



Stantec

Stantec Consulting Services Inc.

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September 23, 2021

File: 179411017

Attention: Mr. Richard Gosselin, Chairman

MILLBURY PLANNING BOARD

Municipal Office Building

127 Elm Street

Millbury, Massachusetts 01527

Dear Mr. Gosselin,

**Reference: Town of Millbury Improvements
Downtown Revitalization Project – Phase 2
Elm Street from River Street to Municipal Lot
Millbury, Massachusetts**

Dear Mr. Gosselin:

Subsequent to our letter report of July 5, 2021, and pursuant to the Board's request, Stantec Consulting Services Inc. (Stantec) has reviewed the Revised *Stormwater Management Permit* submittal for the Downtown Revitalization Project – Phase 2, roadway improvement project and reconstruction of municipal parking lot located on Elm Street from River Street to the municipal lot.

The following materials were received via email and hard copies on September 3 and 9, 2021.

- Design Development Plans for Improvements to Millbury Downtown Phase 2 (Sheet Nos. GD-01 thru GD-03, DN-11 thru DN-14, EX-1 thru EX-4, LL-00 thru LL-04), each as prepared by BL Companies.
- Response to Stantec's comment letter, dated September 2, 2021; Stormwater Management Summary Memorandum including attachments and figures, revised September 2, 2021, Draft Stormwater Pollution Prevention Plan; Test Pit and Laboratory Testing Letter, dated July 9, 2021, each as submitted by BL Companies (BLC).

The Stormwater Management Permit submittal was reviewed for conformance with the Town's Zoning Bylaws, Municipal Code Chapter 13.15 Post-Construction Stormwater Management of New Developments and Redevelopments, Massachusetts Department of Environmental Protection Stormwater Management Standards, and generally accepted engineering practice. We offer the following comments regarding the *Downtown Revitalization Project – Phase 2* submittal for the Board's consideration.

In general, the revised stormwater management permit submission adequately addresses Stantec's previous comments. We offer the following comments and recommendations on the remaining items in bold text which are cross-referenced to our July 5, 2021, letter report for the Board's consideration.

Design with community in mind



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**Reference: *Design Development Plans
Downtown Revitalization Project – Phase 2***

STORMWATER MANAGEMENT

The Stormwater Management Report is included in a memorandum with the subject entitled Stormwater Management Summary. The report includes a narrative with attachments that address the Town's General Bylaws for Stormwater Management, which includes Municipal Code Chapter 13.15 Post-Construction Stormwater Management of New Developments and Redevelopments which identifies information required for the Board to evaluate the environmental impact, effectiveness, and acceptability of the proposed measures, as well as meet the Massachusetts Stormwater Management Standards as set by the Department of Environmental Protection (DEP).

The Stormwater Management Permit submittal **to conform to the Town's *Stormwater Management Plan requirements, with the following exceptions. The following list refers to the Millbury Planning Board Submission of Stormwater Plan Review Checklist. Our review has only included "design" related items as part of the checklist.***

- We request an individual cross section of each Rain Garden area and Bioswale identifying the existing and proposed elevations, seasonal high groundwater, existing utilities, and surface features be provided for review.

Stantec (09/23/2021) Sheet Nos. DN-11 thru DN-14 provide cross section of each type of rain garden. Existing and proposed elevations, seasonal high groundwater, existing utilities and/or surface features are not shown on the cross sections. Stantec recommends information provided in the submitted Test Pit and Laboratory Testing Letter, dated July 9, 2021, regarding test pits performed in the rain gardens and bioswales located within the parking lot area be included on the cross sections. We note seasonal high groundwater was observed in TP1, TP3 and TP4 at depths of 5.5 feet, 5.5 feet and 6 feet and request BLC confirm separation of seasonal high ground water to bottom of the rain gardens.

- We recommend the pre- and post-construction drainage maps be revised to include additional documentation/clarification on the Point of Interest (POI) for the project area is the Blackstone River.

Stantec (09/23/2021) Comment addressed by revised stormwater management summary memorandum.

- We recommend construction schedule and sequence of redevelopment including clearing, demolition, rough grading, construction, final grading, paving, and vegetative stabilization be addressed by BLC.

Stantec (09/23/2021) As noted by BLC, the construction schedule will be provided to the Planning Board as the design project bid dates are set.



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**Reference: *Design Development Plans
Downtown Revitalization Project – Phase 2***

MassDEP Stormwater Standards

We offer the following comments on the proposed stormwater management system, specifically for compliance with the ten performance standards as outlined in the MassDEP Stormwater Management Standards.

1. Standard 2 – Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development discharge rates. As identified in the summary, the project will not result in an increase in peak flows under post- development conditions for the 2, 10, and 100-yr storm events.
 - a) We note that the location of POI-1 is in three separate locations, as shown in the existing and proposed drainage map. We recommend the pre- and post-construction drainage maps be revised to include additional documentation/clarification on the Point of Interest (POI) for the project area is the Blackstone River.

Stantec (09/23/2021) Comment addressed by revised stormwater management summary memorandum.

