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Kathleen M. Shanley
Manager – Transmission Siting
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May 31, 2017

Robert Stein, Chairman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Petition 1140: Barbour Hill Substation to Manchester Substation and 1763 Reconductoring Project - Amendment to the Petition for the Installation of Sound Walls

Dear Chairman Stein:

On April 20, 2015, the Connecticut Siting Council (“Council”) issued a declaratory ruling for the above-referenced Petition (the “Project”), and which included modifications to Barbour Hill Substation (“Substation”), located in the Town of Windsor. The Connecticut Light and Power Company doing business as Eversource Energy (“Eversource”) placed the Project in service on May 30, 2016. Subsequent to the Council’s ruling and the Project’s construction, Eversource is submitting the attached amendment (Attachment A) to the subject Petition for the installation of sound walls around the Substation transformers.

Eversource has received communications from abutters and neighbors to the Substation expressing concern regarding the sound levels emanating from the Substation. Eversource responded to the concerns by conducting a sound study, which resulted in a determination that, though the new equipment was designed and purchased under a “low noise” specification, the equipment was exhibiting unusual acoustical characteristics under certain unique operating conditions and that, at these limited times, the Substation did not meet applicable sound regulations.

Eversource’s response has been to meet with residents surrounding the Substation and the municipality to lay out a plan to mitigate noise from the Substation. As an immediate corrective action to mitigate noise from the facility, Eversource proactively installed anti-vibration pads under the new and existing 345- to 115-kV autotransformers.

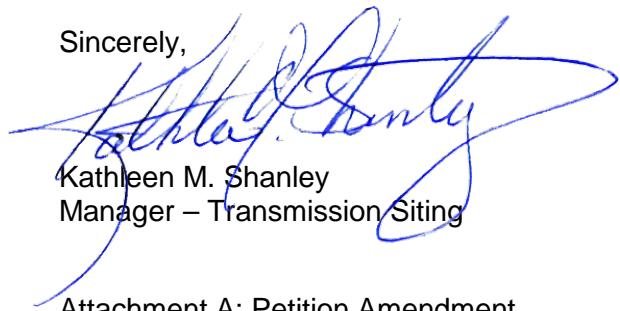
For the permanent mitigation solution Eversource modeled and evaluated multiple options and has determined that installation of sound walls around the existing autotransformers on the east side of the Substation and also around the new autotransformers on the west side of the Substation will be the most effective way to mitigate the sound (Attachment B). Further, the design of the proposed wall has been optimized to meet the applicable sound regulations, while having the least amount of visual impact to abutters. After the installation of the sound walls

has been completed, Eversource will conduct additional sound studies to confirm compliance with the sound regulations.

Prior to submitting this amendment to the Petition, representatives from Eversource briefed municipal officials and residents about the amendment to the Petition. Eversource provided written notice of the proposed work to all abutters and the filing of this Petition with the Council.

Enclosed with this original are 15 copies of the Petition amendment.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kathleen M. Shanley".

Kathleen M. Shanley
Manager – Transmission Siting

Attachment A: Petition Amendment

Attachment B: Drawing No. 23202-92011 pages 1 & 4 - Barbour Hill Substation Yard Arrangement – Plan & Sections.

Attachment A

THE CONNECTICUT LIGHT AND POWER COMPANY doing business as EVERSOURCE ENERGY

Petition 1140: Barbour Hill Substation to Manchester Substation
and 1763 Reconductoring Project

Proposed Amendment to Install Sound Walls at Barbour Hill Substation

The work subject to the proposed amendment would take place at Barbour Hill Substation (“Substation”), which is located on Eversource’s property at 124 Barber Hill Road in South Windsor. Attachment B-Barbour Hill Substation Yard Arrangement – Plan & Sections provides a visual representation of the proposed sound walls.

Eversource proposes the following further modifications to the Substation:

- A. Install sound walls, on supporting foundations, to surround all four sides of the 345- to 115-kV single-phase autotransformers as follows:
 - On the west side of the Substation, the sound wall surrounding the transformers would be approximately 35 feet high and would encompass an area that is approximately 141 feet long and 47 feet wide. (Attachment B, Sections BB , GG and HH)
 - On the east side of the Substation, the sound wall surrounding the transformers would be approximately 35 feet high and would encompass an area that is approximately 102 feet long and 45 feet wide. (Attachment B, Sections JJ, KK and L)
 - For both sound walls, three sides of the walls would cantilever inward slightly above the autotransformers at approximately a 45-degree angle. The forth side facing south will be a straight wall. All sides of the walls

would be constructed utilizing acoustic panels and structural steel, on new and existing foundations.

- B. Increase the height of the existing 115-kV conductor by approximately 12 feet to provide required clearances for the sound walls around the transformers on the west side of the Substation.

