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March 30th, 2022
#5293

Town of Bolton Board of Appeals
663 Main Street
Bolton, MA 01740

RE: Initial Stormwater & Wetlands Peer Review
Comprehensive Permit Application – Mallard Lane
Bolton, MA

Dear Members of the Board of Appeals:

We have received review comments from Horsley Witten Group regarding the above-mentioned project in a letter addressed to the Bolton Town Planner dated March 21, 2022. On behalf of our client, Mr. James Morin, please find enclosed a plan set addressing these items. We have included a summary of the changes addressed below. The review comments from Horsley Witten Group are *italicized* and dated with the responses from Dillis & Roy Civil Design Group, Inc. below them in **bold.**

Wetland Review Comments from Horsley Witten Group dated October 14, 2021:

The applicant has informed our office that he will work with his environmental consultant to address Wetland Review Comments 1-6. The applicant's consultant will submit a response to these items under separate cover.

Stormwater Review Comments from Horsley Witten Group dated October 14, 2021:

1. *Standard 1 states that no new stormwater conveyances may discharge untreated stormwater directly to or cause erosion in wetlands of the Commonwealth.*
   a) *Approximately 1,500 square feet (sf) of the roadway entrance appears to flow untreated into South Bolton Road, and ultimately into the wetland across the street. The calculations show that the peak runoff rate will be less under proposed conditions than existing however, the entrance is located very close to Infiltration Area A and it appears that runoff from the entrance could be captured in catch basins and piped to the proposed closed drainage system fairly easily. HW recommends that the Applicant consider this as an option.*

HW 1/26/22: The Applicant has relocated catch basins 1 & 2 to capture runoff prior to leaving the site. HW has no further comment.

CDG Response: Acknowledged

b) *HW recommends that the Applicant confirm that any stormwater runoff flowing into a wetland resource area will be treated and will not cause erosion into the wetland including the resource area across South Bolton Road.*

HW 1/26/22: The Applicant has relocated catch basins 1 & 2 to capture runoff prior to leaving the site. HW has no further comment.

CDG Response: Acknowledged.

2. *Standard 2 requires that the stormwater management systems be designed so that post- development peak discharge rates do not exceed pre-development peak discharge rates.*

a) *The Applicant provided the HydroCAD model for the 2-year, 10-year, 25-year, and 100- year storm events. The precipitation rates utilized are not comparable to the NOAA Atlas 14, the Cornell Extreme Precipitation, or the Technical Paper-40 (TP-40) rates for Worcester County. HW recommends that the Applicant clarify where the precipitation rates used were derived from and adjust to use the higher values from the commonly used references mentioned. HW understands that MassDEP is in the process of revising the Massachusetts Stormwater Handbook and will likely be requiring the use of the NOAA Atlas 14 depths of precipitation.*

Storm event	***Applicant's values inches***	***TP-40 values inches***	***NOAA Atlas 14 inches***
2-year	*3.10*	*3.0*	*3.25*
10-year	*4.50*	*4.5*	*4.98*
25-year	*5.40*	*5.3*	*6.05*
100-year	*7.00*	*6.5*	*7.71*

HW 1/26/22: The Applicant has not provided a revised Stormwater Report as of January 26, 2022. HW's comment stands.

HW 3/21/22: The Applicant has provided a revised Stormwater Report and has revised the precipitation rates. The drainage maps were not provided so it is difficult to review the revised drainage areas. HW recommends that the Applicant provide revised maps or clarify the numbering system used in the calculations.

CDG Response: The revised Pre- & Post-developed watershed maps have been included with this response letter.

b) *Pipe sizing calculations were not included in the submittal, HW recommends that the Applicant provide sizing calculations for a 25-year storm event using the rational method.*

HW 1/26/22: The Applicant has not provided a revised Stormwater Report as of January 26, 2022. The Applicant stated that pipe sizing calculations were provided but were not included in the submission. HW's original comment stands.

HW 3/21/22: HW recommends that the Applicant provide pipe sizing calculations as originally requested. In addition, pipe sizes and elevations do not appear to be indicated on the plans. HW recommends that the Applicant include this information on the Grading & Drainage Plan.

CDG Response: Pipe sizing information can be found on the profile, which has been included with the revised plans. Additionally, a pipe and structure table has been included on Sheet C3.2. Please see the post-development HydroCAD report in Appendix E of the Drainage Report for detailed pipe sizing calculations.

c) *A proposed tree line is not shown on the plans making it difficult to verify the types of cover used in the calculations. HW recommends that the proposed tree line be added to the plans.*

HW 1/26/22: A proposed tree line has been added to the plans along the southern property line. It does not reflect any individual trees within the limit of work (if any) to be retained. HW has no further comment.

