Windham and Lebanon, Connecticut

Prepared: March 2021

Prepared for: Eversource Energy
107 Selden Street
Berlin, CT 06037

Prepared by: Kleinfelder, Inc.
200 Corporate Place, Suite 310
Rocky Hill, CT 06067

Wetland and watercourse delineation performed by¹:

Kleinfelder, Inc

A handwritten signature in black ink that reads "Emma Mrowka".

Emma Mrowka
Qualified Soil Scientist

¹Wetlands and watercourses were delineated by Kleinfelder soil scientists Anthony Froomjian and Emma Mrowka, assisted by Taylor Templeton.

Executive Summary:

On behalf of Eversource Energy (Eversource), Kleinfelder, Inc. (Kleinfelder) conducted inland wetland and watercourse delineations within an approximately 15-acre area of interest along an existing right-of-way between the Willimantic Substation in Windham, Connecticut and the Card Substation in Lebanon, Connecticut. The delineation was conducted on October 7 and 8, 2020 in support of Eversource's Card to Willimantic Upgrade Project (Project).

Kleinfelder identified the following inland wetlands and watercourses within the Project area during the delineation surveys:

- 2 watercourses, consisting of:
 - 1 intermittent stream, and
 - 1 perennial stream.
- 6 inland wetlands, consisting of:
 - 5 palustrine scrub/shrub wetlands, and
 - 1 palustrine emergent wetland.

In addition to the wetlands and watercourses identified by Kleinfelder, 1 intermittent watercourse, 2 inland wetlands, and 1 vernal pool were identified by other consultants during a previous delineation effort. Data for these resources are not supplied in this report.

Resources delineated for the Project area are described in **Table 1** and **Table 2**. Wetland Determination Data Forms for resources delineated in October 2020 are appended.

Field Conditions:

The state of Connecticut was experiencing a documented drought during the time of the investigation. Drought conditions at the Project area were classified as D3 – Extreme Drought, according to the National Integrated Drought Information System (www.drought.gov). No precipitation occurred within 48 hours prior to the investigation.

Delineation Methodology:

Wetlands and watercourses were delineated in accordance with state and/or federal wetland criteria pursuant to the Connecticut Inland Wetlands and Watercourses Act: Section 22a-36 through Section 22a-45, the Corps of Engineers Wetlands Delineations Manual (Environmental Laboratory, 1987), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (USACE, 2012). The limits of streams were established based on the USACE's definition of the ordinary high water mark provided at 33 CFR 328.3.

Results:

Table 1: Delineated Wetlands Within the Card to Willimantic Upgrade Project Area

Wetland Name ¹	NWI Classification ²	Associated Watercourses ³	Area (acres)	Soil Map Units Within Delineated Wetland	CT Inland Wetland Soil ⁴
W01	PSS1	-	0.05	Sutton fine sandy loam, 2 to 8 percent slopes, very stony	CT non wetland
W02	PSS1	-	1.94	Sutton fine sandy loam, 2 to 8 percent slopes, very stony	CT non wetland
				Ridgebury, Leicester, and Whitman soils, extremely stony	CT wetland
				Timakwa and Natchaug soils	CT Wetland
				Woodbridge fine sandy loam, 2 to 8 percent slopes, very stony	CT non wetland
W03	PSS1	-	3.18	Sutton fine sandy loam, 2 to 8 percent slopes, very stony	CT non wetland
				Ridgebury, Leicester, and Whitman soils, extremely stony	CT wetland
				Woodbridge fine sandy loam, 2 to 8 percent slopes, very stony	CT non wetland
W04	PEM1	S01 (Unnamed, intermittent)	0.03	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	CT non wetland
				Saco silt loam	CT wetland
W05	PSS1	S02 (Willimantic River, perennial)	0.05	Saco silt loam	CT wetland
W06	PSS1	S02 (Willimantic River, perennial)	0.04	Suncook loamy fine sand	CT wetland

NOTES

¹Wetland name is a Kleinfelder generated naming convention during the 2020 field survey within the Card to Willimantic Upgrade Project area.

