

August 3, 2020

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

Attn: Pam Helinek, Agent

Via email: phelinek@townofhudson.org

Reference: Peer Review – Notice of Intent (DEP File #190-0647)
Sudbury-Hudson Transmission Reliability and MA Central Rail Trail Project
Eversource and DCR -Hudson, Massachusetts
WDA JN-0920.20.03

Dear Mr. Mercer and Members of the Conservation Commission:

We are providing this response to the VHB comment letter to the Commission dated July 27, 2020. The letter from VHB on July 27 contained responses to the WDA letter dated July 14, 2020, and in addition to discussion of items during the July 16, 2020 NOI Zoom webinar hearing. VHB responses from the July 27 letter are in bold text, while the WDA response is in plain text.

Operation and Maintenance Plan

- a. **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.**

Acknowledged. No further comment or action required.

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

Acknowledged. No further comment or action required

- c. **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.**

Acknowledged. No further comment or action required.

Groundwater Recharge within Zone II

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 agrees that the project is not a typical residential, commercial or industrial project that diverts stormwater to a collection area such as a stormwater pond. However, the project is converting pervious areas to paved impervious areas like these other types of developments, only in a linear footprint. The infiltration trenches would enhance the infiltration and water quality treatment in the swales. WDA recognizes the limited opportunity to provide these BMPs without increasing the project footprint. In some cases, the negative impact of the increase in land disturbance to construct infiltration trenches would outweigh the benefit the added infiltration would provide. It is also not practical to place the infiltration trench along the full length of every swale. We maintain the addition of the infiltration trenches would provide a beneficial function to enhance the stormwater infiltration and treatment within the Zone II Aquifer Protection Zone and within the Riverfront Area. This would help to support the baseflow to the adjacent water bodies and recharge in the aquifer to better meet Stormwater Standard 3 per MassDEP comments. Although the location of infiltration trenches is limited, a practicable location would be where the proposed swale is constructed in a cut condition.

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.

Acknowledged. No further comment or action required

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.**

Acknowledged. No further comment or action required

Plantings and Vegetation Management

General Corridor

**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 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
Total	-	9,155	600 additional shrub plantings

Acknowledged. No further comment or action required

Crane Mats (Fort Meadow Brook)

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.

Acknowledged. No further comment or action required

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.

Acknowledged. No further comment or action required

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.**

Acknowledged. No further comment or action required

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.

Acknowledged. No further comment or action required

Construction/Engineering

Culverts

Note: WDA was requested by Pam Helinek to meet on-site on July 30, 2020 to review the culverts (at Stream #1 and #3) and provide an opinion on the status of the culverts. The full WDA and VHB language from the VHB 7/27/20 response letter is recopied here for clarity (WDA is plain text and VHB response in bold) and WDA 7/30/20 observations and response at the end.

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 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.

Culvert 132A (Stream #1, Station 107+90)

Based upon the field review on July 30, 2020 by Pam Helinek and WDA we identified that the reported 30" clay culvert located through the rail bed at Stream 1 is actually a 2'x3' stone box culvert, and only the inlet and outlet ends (exposed) of the culvert are occupied by 30" clay sections (1 bell and 1 section on south side, 1 bell section only on north, see attached photos). The plans and specifically sheet 25 of the Revised NOI plan set, indicate the culvert as a 30" clay, with no mention of the 2'x3' stone box culvert (a 2'x3' stone box culvert is mentioned along with 30" clay in Table 4). The notes on the plan identify that the 30" clay culvert is to be retained. Any plans that refer to this culvert should be updated to the correct culvert callout of a 2'x3' stone box culvert, and 30" clay ends to be retained and re-submitted to the Commission as these plans would be referenced in an Order. It does appear via our visual review that the stone box culvert is free of obstructions and appears sound. Given the history, location and visible composition of the culvert, along with the existing and proposed deep cover over the culvert, it seems that the opportunity for damage to the stone box structure from the project as proposed, is minimal. The Applicants have stated that a structural engineer reviewed the 30" culvert three years ago and it was structurally sound and did not require replacing as part of the new project scope, but a report was not submitted to the Commission. Based upon submitted information and plans, that structural review was for a 30" clay culvert, which is not the actual conveyor of stream/storm flows, which is the stone box culvert. The Applicants should have the structural engineer provide documentation to the Commission that the stone box culvert is sound. If the Commission is provided the revised and supporting materials and is agreeable with the assessment of the stone box culvert, we suggest that the

Commission could accept that no further discussion or work is required for the culvert at Stream #1.

Culvert 129C (Stream #3, Station 206+10)

Based upon the field review on July 30, 2020 by Pam Helinek and WDA we did confirm that the north end section (2' section) of the 24" clay culvert at Stream 3 is cracked by the adjacent red maple root system. This tree is proposed to be removed by the Applicant. The Applicant should clarify if the proposal was to remove this damaged end section of pipe and stabilize the surrounding slope. The southerly (side closest to golf course) side has an exposed, broken bell end section of clay pipe and some accumulated dead tree debris in front of the culvert and in the stream channel. The debris is proposed to be cleaned from in front of the culvert. The proposal appears to be to retain the broken end bell section. Regardless of the current proposal to retain this culvert, DEP commented about upgrading this culvert to MA Stream Crossing Standards as part of overall mitigation, and the Commission has expressed the same comments regarding this culvert. During our site visit Ms. Helinek reiterated the concerns she and the Commission have as to the size, age and overall ability of this culvert to handle existing flows as well as higher than average storm events (reports of past flooding and issues with this culvert) and the ability of the culvert to be adequately protected and remain undamaged during construction. Given the age of the culvert, location and overall existing shallower cover, shorter culvert length and the DEP/Commission concerns and comments, the Commission is requesting that this culvert be upgraded in substantial compliance, or fully in-line with the MA DEP Stream crossing standards. Ms. Helinek and the Commission in their email of July 30, 2020 stress that the Commission may not issue an Order of Conditions for the project unless there is an agreement that this culvert be replaced and upgraded. While the contractor is performing work in the corridor, WDA recommends this would be the most advantageous time to replace the 24" historic clay culvert, with less disturbance, instead of trying to do so after the conduit and paved pathway were installed.

We recommend that the Applicant provide a revised plan, details and calculations to the Commission (and copy MA DEP CERO) showing a replacement culvert at Stream 3 that is substantially in accordance with MA DEP Stream Crossing Standards.

We thank you for the opportunity to work with the Hudson Conservation Commission and trust the comments noted above represent a fair and accurate assessment of the submittal materials. Please contact us should you have any questions or require further clarification on any of these comments.

Sincerely,

WDA DESIGN GROUP, INC.



Patrick J. Burke
Review Engineer



Brian P. Waterman
Wetland Specialist

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