

October 26, 2016

Mr. Robert Stein
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Petition No. Petition 1251 - 900 Line Rebuild Project (M)

Dear Mr. Stein:

This letter provides the response to requests for the information listed below.

Response to CSC-01 Interrogatories dated 10/17/2016
CSC-001, 002, 003, 004, 005

Very truly yours,

Kathleen Shanley
Manager
Transmission, Siting
As Agent for CL&P
dba EversourceEnergy

cc: Service List

Witness: NO WITNESS
Request from: Connecticut Siting Council

Question:

What is the common policy for right-of-way (ROW) road building at Eversource?

Response:

Eversource requires access roads in order to facilitate heavy machinery access to structures and to create a safe working environment. Access roads are also intended to provide future access for required maintenance and emergency access to transmission facilities. General specifications for access road construction are provided below.

Specifications

- Road width in upland areas will be 16 -20 feet;
- A typical road profile will consist of six (6) to eight (8) inches of 3"-5" or 5"-8" clean angular stone, top dressed with \pm four (4) to six (6) inches of gravel (3" minus);
- Where roads are proposed in wetlands, or culverts and bridges are proposed, a minimum of 12 feet wide (preferably 16 feet wide) usable road is needed to accommodate vehicles at least 140,000 lbs. (e.g. Forwarder, tracked Feller-Buncher or Excavator etc.);
- Culverts and bridges are typically positioned in the access road to provide a minimum of 50 linear feet of vehicle approach area without the access road centerline curvature to accommodate the turning radii of larger vehicles; and
- Permanent roads crossings in wetlands will be designed such that there is no hydrological impediment to the flow patterns resulting in the creation of a new or enlargement of an existing wetland.

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Where practicable, construction access roads should conform to the contours of the land, avoiding grades steeper than 10 percent and creating side slopes no steeper than a ratio of 2:1. If the side slopes are steeper than 2:1, then use of engineered slope stabilization methods may be necessary.

Witness: NO WITNESS
Request from: Connecticut Siting Council

Question:

Provide the rationale for the extent of the construction of the permanent improved access roads for both upland areas and wetland crossings?

Response:

Following major storm events in recent years, Eversource has modified its approach to access road and work platform construction on transmission projects to create permanent access roads, to the extent feasible, for right-of-way accessibility during emergency events. Given the continued and increasing reliance on utilizing transmission across the New England bulk power grid, Eversource believes it is prudent to maximize opportunities to create permanent access roads and work platforms. The Eversource goals are to:

- Improve corridor accessibility by building permanent unimpeded, all weather access for all parts of the transmission rights-of-ways;
- Allow sections of access roads that have been upgraded for transmission project activities to remain in place for future right-of-way accessibility; and
- Minimize erosion and sedimentation to wetland resource areas by implementing stormwater controls when the road is built in support of a project or maintenance activity and periodically evaluating the condition of those erosion and sedimentation controls and performing maintenance if needed to ensure that they continue to function as designed.

For the 900 Line Rebuild Project temporary access (matting) was used across five wetlands (W2, a portion of W6, W7, W9 and W10), as these were relatively small areas that could be matted easily, allowing ready access to the structures. Permanent access roads were installed through two wetlands (W4 and W6) and refurbished through the existing wetland crossing at W9. The W9 permanent wetland crossing was not permitted because it was existing.

The access road and the impacts to W4 were required due to the size of the wetland and as access to structures east of the wetland was not feasible from Root Road because of the very steep grade. Grade is as much as 20% and our maximum per the Eversource BMPs is 10%. Access to the seven structures in this section of the ROW is from Ripley Hill Road.

The access road and impacts to W6, were required because the alternate access from

Eastview Drive is blocked by a guardrail in addition to steep grade (bowl) to the east of the guardrail. Removing a portion of the guardrail would allow access during construction but would have to be replaced after construction was completed thereby negating any future emergency access.

These permanent impacts were permitted through state and federal regulatory permitting and were constructed in a manner to ensure hydraulic connectivity was maintained on either side of road.

**CL&P dba Eversource Energy
Petition No. Petition 1251**

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Dated: 10/17/2016
Q-CSC-003
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**Witness: NO WITNESS
Request from: Connecticut Siting Council**

Question:

What consideration was given to avoiding areas of sensitive environmental resources in designing the access roads?

Response:

Sensitive area avoidance is always the first priority to consider when designing new or improving existing access roads. Alternate access points are always considered by accessing the ROW in the opposite direction or occasionally separate access agreements are made with landowners if the alternate access is outside the ROW. If avoidance is not practicable, then measures are taken to minimize the extent of the disturbance. Such measures include using matting and other temporary techniques, or for permanent crossing, locating in a previously disturbed portion of the wetland or try to position the crossing at the narrowest point in the wetland, or building the road to the minimum 12 foot width to minimize the impact as we did for wetland crossings at W4 and W6,

There are five wetlands (W2, W6, W7, W9, W10) along the Project area where temporary access was used (removeable timber matting) in sensitive areas to minimize impacts.

