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TO: Beals + Thomas  
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Professional Services Corporation, PC  
Ten Lincoln Road, Suite 201  
Foxboro, MA 02035

DATE: 9/13/2022

FROM: Howard Stein Hudson

HSH PROJECT NO.: 19227.01

SUBJECT: 1139 West Street – Wrentham, MA 02093

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# Beals and Thomas

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## General Comments

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1. Ch 390 – Article 7.2F of the By-law requires a locus plan incorporating several elements at a scale of 1" = 200'. We acknowledge the locus provided by the Applicant at a scale of 1" = 160'. B+T takes no specific exception to the scale used; however, notes the inconsistency relative to the d By-law for the benefit of the Board.  
*HSH: Concur*
2. Ch 390 – Article 7.3 of the By-law requires the site plan submission be depicted at a scale of 1" = 40'. The Applicant has a scale of 1" = 20' in the current submission. B+T takes no specific exception to the scale used; however, notes the inconsistency relative to the d By-law for the benefit of the Board.  
*HSH: Concur*
3. Ch. 390 – Article 7.4 of the By-law requires multiple elements be incorporated into the Site plan set. The project documentation provided does not appear to be fully compliant with the requirements of the referenced By-Law. We note the following:
  - a. Article 7.4A(3) of the By-Law require a suitable space to record the action the Planning Board and signatures of members on each sheet. We note that the existing conditions plans do not incorporate this requirement.  
*HSH: A suitable space to record the action and signatures of the Planning Board members has been added to the Existing Conditions Plans.*



- b. Article 7.4.A(5)(b) of the By-Law requires significant soil types be delineated  
*HSH: Soil delineation lines have not been shown on the watershed maps as there is only one type of soil being used.*
- c. Article 7.4.A(5)(c) of the By-Law requires that the 100-yr flood elevation be depicted.  
*HSH: The property is not within a flood zone of any kind, no 100-year flood elevation is depicted per FIRM Map 250258.*
- d. Article 7.4.A(6) of the By-Law requires a locus map that includes principal buildings, zoning district limits, etc.  
*HSH: The Locus Map, provided on Sheet C1.3, has been revised to include all principal buildings and Zoning District limits.*
- e. Article 7.4.A(8) of the By-Law requires plans prepared by a Registered Architect including building elevations, etc. We acknowledge the architectural plans provided by the Applicant; however, note they do not include the required endorsement.  
*HSH: Revised Architectural Plans have been endorsed by a Registered Architect.*
- f. Article 7.4.A(9) of the By-Law requires plans prepared by a Registered Landscape be provided relative to the landscaping design. We acknowledge the planting plans provided by the Applicant; however, note they do not include the required endorsement.  
*HSH: Revised Landscape Plans have been endorsed by a Registered Landscape Architect.*
- g. Article 7.4.A(10) requires a table showing various site areas (building coverage, impervious area, etc)
- (10) A table showing:
- (a) Total land area;
  - (b) Developable site area;
  - (c) Common or usable open space, if any;
  - (d) Site coverage of buildings;
  - (e) Area covered with impervious surface;
  - (f) Ratio of impervious surface to total land area; and
  - (g) The number of off-street parking spaces and, if applicable, loading bays.



*HSH: The Zoning Requirements Table shown on the Cover Sheet of the plan set, as well as the Dimensional Requirements Table shown on page 3 and 4 of the Supplemental Data Report have been revised to include all required information per Article 7.4.A(10) of the Town of Wrentham Zoning Bylaws.*

4. Ch 390 – Article 13.5(D)(6) of the By-Law requires that permanent conservation restriction be placed on the open space associated with a SLC. We note this for the benefit of the Board when considering potential conditions of approval.

*HSH: Concur, the applicant is comfortable placing the area outside of the limit of work in a conservation restriction.*

5. Ch 390 – Article 13.5(D)(9) of the By-Law requires a 5-ft sidewalk be installed along one side of the roadway. As proposed, the Applicant has provided a meandering 6-ft wide walking path that will loop the perimeter of the developed portion of the property. We further note that the sidewalk is provided on the opposite side of the roadway from where the residential units are proposed. Stormwater swales will also incumber direct access from the units to the path. B+T does not necessarily take exception to the site conditions proposed; however, defers to the Board to determine if the intent of the references By-Law is being met.

*HSH: During the planning board process, the board requested that the sidewalk be constructed on the opposite side of the roadway and access driveways to remain continuous without driveway or vehicular interruptions. The walkway has also been designed, as requested by the Board, to meander from the edge of the pavement creating a more enjoyable walking experience for the residents of the development.*

6. Ch 390 – Article 13.5(D)(10); and 18 of bylaw defines signage requirements. Project signage is not proposed at this time; however, the Applicant indicates that signage will likely be proposed at a later date. We note this for the benefit of the Board and defer review of the comprehensive signage package to the building permit review process.

*HSH: Concur*

7. Ch 390 – Article 13.5(D)(11) of the By-Law requires that an SLC have an amenity structure to allow for a variety of passive and active recreational activities to support the residents of the community. As proposed, an amenity structure has not been proposed. However, Article 13.5(I)(3) allows the Board to waive the requirement with a super majority vote. Accordingly, we defer to the Board on the need for the Project to provide an amenity structure.



