

HD Design

161 W. High Street,
Avon, MA 02322
Cell: (508) 840-1045
Email: hazem.dani87@gmail.com

Date: 02/18/2025

Amesbury Planning Board
Attn: Mr. Pascal Rettig, Chairman, and
Amesbury Community & Economic Development
Attn: Mr. Nipun Jain, Director of Planning
39 South Hunt Road - Amesbury, MA 01913

**Re: Proposed Single-family Dwelling
31 Newton Road, Amesbury MA
Assessor Map 33, Lot 32 at 31 Newton Road
Response to Comments 2**

Dear Mr. Rettig and Mr. Jain:

HD Design is pleased to submit this correspondence and enclosed plans and reports in response to Stantec comments received on February 7, 2025, for the subject site. Stantec comments are provided below in standard text, followed by our responses in ***Bold Italic Text***.

Comments:

- 1- Response acknowledged. As noted previously and agreed above by the Applicant, we recommend the approved Order of Conditions for this project be a condition of the Planning Board's approval.

Response: Acknowledged.

- 2- Comment addressed with revised submission.

Response: Acknowledged.

- 3- The Applicant has significantly revised the site design to now include two separate stormwater basins, with one located part way along the driveway with the design intent to be above the water table to infiltrate runoff and recharge and the other to be a "constructed stormwater wetland." We note the following general concerns with the revised design:

- A. Basin #1 is not adequately sized to address the site runoff directed to it under the post development 10-year storm event (a standard storm for residential development) with

analysis indicating that 4.24 cfs of the total 6.22 cfs to the basin will overtop the embankment at a width of 67 feet and depth of 0.14 feet (~1.68") and sheet flow 132 feet to the wetland adjacent to Newton Road (Reach 3P). Only 1.93 cfs will properly discharge through the indicated outlet structure that appears undersized. This design approach to overtop the entire downstream basin embankment is not an appropriate design or a standard engineering practice. Stormwater facilities should be designed to capture all of the flow directed to the facility with appropriate outlet devices and overflow devices for large storm events (i.e., 100-year). A stormwater facility embankment is not an appropriate secondary overflow device. The Applicant should review and revise the design accordingly.

Response: Additional storage was added to Basin #1 by raising the berm to elevation 138.60 and the grate outlet to elevation 137.0; increasing the overall storage capacity of Basin#1. Additionally, a riprap spillway outlet was added as an overflow device in lieu of the previous discharge over the grassed berm; ensuring a safe discharge of the storm event flows up to the 100-year flows. As a result, the attached hydroCAD model indicates that 100-year ponding elevation is 138.11 feet, and the spillway flow velocity is 1.88 foot per second which is a non-erosive velocity and acceptable as a means of discharging overland to the downstream area. While it is not the intent of the design that the Stormwater Management System to store the 100-year runoff volume below the outlet invert elevation; The revised Basin#1 design complies with all applicable Stormwater Standards. Additionally, the proposed roof and pavement area runoff has now been directed into an underground ADS Stormtech chambers (underground recharge system) leading to the less runoff being directed to the basin in question.

- B. The proposed "constructed stormwater wetland" adjacent to the existing wetland indicates the basin bottom at elevation 113.75 that would be above the seasonal high-water table (SHWT) at elevation 113.0 and does not meet the design intent information under Volume 2 Chapter 2 of the Massachusetts Stormwater Manual. V2:C2 of the Manual indicates this BMP should have the basin bottom below the SHWT and provide a source to maintain the wetland vegetation. We note the proposed basin design does not provide a micro pool area with a water depth of 1.5 to 6 feet per detail CWS4 or Table CWS.1 as noted in V2:C2 of the Manual. In addition, the design does not provide an outlet control device consistent with V2:C2 of the Manual and per standard engineering practice. All stormwater ponds should have an outlet control device. The Applicant should review and revise the design accordingly in conformance with V2:C2 of the Manual.

