



July 27, 2020

Ref: 12970.00/14424.00

Mr. David Mercer, Chair  
Hudson Conservation Commission  
78 Main Street  
Hudson, MA 01749

**Re: WDA Design Group Peer Review – Applicants' Response to Additional Comments  
Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project**

Dear Members of the Hudson Conservation Commission,

The Applicants, NSTAR d/b/a Eversource Energy (“Eversource”) and the Massachusetts Department of Conservation and Recreation (“DCR”), are providing this response to additional comments received in a letter dated July 14, 2020, from the Hudson Conservation Commission’s third-party reviewer, WDA Design Group (“WDA”). Responses to WDA’s comments are presented below. Each WDA comment is in bold text and the Applicants’ response is provided in plain text.

**Operation and Maintenance Plan**

- a. **WDA recommends the draft Corridor Management Plan be included as part of the Long-Term Operation and Maintenance Plan associated with the Notice of Intent.**

The Corridor Management Plan (“CMP”) and Stormwater Management System Operation and Maintenance (“O&M”) and Long-term Pollution Prevention Plan (“LTPPP”) are different documents, addressing different aspects of operations and maintenance of the multi-use trail. Although kept as separate documents, the OMP/LTPPP has been included as an attachment to the CMP.

- b. **The Corridor Management Plan states generally throughout the document “DCR plans to” when describing the actions to be taken to maintain the Project. This could be interpreted that the actions may not occur. WDA recommends this language be changed to be more precise, requiring the actions be performed during the specified time schedule.**

The language in the CMP has been revised with more precise language with regard to specified actions.

- c. **The Corridor Management Plan states that maintenance will include blowing debris from paved and stabilized pathways. This method may cause debris to be blown closer to, or into the wetland resource areas and does not appear to collect the debris. WDA recommends a different method be**

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**proposed to collect and remove the debris to minimize the chance of spreading the debris toward the wetlands.**

As discussed during the hearing held on July 16, 2020, DCR intends to blow *natural* debris (e.g., leaves and twigs) off the bike path a few times a year because it can be a safety hazard to bike path users. Trash (paper, litter) will be removed off-site and will not be blown off the bike path into the surrounding natural environment. The Corridor Management Plan has been revised to reflect this.

## **Groundwater Recharge within Zone II**

**WDA recommends the Applicant consider providing stone infiltration trenches within the proposed grassed swales on the sides of the bike path. This would be an effective way to promote additional recharge along the bike path without increasing the limit of work. This would be especially cost-effective in areas of cut excavation where the topsoil and subsoil are already proposed to be removed and the soil parent material (C-horizon), where the infiltration best management practices should be located, is already exposed. The applicant should also consider, where possible as existing and proposed grades allow within the limit of work, widening the swale to facilitate recharge and suspended solids removal by detaining the stormwater for a longer time period.**

Standard 3 of the Massachusetts Stormwater Management Standards identifies environmentally sensitive site design, low impact development, and stormwater BMPs as appropriate measures for minimizing loss of annual recharge. The Project includes all of these measures and, unlike a typical development project with extensive impervious surfaces that uses structural BMPs to re-route stormwater to other areas entirely, the Project design provides for stormwater to recharge within the immediate vicinity of the bike path footprint. The stormwater will discharge to conveyances in adjacent vegetated areas where stormwater will naturally infiltrate, and although DEP's stormwater protocols currently do not provide recharge credit for this non-structural stormwater BMP, EPA's guidance recognizes the volume reductions achieved from this BMP type. Based upon the design for this project, the Applicants do not plan to add the features suggested by WDA.

**WDA recommends the Applicant consider modifying the proposed catch basins at stations 119+25 and 126+70 to leaching catch basins.**

The proposed catch basin at STA 119+25 is located in Hudson and the plans have been updated to change this to a leaching catch basin. Although the catch basin at STA 126+70 is in Stow, the plans for that work will be revised to make that a leaching catch basin.