*HSH: A community shared pavilion structure has been provided within the common green area on the interior of the proposed units. The shared pavilion will be a roofed open-air structure with a level floor surface. This space will provide area for seating, tables, and could also be rearranged and be used for active activities as well. The common green area can also be utilized for a number of different activities and include an interconnected walking loop to each unit, as well as an open green space to be utilized as desired by the residents. The project is also serviced by a 6' wide meandering sidewalk with benches placed intermittently at the outside of the project allowing a longer, uninterrupted loop at the edge of the wetland and forested areas for the use of the residents.*

8. Ch 390 – Article 13.5(E)(8) allows for multiple methods for the Project to provide for affordable housing. In the documentation provided it is unclear which method the Applicant will pursue. We note this for the benefit of the Board when considering potential conditions of approval.

*HSH: Response to be submitted by attorney under separate cover.*

9. Ch 390 – Article 14: Includes requirements relative to the earth removal special permit being requested by the Applicant. The documentation provided by the Applicant is unclear. It states that 124 CY of material will be excavated from the site; however, 32,965 CY of material will be transported from the site (cumulative for the Sheldon Meadow and Sheldon West Projects). Additionally, Article 14 also requires:

*HSH: Each application has been provided with its own cut/fill numbers and are not cumulative for both projects. The initial analysis for Sheldon West showed a cut of 124 CY needed and 32,965 CY of fill required to be brought onto the site. These numbers, however, have been updated as the design has been revised. The updated cut/fill for Sheldon West is approximately 29,900 CY of fill and 225 CY of cut, with a net of 29,675 CY being brought onto the site.*

- a. Article 14.5(6): Requires a minimum of two vertical benchmarks be included on the plans. Benchmarks do not appear to have been provided.

*HSH: Benchmarks will be set prior to the start of construction. Multiple benchmarks will be set throughout the project due to tree clearing and the lack of existing permanent structures on site. As development occurs, permanent benchmarks will be set.*



- b. Article 14.6(K) stipulates excavation cannot be conducted within 10-ft of the estimated seasonal high groundwater elevation. Several of the on-site test pits demonstrated shallow groundwater elevations.

*HSH: The proposed site, in general, is to be raised from the existing elevation. However, stormwater basins are allowed to be within 2' of groundwater and the septic system, 5-6' within groundwater. Excavation will be required within 10' of groundwater in order to install the septic system and stormwater basins.*

- c. Article 14.9 includes submission of an Environmental Impact Statement. Reference in this document is made to the Site needing to be filled to mitigate shallow groundwater as opposed to the report reported in application documents.

*HSH: The application was misread, and values were placed on incorrect lines. Updated values per the revised design will be reported to the Board.*

10. The project proposes to utilize existing municipal water infrastructure in West Street to serve the domestic and fire protection water demands. We defer to the Wrentham DPW personnel to review and approve the water connection.

*HSH: Concur*

11. We acknowledge the photometric plan provided by the Applicant; however, it depicts light trespass onto the abutting Town property on West Street. Also, a pole height does not appear to have been specified. Considering the de minimis light trespass onto the non-residential property, B+T takes no exception to the lighting design as proposed. However, we defer to the Board on approval of the noted design condition.

*HSH: The photometric plan has been revised to eliminate any light trespass onto abutting residential properties. A mounting height of 18 feet for all pole lights and 3.5 feet for bollards has been added to the Lighting Plans (Sheets C9.1 and C9.2).*

12. The proposed driveway design will be within the jurisdiction of MassDOT to modify the curb cut and modify the utilities within the Route 121 layout. The Applicant is also proposing a crosswalk across West Street. We request, to the satisfaction of the Board, that the Applicant provide an update on the status of MassDOT permitting process.

*HSH: A curb cut permit will be filed with MassDOT after the approval from both the Town of Wrentham Planning Board and Conservation Commission and prior to the start of any construction. The permit from the Town of Wrentham is a requirement*



*of filing with MassDOT and was requested that we not file with MassDOT until approval. This request came during the teams recent meeting with MassDOT regarding the discussion of West Street improvements.*

13. The Applicant has not provided a swept path vehicular turning movement analysis for larger emergency vehicles. Though access appears to be adequate, we defer to the Wrentham Fire Department personnel relative to the adequacy of the emergency vehicle access provided.

*HSH: A swept path vehicular movement plan is included within Appendix M of the Supplemental Data Report.*

14. The Project proposes the use of an on-site sanitary waste disposal soil absorption system. We note the following:

- a. Details of the proposed system have not been provided with this submission.

*HSH: The proposed system will be submitted to the Town of Wrentham Board of Health for permitting at a later date.*

- b. The project is within the Aquifer Protection district.

*HSH: The proposed system will be submitted to the Town of Wrentham Board of Health for permitting. The system has been designed in accordance with the requirements and limits within the Aquifer Protection District.*

We note these items for the benefit of the Board and defer review and approval of the proposed system to the Wrentham Board of Health review process.

15. The Applicant does not appear to have provided a comprehensive inventory of site details. Details for the crosswalks, fences, retaining walls, benches, etc. do not appear to have been provided. Additionally, proposed retaining walls are at a height that would require fall protection be incorporated. We request that the Applicant clarify the design intent and provide all details necessary to execute the proposed site work.