Response: The bottom of the constructed stormwater wetland has been lowered to elevation 110.0 which matches the lowest elevation of the adjacent Bordering vegetated wetland, and also 2-ft below the estimated seasonal high groundwater; providing a source for maintaining the wetland vegetation and micro pool, as requested. A riprap spillway outlet has also been added as a primary outlet to the constructed wetland area

to safely convey the stormwater to the downstream wetland. The attached hydroCAD model indicates that 100-year ponding elevation is 115.40 feet, and the spillway flow velocity is 1.78 foot per second which is a non-erosive velocity and acceptable as a means of discharging overland to the downstream wetland area during the 100-yr storm event. The revised constructed stormwater wetland safely conveys the 100-year storm event to the downstream areas and complies with all applicable Stormwater Standards without being overtopped.

- C. Under the post development 10-year storm event for the “constructed stormwater wetland”, the analysis indicates the flow (2.38 cfs) will overtop the indicated 40 foot long embankment adjacent to the wetland and sheet flow at a depth of ~3/4” into the wetland. As noted previously, a stormwater facility embankment is not an appropriate overflow device.

Response: The now added primary outlet device (riprap spillway) controls 4.57 cfs during the 10-year storm at a non-erosive velocity of 1.56 ft without overtopping the constructed stormwater wetland. The revised constructed stormwater wetland design complies with all applicable Stormwater Standards.

- D. The post development analysis for the “constructed stormwater wetland” indicates infiltration which is not expected or considered (no recharge) for this type of BMP as noted in V2:C2 of the Manual. The analysis should be revised accordingly.

Response: As requested, the exfiltration has been removed from the HydroCAD model as an outlet of the wetland area. The only primary outlet device now consists of the riprap spillway.

- 4- The Applicant has noted that the driveway design has changed and improved the ability to capture site runoff. As previously requested, please provide documentation from the DPW that the updated driveway is acceptable for the Planning Board’s project file.

Response: As indicated previously, the DPW, Assistant Director of Public Works/City Engineer, Ms. Lisa DeMeo has reviewed the submitted materials for the Site Plan Application, under application #Site-24-4, on October 18, 2024. Ms. DeMeo provided “No Comment” as a result of their review. This information can be found on the Amesbury Online Permitting Portal. It is not typical for an applicant to request additional documentation from a department where such a department had already reviewed the project and provided no comments. We refer the Planning Board to the Amesbury Online Permitting Portal for various departmental comments. This matter can be further discussed with the Planning Board during the public hearing if desired.

- 5- The Applicant should revise the constructed stormwater wetland planting plan consistent with the Massachusetts Stormwater Handbook or as acceptable to the Conservation Commission.

Response: The constructed stormwater wetland planting has been revised to match the adjacent wetland replication area, which has already been reviewed and approved by the former Conservation Agent (Ms. Alison McKay). The proposed planting can be further discussed with the Conservation Commission outside of the Planning Board process if needed.

- 6- Comment addressed with revised design submission.
7- Comment addressed with revised design submission.
8- Comment addressed with revised design submission.
9- Comment addressed with revised design submission.
10- Comment addressed with revised design submission

Response (6-10): Acknowledged.

- 11- As noted in the Applicant's response above, we recommend the Applicant submit a written waiver request for Planning Board consideration.

Response: A separate letter addressed to the Planning requesting a waiver from the Tree Survey is attached to this correspondence.

- 12- Comment addressed with revised design submission.

Response: Acknowledged.

- 13- The Applicant has provided a stormwater management report for the project. We note the following general concerns:

- A. Comment addressed with revised design submission.
- B. Comment addressed with revised design submission.
- C. Comment addressed with revised design submission.
- D. Comment addressed with revised design submission.
- E. Comment addressed with revised design submission.

Response (A-E): Acknowledged.

- F. With the update to the analysis that includes the entire watershed upstream of the site, the primary watershed size has increased from 1.94 acres to 4.70 acres with 2.76 acres above the development site which the Applicant has chosen to convey to the on-site stormwater systems. As noted above in comment 3, the proposed stormwater facilities are not appropriately sized to manage all of the flow directed to them. The Applicant should review and revise the design and analysis to have properly sized stormwater

facilities. The Applicant may want to consider if there are means to have the upstream flow bypass the development area.