## **Wildlife Habitat**

**Question #4 regarding time of year restriction. Please refer to Question #2 response within the Erosion Control and Construction Staging section below.**

No response required.



## Plantings and vegetation management

### General Corridor

In prior reports and replies it has been reported that approximately 52,129 SF of alteration is proposed within the RFA between Stations 105+90 to 124+90 (plan Sheets 25-27), yet no restoration plantings aside from the "General Construction Corridor Seed Mix" was called for (Plan Sheet 131, Schedule C). WDA in our review had expressed that it appears that there are areas along this stretch that could accept shrub and or tree plantings without potential impact to the subsurface transmission line vault, or the 2' wide gravel shoulders.

The applicants are utilizing jute mat slope stabilization and that with the applicable stapling and utilizing shrub/tree saucers around planted shrub/trees can be successful on 2:1 slopes. If the decision is that on slopes greater than 2:1 that only the hydroseed specified herbaceous/shrub seed mix will be applied, then areas containing slopes 2:1 or less should be able to receive supplemental plantings as the Commission has requested. The Commission may also want to request photographic examples be provided of regional sites that the applicant or engineer has successfully utilized the shrub seed mix.

Looking closely at the plan and profile pages for those three areas, specifically on the Eversource Sudbury-Hudson NOI plan set, sheets 16, 26, 127, 174 and 176-179 of 315, several areas are 2:1 or less. We agree that the area near station 116+00 is not conducive to planting additional shrub/trees beyond the planned hydroseed mixture. The two other areas, or portion of Station 120+60 to 121+30 (left), the profiles indicate a proposed maximum slope of 2:1 to tie into the existing slope (generally 2.5:1 to 3:1), therefore there appear to be areas of opportunity to add supplemental shrub/tree plantings here on those areas. The second and largest area available is located at approximately station 123+20 to 124+80 (right side of centerline and swale). This area is shown in the plan and profile sections on Sheets 26 and 178-179 to be graded nearly flat and to receive loam and seed. This area is contained within both the Riverfront area and 100' buffer zone and could be planted with additional shrubs/trees with species applicable to the area.

The available space for supplemental plantings is limited by the narrow Project footprint, within which: 1) the area over the duct bank is not suitable for planting, 2) areas within 4 feet of the bike path pavement must be avoided to maintain safe clearance from branch hazards for trail users, 3) slopes steeper than 2:1 should be avoided as they result in low planting success, and 4) long narrow areas would provide linear plantings that are not consistent with the goal of a natural landscape.

Taking these factors into account, the Applicants have completed an additional evaluation to determine if there are any areas within the Commission's jurisdiction that would be suitable to include supplemental woody shrub plantings as part of the restoration plan for the Project. As a result of this evaluation, five areas of varying size along the Project alignment were identified as suitable for providing supplemental woody plantings, which would be in addition to the proposed use of a combined herbaceous/woody seed mix application. The Project Plans were revised to identify these locations, including details prescribing



the species, spacing, and number of plantings of each species proposed for each of the five areas. The revised plans, dated July 24, 2020, are included as an attachment to this supplemental submission.

Each area is proposed to be planted with summersweet clethra (*Clethra alnifolia*), alternate-leaved dogwood (*Swida alterniflora*), northern bayberry (*Myrica pensylvanica*) and American hazelnut (*Corylus americana*). The number of proposed plants per area is based on the available area to plant and is summarized in the table below:

	Stationing	Area (SF)	Number of Additional Plantings
Area 1	118+55 – 121+90	3,180	55 of each species for a total of 220 plants
Area 2	120+55 – 121+35	1,260	20 of each species for a total of 80 plants
Area 3	122+90 – 124+85	1,580	25 of each species for a total of 100 plants
Area 4		1,530	25 of each species for a total of 100 plants
Area 5	352+90 – 353+75	1,605	25 of each species for a total of 100 plants
<b>Total</b>	-	<b>9,155</b>	<b>600 additional shrub plantings</b>

#### Crane Mats (Fort Meadow Brook)

It may be beneficial to the Commission if a larger, scaled detail (plan and cross section view) of these two critical areas was submitted showing existing grades, resource area limits, proposed grading, spot elevations, and proposed plantings of shrubs and trees (understanding that the plantings will not necessarily be planted in the graphic locations (avoiding row planting etc.), but it may assist the Commission in review of planting density, slopes, resource areas and overall clarity of the proposed restoration of these two key areas as they relate to the planting schedule on Sheet 131.