*HSH: Details for the aforementioned items have been added to the Detail Sheets (Sheets C10.1-10.8) of the plan set.*

## Stormwater Management Comments

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16. Section 4.51.g and 5.212 of the Subdivision Regulations require that projects not cause an increase or decrease in either the total volume or runoff discharge offsite, or total rate of runoff offsite for the 2-inch, 2-yr, 10-yr, 50-yr and 100-yr frequency events. As proposed, we note the following relative to the noted regulation:

a. AP1 demonstrates significant volume decreases for the 2-yr through 100-yr events.  
*HSH: Concur. The design is retaining and infiltrating more water than in the existing conditions.*

b. AP1 demonstrates a significant rate decrease for the 10-yr event.  
*HSH: Concur. The design is retaining and infiltrating more water than in the existing conditions.*

17. Section 5.213 of the Subdivision Regulations require that rainfall event estimate be derived from Technical Paper No. 40 (TP 40). Though the rainfall events appear appropriate, we request the Applicant confirm the assumptions made. We request that the Applicant document compliance with the referenced regulations.

*HSH: All rainfall data has been updated in HydroCAD analysis to use data from NRCC, as agreed upon with the peer review engineers. The NRCC rainfall data is more recent and conservative (larger rainfall amounts) than TP-40 data.*

18. Section 5.225 of the Subdivision Regulations require that stormwater basins greater than 500 cubic feet be screened from roadways by a greenbelt of trees. As designed, the Project does not provide the required subdivision screening requirements. Acknowledging the Project is not specifically a subdivision, we note this for the benefit of the Board when considering potential conditions of approval.

*HSH: The landscaping plan has been revised to provide proper screening.*

19. Section 5.241 of the Subdivision Regulations requires that catch basins or equivalent structure, have a maximum spacing of 300-ft. As designed, the inlet spacing does not appear to comply with this requirement. We request that the Applicant clarify the design intent and document compliance with the referenced regulation.

*HSH: This project is not considered a Subdivision. However, the design has been revised and all stormwater inlets have been spaced appropriately to not exceed the maximum distance of 300-feet between high points to first structures and between in line structures down gradient.*



20. The modeling of Pond P1: Infiltration Pond is unclear. The identified bottom of basin elevation of 249.25 is inconsistent with the associated grading and contours. We request that the Applicant clarify the design intent of for this infrastructure and revise the documentation as applicable.

*HSH: The design and associated grading and details Pond IB1 have been revised to better clarify the intent. A cross-section of Pond IB1 can be found on Detail Sheet 7 (Sheet C10.7) of the plan set. The design has been updated and the intermediate contour of 249.50 is represented as a dashed line.*

21. We request that the Applicant provide a fully executed MassDEP Checklist for Stormwater Report endorsed by a Professional Engineer (PE) registered in the Commonwealth of Massachusetts.

*HSH: A fully executed MassDEP Checklist was previously submitted to the Town of Wrentham Conservation Commission. The checklist has been attached as part of this submission package.*

22. Standard 3 of the MassDEP regulations requires documentation of the on-site soil types. The Applicant indicates that the on-site soils are within the Hydrologic Soil Group (HSG) B; however, utilizes the most ideal HSG A infiltration rates for all the modeling analysis and drawdown calculations. We request that the Applicant clarify the noted inconsistency and revise the documentation as applicable.

*HSH: As part of the design process, a Hydrogeologist conducted testing that produced results characteristic of A soils. Although the USDA soil map previously used showed possible results of different soils, the testing was used since it was seen to be more accurate. Site soils have been revised to be consistent with the infiltration rates used within the infiltration practices, all associated with HSG A. A memo from the Hydrogeologist can be found in Appendix H of the Supplemental Data Report.*

23. Standard 3 of the MassDEP Regulations requires that the Estimated Seasonal High Groundwater Elevation (ESHGWE) be established for the Site. B+T acknowledges the test pit data provided and the 2-ft vertical separation provided between these elevations and the bottom of infiltrative stormwater Best Management Practices (BMPs). However, considering the bottom elevation of the BMPs is within 4-ft of the ESHGWE we request that the Applicant provide a mounding analysis for each BMP.





*HSH: 2 feet of separation from groundwater is met. Mounding calculations have been provided in Appendix G of the Supplemental Data Report.*

24. Standard 4 of MassDEP Regulations requires water quality treatment standards are met. We acknowledge the treatment train input provided. However, the TSS removal percentages utilized were derived from vendor correspondence. We request that the Applicant provide formal documentation that certifies the level of treatment provided by the proposed proprietary treatment units.

*HSH: Formal documentation has been provided in Appendix C of the Supplemental Data Report that certifies the level of treatment provided by the proprietary units.*

25. Standard 8 of the MassDEP Regulations requires that Construction Period Pollution Prevention and Erosion and Sedimentation Controls be documented. The Project will be covered by the NPDES Construction General Permit. Accordingly, a Stormwater Pollution Prevention Plan (SWPPP) will be required. A SWPPP has not been provided with the documentation provided by the Applicant. We request that the Applicant document compliance with the noted regulation.

*HSH: A draft of the SWPPP has been submitted to the Town of Wrentham for review. A final SWPPP will be completed prior to construction as part of the NPDES permitting.*

26. Standard 10 of the MassDEP Regulations requires that the Applicant provided an executed Illicit Discharge Compliance Statement. The Applicant indicates that this documentation will be provided under separate cover. We note this for the benefit of the Board when considering potential conditions of approval. We recommend that the Applicant provide the referenced documentation prior to construction.