Response: With the challenging topography of this site and sensitivity of the watershed, it is not our desire to create additional land disturbance and create new drainageways to bypass the upstream flow. Additionally, we have added new outlet devices consisting of riprap spillways to properly discharge the flows to the downstream areas from the proposed BMPs. We have increased the storage capacity of the BMPs to the maximum extent practicable. A new underground ADS Stormtech Chambers were added to collect and recharge groundwater from the roof and paved area; creating additional separation of stormwater runoff without overloading Basin#1 and the Stormwater Constructed Wetland Area.

As required by the MA Stormwater regulations, the stormwater management system design provides the require water quality volume and recharge to groundwater while safely discharging to the downstream areas as indicated in our response to comment #3. It is our professional opinion that, the revised design has explored all practical options for this hilly site; and provides a stormwater system that is appropriately sized and mitigates for any increase in stormwater runoff resulting from this project.

- G. Comment addressed with revised design submission.
- H. Comment addressed with revised design submission.
- I. Comment addressed with revised design submission.
- J. Comment addressed with revised design submission.
- K. Comment addressed with revised design submission.

Response(G-K): Acknowledged.

- L. Please clarify/address the following relative to the submitted Long Term Pollution Prevention and Operations and Maintenance Plan document in section 2.0:

- 1. Please indicate and label the snow storage locations on the sheet C-101 as noted on page 3. In addition, please update the O&M plan in the document to show the snow storage locations.

Response: Snow Storage Area is now included on Sheet C-101.

- 2. Please indicate and label the location of the dumpsters on the sheet C-101 as noted in the Waste Management description on page 3. In addition, please update the O&M plan in the document to show the dumpster locations.

Response: It is not clear what dumpsters the comment refers to. This is a single-family home and will not utilize dumpsters after construction. The house will be utilizing City approved trash and recycling containers that are typically stored in or near the garage door. During construction dumpster's location is

now showing on the Demolition and Erosion and Sedimentation plan Sheet C-003.

3. Please update the Long Term Structural Best Management Practice Inspection & Maintenance Matrix after Construction to include: the infiltration basin; stormwater wetland; Uni Pavers; gravel shoulder; swales; trench drain; lawn and landscape areas; wetland replication area, consistent with design plan.

Response: The Long Term Structural Best Management Practice Inspection & Maintenance Matrix after Construction has been updated as requested.

4. Please update the document to address vehicle washing controls.

Response: The document has been updated as requested.

5. Please update the Stormwater BMP Inspection and Maintenance Log to list each BMP noted in the Best Management Practice Inspection & Maintenance Matrix after Construction with a BMP ID#. In addition, please update the O&M Plan to indicate and label the location of each BMP with ID # on the plan consistent with the log.

Response: The documents has been updated as requested. A BMP ID column has been added to the BMP Inspection and Maintenance Log and is also reflected on the O&M Plan.

6. Update the document and BMP maintenance log to include Provisions for maintenance of lawns, gardens, and other landscaped areas.

Response: The document has been updated as requested.

7. Clarify the use fertilizers as approved by the Conservation Commission in the document.

Response: The document indicates that the use of fertilizers is prohibited. The document is now clarified.

8. Update the document to address Pet waste management provisions.

Response: The document has been updated as requested.

9. Update the Stormwater BMP Inspection and Maintenance Log to include Driveway/parking lot sweeping schedules.

Response: The document has been updated as requested.

10. Update the document to address Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan.

Response: The document has been updated as requested.

11. Please update the document on page 2 to note copies of the BMP inspection logs shall be provided to the Planning Board on an annual basis.

Response: The document has been updated as requested.

We recommend the updated Long Term Pollution Prevention and Operations and Maintenance Plan document be a separate and complete document as typically requested by the Board. This document may become part of the special permit conditions under this application per Section XIV.I.B.7(a)(2) of the bylaws.

Response: The document has been updated as requested.

M. Comment addressed with revised design submission.

N. Comment addressed with revised design submission.

Response(M-N): Acknowledged.

- O. The Applicant has provided a SWPPP document with the submission that appears to be a draft since it does not identify the contractor, include an EPA NOI, EPA approval e-mail, provide supporting information/certification of the qualified inspector in accordance with section 6.3 of the CGP, or include a signed certification in Appendix E. A completed SWPPP could be a condition of approval.

Response: Acknowledged.

