



Stantec

Stantec Consulting Services Inc.

45 Network Drive 3rd Floor, Burlington MA 01803-2767

April 23, 2022
File: 179411041

Attention: Mr. Richard Gosselin, Chairman

MILLBURY PLANNING BOARD
Municipal Office Building
127 Elm Street
Millbury, Massachusetts 01527

Dear Mr. Gosselin,

**Reference: Site Plan/Stormwater Permit
44 Davis Road**

Pursuant to the Board's request, Stantec Consulting Services Inc. (Stantec) has reviewed the *Site Plan/Stormwater Permit for 44 Davis Road*, a proposed single-family building located in Millbury. The following materials were received on April 4, 2022.

- Site Plan for 44 Davis Road, Millbury, Massachusetts, 01527 (1 Sheet), dated March 23, 2022; Drainage Analysis, dated March 23, 2022; Application for Stormwater Permit, dated March 23, 2022, each as prepared by Alpha Omega Engineering, Inc. (AOE).

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 *Stormwater Management Permit 44 Davis Road* submittal for the Board's consideration.

SITE VISIT

As part of Stantec's review, Mr. David Glenn (Stantec) conducted a site visit of the project area to observe general site conditions and other relevant features. We also note Mr. David Glenn (Stantec) conducted a site visit on December 21, 2021, to witness tests pits performed by AOE at the project site (See attached report).

STORMWATER MANAGEMENT

The Stormwater Management Report is included under a separate cover of the same name with the Site Plan submission. 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).

Design with community in mind



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Stantec offers the following comments for the Board's consideration.

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.

- g) In general, the location of existing and proposed utilities is identified on the Site Plan.
- i) The existing site hydrology is shown on the Site Plan. An Existing Condition Plan is also included in the Drainage Analysis Report.
- l) The location of the test pit is noted on the Site Plan; however, the seasonal high groundwater elevation has not been provided on the Site Plan. **We recommend including the seasonal high groundwater elevation on the Site Plan.**
- m) Existing and proposed ground cover and runoff coefficients have been provided in the Drainage Analysis Report.
- n) A drainage area map showing pre and post conditions have been provided in the Stormwater Report. **We recommend labeling areas of A1, A2 and 1S on the proposed plan.**
- o) See general stormwater comments at the end of this letter report.
- p) The location of proposed improvements has been identified on the plans.
- q) A sequence of construction has not been provided in the Drainage Analysis Report or the Site Plan. **We recommend the construction sequence and details of proposed erosion control measures be included on the Site Plan.**

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. We request the Stormwater Report Checklist be included in the Drainage Analysis.

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

We recommend AOE provide calculation and details of the proposed driveway culvert and sediment forebay to avoid runoff from flowing onto Davis Road and the increase peak flow will not impact the existing 15" HDPE culvert is located southwest of the property.



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2. 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.

As noted in the Drainage Analysis Report, the proposed underground detention/infiltration system is designed for the 2 through 100-year storm events. The Report includes hydrology analysis for the 2, 10, 25, and 100-year storm events for the existing (pre-development) conditions, but only analysis for the 100-year storm event for the proposed (post-development) site conditions.

We request post development hydrology analysis for 2, 10 and 25-year storm events be provided by AOE.

The proposed infiltration system identifies fifteen (15) jumbo dry wells in 3 rows. We recommend AOE provide further documentation of the stage storage computations for the proposed infiltration system.

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 not provided calculations to confirm the annual recharge from the post-development approximated pre-development conditions. We recommend this item be addressed by AOE.

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 Applicant has not provided a worksheet or calculations to confirm that the stormwater management system is designed to meet the required TSS removal rate of 80% and required water quality volume. We recommend this item be addressed by AOE.



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5. 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 Water 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 5.00.

The project is not associated with a land use with higher potential pollutant load; therefore, this standard is not applicable.

6. 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 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, considering 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 "stormwater 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 Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

The project is not associated with stormwater discharges near a critical area; therefore, this standard is not applicable.

7. 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

This project is a new development; therefore, this standard is not applicable.

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.



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The Site Plan identifies an erosion control barrier and limit of work along segments of the site. We recommend details of the erosion control measures and limit of the erosion control measures be extended around the entire site perimeter.

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

An operation and maintenance plan were included on the Site Plan.

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

An illicit discharge statement was not included as part of this submission. We recommend this item be addressed by AOE.

GENERAL COMMENTS

Stormwater

1. The summary for Pond IS: Leaching Area (IS) inverts do not reflect inverts noted on the Site Plan.
2. In the hydrology analysis, the pipe for Reach 1R inverts do not match what is noted on the Site Plan.
3. The proposed conditions plan, included in the Drainage Analysis Report, does not depict the drainage pipes and structure coming in from the roof downspouts into the proposed infiltration system.
4. We recommend the cross section of the proposed subsurface infiltration system as shown on the Site Plan identify items such as existing/proposed grades and seasonal high groundwater.
5. The cross section of the proposed infiltration system depicts an inspection cover. We recommend showing the inspection covers on the Site Plan with rim elevations.
6. A detail for a 4' wide water quality swale has been included on the Site Plan. We recommend location of the water quality swale be identified on the plan.
7. The site plan identifies a 30" diameter nyloplast manhole. We recommend for future maintenance a 48" diameter drainage manhole.
8. We request additional information/specification be provided regarding the proposed 40 mil plastic barrier and fill material as shown on Site Plan.



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9. Provide calculations regarding the average annual load of Total Phosphorus and estimated pollution removal.

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

Regards,

STANTEC CONSULTING SERVICES INC.

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Attachment

cc.Mr. Connor McCormack, Acting Planning Director