CDG Response: Acknowledged.

d) *There appears to be an error for the rim elevation for DMH-2. HW recommends that the Applicant review and revise as needed.*

HW 1/26/22: The elevation for DMH-2 has been revised. HW has no further Comment

HW 3/21/22: The revised plans do not include a schedule for the proposed structures. HW recommends that this table be added back to the plans so that the elevations can be verified.

CDG Response: As mentioned above, a elevation schedule for the proposed drainage structures can be found on Sheet C3.2. All sewer structures and pipe information can be found on the profile (also on Sheet C3.2).

e) *There appears to be only 2.5-feet of cover over several pipes. HW recommends that the Applicant confirm that this is adequate for loading under pavement and that the drainage structures will be able to be constructed with inverts at the proposed elevations.*

HW Comment 1/26/22: The Applicant has specified ductile iron pipe for drainage pipes 1 and 2 with 2-feet of cover. It appears that there is actually less than 1-foot of cover over these pipes at the structures. HW recommends that the Applicant confirm that this is adequate for loading under pavement and that the structures will be able to be constructed with the inverts at the proposed elevations.

HW 3/21/22: The revised plans do not include a schedule for proposed structures. HW recommends that this table be added back to the plans so that elevations can be verified. HW recommends that the Applicant confirm adequate loading and constructability for all pipes/structures.

CDG Response: As mentioned above, the profile on Sheet C3.2 includes all relevant information regarding the proposed sewer & drainage structures. Additionally, a structure table has been included on Sheet C3.2 for all drainage structures.

f) *The proposed roofs are directed towards the closed drainage system and through the proprietary treatment devices prior to infiltration. Roof runoff is considered "clean" and could be infiltrated directly from the downspouts. HW recommends that the Applicant investigate this option to decrease the amount of flow through the proprietary treatment device.*

HW 1/26/22: The Applicant states that the roof runoff is intended to be recharged through sub-surface systems to preserve the maximum amount of space around units. HW again suggests infiltrating directly from the downspouts to individual sub-surface units in order to decrease the flow through the proprietary treatment as well as decreasing the size of infiltration areas A and B, possibly decreasing the required clearing/grading along the roadway.

CDG Response: The proposed drainage system has been designed to accommodate stormwater runoff flows associated with the 100-year storm event, including the runoff received from the proposed roofs. As mentioned previously, the Applicant intends to use infiltration areas A & B to infiltrate stormwater associated with the proposed roofs.

g) *As currently shown, there is a maximum of nine feet of cover over Infiltration Area A. The grading appears off, the proposed grades tie back to the existing grades however the entire area will need to be cleared and excavated to install the subsurface system. HW recommends that the Applicant revisit the proposed grading over Infiltration Area A and confirm that the amount of cover is suitable over the proposed structures.*

HW 1/26/22: The Applicant has reduced the amount of proposed cover to approximately 6-feet. However, it appears that the proposed grades can still be reconfigured to reduce the fill and should tie back to the existing topography at the property line. As shown the existing contours that are illustrated to remain will be impacted when the subsurface infiltration system is installed.

HW 3/21/22: The design has been revised from a subsurface infiltration chamber system to a surface Infiltration Basin. HW has no objection to the revised practice however, we recommend that additional details be provided for the proposed basin.

CDG Response: A cross section detail of the proposed infiltration basin and a detail for the rip-rap spillway have been added to Sheet C3.2.

h) *The plans illustrate an existing leaching catch basin off South Bolton Road that is close to the proposed Infiltration Area A. During the site visit it was confirmed that this basin*
has been recently replaced by the Town to be a catch basin with a beehive grate that pipes stormwater under South Bolton Road towards the wetland across the street. HW recommends that the Applicant confirm that construction in this area will not impact the existing catch basin.

HW 1/26/22: The Applicant states that the beehive grate has been located and that the proposed construction will not impact the existing drainage

structure. It should be noted that the layout/dimensions and location of Infiltration Area A has been revised. HW has no further comment.

HW 3/21/22: The plans have been further revised to include a riprap overflow spillway from the surface infiltration basin. HW has no further comment.

CDG Response: Acknowledged.

i) There is no emergency overflow for the infiltration chambers. The 100-year storm peak elevation is only four-inches below the flood elevation of the chambers for Infiltration Area B. HW recommends that the Applicant include an emergency overflow should there be a clog or failure in the future.