- P. We recommend the Long-Term Pollution document noted above under Standard 4 to include the necessary information under Standard 9 such as the specific names of the stormwater management system owner and party responsible for operation and maintenance. This could be a condition of approval.

Response: Acknowledged.

- Q. The table of contents in revised stormwater report does not identify Sections 2 – 5 and Appendix A that are provided. Please update accordingly.

Response: The Table of Contents has been updated as requested.

- R. The revised post development routing diagram indicates the entirety of post subcatchment 2P flowing through swale 1, that is located wholly within the subcatchment, to Basin 1. This analysis includes portions of the subcatchment areas below the beginning of the swale and including the area for Basin 1, which appears to be improperly designed and analyzed. We would anticipate the analysis would only

indicate the upstream subcatchment flowing through downstream swales outside the subcatchment and not through swales within the subcatchment. Please revise the routing analysis accordingly to indicate subcatchment 2P draining directly to Basin 1.
Response: Subcatchment Area 2P is now divided into two subcatchment areas; 2P(A), downstream of the proposed swale-1, and 2P(B) upstream of the proposed swale-1. Please refer to the attached revised HydroCAD calculations.

S. The revised post development routing diagram indicates the entirety of post subcatchment 4P flowing through swale 2, that is located wholly within the subcatchment, to the constructed wetland basin. This analysis includes subcatchment areas below the beginning of the swale and including the area for the constructed wetland basin, which appears to be improperly designed and analyzed. We would anticipate the analysis would only indicate the upstream subcatchment flowing through downstream swales outside the subcatchment and not through swales within the subcatchment. Please revise the routing analysis accordingly to indicate subcatchment 4P draining directly to the constructed wetland basin.

Response: Subcatchment Area 4P is now divided into two subcatchment areas; 4P(B), downstream of the proposed swale-2, and 4P(A) upstream of the proposed swale-1. Please refer to the attached revised HydroCAD calculations.

T. The post development analysis does not properly identify the overflow at CB-1 flowing to subcatchment 5P located downstream of the catch basin and indicated riprap overflow channel. Please update the analysis accordingly.

Response: The overflow discharge has been directed to subcatchment 5P as requested. Please refer to the attached post development HydroCAD analysis.

Special Permit under Section XIV of the Bylaws:

B. The existing lot has an average slope of about 25 percent and the site development disturbs a significant portion of the site for the construction of the dwelling, septic system, and driveway access. The submitted plans indicate the proposed site stabilization outside the impervious areas will only be grass except for the wetland replication area. Under section XIV.I.B.8, the Board will need to consider if the proposed site stabilization design is acceptable.

Response: We are committed to implementing effective stabilization measures to ensure long-term site integrity and environmental protection. The current plans propose grass stabilization outside impervious areas, with a designated wetland replication area and a Stormwater Management that complies with all applicable regulations. Additionally, the site design incorporates biodegradable erosion control for slopes steeper than 3:1, as detailed in the plan's specifications. Based on our prior experience, this technique has

proven effective in stabilizing slopes while vegetation is established. To support this, we have attached photographs from previous successful projects utilizing this method. To further enhance stabilization, we are open to incorporating additional techniques as needed, including:

- **Enhanced Vegetative Stabilization:** Introducing a mix of deep-rooted native plant species, ground cover, or low-maintenance meadow plantings to improve soil stability.
- **Minimize Tree Cutting:** We are committed to minimizing tree cutting to the greatest extent possible while balancing the needs of site development. The proposed site plan has been designed to limit disturbance to existing vegetation by focusing construction activities within previously cleared or sparsely wooded areas. Additionally, we have carefully planned the layout of the dwelling, septic system, and driveway to preserve as many mature trees as feasible.

With these techniques, in conjunction with adherence to the SWPPP, eNOI, Order of Conditions, Site Plan and Special Permit Approvals, we are confident that the site design meets regulatory requirements while providing a practical and effective solution. We welcome the opportunity to work with the Planning Department to refine the stabilization plan if needed. We appreciate your time and consideration and look forward to discussing this further at the upcoming meeting.

We trust that the attached material is completed and informative. Should you require additional information, please do not hesitate to contact me at your earliest convenience. We look forward to meeting with the Planning Board at the next meeting.

Regards,
HD Design

Hazem Dani, PE