²Wetlands classified according to *Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (FGDC, 2013); PSS1 = Palustrine Scrub/Shrub Broad-Leaved Deciduous; PEM1 = Palustrine Emergent Persistent.

³Associated Watercourse refers to the name and stream type assigned during the 2020 field survey within the Card to Willimantic Upgrade Project area.

⁴CT Inland Wetland Soil status is based upon GIS data maintained by the Connecticut branch of the Natural Resources Conservation Service (NRCS), accessible here: [Connecticut Inland Wetland Soils | NRCS Connecticut \(usda.gov\)](https://www.nrcs.usda.gov/inland-wetland-soils)

Table 2: Delineated Watercourses Within the Card to Willimantic Upgrade Project Area

Stream Name ¹	Flow Regime	NWI Classification ²	Stream Name	Ordinary High Water Mark Width (ft)
S01	Intermittent	R4SB3	Unnamed tributary to Willimantic River	3.5
S02	Perennial	R2UB1	Willimantic River	90

NOTES

¹Stream name is a Kleinfelder generated naming convention during the 2020 field survey within the Card to Willimantic Upgrade Project area.

²Streams classified according to *Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (FGDC, 2013); R4SB3 = Riverine Intermittent Streambed Cobble-Gravel; R2UB1 = Riverine Lower Perennial Unconsolidated Bottom Cobble-Gravel.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Card to Willimantic Upgrade Project City/County: Lebanon/New London Sampling Date: 10/7/2020
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W01-WET
 Investigator(s): Kleinfelder: A. Froomjian, E. Mrowka, T. Templeton Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Swamp Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR R MLRA 144A Lat: 41.70372761 Long: -72.23386136 Datum: WGS 1984
 Soil Map Unit Name: Sutton fine sandy loam, 2 to 8% slopes, very stony (map unit 51B) NWI classification: Not mapped by the NWI
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>W01, W02, W03</u>
Remarks: (Explain alternative procedures here or in a separate report.) This sample point is representative of W01, W02, and W03, a hydrologically connected PSS wetland complex. USACE and CTDEEP wetland criteria are met. The state of Connecticut is experiencing a documented drought. This site location has been classified as a D3 - Extreme Drought, as of 10/6/2020, according to the National Integrated Drought Information System.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): - Water Table Present? Yes _____ No <u>X</u> Depth (inches): - Saturation Present? Yes _____ No <u>X</u> Depth (inches): - (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Hummocky surface	

VEGETATION – Use scientific names of plants.

Sampling Point: W01-WET

<u>Tree Stratum</u> (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>83</u> x 1 = <u>83</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species _____ x 5 = _____ Column Totals: <u>158</u> (A) <u>268</u> (B) Prevalence Index = B/A = 1.7	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Ilex verticillata</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>		
2. <u>Cornus amomum</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>		
3. <u>Lonicera morrowii</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
4. <u>Toxicodendron vernix</u>	<u>8</u>	<u>N</u>	<u>OBL</u>		
5. <u>Viburnum recognitum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
6. <u>Clethra alnifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
7. _____	_____	_____	_____		
_____ = Total Cover					
<u>Herb Stratum</u> (Plot size: <u>5 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Osmunda spectabilis</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>		
2. <u>Solidago rugosa</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
3. <u>Calamagrostis canadensis</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>		
4. <u>Typha angustifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Woody Vine Stratum</u> (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
_____ = Total Cover					Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: W01-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	2.5Y 2.5/1	100					muck	Oa horizon
6-10	10YR 3/1	100					clay loam	
10-18	2.5Y 6/1	70	10YR 6/8	30	C	M	loamy fine sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NA
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Card to Willimantic Upgrade Project City/County: Lebanon/New London Sampling Date: 10/7/2020
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W01-UPL
 Investigator(s): Kleinfelder: A. Froomjian, E. Mrowka, T. Templeton Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Toe Local relief (concave, convex, none): None Slope (%): 7
 Subregion (LRR or MLRA): LRR R MLRA 144A Lat: 41.70363363 Long: -72.23383286 Datum: WGS 1984
 Soil Map Unit Name: Sutton fine sandy loam, 2 to 8% slopes, very stony (map unit 51B) NWI classification: Not mapped by the NWI
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) This sample point serves as a representation of the upland areas adjacent to W01, W02, and W03. The state of Connecticut is experiencing a documented drought. This site location has been classified as a D3 - Extreme Drought, as of 10/6/2020, according to the National Integrated Drought Information System.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): - Water Table Present? Yes _____ No <u>X</u> Depth (inches): - Saturation Present? Yes _____ No <u>X</u> Depth (inches): - (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W01-UPL