HW 1/26/22: The plans have been revised to include overflow pipes for both infiltration areas. Dimensions have not been provided on the riprap for the flared ends. The Applicant has not provided a revised Stormwater Report as of January 26, 2022. HW recommends that the Applicant include these overflow pipes in the HydroCAD model and provide riprap sizing calculations, as applicable.

HW 3/21/22: Subsurface Infiltration Area A has been relocated to the west side of the proposed driveway; the overflow appears to be via the adjacent catch basins. HW recommends that the Applicant confirm the intended overflow system.

CDG Response: The provided flood elevation for Subsurface Infiltration Area A will be the grates on the proposed catch basins that discharge to the Infiltration Area. During a flood condition, any excess water would drain to the existing catch basin on South Bolton Road.

j) The calculations provided refer to a sediment forebay but it does not appear that a sediment forebay is proposed. HW recommends that the calculations be revised as needed.

HW 1/26/22: The proposed infiltration systems have been redesigned to include isolator rows. Although this is not defined as a sediment forebay, the proposed stormwater system will achieve adequate pretreatment to achieve the required TSS removal. HW has no further comment.

HW 3/21/22: The new surface infiltration basin proposed includes a sediment forebay. HW recommends that the Applicant provide the details and elevations on the plans.

CDG Response: An infiltration basin detail has been added to Sheet C3.2. Sediment forebay information has been included in this detail.

k) *HW recommends that the Applicant consider adding an isolator row to the subsurface infiltration chambers to extend the life expectancy of the system.*

HW 1/26/22: The Applicant has revised the design of the infiltration systems to include isolator rows. HW has no further comment.

CDG Response: Acknowledged.

3. *Standard 3 requires that the annual recharge from the post-development site approximate the annual recharge from pre-development conditions based on soil type.*

a) *The Applicant has indicated that the hydrologic soil group (HSG) is A, B, and B/D as listed on the Natural Resources Conservation Services (NRCS) soil survey. Subsurface test pits were conducted on-site specifically for the proposed subsurface wastewater treatment system, but these locations are not shown and soil logs were not provided. It does not appear that any test pits were performed for the proposed subsurface stormwater system. In accordance with Volume 2, Chapter 2, page 97 of the MSH the Applicant is required to conduct a minimum of two test pits within each infiltration system. HW recommends that the Applicant conduct additional testing as required in the MSH.*

HW 1/26/22: The Applicant has provided information for soil test pits performed in March of 2020. There are two test pits located in Infiltration Area A and one in Infiltration Area B. HW defers to the Board if additional testing is required prior to approval.

HW 3/21/22: Our original comment stands. In addition, there is a new infiltration area proposed for the roadway entrance and it does not appear that any testing has been performed in this area.

CDG Response: The Applicant has soil testing scheduled for the week of April 4th to confirm soil conditions in the area of the additional subsurface infiltration area.

b) *The separation distance to estimated seasonal high groundwater (ESHGW) is not clear from the information provided, and the Applicant is proposing to infiltrate the stormwater entering the systems from a 100-year storm event. HW recommends that the Applicant determine the elevation of the ESHGW and provide a mounding analysis in accordance with Volume 3, Chapter 1, page 28 of the MSH if applicable.*

HW 1/26/22: The Applicant has provided an elevation for ESHGW on Sheet C3.1 but this value differs from that shown on the soil test data on Sheet C1.1 for Infiltration Area A (El. 343 in the detail vs. El. 346 in the soil data). It appears that the bottom of the infiltration area may be in the water table. HW recommends that the Applicant review the elevations, adjust as needed, and provide a mounding analysis if required.

HW 3/21/22: Although the design has been changed from a subsurface infiltration chamber system to a surface infiltration basin, the comment from 1/26/22 stands.

CDG Response: As mentioned above, the Applicant is scheduled to perform additional soil testing to confirm the existing groundwater elevation in the area of the drainage structures & infiltration basin.

c) *HW 3/21/22: The Applicant is proposing Cultec Woven Geotextile fabric beneath all of the chamber systems. HW recommends that the Applicant confirm that the two woven fabrics proposed are appropriate for Infiltration System A and Infiltration System B.*

CDG Response: Per Cultec's specifications for isolator rows, the isolator rows in both subsurface infiltration systems will be underlain with 1 layer of Cultec No. 4800 woven geotextile fabric and covered with Cultec No. 410 non-woven geotextile fabric. This has been reflected in the infiltration area details on Sheet C3.1.

