

September 8, 2021

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Wayland Planning Board
Town of Wayland
c/o Sarkis Sarkisian
Town Planner
41 Cochituate Road
Wayland, MA 01778

**RE: Peer Review –Wayland Planning Board
Proposed Conservation Cluster Subdivision Development
27 Sherman’s Road, Wayland, MA**

Dear Members of the Planning Board and Sarkis,

BSC Group, Inc. (BSC) is pleased to submit this preliminary peer review for the 27 Sherman’s Bridge Road Conservation Cluster development, which is currently before your Board. BSC provides this review of the documents submitted by the Applicant to the Planning Board pertaining to the project’s compliance with Wayland’s Subdivision and Conservation Cluster Subdivision regulations, site layout and grading, proposed erosion and sedimentation controls, and standard engineering practices. Please note that the Wayland Conservation Commission has ongoing separate reviews of the Project’s Stormwater Management System being undertaken by DGT Associates and for Environmental Wetlands evaluation by BSC Wetlands Scientists from our Worcester office. This work referenced below is being undertaken under BSC’s contract, revised through August 19, 2021 as signed and approved by Sarkis Sarkesian, dated August 20, 2021.

BASIS OF CURRENT REVIEW

For this peer review, BSC reviewed the following documents:

REGULATIONS AND TECHNICAL DOCUMENTS – 27 SHERMAN’S BRIDGE ROAD CONSERVATION CLUSTER SUBDIVISION:

1. Town of Wayland Subdivision Rules and Regulations, Adopted October 1, 1968, Revised September 4, 2001 and August 15, 2015.
2. Massachusetts Department of Environmental Protection (DEP) Massachusetts Stormwater Handbook.
3. The Town of Wayland Bylaws, Chapter 193, Stormwater and Land Disturbance.
4. Standard Engineering Practices



AVAILABLE PERMITTING DOCUMENTS – 27 SHERMAN’S BRIDGE CONSERVATION CLUSTER SUBDIVISION:

- Chapter 193 Application dated June 1, 2021 and cover letter By Sullivan, Connor and Associates dated June 17, 2021;
- Plans By Sullivan, Connors and Associates: - “Definitive Subdivision, 27 Sherman’s Bridge Road, Conservation Cluster, Wayland, MA” (8 sheets) dated June 1, 2021, revised September 3, 2021.
- Plan By Sullivan, Connors and Associates: - “Conventional Subdivision Layout of 27 Sherman’s Bridge Road, Proof Plan, Wayland, MA” (1 sheet) dated June 1, 2021, revised September 3, 2021.
- Plan By Sullivan, Connors and Associates: - “Definitive Subdivision, 27 Sherman’s Bridge Road, Conservation Cluster, Intersection Plan, Wayland, MA” (1 sheet) dated June 1, 2021, revised September 3, 2021.
- Cover Letter By Sullivan, Connors and Associates: Aquifer Protection District Special Permit & Updated Submission Materials, 27 Sherman’s Bridge Road, Conservation Cluster, Intersection Plan, Wayland, MA” dated September 7, 2021.
- Memorandum from Sarkis Sarkesian, Town Planner, to Planning Board, Staff Report – 27 Sherman’s Bridge Definitive Subdivision and Special Permit for a Conservation Cluster Development to create five (5) residential lots, dated July 28, 2021.
- Memorandum from Linda Hansen, Conservation Administrator, Proposed Cluster Site Development at 25-27 Sherman Bridge Road, dated August 26, 2021.
- Existing Aerial Conditions Plan by Sullivan, Connors and Associates: - “Definitive Subdivision, 27 Sherman’s Bridge Road, Conservation Cluster, Wayland, MA” (1 sheet) dated June 1, 2021.
- Wetlands Resource Evaluation, 27 Sherman’s Bridge Road, Wayland , Massachusetts, prepared by EcoTec Inc., Environmental Consulting Services, dated May 28, 2021, revised July 29, 2021.
- A visit to the site with Sarkis Sarkesian, members of the Planning Board, neighborhood residents, and members of the applicant’s project team on August 16, 2021.
- Peer Review Letter, Wayland Bylaw Ch. 193 Stormwater and Land Disturbance, prepared by DGT, dated September 2, 2021.
- Note: As was mentioned above, BSC did not review Report: - “Stormwater Management Report, 27 Sherman’s Bridge Road, Wayland, Massachusetts” By Sullivan, Connors and Associates dated 1/12/2021.



PROJECT REVIEW COMMENTS

BSC offers the Planning Board the following comments based on our preliminary review of the project and information detailed above. Please note that with the receipt of some materials from the applicant's project team on September 7 and 8, 2021, BSC has not been able to conduct a detailed review of these new materials.