*HSH: A signed Illicit Discharge Compliance Statement has been provided within this submission package.*



# Professional Services Corporation, PC

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## Comments on Acceptable Stormwater Management Plan Requirements

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RSMR (I1, P2) requires the Applicant to “capture and treat the “FIRST FLUSH” of storm, usually defined herein...as the runoff from the first 2-inches of precipitation. The applicant’s stormwater report presents calculations to address this for the capture of 1-inch, but this need to be upgraded to 2-inches to meet this requirement. Also, we defer on final comment until the other flaws in the submittal are corrected. See comment 4 below.

*HSH: The water quality calculations have been revised to use a value of 2 inches instead of the previously used 1 inch.*

RSMR (I2, P2) requires that the plan “not cause an increase or decrease in either the total volume of runoff discharged offsite, or total rate of runoff discharged offsite, as compared with the respective discharge offsite prior to the development. Such condition shall be required for storms of 2”, 2-yr, 10-yr, 50-yr, an 100-yr frequency events” the proposed stormwater management design seeks to maintain peak flow and volume of stormwater runoff to levels the currently run off the land. The applicant proposes to do this by directing site runoff to one infiltration basin. However, it is not yet clear if the peak flows will be controlled in the way due to the hydraulic conductivity rate used to model the infiltration basin is too high. The rate needs to be revised to a slower rate (2.41 in/hr) which is the Rawls rate more appropriate for the soil test data provided.

*HSH: Please see response #22 above. A memo from the Hydrogeologist can be found in Appendix N of the Supplemental Data Report.*

RSMR (I3, P2) requires that the plan “include source controls and design of BMPs including, but not limited to, infiltration and detention structures, lid techniques, bioretention areas, and constructed storm water wetlands in accordance with procedures acceptable to the BOH” The applicant site plan and stormwater report demonstrates adequate plans to address the requirements. However, we defer on final comment until the other flaws in the submittal are corrected.

*HSH: Concur.*

RSMR (I7, P4) requires: “Include hydrologic and hydraulic calculations and data to support the proposed design for the runoff drainage system. Both volume and flow rate of runoff,



before and after development, must be clearly stated and shall be in accordance with the specifications previously designated herein. Calculations shall be performed using the most recent procedures of the U.S.D.A Soil Conservation Service such as are described in National Engineering handbook – Section 4-Hydrology (SCS 1985., TR-20 “Computer Program for Project Formulation-Hydrology (SCD 1983), and Technical Release No. 55 “Urban Hydrology for Small Watersheds” (SCS 1986). Structure design shall comply with the standards of USDA SCS Publication TR-60 for containments for detention and retention areas or other designated references. Rainfall event amounts shall be as derived from the latest Atlases of Precipitation as published by the Northeast Regional Climate Center, Cornell University, Ithaca, N.Y.” The Applicant’s submittals generally demonstrate compliance with these requirements. However, as noted earlier, the “*hydrologic and hydraulic calculations and data to support the proposed design*” are flawed and need to be corrected before we can offer final comment on compliance.

*HSH: Please see response #22 above. A memo from the Hydrogeologist can be found in Appendix N of the Supplemental Data Report.*

## Review per the RSMR Checklist of Design Regulations

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The Applicant’s submittal does not include an evaluation of compliance with the Wrentham RSMR checklist of design regulations for stormwater and drainage designs. In our review, we have found the following items of noncompliance, or items otherwise worthy of comment.

1. The Applicant did not include evaluation of compliance with the Wrentham RSMR checklist.  
*HSH: A Wrentham RSMR Checklist was included as part of the submission to the Town of Wrentham Board of Health. A Checklist has been included as Appendix E of the Supplemental Data Report.*
2. The Applicant also needs to submit a copy of the MassDEP Checklist for Stormwater Report that is stamped and dated by the Registered Professional Engineer for the Project.  
*HSH: A MassDEP Checklist was included as part of the submission to the Town of Wrentham Board of Health. A Checklist has been included as Appendix D of the Supplemental Data Report.*
3. Separate overlays shall be included of pre and post development watershed catchment areas, including soil types, hydrologic categories, CN values of the NRSCS, and the TC flow paths



and design points delineated. The Applicant needs to submit a revised post-development watershed plan that more clearly identifies the time of concentration (Tc) flow path for the undeveloped sub-catchment area 214.

*HSH: The time of concentration (Tc) flow path associated with sub-catchment area 214 has been clearly identified on the post-development watershed plan and can be found within Appendix E of the Supplemental Data Report.*

4. BMP shall be provided for removal of contaminant from the peak runoff from the 2-inch storm. Specific calculation shall be prepared. The applicant needs to submit revised Water Quality Volume calculations that are based on the 2-inch storm (instead of the 1-inch quantity that was used).

*HSH: Water Quality Volume calculations within the Supplemental Data Report have been revised based on a 2-inch storm.*

5. Hydrographs shall be printed out and show data and a 2D graphical representation for pre- and post- development conditions. The Applicant needs to submit printed hydrographs, but in the interest of saving paper volume, we recommend that it would be most useful if the hydrographs printed by the Applicant only be for the final design point discharges for pre- and post- development conditions for required design storm events.

*HSH: Hydrographs have been provided as part of Appendix F within the Supplemental Data Report.*

6. Applicant needs to submit cross-section of proposed infiltration basin, however the following revisions should be added to section view:

*HSH: A cross-section of the proposed infiltration basin has been added to the plan set and can be seen on Sheet C10.7.*

- a. Show in the detail (in grey scale background) logs of soil strata, including elevations, for the five (5) test pits, including ESHGW designations for each. Also note in the detail the selected elevation of ESHGW from which the proposed 2-foot vertical setback is noted.