4. *Standard 4 requires that the stormwater system be designed to remove 80% Total Suspended Solids (TSS) and to treat 0.5-inch of volume from the impervious area for water quality.*

a) *The Applicant has provided the required water quality calculations to verify compliance with Standard 4 in Appendix F of the Stormwater Report. The calculations as presented appear reasonable. However, HW recommends that the Applicant confirm that the proprietary device has adequate capacity for the bypass flow during larger storm events.*

HW 1/26/22: The Applicant stated that it has updated the water quality calculations and that there is adequate capacity for bypass flow. However, the Applicant has not provided a revised Stormwater Report as of January 26, 2022. HW's comment stands.

HW 3/21/22: It appears that the proprietary device has been removed from the design. It appears that the proposed subsurface infiltration areas and the surface infiltration basin proposed meet the 80% removal requirement.

CDG Response: Acknowledged.

5. *Standard 5 relates to projects with a Land Use of Higher Potential Pollutant Loads (LUHPPL).*
   a) *A residential development is not considered a LUHPPL; therefore, Standard 5 is not applicable to this site. No further action required.*

   HW Comment 1/26/22: HW has no further comment.

   CDG Response: Acknowledged.

6. *Standard 6 relates 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 project site does not appear to discharge into a critical resource area; therefore, Standard 6 is not applicable to this site. No further action required.*

   HW 1/26/22: HW has no further comment

   CDG Response: Acknowledged.

7. *Standard 7 relates to projects considered Redevelopment.*
   a) *The proposed development is considered new development; therefore, Standard 7 is not applicable to this site. No further action required.*

   HW 1/26/22: HW has no further Comment.

   CDG Response: Acknowledged.

8. *Standard 8 requires a plan to control construction related impacts including erosion, sedimentation or other pollutant sources.*

   a) *HW recommends that the Applicant include a tree protection detail and clearly illustrate on the plans any specific trees to be protected and the proposed tree line. HW further recommends that trees greater than 10-inch diameter be located on the existing conditions plan and trees within the Town right of way be clearly documented.*

   HW 1/26/22: A tree protection detail has been added to the plans. No specific trees have been identified on the plans. HW again recommends that trees greater than 10-inch diameter be located on the existing conditions plan and trees within the Town right of way be clearly documented.

   HW 3/21/22: HW's previous comment stands.

   CDG Response: All trees along the frontage of South Bolton Road have been survey located and shown on the Existing Conditions Plan (Sheet C1.1).

   b) *HW recommends adding construction fence surrounding the infiltration areas during construction to protect from compaction due to equipment. Adjustment of the construction sequence may be required for the infiltration area underneath the cu-de- sac.*

   HW 1/26/22: The plan has been revised to include construction fencing around the proposed infiltration areas. It does not appear that any revisions have been made to the construction sequencing as suggested.

   HW 3/21/22: HW's previous comment stands.

   CDG Response: An additional note in the construction sequence was added relative to installing the inspection ports to finished grade prior to sub grading the cul-de-sac area. It is anticipated that the subsurface infiltration system will be installed prior to installing base gravel for the proposed paved portion of the cul-de-sac.

   c) *A note on the ESC Detail Sheet (B5) indicates that dewatering will be provided as needed. HW recommends that a detail for dewatering be provided along with proposed locations.*

HW 1/26/22: Dewatering is not anticipated; however, the Applicant has added a dewatering detail to the plans. No further comment.

CDG Response: Acknowledged.

d) *Note C5 mentions that stockpiles are to be protected. HW recommends that stockpile locations be indicated on the plans and that these areas be located outside of the buffer zones as well as away from any proposed infiltration areas.*

HW 1/26/22: Approximate stockpile locations have been added to the plan. No further comment.

CDG Response: Acknowledged.

e) *Notes under Section D of the ESC Details contain conflicting depths for loam and specifications for erosion control blankets. HW recommends that these notes be reviewed for consistency. HW also recommends that all slopes that require erosion control blankets be indicated on the plan.*

HW 1/26/22: The notes have been revised and the location of the erosion control blankets have been identified on the plans. No further comment.

CDG Response: Acknowledged.

f) *Snow storage areas are noted to be away from wetlands but are not clearly indicated on the plans. HW recommends adding locations for snow storage to the plans.*

HW 1/26/22: Sheet C2.0 has been revised to indicate potential snow storage locations. These areas are located along the western side of the road, behind the berm, sidewalk, and community mailbox location. These locations may be difficult for snowplows to store snow from the roadway. HW recommends that the Applicant confirm that the locations shown are feasible.

HW 3/21/22: HW's previous comment stands, with the exception of the removal of the community mailbox.