A planting plan has been created for the proposed plantings at Fort Meadow Brook. The plan is located on sheet 133 and is included as an attachment to this response to comments.

During the 6/17 meeting the Commission questioned the amount of aquatic plug plantings in the area of the crane mats. On Sheet 131 the table shows 2 plugs each of four aquatic species, this is the same for both the areas associated with the crane mats between station 147+75 to 148+50 and 149+00 to 150+25. We would suggest that the plug count be doubled (total 8 per side) along the west mat (Sta. 147+00 to 148+25 and tripled (12 per side) along the east mat (station 149+00 to 150+25). This will create a plug spacing average of 10'.

The Applicants agree to this suggested change. The number of plugs has been revised so there are eight plugs on the western side to the north and south (16 total on the western side) and 12 plugs on the eastern side to the north and south (24 total on the eastern side). A planting plan has been created for the



proposed plantings at Fort Meadow Brook, including the aquatic plugs. The plan is located on sheet 133 and is included as an attachment to this response to comments.

## Erosion control and construction staging

Question #1 of the Commission letter (and a DEP comment) was inquiring whether the crane mats would impact land under water (LUW). Note that this DEP comment was pertaining to the Bridge-127 Crossing which is in Sudbury and not pertinent to this Hudson review. The engineer stated that the crane mats would not impact LUW. The crane mat work located within Hudson near a water body are those proposed near Fort Meadow Brook (Stations 147+75 to 148+50 and 149+00 to 150+25). The crane mats are outside the thread of Fort Meadow Brook, and the adjacent mean annual highwater and observed water elevation of FMB as provided by the VHB survey is noted on the plans as 176.50 (observed on 9/21/17). Observations at the site have shown water along the edge of the area of the proposed crane mats which is "backwater" from the main stream thread. If the water level associated with the brook does not get higher than 176.50-177, with the crane mats at elevation 177.4 and 177.5 respectively, then the crane mats would not be located in LUW.

No response required.

Question #2 was regarding erosion control measures allow for movement of amphibians to and from vernal pools. VHB responded that a syncopated silt fence (see plan sheet 124 for detail) is to be utilized. This is an acceptable and recommended method. VHB indicated in their letter response that the environmental inspector to be hired is "typically a qualified biologist familiar with vernal pool ecology". If the environmental inspector that is hired is not a qualified biologist, then the Commission may want to consider that a qualified biologist familiar with vernal pools and the species specific to these vernal pools, aside from the environmental inspector, be retained to provide observations during the TOY restrictions and construction work in/around the vernal pools and provide periodic reports to the Commission. With the expanded TOY restrictions (March 1 to June 1), monitoring and use of the syncopated fencing, all movement and breeding should be completed and the potential for impact should be relatively minimal.

As clarified during the July 16, 2020 hearing, the environmental monitor who will be inspecting the syncopated silt fence will be a qualified biologist familiar with vernal pool ecology.

## Construction/Engineering

### Culverts

#### Culvert 132A

On Sheet 25, Station 107+90, there is an existing 30" clay culvert that runs SE to NW under the ROW conveying an unnamed perennial stream and connecting wetland 1 to Wetland 2. The culvert is shown



as to be retained. MA DEP had suggested in their review comments that the culverts conveying streams #1 and #3 be upgraded to meet MA Stream Crossing Standards.