*HSH: The detail of the proposed infiltration basin has been revised to include to requested information.*

- b. The Applicant should add bedding material for the 12-inch rock riprap, and show the materials specifications and depths on the spillway details. Also, consider extending the emergency outlet spillway to elevations 248.



*HSH: The aprons have been revised the emergency outlet spillway has been extended to elevation 248.*

- c. Calculations should be submitted to show that the proposed armoring is sufficient to prevent erosion and to withstand the entrance and exit velocities at the basin. Again, as noted in other comments, any such calculations should be prepared after the basins have been re-designed to account for field verified saturated hydraulic conductivity rates, and any mounding analysis adjustments.

*HSH: Calculations have been provided in Appendix J of the Supplemental Data Report that show the proposed armoring to be sufficient.*

**Geometric Design follows both Board of Health requirements and DEP Stormwater Handbook. Note that 4:1 side slopes are required on basin interiors and a 10' safety bench is required. The width of the top of the containment berm must be at least 10' wide.** The Applicant's plans meet these requirements.

*HSH: Concur*

**Minimum of 12 inches of freeboard provided.** The Applicant's plans comply with this rule.

*HSH: Concur*

**Maintenance access has been provided (for basins).** The Applicant's plans comply with this rule.

*HSH: Concur*

**Soil hydraulic conductivity shall be based upon field borehole permeability tests.** The Applicant has provided soil evaluations which are an acceptable alternative to this rule.

*HSH: Concur*

**Complete Boring Logs and Details of Calculations shall be submitted.** The requirement is not applicable to the proposed design methodology.

*HSH: Concur*

**Elevation of high ground water, elevation of underlying impervious layer (ledge of clay), and saturated thickness of underlying aquifer has been determined.** The Applicant's test pits have adequately documented soils layers, and restrictive soil layers were not found. Not Applicable.



*HSH: Concur*

7. **Mounding of Groundwater shall be considered in the design.** Because the vertical separation from the bottom of the proposed infiltration basins is less than 4-feet from ESHGW and basins are used to control peak flows, per the Massachusetts SHW<sup>6</sup>, the Applicant needs to submit mounding analyses for the proposed infiltration basin.

*HSH: Mounding calculations have been completed and can be found in Appendix I of the Supplemental Data Report.*

8. **An infiltration structure for a 2-inch storm will have a minimum of 2 feet of vertical clearance (preferably 4 feet) to the high ground water with consideration of the groundwater mound.** The Applicant needs to demonstrate that this requirement is met after completing the work noted in Comment 7.

*HSH: Mounding calculations have been completed to show the above requirement is met and can be found in Appendix I of the Supplemental Data Report.*

9. **Ten-year storm will empty (infiltrate) in 24 hours maximum.** The Applicant should submit calculations to demonstrate that this condition is met by the proposed basin after revising the basin design based on a lower saturated hydraulic conductivity rate (see Comment 1).

*HSH: Calculations showing the infiltration basin will empty within 24 hours for the 10-year storm have been included within the Supplemental Data Report.*

10. **100-year storm will empty (infiltrate) in 72 hours maximum.** The Applicant should submit calculations to demonstrate that this condition is met by the proposed basin after revising the basin design based on a lower saturated hydraulic conductivity rate (see Comment 1).

*HSH: Calculations showing the infiltration basin will empty within 24 hours for the 10-year storm have been included within the Supplemental Data Report.*

11. **Underground Infiltration Facilities shall be preceded by an Innovative/Alternative stormwater quality enhancement system that has had its performance verified by the Massachusetts Strategic Envirotechnology Partnership (STEP). Such I/A systems shall be required for all underground infiltration facilities. Units shall be designed to accept the flow rate from a 2-inc NRCS Type 3 Rainfall without by-pass.** The Applicant should submit evidence that the Rain Guardian system proposed as



pretreatment practices for storm flow have had their performance verified by the STEP program, and that they can accept the flow rate from a 2-inch NRCS type 3 rainfall without by-pass.

*HSH: Massachusetts STEP program was defunded in 2014. We have provided documents verifying the proprietary treatment units from third party testing, provided by the manufacturers of the BMPs. Please refer to Appendix C of the Supplemental Data Report.*

12. **The stormwater management system shall have an operation and maintenance plan satisfactory to the Board of Health in accordance with the MassDEP guidelines and good engineering practice to ensure that systems function as designed. For stormwater facilities that are not publicly owned or maintained, the Board of Health shall require that an agreement shall be executed, subject to the approval of the Board of Health, for perpetual maintenance and operation of the stormwater system in order to guarantee the regular maintenance, repair, and replacement of any or all components as necessary.** Subject to some recommended additions, the Applicant has submitted a satisfactory Operation and Maintenance Plan for the proposed stormwater BMP's; however as noted, an agreement between the Board of Health and the Owner (and ultimately the Homeowner Association) will need to be executed. See Comment 34.