CDG Response: The locations shown have been determined to keep the proposed snow removal away from the existing wetland areas. It is anticipated that the sidewalk areas will be cleared as part of the snow removal process, pushing the snow into the designated areas. The snow

storage areas have been adjusted to correlated to the proposed planting areas as shown on the landscape plans.

g) *The property will be disturbing more than 1 acre of land and will therefore be required to develop a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Stormwater Program. The Applicant has noted on that it will provide the Town of Bolton with a copy of its SWPPP prior to construction.*

HW 1/26/22: The Applicant states that a filing will be made with the EPA and a copy of the SWPPP will be provided to the Town prior to construction. The ZBA may choose to include receipt of the SWPPP prior to construction as a condition of approval.

HW 3/21/22: HW's previous recommendation to the ZBA stands.

CDG Response: Acknowledged.

9. *Standard 9 requires a Long-Term Operation and Maintenance (O&M) Plan be provided.*

The Applicant has provided an O&M plan for this project in the Stormwater Report. HW has the following comments:

a) *Subsurface infiltration areas are noted to be maintained "regularly" this should be modified to state twice per year per the MSH.*

HW 1/26/22: The Applicant states that the O&M has been updated accordingly. A revised O&M has not been received as of January 26, 2022. HW's initial comment stands.
HW 3/21/22: HW's previous comment stands. Additionally, HW reminds the Applicant to include maintenance of the infiltration basin (including the sediment forebay) to the O&M Plan.

CDG Response: The O&M has been included in the attached drainage report. Additionally, language relative to the maintenance of the proposed infiltration basin has been included in the revised O&M.

b) *The O&M Plan should clearly document who is responsible for the*

long-term maintenance of the stormwater practices.

HW 1/26/22: The Applicant states that the parties responsible will be determined at a later date and will be provided in the SWPPP.

CDG Response: Acknowledged.

c) *A simple figure should be attached to the O&M Plan noting the location of the various stormwater practices.*

HW 1/26/22: The Applicant states that the O&M has been updated to include a figure outlining the stormwater practices. A revised O&M has not been received as of January 26, 2022.

HW 3/21/22: HW has not received a revised O&M Plan as of 3/21/22.

CDG Response: The revised O&M Plan has been included in this resubmission. A plan showing the location of the stormwater practices that are described in the O & M has been added to the O&M Manual.

10. *Standard 10 requires an Illicit Discharge Compliance Statement be provided.*

a) *To comply with Standard 10 an Illicit Discharge Compliance Statement signed by the property owner must be provided to the Town prior to the discharge of stormwater.*

HW 1/26/22: The Applicant states that a statement will be signed by the property owner prior to the discharge of stormwater.

CDG Response: Acknowledged.

Water & Wastewater Review Comments from Horsley Witten Group dated October 14, 2021:

a) *The Applicant is utilizing a flow of 150 gallons per day per two-bedroom unit for the wastewater flow. Floor plans submitted clearly show three bedrooms for all three proposed home styles. HW recommends that that Applicant revise the design flow to reflect 110 gallons per day per*

bedroom. Typically, the 150 gallons per day per two- bedroom unit is reserved for apartment style/nursing home buildings, not single family detached homes. The Applicant has stated that it has documentation from MassDEP stating that these detached houses can each be considered one unit. HW recommends that this documentation is provided to the ZBA prior to a decision.

HW 1/26/22: The Applicant states that it intends to use the flow specified for housing for the elderly (150 gallons per day per two-bedroom unit) and that the number of bedrooms will be clarified by the Applicant. It appears that there may need to be a deed restriction on the units to restrict the age of the residents (i.e. no minors/children). This may be in conflict with the Housing and Community Development (DHCD) policy "Local Initiative Program Policy Regarding Restrictions on Children in Age-restricted 55+ Housing).

HW 3/21/22: The number of units has been reduced from 11 homes to 8 homes. Additional information for the sewage disposal system has not been provided. HW defers to the Board.

CDG Response: Wastewater flow calculations can be found on Sheet C5.1. The proposed calculations show six (6) age restricted houses at 150 gallons per day and two (2) units at 110 gallons per day to allow for non-age-restricted affordable units.

b) *The Applicant has proposed a single location for the septic tanks for all 11 homes. HW recommends providing tanks closer to the homes to allow for solids to settle prior to discharging down the entire length of the roadway. The Applicant informed HW that the wastewater design will be changed to provide individual septic tanks for each house. HW recommends that a revised plan be submitted illustrating the locations of the septic tanks.*

HW 1/26/22: The Applicant has elected to utilize the septic tank configuration depicted on the Comprehensive Permit Plans opposed to individual tanks at each unit. HW defers to the Board of Health.