Witness: NO WITNESS
Request from: Connecticut Siting Council

Question:

Describe Eversource's best management practices for ROW access road construction and maintenance.

Response:

Access Roads in Uplands

Eversource BMPs in uplands include but are not limited to erosion control/stormwater management such as silt fence, drainage swales, sediment basins, water bars, and the planting of grass after disturbed areas are regraded.

Construction in Wetlands (At W4 and W6)

Access roads that are constructed in or across wetlands require the following considerations in addition to the considerations for access roads in uplands:

- Avoid putting the construction access roads in wetland whenever practicable. Explore all feasible and prudent alternatives before determining that a wetland crossing is necessary. When avoidance is not practicable, consider crossings that will result in the least amount of disturbance which could involve locating the access road so that it crosses the wetland at its narrowest width or uses areas previously disturbed for previous access.
- Minimize the width of the temporary construction access road through the wetlands (generally no wider than 16 feet when using construction mats). It is preferable to have a passing point before and after the wetland crossing.
- Construct access roads in wetlands so that wildlife is allowed to pass under or go through the road.
- Prevent obstructions to surface and subsurface flow across and through the construction access road. Provide adequate drainage which may require the use of crushed stone, a layer of log corduroy, construction mat bridges, or multiple cross culverts, particularly if the wetland does not contain a well-defined watercourse channel and/or the wetland crossing is long.

Construction Mats (Used in W2, W6, W7, W9, W10)

Place mats along the travel area without any gaps and so each timber is placed perpendicular to the flow of traffic. Remove mats by backing out of the site and removing mats one at a time.

Permeable Road

Permeable roads are used for access in situations not suitable for heavy vehicle use often due to unstable ground surfaces with shallow standing water, saturated soils, or other unstable substrate. Installation of a permeable road can also help reduce the potential for frost action and pothole creation by preventing groundwater from wicking up and into the road fill material.

Stream crossings without Bridges – Limited Turbidity

Crossings are generally considered acceptable in situations where there is an existing or historic access road, a stable rock or sand/gravel stream bottom and/or crossing that is a relatively narrow reach of the stream and any adjacent wetlands.

Stream Crossings without Bridges – Stone Crossings

Carefully place 6 inch – 8 inch clean angular stone within stream crossing. Limit width of stone to that needed for widest vehicle/equipment to cross the stream.

Culverts (Installed between Str 6622 and 6623)

Culverts are installed to maintain wetlands or streams at road crossings. Hydraulic calculations are required at all crossings to determine the area that will drain to the culvert so that the culvert can be designed to handle the maximum flow.

Monitoring

During replacement construction (Conductor, structure, hardware), construction access roads, and the associated erosion and sedimentation controls are inspected by the person designated at the preconstruction meeting, or as required by permit conditions. Any damage observed must be repaired in a timely manner, at least within 48 hours of observation. Repairs may include regrading and/or top dressing the road surface with additional aggregate to eliminate ruts as well as those repairs required by each erosion and sedimentation measure used.

Maintenance

Maintenance included the above mentioned monitoring but on a yearly timeframe or after a violent storm event which may also trigger an unscheduled, nature related, outage. After an unscheduled outage on a transmission line, a foot patrol is required which would uncover any deterioration to existing BMP's such as drainage swales, water bars, etc. Repair to identified failing or damaged BMPs is completed in 1-2 weeks.

BMPs used by Eversource for ROW access road construction and maintenance also includes guidance on tracking pad construction, the proper installation and of use of permanent and temporary soil and erosion controls (water bars, drainage swales, sedimentation basins, etc.).

CL&P dba Eversource Energy
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Witness: NO WITNESS
Request from: Connecticut Siting Council

Question:

Describe any post construction mitigation/restoration measures to be employed with regard to the permanent improved access roads (i.e. could any permanent access roads, particularly in a wetland resources area, be made temporary or reduced in width?).

Response:

Restoration of access roads and other areas is performed as soon as practicable after construction is completed, including the removal and/or restoration of temporary wetland or waterway crossings. Unless otherwise directed by the Council, Eversource works with the underlying property owner to obtain consent to leave access roads and work pads in place once construction is complete. If the property owner opposes the materials being left in the right-of-way Eversource will take them out, though restoration measures might include bringing in topsoil and seeding the work pad or the road. When working in manicured lawn areas the roads and work pads are always removed and/or seeded post construction.

Permanent access roads that were constructed in W4 and W6 were constructed to our minimum width of 12 feet but could be reduced in width if they were originally built wider than 12 feet.