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30 feet</u>)				<p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>4</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)</p> <hr/> <p>Prevalence Index worksheet:</p> <p style="text-align:center;">Total % Cover of: _____ Multiply by:</p> <p>OBL species _____ x 1 = _____</p> <p>FACW species <u>10</u> x 2 = <u>20</u></p> <p>FAC species <u>45</u> x 3 = <u>135</u></p> <p>FACU species <u>95</u> x 4 = <u>380</u></p> <p>UPL species _____ x 5 = _____</p> <p>Column Totals: <u>150</u> (A) <u>535</u> (B)</p> <p style="text-align:center;">Prevalence Index = B/A = 3.6</p> <hr/> <p>Hydrophytic Vegetation Indicators:</p> <p><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> 2 - Dominance Test is >50%</p> <p><input type="checkbox"/> 3 - Prevalence Index is ≤3.0¹</p> <p><input type="checkbox"/> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <hr/> <p>Definitions of Vegetation Strata:</p> <p>Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</p> <p>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p>Woody vines – All woody vines greater than 3.28 ft in height.</p> <hr/> <p>Hydrophytic Vegetation Present? Yes _____ No <u>X</u> _____</p>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: <u>15 feet</u>)					
1. <u>Rubus allegheniensis</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>		
2. <u>Rosa multiflora</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover					
Herb Stratum (Plot size: <u>5 feet</u>)					
1. <u>Solidago canadensis</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>		
2. <u>Solidago rugosa</u>	<u>45</u>	<u>Y</u>	<u>FAC</u>		
3. <u>Dichanthelium clandestinum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
_____ = Total Cover					
Woody Vine Stratum (Plot size: <u>30 feet</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: W01-UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-18	10YR 4/3	100					sand	gravelly fill

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NA
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Card to Willimantic Upgrade Project City/County: Windham/Windham Sampling Date: 10/8/2020
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W02-2-WET
 Investigator(s): Kleinfelder: A. Froomjian, E. Mrowka, T. Templeton Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): LRR R MLRA 144A Lat: 41.71061796 Long: -72.23145112 Datum: WGS 1984
 Soil Map Unit Name: Saco silt loam (map unit 108) NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>W04</u>
Remarks: (Explain alternative procedures here or in a separate report.) This sample point is representative of W04, a PEM wetland. The wetland is located in the floodplain of intermittent stream S01. USACE and CTDEEP wetland criteria are met. The state of Connecticut is experiencing a documented drought. This site location has been classified as a D3 - Extreme Drought, as of 10/6/2020, according to the National Integrated Drought Information System.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): - Water Table Present? Yes _____ No <u>X</u> Depth (inches): - Saturation Present? Yes _____ No <u>X</u> Depth (inches): - (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W02-2-WET

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 feet</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>45</u></td> <td>x 1 = <u>45</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>180</u> (B)</td> </tr> </table> Prevalence Index = B/A = 1.9	Total % Cover of:	Multiply by:	OBL species <u>45</u>	x 1 = <u>45</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: <u>95</u> (A)	<u>180</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>45</u>	x 1 = <u>45</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species <u>35</u>	x 3 = <u>105</u>																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: <u>95</u> (A)	<u>180</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 feet</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
_____ = Total Cover																		
Herb Stratum (Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u>Microstegium vimineum</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Scirpus microcarpus</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Vernonia noveboracensis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
5. <u>Bidens frondosa</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
6. <u>Persicaria sagittata</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
_____ = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 feet</u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
_____ = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Card to Willimantic Upgrade Project City/County: Windham/Windham Sampling Date: 10/8/2020
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W02-UPL
 Investigator(s): Kleinfelder: A. Froomjian, E. Mrowka, T. Templeton Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 10
 Subregion (LRR or MLRA): LRR R MLRA 144A Lat: 41.71068658 Long: -72.23141514 Datum: WGS 1984
 Soil Map Unit Name: Saco silt loam (map unit 108) NWI classification: Not mapped by the NWI