CDG Response: Acknowledged.

c) *HW recommends that the Applicant add the proposed drainage pipe, sewer gravity pipe as well as the sewer force main to the road profile on Sheet C3.2 with pipe sizes and manhole structures clearly labeled. There is approximately 1,500 feet of sanitary pipe proposed to be installed and*

there appear to be alternative designs that may be preferrable. Long lengths of sewer pipe increase the likelihood of clogs.

HW 1/26/22: The Applicant states that the sewer gravity pipe has been depicted on the profile and additional inverts and details will be depicted on the Subsurface Sewage Disposal System Design plans to be submitted to the Board of Health at a future date. HW defers to the Board of Health.

HW 3/21/22: HW's previous comment stands. The road profile is no longer included in the plan set.

CDG Response: The detail sheet that was inadvertently omitted from the previous submission has been included with the revised plan set. The gravity sewer information with pipe and structure elevations can be found on the profile.

d) *It is unclear if the well should be considered a community water service based on the number of people served. This should be clarified by the appropriate Town Department and MassDEP. HW recommends that formal documentation approving this well as a community well be provided to the ZBA prior to a decision.*

The Applicant has revised the plans to include individual wells on each lot. HW recommends that the Applicant confirm that the well locations will conform to the Well Regulations (Section 4.1 Well Location Requirements), specifically the setback distances to public/private ways and common drives (50-feet) and sewer line/force mains (50-feet), as well as all of the other dimensional requirements.

HW 3/21/22: HW's previous comment stands. It appears that the wells proposed for Units 1, 3, 6, and 8 are within 50 feet to the property line, the Applicant has requested a waiver for these 4 Units. HW defers to the Board of Health. The well for Unit 1 is within 50 feet of the sewer force main and the well for Unit 8 is within 50 feet of the common driveway, HW does not believe that waivers have been requested for these setbacks.

CDG Response: The waiver requests have been updated to include a waiver request for the well on Unit 1 & Unit 8.

Additional Review Comments from Horsley Witten Group dated October 14, 2021:

1. *Signatures/stamps are missing from the Stormwater Management Checklist and the Stormwater Report Form. HW recommends that these documents*

be signed/stamped.

HW 1/26/22: A revised Checklist has not been received as of January 26, 2022. HW's initial comment stands.

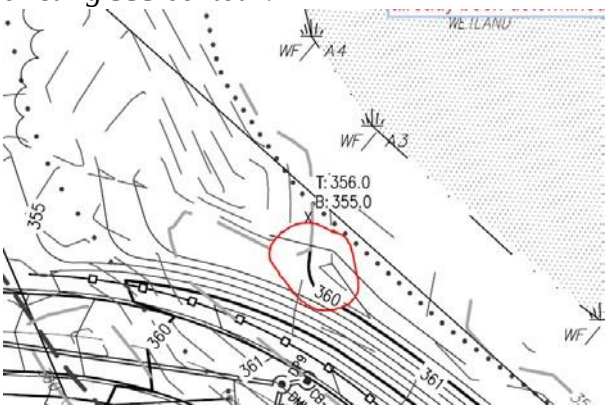
HW 3/21/22: a revised Checklist has been provided. No further comment.

CDG Response: Acknowledged.

2. *The Applicant states in the narrative that the project has been laid out in a manner that works with the existing topography. During the site visit the Applicant stated that the cut/fill for the site was balanced by the design engineer. It appears that there may be a significant amount of earthwork (both cut and fill) for the proposed roadway and throughout the site. Several steep slopes (2:1) and a retaining wall 12-feet in height at one point are proposed. HW recommends that the Applicant revisit the proposed grading, provide slopes at 3:1 to the maximum extent practicable and provide cut/fill calculations. Furthermore, HW recommends that the Applicant estimate the number of truck trips required for the proposed grading (either fill or soil removal).*

HW 1/26/22: The Applicant has stated that erosion control blankets have been specified on 2:1 slopes and that approximately 79 truck trips will be required for excess material export (1,300 cubic yards).

HW 3/21/22: The roadway location has been revised slightly along with the proposed grading. The length of the wall along the eastern property line has been reduced. HW recommends that the Applicant confirm the proposed grading in this area, it appears that the proposed 360 contour is shown tying into the existing 355 contour.



CDG Response: The proposed grading in the indicated area has been revised. Additional contour labels have been added to both the proposed and existing contours for clarity.

3. *There are several discrepancies in the document submitted, the number of bedrooms varies in different locations in the documents and the plans do not reference the site being permitted as an over 55 development. The existing conditions narrative does not mention the gravel drive and states that most of the development occurs outside of the 100-foot buffer zone however there is a retaining wall proposed just outside of the 25- foot buffer zone. HW recommends that the Applicant revisit the narrative and revise as applicable.*

   HW 1/26/22: The Applicant has agreed to reply to this comment and provide the requested narratives. However, as of January 26, 2022, HW has not received this information.