- b) We recommend the Applicant address discrepancy between the pre-construction runoff of the HydroCAD model and Table 1.
 - i. In the HydroCAD model, peak runoff during the pre-construction 2-year storm event is 9.61 cfs. However, in the Stormwater Management Summary Table 1. the runoff is listed as 8.94 cfs
 - ii. In the HydroCAD model, the peak runoff during the pre-construction 10-year storm event is 18.60 cfs. However, in the Stormwater Management Summary Table 1 the runoff is listed as 15.55 cfs.
 - iii. In the HydroCAD model, the runoff during the pre-construction 100-year storm event is 38.41 cfs. However, in the Stormwater Management Summary Table 1. the runoff is listed as 31.74 cfs.

Stantec (09/23/2021) Comments addressed by revised stormwater management summary memorandum.

- c) We recommend the Applicant address the discrepancy between the post-construction runoff of the HydroCAD model and Table 1.
 - i. In the HydroCAD model, the peak runoff during the post-construction 2-year storm event is 9.38 cfs. However, in the Stormwater Management Summary Table 1 the runoff is listed as 8.87 cfs
 - ii. In the HydroCAD model, the peak runoff during the post-construction 10-year storm event is 18.28 cfs. However, in the Stormwater Management Summary Table 1 the runoff is listed as 15.42 cfs.



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- iii. In the HydroCAD model, the peak runoff during the post-construction 100-year storm event is 37.96 cfs. However, in the Stormwater Management Summary Table 1 the runoff is listed as 31.53 cfs.

Stantec (09/23/2021) Comments addressed by revised stormwater management summary memorandum.

- d) The exiting drainage areas listed for EDA 100, EDA 200, and EDA 300 in HydroCAD does not match with the areas listed in Figure 2: Existing Drainage Map.

Stantec (09/23/2021) Comment addressed by revised stormwater management summary memorandum.

- e) The proposed drainage areas listed for PDA 300 in HydroCAD does not match with the areas listed in Figure 3: Proposed Drainage Map.

Stantec (09/23/2021) Comment addressed by revised stormwater management summary memorandum.

- f) We request a hydraulic analysis for the 2 and 10-year storm events be provided for the proposed Rain Gardens and Bioswale areas to further evaluate the hydraulic conditions of each stormwater BMP with respect to the estimated peak discharge rates at each location.

Stantec (09/23/2021) Comment remains to be addressed.

- 2. Standard 3 – Loss of annual recharge to groundwater should be eliminated or minimized using infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type.

The Applicant has provided calculations for groundwater recharge for the Rain Gardens and porous pavers, which results shows there is no loss of annual recharge to groundwater. However, we recommend a test pit be performed within the rain garden areas to verify the soil texture and seasonal high groundwater.

Stantec (09/23/2021) The submitted Test Pit and Laboratory Testing Letter, dated July 9, 2021, identifies four test pits performed in the rain gardens and bioswales located within the parking lot area on June 24, 2021. BLC has agreed to perform additional test pits within the rain garden areas and porous pavement/paver areas during the construction process.



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3. Standard 4 – 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

The submitted TSS removal worksheets show an improvement from existing conditions for total suspended solids (TSS) removal and water quality volume. However, we note the TSS removal at selected discharge locations is less than 80% and the total phosphorus removal is less than 50%.

Stantec (09/23/2021) We concur the project is a redevelopment and shall comply with Standard 4 to the maximum extent practicable, however the Town's Zoning Bylaws, Municipal Code Chapter 13.15 Post-Construction Stormwater Management of New Developments and Redevelopments requires TSS Removal of 80% and total phosphorus removal of 50%.

4. Standard 8 – 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.

As part of the stormwater management plan, we recommend an erosion and sedimentation control plan be included on the site plan. We recommend construction phasing, label, and identify areas of erosion and sediment controls be included on the plan.

In Stantec's opinion, the project will require coverage under the NPDES Construction General Permit and require the preparation of a Stormwater Pollution Prevention Plan (SWPPP). We recommend the SWPPP be provided to the Board prior to construction.

Stantec (09/23/2021) BLC has requested an erosion and sedimentation control plan will be prepared as part of the construction bid documents and agreed to provide the Stormwater Pollution Prevention Plan (SWPPP) to the Board prior to construction.

5. All illicit discharges to the stormwater management system are prohibited.

As stated by BL Companies, no illicit discharges are proposed to the stormwater management system. We recommend a signed illicit discharge statement be provided by the applicant.



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Stantec (09/23/2021) Comment remains to be addressed.

GENERAL COMMENTS

1. We recommend test pit logs be provided in Attachment H – Geotechnical Report.

Stantec (09/23/2021) The submitted Test Pit and Laboratory Testing Letter, dated July 9, 2021, identifies four test pits performed in the rain gardens and bioswales located within the parking lot area on June 24, 2021. BLC has agreed to perform additional test pits within the rain garden areas and porous pavement/paver areas during the construction process.

2. Site Drainage Details DN-04
 - a. Detail for overflow drain inlet be provided on the plans.

Stantec (09/23/2021) Comments addressed by the Design Development Plan Sheet DN-11.

If there are any questions regarding our comments and recommendations, please do not hesitate to call at 1-781-221-1134.

Regards,

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cc. Ms. Laurie Connors, Planning Director