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) This sample point serves as a representation of the upland areas adjacent to W04. The state of Connecticut is experiencing a documented drought. This site location has been classified as a D3 - Extreme Drought, as of 10/6/2020, according to the National Integrated Drought Information System.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): - Water Table Present? Yes _____ No <u>X</u> Depth (inches): - Saturation Present? Yes _____ No <u>X</u> Depth (inches): - (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W02-UPL

<u>Tree Stratum</u> (Plot size: <u>30 feet</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: <u> </u> Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>80</u> x 5 = <u>400</u> Column Totals: <u>120</u> (A) <u>560</u> (B) Prevalence Index = B/A = <u>4.7</u>	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 feet</u>)					Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rubus allegheniensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
<u>20</u> = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
<u>Herb Stratum</u> (Plot size: <u>5 feet</u>)					Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
1. <u>Artemisia vulgaris</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>		
2. <u>Daucus carota</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>		
3. <u>Lespedeza capitata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4. <u>Oxalis stricta</u>	<u>15</u>	<u>N</u>	<u>FACU</u>		
5. <u>Celastrus orbiculatus</u>	<u>10</u>	<u>N</u>	<u>UPL</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>100</u> = Total Cover				Remarks: (Include photo numbers here or on a separate sheet.) 	
<u>Woody Vine Stratum</u> (Plot size: <u>30 feet</u>)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover					

SOIL

Sampling Point: W02-UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/4	100					loamy fine sand	
10-16	7.5YR 4/6	100					loamy fine sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</p>	<p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: NA</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes _____ No <u>X</u></p>
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Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Card to Willimantic Upgrade Project City/County: Windham/Windham Sampling Date: 10/8/2020
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W03-WET
 Investigator(s): Kleinfelder: A. Froomjian, E. Mrowka, T. Templeton Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 15
 Subregion (LRR or MLRA): LRR R MLRA 144A Lat: 41.71154354 Long: -72.23117815 Datum: WGS 1984
 Soil Map Unit Name: Water (map unit W) NWI classification: R2UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>W05, W06</u>
Remarks: (Explain alternative procedures here or in a separate report.) This sample point is representative of W05 and W06, PSS wetlands within the floodplain of the Willimantic River. USACE and CTDEEP wetland criteria are met. The state of Connecticut is experiencing a documented drought. This site location has been classified as a D3 - Extreme Drought, as of 10/6/2020, according to the National Integrated Drought Information System.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): - Water Table Present? Yes _____ No <u>X</u> Depth (inches): - Saturation Present? Yes _____ No <u>X</u> Depth (inches): - (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W03-WET

<u>Tree Stratum</u> (Plot size: <u>30 feet</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: <u> </u> Total % Cover of: <u> </u> Multiply by: OBL species <u>30</u> x 1 = <u>30</u> FACW species <u>85</u> x 2 = <u>170</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>165</u> (A) <u>350</u> (B) Prevalence Index = B/A = 2.1
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 feet</u>)				
1. <u>Cornun anomum</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>Herb Stratum</u> (Plot size: <u>5 feet</u>)				
1. <u>Eutrochium maculatum</u>	<u>15</u>	<u>N</u>	<u>OBL</u>	
2. <u>Echinochloa crus-galli</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Ludwigia palustris</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Bidens cernua</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
<u>Woody Vine Stratum</u> (Plot size: <u>30 feet</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOILSampling Point: W03-WET**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-18	2.5Y 3/1	80	5YR 3/4	10	C	M, PL	very fine sand	
			5YR 4/4	10	C	M, PL		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: <u>NA</u> Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Card to Willimantic Upgrade Project City/County: Windham/Windham Sampling Date: 10/8/2020
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W03-UPL
 Investigator(s): Kleinfelder: A. Froomjian, E. Mrowka, T. Templeton Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): Convex Slope (%): 10
 Subregion (LRR or MLRA): LRR R MLRA 144A Lat: 41.71143059 Long: -72.23118461 Datum: WGS 1984
 Soil Map Unit Name: Saco silt loam (map unit 108) NWI classification: Not mapped by the NWI