The Project would not have a substantial adverse environmental effect nor cause a significant adverse change or alteration in the physical or environmental characteristics of the site because:

- All modifications would occur within the Substation's existing fenced area.
- All new equipment and modifications would be shorter than the tallest existing equipment within the Substation.
- The Project work would not affect wetlands, vernal pools or waterways and would not be undertaken within a flood zone.
- Eversource's review of the Department of Energy and Environmental Protection's Natural Diversity Data Base ("NDDB") identified no state-listed endangered, threatened, or special concern species in the vicinity of the Substation property.
- There would be no television or radio interference caused by the modifications.
- The proposed mitigation solution has been optimized using advanced acoustical modeling software, in combination with real-world measurements, to confirm effectiveness of the solution. The acoustics engineers have added a margin of safety on top of the loudest measured sound pressure levels experienced during the sound studies to account for potential fluctuations. The proposed sound walls would reduce the sound levels at all points along property lines at the Substation to comply with state regulations specified in Regulations of Connecticut State Agencies §§ 22a-69-1 et seq. and local ordinances.
- Electric and magnetic field levels at the property boundary would not change because of the modifications.

Normal work hours would be Monday through Saturday from 7:00 AM to 7:00 PM. Sunday work hours may be required for work performed during outages.

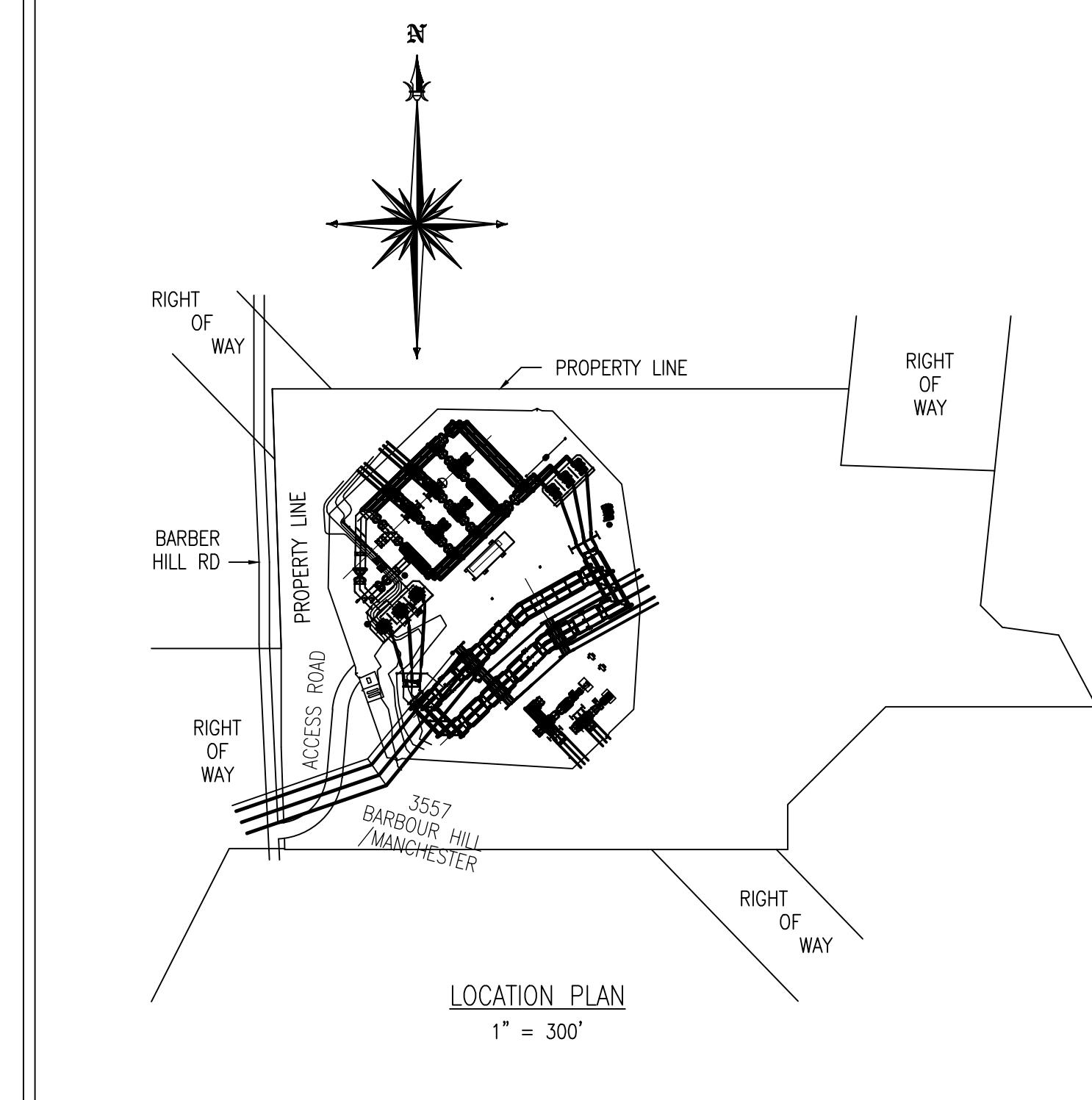
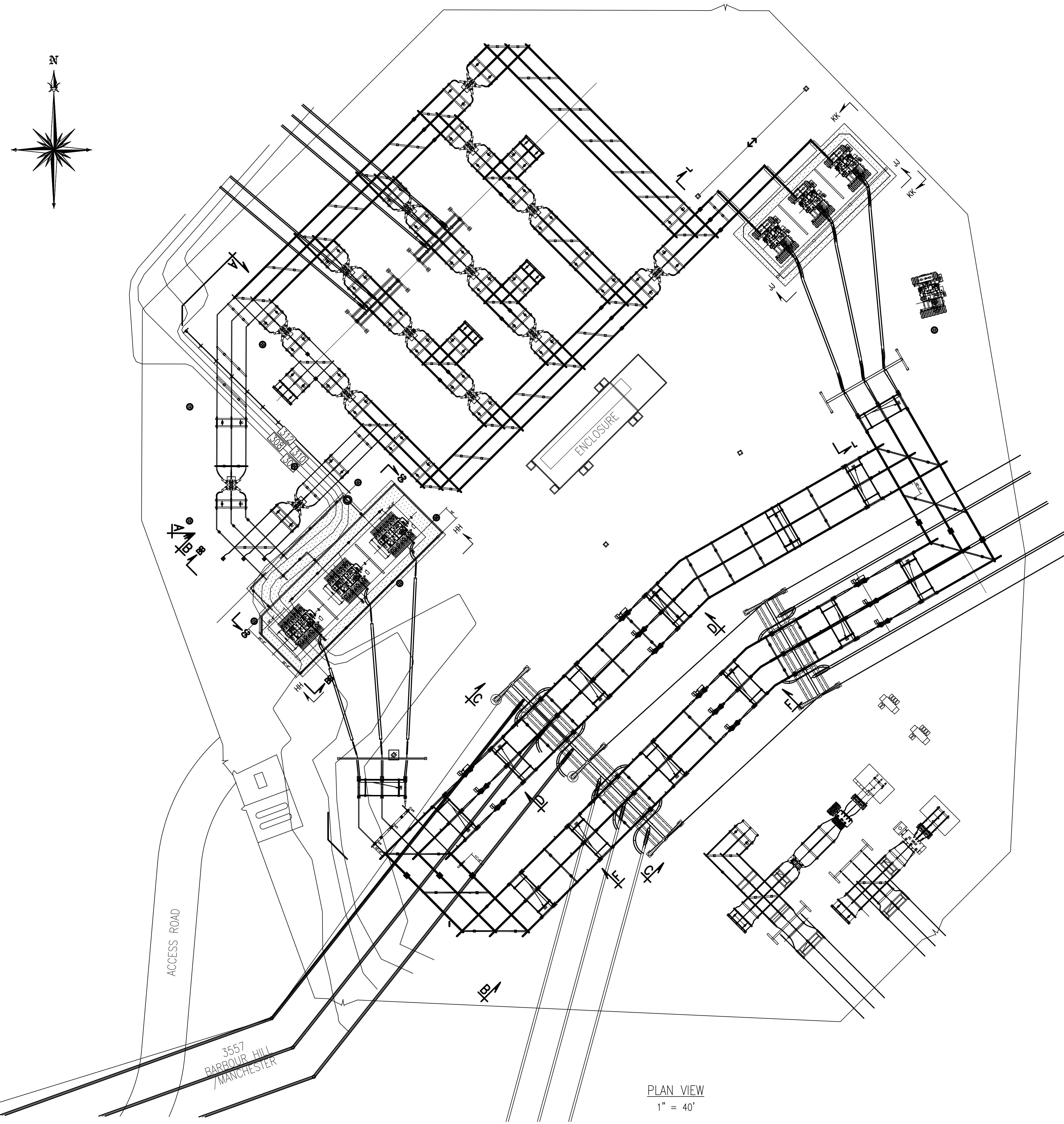
Eversource proposes to commence construction in the summer 2017. Work is scheduled to be complete by spring 2018.

Communications regarding this Petition Amendment should be directed to Kathleen Shanley at (860) 728-4527.

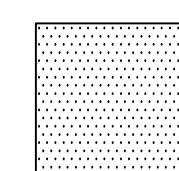

By: _____
Kathleen M. Shanley
Manager – Transmission Siting

cc: Matthew Galligan, South Windsor Town Manager

ATTACHMENT B



2017 PROPOSED ADDITIONS



REV AK ADDITIONS

REVISIONS DURING CONSTRUCTION									
TITLE									
BARBOUR HILL GENERAL ARRANGEMENT PLAN PLAN VIEW SOUTH WINDSOR, CT									
BY	JMW	CHK	TLG	APP	JPR	APP			
DATE	12/16/14		12/14		12/14				
H-SCALE	AS NOTED						SIZE	D	FIELD BOOK & PAGES
V-SCALE	AS NOTED						V.S.		R.E. DWG
NO.	6/16						RE PRO. NUMBER		DWG NO.
DATE									SK23202-92001 PG 1
FAE	MJF	TLG	TLG						
NO.									
DATE									
AS BUILT REVISIONS	BY	CHK	APP	APP					

