

# Horsley Witten Group

*Sustainable Environmental Solutions*

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October 12, 2021

Ms. Beth Suedmeyer  
Environmental Planner  
Planning and Community Development  
Town of Sudbury  
278 Old Sudbury Road  
Sudbury, Massachusetts 01776

Re: 2<sup>nd</sup> Peer Review of Stormwater Management  
Parking Lot Expansion at Wolbach Farm  
18 Wolbach Road, Sudbury, MA

Dear Ms. Suedmeyer and Board Members:

The Horsley Witten Group, Inc. (HW) is pleased to provide the Sudbury Planning Board with this letter report summarizing our second technical peer review of the proposed improvements at Wolbach Farm at 18 Wolbach Road, Sudbury, Massachusetts. DGT Associates has submitted a Site Plan Review application on behalf of Sudbury Valley Trustees (Applicant). The proposed project includes expanding the existing gravel parking lot by ten (10) spots, reconstructing an existing walkway to be Americans with Disabilities Act (ADA) compliant, and the construction of a paved entry plaza. The existing site is 52.8 acres of open space and 1.2 acres that operate as the headquarters for the Sudbury Valley Trustees. The proposed stormwater management system consists of a rain garden (bioretention area) on the northern end of the site that will collect runoff from the parking lot. A portion of the improved sidewalk and paver plaza is located within the 100-foot buffer of the adjacent wetland resource area.

HW has received the following additional materials in response to our September 15, 2021 review letter:

- Response to Comments Letter, 18 Wolbach Road, prepared by DGT Associates, October 5, 2021 (4 pages).
- Soil Profile Information at the Proposed Rain Garden, prepared by DGT Associates, October 4, 2021 (3 pages).
- Stormwater Operations and Maintenance Plan, for SVT Headquarters at Wolbach Farm, 18 Wolbach Road, prepared by DGT Associates, revised October 5, 2021 (13 pages).
- Full Site Plan, SVT Headquarters at Wolbach Farm, prepared by DGT Associates, dated June 1, 2021, revised through October 5, 2021, including:
  - Site Demo & Erosion & Sediment Control 1 of 6
  - Proposed Site Plan #1 2 of 6
  - Proposed Site Plan #2 3 of 6

- Site Details #1 4 of 6
- Site Details #2 5 of 6
- Sitework Alternate Details 6 of 6

### **Stormwater Management Review**

HW has reviewed the documents listed above and has the following comments concerning the stormwater management design in accordance with the Massachusetts Stormwater Handbook (MSH) dated February 2008 and the Town of Sudbury Stormwater Regulations.

The existing site contains approximately 7,243 sf of impervious area from the existing roof and pavement/gravel areas. The proposed improvements include approximately 10,663 sf of impervious area, an increase of 3,420 sf. The project is considered a mix of new and redevelopment. In accordance with Massachusetts Department of Environmental Protection (MassDEP), a redevelopment project is subject to the MassDEP Stormwater Standards 2 through 7 to the maximum extent practicable. The portion of the site considered new development is required to comply fully with the Massachusetts Stormwater Standards. Below are comments relating to the standards as presented in the MSH.

The following comments correlate to our September 15, 2021 initial peer review letter. Follow up comments are provided in **bold font**:

1. *Standard 1 states that no new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.*
  - a. The Applicant is proposing a rain garden (bioretention area) to capture and treat stormwater runoff from the expanded parking lot. The rain garden is designed with an overflow spillway that drains to a grass swale adjacent to the parking lot. The Applicant has also provided the calculations for the proposed outfall confirming that the velocities will not cause erosion to the downgradient existing grass field. There are no new stormwater conveyances that may discharge untreated stormwater to or cause erosion in wetlands or waters of the Commonwealth.

The Applicant complies with Standard 1.

**October 12, 2021: No further comment needed.**

2. *Standard 2 requires that stormwater management systems must be designed so that post-development peak discharge rates and volumes do not exceed pre-development peak discharge rates and volume.*
  - a. The Applicant is proposing to expand the existing gravel driveway with approximately 2,840 square feet (sf) of additional gravel and 570 sf of additional asphalt. To manage the additional runoff a rain garden has been proposed at the end of the parking lot and a grass swale is proposed along the western edge of the parking lot to avoid the runoff from catchment area E-1 from flowing over the parking lot. The Applicant has provided the pre-development and post-development watershed maps and the delineations appear reasonable. The Applicant has also provided the HydroCAD model for the 1-inch, 2-year, 10-year, 25-year, and 100-year storm events. The proposed peak flows have been reduced for all storm events evaluated.

**October 12, 2021: No further comment needed.**

- b. The Applicant provided four (4) test pits within the area of the proposed parking lot. Test pit 19-03 was conducted within the proposed location of the rain garden. Groundwater was determined to be 54 inches below the surface at approximately elevation 144.0. The soil was noted to be fine loamy sand and silt loam. The bottom of the rain garden is set at elevation 146.50 and the Applicant used an exfiltration rate of 2.41 inches per hour (iph). The Applicant has provided adequate separation to groundwater however the exfiltration rate used is probably higher than is reasonable. HW recommends that the Applicant justify the use of 2.41 iph.

**October 12, 2021: The Applicant has provided detailed insight into the use of 2.41 iph as the exfiltration rate. During on site permeability testing the existing loamy sand had an exfiltration rate of 4.718 iph. The Applicant provided a cross section of the proposed bioretention area that shows it will be fully surrounded by the loamy sand. HW concurs with the Applicant's use of 4.21 iph as an exfiltration rate. No further comment needed.**

**The Applicant complies with Standard 2.**

3. *Standard 3 requires that the annual recharge from the post-development site should approximate the annual recharge rate from pre-development or existing site conditions, based on soil types.*
  - a. As noted above the Applicant has provided a rain garden and grass swale to capture and infiltrate stormwater from the parking lot. As designated in the Stormwater Manual 0.35 inches of runoff for HSG B soils was used to determine a minimum recharge volume of 233 cf for the proposed parking lot and paver plaza. The rain garden (bioretention area) provides a recharge volume of 673 cf.