I. Procedural Items and/or misc. comments

- a. As the Planning Board is well aware, the proposed Conservation Cluster Subdivision is currently under review by Wayland Conservation Commission under the Town of Wayland Bylaws, Chapter 193, Stormwater and Land Disturbance. BSC has reviewed the comments from Linda Hansen, Conservation Administrator and Fred King of DGT. Except as may be directly applicable to BSC's review scope, BSC makes no comments regarding these materials.
- b. While BSC's review of the application materials is focused on the project's compliance with Wayland's pertaining to the project's compliance with Wayland's Subdivision and Conservation Cluster Subdivision regulations, site layout and grading, proposed erosion and sedimentation controls, and standard engineering practices. BSC presumes that appropriate waivers from the Subdivision Design Standards have or will be requested by the Applicant.
- c. BSC understands that other Town agencies, staff and officials are in the process of providing their review comments and input to the Planning Board for this project.
- d. As the proposed development will disturb more than 1 acre of land, the project will be subject to a EPA NPDES Permit. This will require the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and the filing for a federal permit. This filing is not noted within this section of the Definitive Subdivision application.

It is suggested that the Planning Board require that the applicant provides a copy of the SWPPP and EPA application to the Boards' staff prior to the commencement of any construction activities on the site.



II. Technical Items

A. “Conventional Subdivision Layout of 27 Sherman’s Bridge Road, Proof Plan, Wayland, MA”

BSC understands that the purpose of this plan is to demonstrate that a standard conventional subdivision could be constructed on this site which meets the requirements of a Definitive Subdivision.

BSC provides the following comments regarding the Proof Plan referenced above as included with this application:

1. Except for the areas immediately adjacent to the proposed subdivision roadway, no grading information is provided relative to the proposed conventional subdivision lots. This comment was also noted in the DGT review for the Conservation Commission.
2. The project site has considerable changes in topography and steep slopes, dropping 30 feet vertically over approximately 200 feet horizontally from the proposed roadway cul-de-sac to the edge of the property to the north and west, and dropping nearly 40 feet vertically over a distance of almost 200 feet from the cul-de-sac to the kettle hole to the north east.
3. Development of the lots associated with this conventional development will require considerable regrading of the site and/or retaining walls. Presuming that the subsurface sewage disposal systems that will serve these proposed lots will be constructed in the locations where test pits have been undertaken, due to the existing grades in these areas, which range from 3:1 to 5:1 slopes, the construction of these systems will also require extensive, if more limited regrading of these lots.
4. The steep existing slopes, varying from 2:1 to 5:1, within many of the proposed conventional lots result in large portions of these lots being “unusable” to future homeowners.
5. Assuming lot development areas like those shown on Sheet 5 of 6, *Erosion Control and Demolition Plan*, within the Conservation Cluster Subdivision Plan set, fill depths at the lower sections of the lots within the Conventional Subdivision could range from 2 to 18 feet and/or require retaining walls. It is possible that proposed residences with walk out lower levels could mitigate some of this grade change.
6. The regrading associated with the proposed lot development, including the subsurface sewage disposal systems would require removal of additional existing site vegetation and trees beyond that needed for the proposed residences and their immediate surrounding area.



7. While a proposed stormwater management system using an infiltration basin for groundwater recharge is shown on the Conservation Cluster Subdivision Plan, no stormwater management features are indicated on the Conventional Subdivision Proof Plan. Presuming a similar type stormwater management system would be utilized for the Conventional Subdivision, this would need to be located on one of the proposed lots, well below the proposed subdivision roadway to allow for runoff to flow by gravity into a proposed infiltration basin. While any such infiltration basin would need to be designed for the specific proposed development, for a comparison, the proposed infiltration basin shown on Sheet 5 of 6, *Erosion Control and Demolition Plan*, for the Conservation Cluster Subdivision, encompasses an area of approximately 110 by 80 feet in what would be the northern corner of Lot 3 of the Conventional Subdivision.
8. The Isolated Wetland located within the kettle hole has been labelled a “potential Vernal Pool” by the Conservation Administrator. If this kettle hole is confirmed to be a certified vernal pool, this could impact the development with a 100-foot buffer to the limits of the vernal pool.
9. While the layout of the proposed Conventional Subdivision appears to meet the subdivision regulations dimensional requirements, there appear to be constructability issues associated with this proposed development.
10. **BSC suggests that the Planning Board consider requesting the applicant to provide a preliminary grading plan for the proposed lots, as well as evaluating how runoff from the conventional subdivision would be handled to determine the overall impact to the existing site from this development.**

B. “Definitive Subdivision, 27 Sherman’s Bridge Road, Conservation Cluster, Wayland, MA”

In general, many of the above comments can be applied to the Conservation Cluster Subdivision. A possible layout of the proposed development on the 5 Cluster Subdivision lots is shown on Sheet 5 of 6, *Erosion Control and Demolition Plan*, for the Conservation Cluster Subdivision. The layout of the proposed subdivision, lotting and grading of the subdivision roadway are shown on Sheets 2 through 5 of the Conservation Cluster Subdivision Plan Set.

