



To: Denise Bartone, Manager – Licensing
and Permitting
Eversource
247 Station Drive, SE270
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Date: November 10, 2020

Memorandum

Project #: 14009.00

From: Kenneth S. Staffier, PE
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Re: Underground Transmission Line Stormwater Management
Standards Compliance for Hypothetical Development Scenario
Sudbury-Hudson Transmission Reliability and Mass Central Rail
Trail Project
Sudbury, Massachusetts

During the November 2, 2020, public hearing, the Sudbury Conservation Commission requested that the Applicants provide information about how the Eversource underground transmission line would demonstrate compliance with the applicable MassDEP Stormwater Management Standards for a hypothetical scenario assuming that DCR's Mass Central Rail Trail (MCRT) is not constructed and that the underground transmission line is constructed as a stand-alone project. In this scenario, all of the design elements proposed for the combined project (alignment, profile, limits of disturbance, stormwater BMPs, etc.) would remain, except the 10-foot wide bituminous concrete bike path would be replaced with a gravel access road for Eversource maintenance vehicles.

As demonstrated in the qualitative assessment below, the hypothetical stand-alone transmission project would comply with the DEP Stormwater Management Standards.

Standard 1: No New Untreated Discharges or Erosion to Wetlands

No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetland or waters of the Commonwealth.

The hypothetical stand-alone underground transmission line would generally maintain the existing grading and drainage patterns along the existing right of way and there would be no new discharges of stormwater. The proposed conveyances that are currently under review by the Commission for the actual two-phased Project that includes the paved bike path as the final condition have been designed not to discharge untreated stormwater directly to wetlands or waterbodies and not to cause erosion or scour to wetlands or receiving waters. Newly graded/disturbed slopes would be stabilized with erosion control materials to protect downgradient areas from erosion and would be revegetated as is currently proposed

Standard 2: Peak Rate Attenuation

Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.



The hypothetical stand-alone project would not significantly alter the surface cover within the project limits. The existing rail and ballast would be replaced with a gravel access road and any areas where vegetation is removed during construction would be revegetated with the same proposed restoration plan currently under review by the Commission. The curve number, which is used to determine runoff potential from a land area, would not change significantly and would closely match existing conditions. The runoff from the hypothetical stand-alone project would closely match existing conditions (i.e., no increase to peak discharge rates) with the exception of the section of the right-of-way from the eastern Hop Brook bridge crossing to the east end of the project. Under existing conditions, the track area along this stretch of the right-of-way is overgrown and the proposed gravel access road in this area would potentially generate more runoff. However, for purposes of the Stormwater Management Standards in 310 CMR 10.05(6)(k) through (q), "redevelopment" is defined to include "development on previously developed sites provided the redevelopment results in no net increase in impervious area." As the stand-alone underground transmission line would qualify as a redevelopment (no net increase in impervious area) and it would only be required to meet Standard 2 to the maximum extent practicable. Any increases in runoff along this stretch would not have a significant impact on abutters or adjacent wetland resource areas so no additional stormwater management practices would be proposed (in addition to those already being reviewed by the Commission) to avoid potential tree removal and impacts to wetland resource areas.

Standard 3: Stormwater Recharge

Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

In the hypothetical scenario, the project would not include any impervious surfaces. Recharge would be unaffected and would match existing conditions as required by the standard.

Standard 4: Water Quality

Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

- a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;*



- b. *Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and*
- c. *Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.*

This standard requires that the proposed water quality volume be treated to remove 80% TSS. The water quality volume (WQV) equals 0.5-1.0 inches (depending on project type and designation of receiving waters) over the impervious area. The Stormwater Handbook states that *for purposes of Standards 3 and 4, impervious surfaces include roads, rooftops, parking lots, and sidewalks, when they are paved with concrete, asphalt, or brick pavers.* The hypothetical stand-alone underground transmission line would not include impervious area; therefore, the WQV would be equal to zero and no BMPs would be required to provide treatment.

Standard 5: Land Uses with Higher Potential Pollutant Loads (LUHPPLs)

For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.0

The hypothetical project would not be considered a LUHPPL and therefore would not be subject to this standard.

Standard 6: Critical Areas

Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00



and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

The hypothetical project would not discharge stormwater runoff from impervious areas near or to a critical area. Where practicable, the stormwater runoff from the project would be directed away from critical areas or would be discharged to vegetated areas (disconnected impervious area) along the right-of-way.

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the Maximum Extent Practicable

A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

The hypothetical stand-alone underground transmission line would be considered a redevelopment (no increase in impervious area) and would only be required to comply with Stormwater Management Standards 2 through 6 to the maximum extent practicable. Standards 8, 9 and 10 would be met completely. The Project would comply with Standards 2 through 6 as described above with the possible exception of the stretch from the east Hop Brook Crossing to the east end of the Project. Along this stretch, the existing right of way has become overgrown with vegetation and the proposed gravel access road would represent a change in cover type from existing and could result in a slight increase in runoff. However, any increases in runoff along this stretch would not have a significant impact on abutters or adjacent wetland resource areas so no additional stormwater management practices would be proposed in order to avoid potential additional tree removal and impacts to wetland resource areas.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Controls

A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

The hypothetical stand-alone underground transmission line would disturb greater than 1 acre of land and would therefore be required to obtain coverage under the Environmental Protection Agency National Pollutant Discharge Elimination System (NPDES) Construction General Permit. As required under this permit, a Storm Water Pollution Prevention Plan (SWPPP) would be developed before land disturbance began.

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Appropriate construction-period pollution prevention and erosion and sedimentation controls would be finalized in the SWPPP.

Standard 9: Operation and Maintenance Plan

A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed

The Post Construction Stormwater Operation and Maintenance (O&M) Plan developed for the MCRT would be modified easily to support the hypothetical stand-alone project.

Standard 10: Prohibition of Illicit Discharges

All illicit discharges to the stormwater management system are prohibited.

The project locus is an inactive railroad right-of-way and no sanitary sewer infrastructure is known to exist on the site. There are no known illicit discharges and none would be expected to be encountered during construction. Should any be detected during construction of the hypothetical project, they would be removed.