The Applicant complies with Standard 3.

**October 12, 2021: No further comment needed.**

4. *Standard 4 requires that the stormwater system must be designed to remove 80% of the average annual load of Total Suspended Solids (TSS).*
  - a. The Applicant has provided a rain garden (bioretention area) to manage 1-inch over the impervious area for water quality and included a sediment forebay to provide 93% TSS removal of the parking lot runoff.

The Applicant complies with Standard 4.

**October 12, 2021: No further comment needed.**

5. *Standard 5 is related to projects with a Land Use of Higher Potential Pollutant Loads (LUHPPL).*
  - a. A parking lot with less than 1,000 vehicle trips per day is not considered a LUHPPL and therefore Standard 5 is not applicable.

**October 12, 2021: No further comment needed.**

6. *Standard 6 is related to projects with stormwater discharging into a critical area, a Zone II or an Interim Wellhead Protection Area of a public water supply.*

- a. The development does not discharge to a critical area, a Zone II or an Interim Wellhead Protection Area and therefore Standard 6 is not applicable.

**October 12, 2021: No further comment needed.**

7. *Standard 7 is related to projects considered Redevelopment. A redevelopment project is required to meet the Stormwater Management Standards to the maximum extent practicable. However, if it is not practicable to meet all the standards, new stormwater management systems must be designed to improve existing conditions.*

- a. The project site is considered a mix of new and redevelopment, and therefore the Applicant is required to meet the Stormwater Management Standards only to the maximum extent practicable for the redevelopment portion of the project. The Applicant has proposed to fully comply with the stormwater standards. The small increase in impervious area on site will be treated by the proposed rain garden.

The Applicant complies with Standard 7.

**October 12, 2021: No further comment needed.**

8. *Standard 8 requires an erosion and sediment controls to be implemented to prevent impacts during disturbance and construction activities.*

- a. The Applicant has included a Site Demo & Erosion & Sediment Control Plan on Sheet 1 of 6 of the Site Plan set. The plan includes the construction entrance, catch basin inlet protection, fiber log for erosion control barrier, and erosion control notes.

**October 12, 2021: No further comment needed.**

- b. HW recommends that additional erosion control barriers are placed on the east side of Wolbach Street to protect the existing wetland from sediment that might migrate down the existing driveway.

**October 12, 2021: The Applicant added additional erosion control barriers on the east side of Wolbach Street. No further comment needed.**

- c. HW recommends that note 2 under the Soil Stockpiles note be amended to state that all stockpiles shall be covered at the end of each workday, as required in the Town of Sudbury Stormwater Regulations B.6.I.

**October 12, 2021: The Applicant revised the note to state that stockpiles shall be covered at the end of each day. No further comment needed.**

**The Applicant complies with Standard 8.**

9. *Standard 9 requires an Operation and Maintenance (O&M) Plan to be provided.*

- a. The Applicant has provided an O&M Plan and Pollution Prevention Plan in the Stormwater Management Report Appendix 2. HW recommends including an estimated O&M budget with the O&M Plan.

**October 12, 2021: An O&M cost estimate is included in the updated O&M Plan. The Applicant noted that other than an outside contractor being used to remove sediment from the sediment forebays twice a year the maintenance of stormwater units will be handled in house. No further comment needed.**

- b. As stated in the Town of Sudbury Stormwater Regulations C.2.b the O&M Plan must be signed by the owner(s). HW recommends that the Planning Board require receipt of a signed O&M Plan prior to any land disturbance.

**October 12, 2021: The Applicant has added a signature line to the O&M Plan and the Owner will provide a signed copy prior to the start of work as suggested. No further comment needed.**

- c. HW recommends that the Applicant include a simple sketch with the O&M Plan that clearly labels all stormwater practices within the entire facility that require inspections and maintenance. The Applicant may consider signage of the rain garden and grass swale for education purposes.

**October 12, 2021: A sketch of the stormwater practices has been included in the updated O&M Plan provided by the Applicant. SVT will consider the addition of educational signage at proposed stormwater units moving forward. No further comment needed.**

**The Applicant complies with Standard 9.**

10. *Standard 10 states that when one or more of the standards cannot be met, an applicant may demonstrate that an equivalent level of environmental protection will be provided.*

- a. The Applicant has noted that an illicit discharge statement will be provided prior to stormwater discharging into the stormwater system. HW recommends that the Planning Board require receipt of the statement as a condition of approval.

**October 12, 2021: The Applicant stated that a signed illicit discharge statement has already been completed for the Stormwater Report and will be provided to the Planning Board with SVT as the Owner. No further comment needed.**

### **Conclusions**

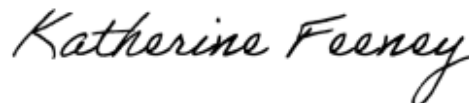
HW is satisfied that the proposed stormwater management complies with the Massachusetts Stormwater Handbook and the Town of Sudbury Stormwater Regulations. Please contact Janet Bernardo at [jbernardo@horsleywitten.com](mailto:jbernardo@horsleywitten.com) or at 857-263-8193 if you have any questions regarding these comments.

Sincerely,

HORSLEY WITTEN GROUP, INC.



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Katherine Feeney  
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