*HSH: Concur*

## Massachusetts Stormwater Management Standards

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The Applicant's Stormwater Management Report includes an evaluation of compliance with the Stormwater Management Standards as presented in the Massachusetts Stormwater Handbook (SWH). The Project's compliance with Stormwater Management Standards are addressed for each standard below:

**Standard 1: No New Untreated Discharges or Erosion to Wetlands.** Compliance with this standard has been partially demonstrated. However, our concerns regarding use of alternative curbside pretreatment, and use of an inappropriate saturated hydraulic conductivity rate for the infiltration basin and the design revisions that may follow such revisions, need to be addressed prior to confirmation of compliance with this standard. Also see additional comments under Standard 8 below.



*HSH: The proprietary treatment device information has been provided within Appendix C of the Supplemental Data Report. A memo from the Hydrogeologist discussing the results of the testing can be found within Appendix N of the Supplemental Data Report.*

**Standard 2: Peak Rate Attenuation.** Compliance with this standard has been partially demonstrated because the current design complies with Standard 2 and the current post-development peak flows do not exceed the pre-development runoff rates. However, we've raised concern on use of an inappropriate saturated hydraulic conductivity rate and the design revisions that may follow use of a revised rate must be addressed prior to confirmation of compliance with this standard.

*HSH: See Appendix N within the Supplemental Data Report.*

**Standard 3: Stormwater Recharge.** The intent of Standard 3 is to ensure that the infiltration volume of precipitation into the ground under post-development conditions is at least as much as the infiltration volume under pre-development conditions. Compliance with this standard has been generally demonstrated, but based on flawed infiltration input. The Applicant needs to address the issues discussed in Comments 1 and 7 above to demonstrate that the surface infiltration BMP is properly designed in compliance with MA SWH requirements.

13. The Applicant needs to submit calculations proving adequate drawdown times for the surface infiltration detention basin, factoring in the requested revised saturated hydraulic conductivity rate. See Comment 1 above.

*HSH: Calculations proving adequate drawdown times for surface infiltration detention basins have been included with this Supplemental Data Report.*

**Standard 4: Water Quality.** The Stormwater Report and design plans demonstrate that stormwater runoff from all paved areas will be collected and directed through pre-treatment and contained infiltration with the exceptions noted in Comments 4 and 11 which the Applicant must first address before this Standard can be stated as met. Also, address the following:

14. The Applicant must address the erosion control provisions noted under Standard 8 below before this Water Quality Standard can be stated as met.

*HSH: All comments associated with erosion control provisions have been addressed within the attached revised materials.*

15. The Applicant must submit evidence that pretreatment performance for the Rain Guardian systems that are employed prior to discharge to the surface infiltration basin





will comply with the Town's required pretreatment of the first 2-inches of rainfall, (also see Comment 11.

*HSH: Calculations showing compliance with the Town's required first 2-inches of rainfall has been provided within the Supplemental Data Report.*

16. SWH Standard 4 requires submittal of a *Long Term Pollution Prevention Plan (LTPPP)* to fully comply with Standard 9. The Applicant has submitted a plan to meet the other Standard 9 requirement, which is a "Long-Term Operation and Maintenance Plan" (in Appendix A of the project "Supplemental Data Report"), but this is not a LTPPP. The Applicant should submit a LTPPP that include includes procedures for the following:

- a. good housekeeping;
- b. storing materials and waste products inside or under cover;
- c. vehicle washing;
- d. routine inspections and maintenance of stormwater BMPs;
- e. spill prevention and response;
- f. maintenance of lawns, gardens, and other landscaped areas;
- g. storage and use of fertilizers, herbicides, and pesticides;
- h. pet waste management;
- i. operation and management of septic systems; and
- j. proper management of [deicing chemicals and snow](#)

*HSH: A draft of the Long-Term Pollution Prevention Plan including the aforementioned items has been included as Appendix A of the Supplemental Data Report.*

**Standard 5: Land Uses with Higher Potential Pollutant Loads (LUHPPLs).** This standard is not applicable for the Project Site.

*HSH: Concur*

**Standard 6: Critical Areas.** The Project Site does not fall within a Critical Area and compliance with this standard is not required.

*HSH: Concur*

**Standard 7: Redevelopment Project.** This standard is not applicable for the Project Site.

*HSH: Concur*

**Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation**

**Controls:** The Applicant has provided plans and instructions for controlling erosion and sedimentation and is partially in compliance with this standard<sup>9</sup>. However, the Applicant should review these and confirm (or revise to confirm) that the following comments are being addressed:



17. Because site contractors often seek to utilize proposed stormwater basin areas as temporary stormwater detention basins during construction, we recommend that the Applicant add a note to the Erosion Control Plan to specify procedures and temporary stormwater management controls to be followed during construction to ensure that the proposed surface recharge basin will not be utilized for control of stormwater during construction. All runoff should be held entirely on the work site and that the final basin shall not be used except for the completed project. If the Applicant finds that the aforementioned controls are not possible, then the need for utilizing the proposed surface basin during construction must be discussed. As a minimum any check dam pools (say in the proposed swales) or the detention basin used for temporary drainage during construction must not overflow to the wetland buffer zone, and the final excavation of the stormwater basin to finished grade (bottom elevation 249.25) should not be completed until all other site construction and land disturbance work is completed; and only then shall the basin bottom area be exposed and graded, and any accumulated siltation within the basin areas must be removed along with the required excavation to the final bottom grades.