The applicant states the original culvert inspection was performed over three years ago in March 2017. WDA recommends the Commission request an updated inspection report stamped by the Applicant's Structural Engineer detailing the current structural condition of the culvert and to support the statements above on the adequacy of the pipe to remain or a recommendation to replace the pipe if appropriate. The inspection report should confirm the current structural conditions of the culvert are the same as on March 2017. WDA recommends a video camera inspection be performed along the interior length of the pipe. The inspection report should confirm whether or not the current structural conditions of the culvert are the same as on March 2017.

In the event the culvert is damaged during construction and will be replaced, the limit of work for the project has the potential to expand outside the current defined limit. The Commission may want to request, and the Applicant provide an alternative design in the event the culvert is damaged during construction. If the culvert will be replaced, the design documents or a separate detail should be submitted to define the potential culvert replacement. This plan could be referenced along with the current plan set as part of an Order of Conditions.

#### Culvert 129C

On Sheet 35, Station 206+10, there is an existing 24" clay culvert that runs SW to NE under the ROW conveying an unnamed intermittent stream and connecting Wetland 10 to Wetland 11. The culvert is shown as to be retained.

The applicant states the culvert inspection was performed more than three years ago in March 2017 and that cracking on the pipe end, apparently caused by a tree on top of the pipe, was observed. WDA is concerned that the tree may have caused further damage to the pipe. WDA recommends the Commission request an inspection report stamped by the Applicant's Structural Engineer detailing the current structural condition of the culvert and to support the statements above on the adequacy of the pipe to remain or a recommendation to replace the pipe if appropriate. WDA recommends a video camera inspection be performed along the interior length of the pipe. The inspection report should confirm whether or not the current structural conditions of the culvert are the same as observed in March 2017. The report should address the structural stability of the pipe with respect to the duct bank to be installed above with 1.25 feet of cover separating the duct bank from the pipe. In the event the culvert is damaged during construction and will be replaced, the limit of work for the project most likely will expand outside the current defined limit. The Commission may want to request, and the Applicant provide an alternative design in the event the culvert is damaged during construction. If the culvert will be replaced, the design documents or a separate plan should be submitted to detail the potential culvert replacement. This plan(s) could be referenced along with the current (or revised) plan set in an Order of Conditions.



As stated during the hearing on July 16, 2020, the Applicants will not be conducting an additional evaluation of culverts in the Project area. An examination of the culverts in the Project work area was performed only three years ago by a Structural Professional Engineer. The 2017 inspection of the culverts did not determine that either of the culverts in the Project limits in Hudson is unstable, failing, or lacking the ability to convey water through the railroad embankment.

Where the examination indicated that certain conditions should be further evaluated, recommendations were made and were considered in the Project design. For the two culverts in Hudson, this includes removing debris from the south end of Culvert 129C and cutting the tree that is on top of the northeast corner of Culvert 129C. In addition, the design of the Project included careful consideration of the location of Culvert 129C where there will be limited separation between the duct bank and the existing culvert. There was no concern about this area because Eversource and its contractors have extensive experience performing construction in areas where there is limited separation between the bottom of an excavation and existing utilities or subsurface drainage features.

Should you have any questions concerning this supplemental submission or require additional information, please contact Katie Kinsella at 617.607.2157 or [kkinsella@vhb.com](mailto:kkinsella@vhb.com) or Gene Crouch at 617.607.2783 or [gcrouch@vhb.com](mailto:gcrouch@vhb.com).

Sincerely,

Two handwritten signatures in blue ink. The first signature is on the left and the second is on the right, both appearing to be in cursive.

Katie Kinsella and Gene Crouch

CC: Denise Bartone – Eversource  
Paul Jahnige - DCR  
MassDEP – Central Regional Office

Attachments:

- Revised Corridor Management Plan with the Long-term Pollution Prevention Plan attached
- Revised plan sheets 1, 2, 26, 27, 30, 31, 40-43, 122, 125, and 131-133