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) This sample point serves as a representation of the upland areas adjacent to W05 and W06. The state of Connecticut is experiencing a documented drought. This site location has been classified as a D3 - Extreme Drought, as of 10/6/2020, according to the National Integrated Drought Information System.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): - Water Table Present? Yes _____ No <u>X</u> Depth (inches): - Saturation Present? Yes _____ No <u>X</u> Depth (inches): - (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W03-UPL

<u>Tree Stratum</u> (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>115</u> (A) <u>430</u> (B) Prevalence Index = B/A = 3.7
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Elaeagnus umbellata</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Alnus incana</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>Herb Stratum</u> (Plot size: <u>5 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Lespedeza capitata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
2. <u>Solidago rugosa</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
3. <u>Schizachyrium scoparium</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	
4. <u>Desmodium canadense</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
<u>Woody Vine Stratum</u> (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W03-UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-5	10YR 3/3	100					loam	
5-11	10YR 2/2	100					very fine sandy loam	
11-16	10YR 4/6	100					very fine sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L, M)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NA
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

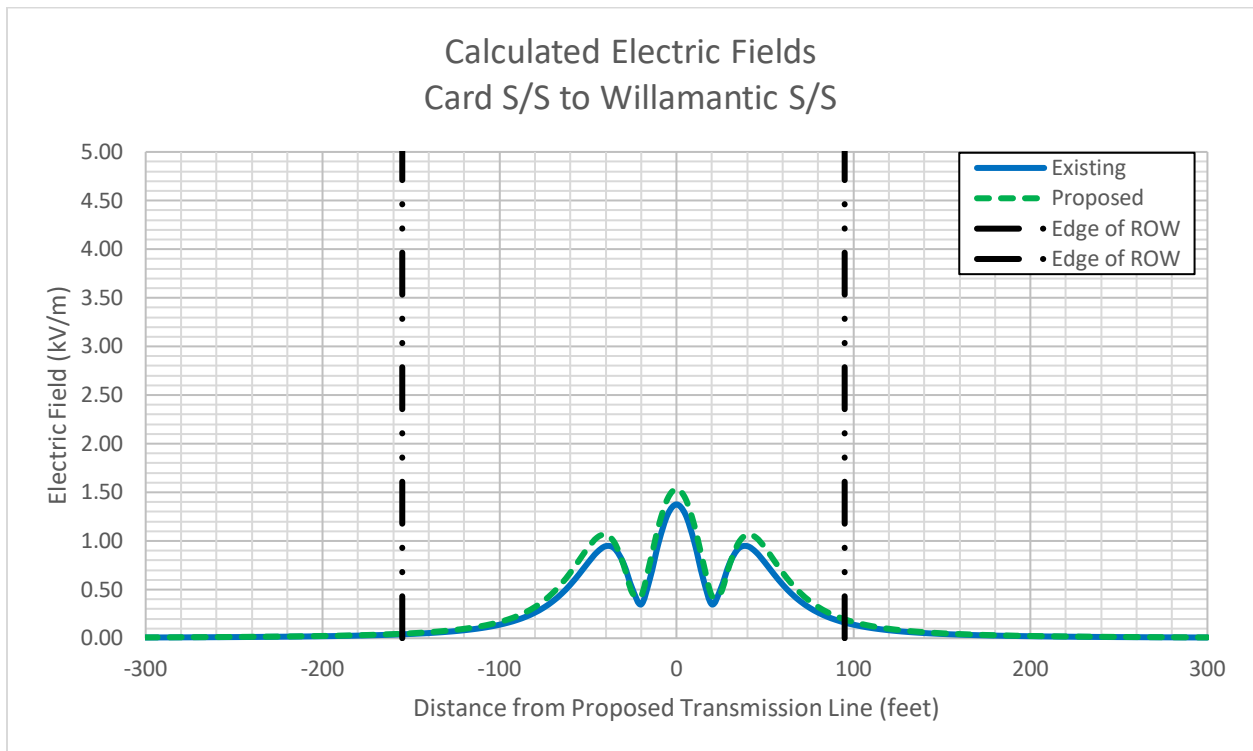
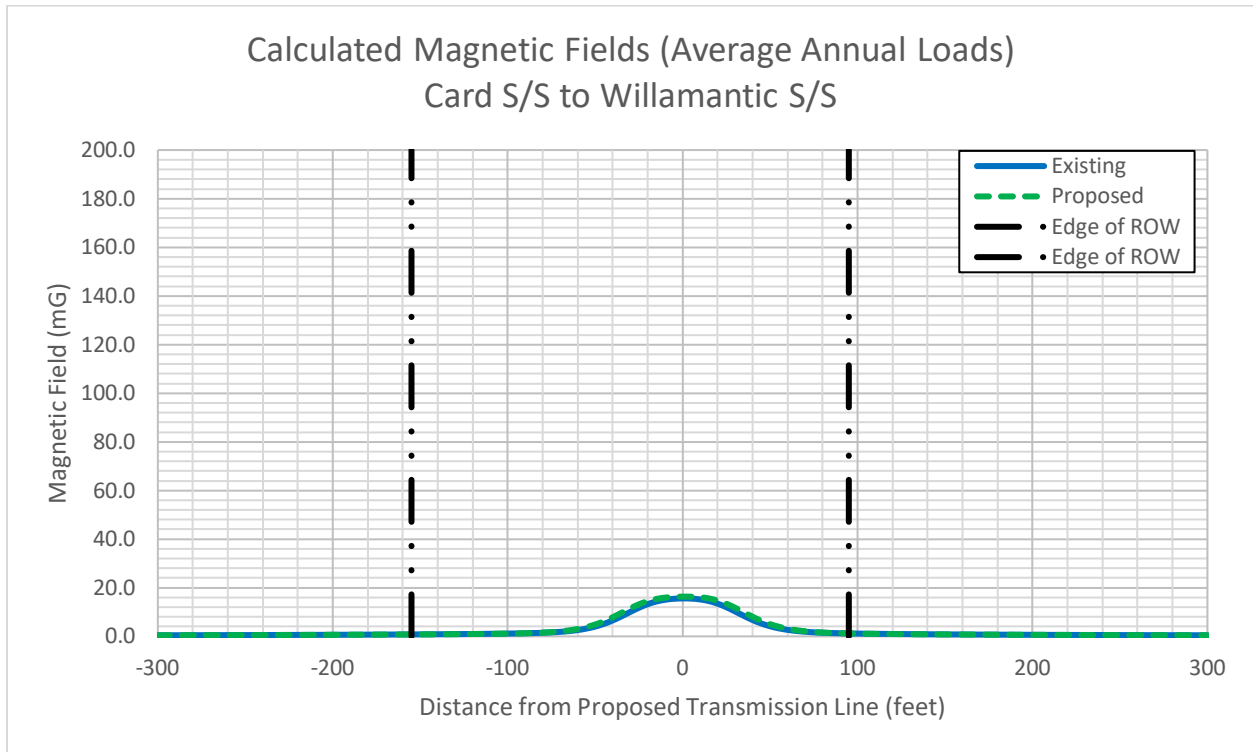
Attachment E

Card to Willimantic Upgrade Project

EMF Graphs and Tabulated Field Calculations

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Append E



Distance from Proposed Transmission Line (feet)	Magnetic Fields (mG)		Electric Fields (kV/m)	
	Existing	Proposed	Existing	Proposed
-300	0.5	0.5	0.0	0.0
-275	0.5	0.5	0.0	0.0
-250	0.5	0.5	0.0	0.0
-225	0.6	0.6	0.0	0.0
-200	0.7	0.6	0.0	0.0
-175	0.7	0.7	0.0	0.0
-150	0.8	0.8	0.0	0.1
-125	1.0	0.9	0.1	0.1
-100	1.2	1.1	0.1	0.2
-75	1.6	1.8	0.3	0.4
-50	4.0	4.9	0.8	0.9
-25	11.8	13.2	0.5	0.5
0	15.6	16.3	1.4	1.5
25	12.0	13.4	0.5	0.5
50	4.2	5.0	0.8	0.9
75	1.7	1.8	0.3	0.4
100	1.2	1.1	0.1	0.2
125	1.0	0.9	0.1	0.1
150	0.8	0.8	0.0	0.1
175	0.7	0.7	0.0	0.0
200	0.7	0.6	0.0	0.0
225	0.6	0.6	0.0	0.0
250	0.5	0.5	0.0	0.0
275	0.5	0.5	0.0	0.0
300	0.5	0.4	0.0	0.0