*HSH: Temporary sediment basins have been added to the Demolition and Erosion Control Plans (Sheets C3.1 and 3.2) of the plan set. Additional Erosion and Sedimentation Controls and narratives will be provided in preparation of the SWPPP and NPDES filing prior to construction.*

18. Although a basic “General Construction Sequence” is provided on Detail Sheet 1 of 7 (Sheet C10.1) and in Appendix B of the Supplemental Data Report, provide supplemental plan(s) and narrative to explain the proposed sequence of work to manage stormwater during the Site construction. Provide details and narrative to explain how stormwater will be directed and maintained within the Site disturbance limits during construction, for example through sequenced placement of temporary diversion swales, temporary sediment traps/basins, etc. Keeping stormwater as close as possible to the source of generation is the preferred approach, and allowing Site stormwater to accumulate at one collection point is not preferred.

*HSH: The management of stormwater during Site Construction will be developed with the selected site Contractor when completing the SWPPP and NPDES permit filing prior to construction. Howard Stein Hudson requests that this be made a condition prior to construction as items may differ dependent on the Contractor selected and the timing of the build out. The general sequence on Detail Sheet 1 has been updated to be more detailed.*



19. Add a note to the Erosion Control Plan (Sheet C1.2), and include discussion in the Appendix B narrative “Erosion Control and Sedimentation Control” to require that the Site Contractor: *“Monitor and maintain the Stabilized Construction Entrance to ensure that it is cleaned and functioning correctly to prevent tracking of sediment by construction vehicles that exit the Site”.*

*HSH: A note has been added to Sheet C1.2 stating the above.*

20. See note 10 on the Erosion Control Plan Notes (Sheet C1.2): We recommend replacing the word “mulch” and include the following: *“a tarp or mulch can be used to cover stockpiles, and temporary seeding can also be applied”.*

*HSH: The aforementioned note has been revised to include the requested language.*

21. Add some form of “Weekly Inspection and Maintenance Report Form” within “Appendix B, Erosion and Sediment Control Notes and General Construction Sequence”, and include inspection requirements for the following, at a minimum:
- a. Erosion Control Blanket Areas (e.g., for swale and basin side slope areas, and for any perimeter slope areas),
  - b. Temporary Sediment Control Basin(s) and Swales;
  - c. Temporary Stockpile areas,
  - d. Stabilized Construction Entrance,
  - e. Installations of “Compost Filter Socks”, and
  - f. Sediment traps to protect all proposed curbside inlet areas
  - g. Protection of the proposed 10-foot wide pervious parking shoulder areas.

*HSH: The operation and maintenance forms can be used for weekly inspections, there are no dates specified in the empty table. We have added some of the above items to the regular operation and maintenance appendix. The other items and scheduling of inspections will be included in the SWPPP and NPDES permit filing prior to construction. Howard Stein Hudson requests that this be made a condition prior to construction as items may differ dependent on the Contractor selected and the timing of the build out.*

There are several other recommended revisions for the Erosion Control Plan Notes (Sheet C1.2) and the Erosion Control Plan (Sheets C3.1 & C3.2) to specify controls and procedures as follows:

22. Add notes for stabilizing any new exposed slope areas - such as the slopes and channel bottoms along the proposed drainage swales, slopes along the project perimeter, and slopes



at the surface basin, with erosion control matting as soon as the grading is completed. It is preferable for the erosion control matting to include mulch, grass seed and fertilizer, and be organic so as to degrade over time without removal.

*HSH: Erosion Control Plan Note 18 on Sheet C1.2 has been revised to state “New, exposed slope areas, such as the slopes and channel bottoms along the proposed drainage swales, slopes along the project perimeter, and slopes at the surface basin must be stabilized with erosion control matting as soon as the grading is completed.”*

23. Provide a detail to explain the proposed method to protect the various Rain Guardian curbside inlets (Rain Guardian Turrets, and Rain Guardian Foxhole) from erosion during the construction period, since it does not appear feasible to install silt sacks such as those detailed on the plans. Also address requirements to protect the proposed 10-foot wide pervious parking shoulder areas from the impacts of stormwater sediment.

*HSH: All curbside inlets and pervious parking shoulders will be protected with the use of compost sock. These areas will be presented in more detail and shown on the final plan that will accompany the SWPPP which will be provided prior to the start of construction.*

24. Remove any detail that calls for use of Haybales, and add a note that Haybale Silt Barriers are not allowed for catch basin protection.

*HSH: Haybales have been removed from the plan set and a note has been added to Sheet C1.2 stating that the use of haybales for catch basin protection is not allowed.*

25. Add notes to discuss procedures to protect the surface detention basin and prevent impacts during construction. Describe procedures to be followed during excavation and construction of the surface basin, to remove unsuitable soils that may be encountered. Call for heavy equipment to avoid unnecessary compaction of soils. Describe a work sequence that employs erosion control BMPs and prevents discharge of excavated materials and prevents erosion into excavation for this BMP area.

*HSH: The surface infiltration basin will be protected with the use of construction fencing and compost sock during construction. The protection of this area will be presented in more detail in the final SWPPP that will be submitted to the Town of Wrentham prior to the start of construction.*



26. Prior to any excavation which may require removal of soil off site, the Applicant must apply for and obtain an Earth Removal Permit from the Planning Board in accordance with the Wrentham General Bylaw - Article 7.11.