   HW 3/21/22: Previous comment stands. As of March 21, 2022, HW has not received this information.

   CDG Response:

   Since the initial submittal, the applicant has agreed to revise the project based upon discussions with the Board and feedback received from the Town during the permitting process. This includes a reduction in the number of units and revisions to the proposed infrastructure at the site. The applicant has indicated a desire to construct the development as an over 55 development. However, provisions have been made to allow the proposed affordable units to not be age restricted, should the Board desire. Due to these changes, it is desired that any decision issued for the project reference revised plans with agreed to conditions as these supersede the initial narratives due to changes in site layout and proposed number of units.

4. *The Applicant states that the cul-de-sac has been designed to meet the Subdivision standards, but it does not appear that the outside pavement diameter meets the requirement of 120-feet (100-feet proposed) or the center island diameter of 50-feet. As designed, the entire cul-de-sac is*

paved. Increasing the outside diameter to the minimum requirements should allow for adequate emergency vehicle access. HW recommends that the Applicant review the design with the applicable town departments including the Fire Department and the Department of Public Works. A pervious inner island would allow opportunity for infiltration while also decreasing the proposed impervious surface.

HW 1/26/22: The cul-de-sac has been revised to include a pervious center island and a turning exhibit will be submitted to applicable Town departments. The cul- de-sac as proposed, appears to meet the Subdivision standards but should be reviewed by the Fire Department for adequate turning maneuvers for its equipment. As a safeguard, a reinforced drivable grass could be installed to provide additional structure.

HW 3/21/22: No further comment.

CDG Response: A turning movement exhibit has been created showing that the proposed road can safely accommodate the turning movements of a 45.5-foot long fire apparatus (Bus-45 modeled).

5. *The proposed retaining wall appears to range in height from one to twelve feet and is located just a few feet from the pavement edge. HW recommends that the Applicant consider a guard rail barrier at the edge of the roadway.*

   HW 1/26/22: The plans have need revised to include a guardrail along the retaining wall. HW has no further comment.

   CDG Response: Acknowledged.

6. *It is unclear what will happen to the portion of the existing gravel drive located outside of the property. HW recommends that the Applicant consider contacting the adjacent property owner to see if this area could be restored to protect the wetland buffer as part of this project.*

   HW 1/26/22: The Applicant is not proposing to conduct work on adjacent property and anticipated that this area will naturalize once access is removed.

   CDG Response: Acknowledged.

7. *There are a few areas on the plan where grading appears to be incomplete*

(behind homes 1, 3, 8, and 9 and Infiltration Area A). Additionally, there are a few areas on the plan where existing topography is missing (behind homes 2 and 3 and Infiltration Area A). HW recommends that the Applicant revise the plans to include grading for these areas.

HW 1/26/22: The plans have been revised to show additional survey and proposed grading. HW has no further comment.

HW 3/21/22: Proposed grading has changed with the revised layout. It is difficult to verify the proposed grading due to the lack of contour labels (both existing and proposed). HW recommends that the Applicant include additional contour labels for verification.

CDG Response: Additional existing & proposed contour labels have been provided, particularly on Sheet C3.0.

8. *HW recommends that a Landscape Plan be provided. At a minimum, a proposed tree line should be indicated on the plans to show any existing trees to remain and to provide buffers to neighboring properties.*

   HW 1/26/22: The plan set includes a landscape plan that indicates a proposed treeline, proposed street trees, and some proposed buffer areas. An abutter has expressed concern about proposed landscaping/screening. HW defers acceptance of the landscape plan to the Board.

   HW 3/21/22: Previous comment stands.

   CDG Response: Acknowledged.

9. *HW recommends that existing and proposed grades be added to the roadway profile and that the scale for the profile be comparable to the site layout. Additionally, pipes (water, sewer, drainage, etc.) should be shown on the profile to check for conflicts.*

   HW 1/26/22: The roadway profile has been revised to include sewer and drainage pipes. The proposed houses will have individual wells. The Applicant has stated that the sewage disposal system design and plans will be submitted to the Board of Health once waivers associated with the Comprehensive Permit are established.

HW 3/21/22: The roadway profile has been removed from the plans. HW recommends that this be included. Our previous comment stands.

CDG Response: The roadway profile has been included on the plans in this resubmission.