Attachment F

Card to Willimantic Upgrade Project

Letter to the Abutters and Affidavit of Notice of Service

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June 2021

Dear Neighbor,

Maintaining infrastructure is one of the many ways Eversource supports the safe and secure transmission of electricity throughout the region. This is a follow up to the February 2021 letter we sent regarding the Card to Willimantic Upgrade Project.

This letter is to inform you that we are submitting a petition to the Connecticut Siting Council (CSC) for this proposed transmission line (circuit) structure replacement project in your area.

Proposed Project Information

The proposed project, called the Card to Willimantic Upgrade Project (“Project”), would include replacing fourteen existing wood structures with new steel structures within approximately 0.81 miles of Eversource’s existing right-of-way (powerline corridor) that extends from Eversource’s Card Street Substation (Card Street, Lebanon) and Eversource’s Willimantic Substation (Main Street, Windham).

In addition, we will be replacing the existing shield wire on the structures with Optical Ground Wire (called OPGW) along the same route, and replacing a short span of overhead line, call conductor, at Eversource’s Card Street Substation. The OPGW improves electric reliability by enabling communication between substations.

This proposed work is necessary to ensure the continued reliability, safety, and security of the transmission of electricity throughout the region. If the CSC approve the proposed work, construction is expected to begin in late Summer of 2021. We anticipate restoration of any affected areas would be completed by end of 2022.

Contact Information

Eversource is committed to being a good neighbor and doing our work with respect for you and your property. For more information please call our projects hotline at 1-800-793-2202 or send an email to ProjectInfo@eversource.com.

If you would like to send comments regarding Eversource’s petition to the CSC, please send them via email to siting.council@ct.gov or send a letter to the following address: Melanie Bachman, Executive Director, Connecticut Siting Council, Ten Franklin Square, New Britain, CT 06051.

Sincerely,

John Tierney

John Tierney

BHI Energy

Eversource Project Manager

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AFFIDAVIT OF SERVICE OF NOTICE

STATE OF CONNECTICUT)
) ss. Hartford
COUNTY OF HARTFORD)

Sec. 16-SOj-40 of the Regulations of Connecticut State Agencies ("RCSA") provides that proof of notice to the affected municipalities, property owners and abutters shall be submitted with a petition for declaratory ruling to the Connecticut Siting Council ("Council"). In accordance with that RCSA section, I hereby certify that I caused notice of the petition for a declaratory ruling of The Connecticut Light and Power Company doing business as Eversource Energy to be served by mail or courier upon the following municipal officials:

The Honorable Kevin Cwikla, First Selectman, Town of Lebanon
Lebanon Town Hall
579 Exeter Rd, Lebanon, CT 06249

The Honorable Thomas DeVivo, Mayor, Town of Windham
Windham Town Hall
979 Main St.
Willimantic, CT 06226

Mr. James Rivers, Town Manager, Town of Windham
Windham Town Hall
979 Main St.
Willimantic, CT 06226

I also certify that I caused notice of the proposed modifications to be served by mail or courier upon 11 owners of abutting properties shown on the maps in Attachment A in the Petition.

Susan J. Bellion

Susan J. Bellion
Project Siting Specialist

On this the 11th day of June 2021, before me, the undersigned representative, personally appeared, Susan J. Bellion, known to me (or satisfactorily proven) to be the person whose name is subscribed to the foregoing instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Notary Public
My Commission expires:

Andrew W. Sol 413393

Commissioner of the Superior Court/Juris No.