BSC provides the following comments regarding the Conservation Cluster Subdivision Plan Set, referenced above as included with this application:



1. Except for the areas immediately adjacent to the proposed subdivision roadway, no grading information is provided relative to the proposed conventional subdivision lots. This comment was also noted in the DGT review for the Conservation Commission.
2. Proposed residences and septic system locations are shown on Sheet 5 of 6, *Erosion Control and Demolition Plan*, for the Conservation Cluster Subdivision. No grading is shown for these areas. Dry well locations are shown to handle roof runoff from each residence.
3. Development of the lots associated with this conventional development will require considerable regrading of the site and/or retaining walls. For some lots, this will not be a significant issue. For other lots this will require considerable site disturbance. It is understood that the lot development shown is conceptual. However, what is shown is reasonable considering zoning setbacks and access to the lots. For example:
 - Lot 1: proposed subsurface sewage disposal system locations have existing grades of between 164 to 154. These systems will need to have grading associated with these which will extend onto Lot 2.
 - Lot 2: proposed grade at the end of the cul-de-sac is at elevation 172. The existing grade at the front face of the proposed residence ranges between elevation 154 to 164. The existing grade at the rear of the proposed residence ranges from elevation 151 to 158. The existing grades at the subsurface sewage disposal system locations range from 146 to 157. As these are located at the edge of the limit of clearing shown on this plan, it is likely the limit of clearing will need to be extended beyond that shown to accommodate the grading required for the system.
 - Lot 5: The proposed residence will likely require grading or retaining wall to the west behind the house as the existing grade falls off at an approximate 4:1 slope. The existing grades over the proposed subsurface sewer disposal system locations range between elevation 162 to 170. The installation of the system will require excavation in these areas. As the system is located adjacent to the no disturb area, it is likely removal of existing vegetation and trees will extend into the no disturb area.
4. The proposed subdivision road intersection with Sherman's Bridge Road may require vegetation removal and regrading of the areas immediately adjacent to the intersection to provide adequate sight distance for vehicles entering onto Sherman's Bridge Road. Site distance should also be checked for vehicles moving along Sherman's Bridge Road to the subdivision roadway.



5. The proposed stormwater management system for the subdivision roadway collects runoff from the road and conveys into through pipes into an infiltration basin located just north of Proposed Lot 3. The grade change from the end of the cul-de-sac to the basin forebay is approximately 20 feet vertically over a distance of about 190 feet. No access is provided to the infiltration basin for future maintenance.
6. The proposed stormwater management system uses catch basin deep sumps with hoods and the infiltration forebay to remove the 44% total suspended solids (TSS) required by the MA DEP Stormwater regulations. The concern here relates to Item 5 above – without accessibility to the basin for maintenance, the basin could accumulate sediment and not be able to remove the sediment as required by DEP. It is recommended that a Water Quality Unit be installed within the proposed roadway prior to its discharge down to the basin to provide the TSS removal at a location that could be easily checked and maintained by the future Home Owners Association. Please note the DGT peer review letter contained comments regarding the TSS removal for the proposed development.
7. Presuming that the subsurface sewage disposal systems that will serve these proposed lots will be constructed in the locations where test pits have been undertaken, due to the existing grades in these areas, which range from 3:1 to 5:1 slopes, the construction of these systems will also require extensive, if more limited regrading of these lots.
8. The Isolated Wetland located within the kettle hole has been labelled a “potential Vernal Pool” by the Conservation Administrator. If this kettle hole is confirmed to be a certified vernal pool, this could impact the development with a 100-foot buffer to the limits of the vernal pool.
9. The Open Land shown along the perimeter of the Cluster Subdivision varies in width along the south, east and portions of the west side of the property from 35 to 50’. As a purpose of the Conservation Cluster Subdivision is to provide avenues for future wildlife to traverse the site, do this limited corridors provide sufficient means to sustain this purpose?
10. Grading of the lots outside of the developed areas, even in areas that will remain pervious, will change the runoff characteristics from these areas. For example, the existing hydraulic calculations used for this development use a hydraulic runoff Curve Number taken from the USDA TR-55 hydrology program of 30 for good woodland areas with a soil classification of A, highly permeable soils. This is reasonable for the existing site conditions. The same numbers are used for the proposed conditions, when much of the site will be cleared and replaced with lawn or non-forested vegetation. The standard Curve Number for good lawn or non-forested land surfaces in an A soils area is 39. The use of the lower Curve Number for the redeveloped pervious areas of the site may result in increases in



runoff to these areas. While the increase may be minimal, it still should be investigated.

11. As noted for the Conventional Subdivision, while the layout of the proposed Conservation Cluster Subdivision appears to meet the subdivision regulations dimensional requirements, there appear to be constructability issues associated with this proposed development.

Based upon the above preliminary review comments, BSC believes that further discussion with the Planning Board and the Applicant's project team is warranted before proceeding with a more detailed review of the Conservation Cluster Subdivision submission materials.

We look forward to discussing this project with you further at the public hearings on the project. Please feel free to contact me at (617) 896-4471 or fdipietro@bscgroup.com should you have any questions on the information in this report.

BSC Group welcomes the opportunity to provide our services to the Town of Wayland.

Sincerely,

BSC GROUP, INC.

Frank DiPietro, P.E.
Senior Associate, Senior Project Manager