10. *It is unclear if the proposed development will have above ground or underground electric, telephone, and cable. Locations for anticipated services should be added to the plans to determine conflicts with other below ground utilities, and to ensure there is adequate room for utility poles or manholes/transformers to be placed given the proposed grading/retaining walls.*

    HW 1/26/22: Underground electric, telephone, and cable lines have been added to the plan along with propane tanks. The Applicant has stated that the contractor will coordinate the installation of utilities with the appropriate service companies.

    HW 3/21/22: No further comment needed.

    CDG Response: Acknowledged.

11. *In accordance with the Federal Highway Administration, stopping sight distance to an intersection should be 200 feet from a road posted at 30 miles per hour. HW recommends that the Applicant confirm the available sight distance for exiting the site. It appears that the sight distance to the east on South Bolton Road may be adequate however the stopping sight distance to the west may be short. HW further recommends that no plantings are proposed within the sight distance triangle in either direction.*

    HW 1/26/22: The Applicant will confirm the posted speed limit at the site and update plans to include a sight distance triangle. The Police Chief has stated that the road is unposted at 40 miles per hour. Our previous comment stands.

    HW 3/21/22: HW's previous comment stands.

    CDG Response: Given the nature of South Bolton Road with respect to topography and layout, the Applicant respectfully asks that South Bolton Road be established as a 25 mile per hour road. In addition to providing safer means of ingress and egress to the proposed development, this would also provide safer conditions for the

existing property owners on South Bolton Road, who have expressed their concern of entering South Bolton Road from their driveway. The Applicant is willing to install any new speed limit signs required with the speed limit reduction and would accept this as a condition of approval.

Wetlands Review

The Applicant has not appreciably responded to HW's initial wetlands comments from our initial October 14, 2021 letter or the January 11, 2022 letter. While the project design has been modified somewhat, our comments regarding impacts to wetlands and associated buffer zones still stand. Rather than repeat our original comments here, we refer the Board to our January 11, 2022 letter. Where the Applicant has partially addressed any of our original 6 comments, we note this below. Please note: new wetlands comments listed below continue the previous numbering sequence, beginning with #7.

One of our original points raised was the potential for the largest of the wetland areas (Wetland A) to serve as vernal pool habitat, which has been documented by a local school group. Should there be any question of the vernal pool status for Wetland A, it is now the appropriate time of year to make said determination.

7. *HW recommends that the vernal pool status of Wetland A be confirmed as it relates to the protection of vernal pool habitat in light of the proposed project.*

In response to HW's comment #5, regarding relief sought from the local wetlands bylaw and regulations, the Applicant has outlined the specific relief sought from the Bolton Wetlands By- Law Section 233-2 to allow alterations depicted on the plans within the adjacent upland resource area and buffer zones to wetland resource areas.

HW feels that it is important for the Town to understand the implication of the requested relief. This includes relief from the wetland setbacks relating to proposed grading, pavement, and a retaining wall associated with the main road; setbacks from proposed wells for four of the eight proposed units, placement of a stormwater outfall, and one of the units (Unit 7) as outlined in the table below.

We note that many of the requested reliefs pertain to work within 100 feet of Wetland A, where under existing conditions, this wetland appears to be forested to the north, east (off site), and south, and southwest, with the existing gravel road passing just

to the west. As pointed out in HW's wetlands comment #3, the proposed project will infringe upon the 100-foot vernal pool habitat.

Relief Sought	Distance to Wetland (feet)	Wetland Designation
Grading*	30	A, B
Pavement	56	A
Retaining wall	44	A
Drainage Outlet	62	A
Well (Unit 1)	73	A
Well (Unit 6)	100	A
Well (Unit 7)	57	B
Well (Unit 8)	78	B
Unit 7	90	B

7. HW recommends that the Applicant quantify the amount of lost forested vernal pool habitat that will occur as a result of the proposed site grading and installation of the proposed road as currently designed and assess how the loss of this forested habitat would affect the vernal pool habitat.

8. HW recommends that the Town seek to have the Applicant qualify and quantify how the proposed wells for Units 1 and 6 will affect the water levels in the potential vernal pool within Wetland A.

9. HW recommends that the Town seek to have the Applicant qualify and quantify how the proposed stormwater outfall will affect the water levels and the water quality in the potential vernal pool within Wetland A.

10. HW recommends that the Applicant quantify how much of the vernal pool habitat willbe lost as a result of site grading and installation of the proposed road.

CDG Response: As mentioned at the beginning of this response letter, the Applicant and their Environmental Consultant will be addressing all wetland related comments under separate cover.

We trust this meets your needs at this time. If you have any questions or require any additional information, please contact the undersigned

Regards,
DILLIS & ROY
Civil Design Group, Inc.

Gregory S. Roy, P.E
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