*HSH: An Earth Removal Permit is currently before the Planning Board for review.*

27. Because the project will disturb over one acre, an eNOI must be filed with the USEPA and a Stormwater Pollution Prevention Plan (SWPPP) must be prepared by the Applicant. We recommend that a Draft SWPPP be submitted to the Town now for review and comment. As part of the SWPPP preparation, we recommend that the erosion control information already submitted be included in the SWPPP, and that erosion control notes and narrative should be upgraded, at a minimum, to describe how temporary measures, including construction phasing, are to occur, and be consistent with the *Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas* (1997, revised 2003) (hereinafter, MA E&S Guidelines), and be consistent with the methods noted in the E&S Guidelines starting at page 42. The erosion control narrative should also address restoration of temporary impacts that will occur due to construction (grading, retaining wall, etc.) within the 100-foot Buffer Zone.

*HSH: A draft of the SWPPP is included as Appendix B of the Supplemental Data Report.*

28. For the proposed stockpile area noted on the plan, describe what is to be stockpiled and reference a detail (to be placed on one of the detail sheets) of how the stockpile(s) will be protected (see item 31 below).

*HSH: The Demolition and Erosion Control Plan (Sheet C3.1) has been revised to show a separated construction entrance and exit. The detail on Detail Sheet 1 (Sheet C10.1) has also been revised.*

29. The Site entrance from West Street has a proposed construction vehicle *Stabilized Construction Entrance*. This entrance area should be divided into two parts clearly marked as either “entry or exit only.” There is no need to clean vehicles that are entering as vehicles entering an exit zone will degrade the exit zone by compaction. (Also see Comment 32 below.)

*HSH: The Demolition and Erosion Control Plan (Sheet C3.1) has been revised to show a separated construction entrance and exit. The detail on Detail Sheet 1 (Sheet C10.1) has also been revised.*



30. Upgrade the notes on this plan to be consistent with methods noted in the MA E&S Guidelines starting at page 42, and address phasing of the work such that clearing, grubbing, and stabilization should be done in discreet areas at different times. It appears that tree clearing will be required for grading along portions of the east property line including areas near to the proposed stormwater basin. Therefore, the erosion control narrative should explain in more detail how tree removal will occur, how felled logs will be removed from the site (landing areas, etc.), how grubbing will occur, and how erosion from the grubbed site and any sloped areas will be prevented until such areas are stabilized. (Also see Comment 26 above.)

*HSH: The area along the east property line is bound by a stone wall. The limit of clearing is up to this wall, and the wall is to remain. This work is fully located on the project site. The infiltration basin has been moved farther away from the property line and a swale has been designed to capture stormwater runoff from the project site and from the abutter. The management of stormwater during Site Construction will be developed with the selected site Contractor when completing the SWPPP and NPDES permit filing prior to construction. Howard Stein Hudson requests that this be made a condition prior to construction as items may differ dependent on the Contractor selected and the timing of the build out. The general sequence on Detail Sheet 1 has been updated to be more detailed.*

31. Add a detail for material stockpiles. Show how soil and other material stockpiles will be protected from wind and stormwater. This may be done with mulch, tarps, or annual seed mixes that are watered until growing, and ringed with a silt fence.

*HSH: A temporary stockpile detail has been added to Detail Sheet 2 (Sheet C10.2) of the plan set.*

32. Revise the *Stabilized Construction Entrance* detail (Sheet C10.1) to provide a stone pad zone that is slightly depressed and pitched in the center so as to drain off to one side into a limited drainage water catchment area. In addition to the detail revision, show this catchment area location on the Layout and Materials Plan (Sheet C4.1). The objective should be to clean the vehicles and have any drainage from the tracking pad captured off to one side so that silt and sediment are settled out and not re-tracked. In addition, add a note to call for personnel at the exit to supervise traffic direction and clean off vehicles with problems and ensure any material covers are in-place. One feature of the Town's IDDE Bylaw and eventual regulations will be a requirement to retain all drainage on-site. Failure to do so will result in fines and delays.



*HSH: A detail on Detail Sheet 1 (Sheet C10.1) has been revised to include an entrance and exit as well as a depression to drain off to the side.*

33. The SWPPP (to be prepared) and the erosion control plans should include the following additional procedural notes to help ensure that the Project contractor is informed of procedures that are important to the Town and so that construction activity minimizes erosion and associated impacts:
- a. The inspection of erosion control devices adjacent to the buffer zone and along downgradient areas will be done by the Applicant's Engineer, and once installation is determined to be accurate, the Engineer will send a letter to the Board of Health attesting to accuracy and describing any potential changes.
  - b. The plan needs to state how often the Project Construction Supervisor will inspect the Site and the erosion controls. Also, the owner shall submit any changes to sequence or timing of construction or inspections to with the Commission prior to implementation.
  - c. To keep unauthorized grading machine traffic to a minimum, install a four-foot high, high-visibility limit-of-work (LOW) fence to enclose the work site and any non-active work areas.
  - d. Catch basins (e.g., Rain Guardian devices) on Site and any downgradient catch basin(s) in West Street shall be covered until all surfaces in the watershed of the catch basin are stable and the stormwater management areas are fully constructed. If catch basins are required to be operational, these shall be protected by an approved method as detailed on the plans, and these shall be checked weekly and following any storm event, and cleaned sediment is captured.
  - e. Stormwater must be managed in the work area and it must not be allowed to impact erosion control devices, nor be discharged outside of the Site work area.
  - f. All grades or bare soil within the buffer zone, and any slopes or areas potentially draining near to a proposed infiltration practice or off site must be stabilized within 48 hours, and no discharge of sediment is to leave the Site.



- g. A stump grinder shall be used to make a mulch material that can be stockpiled and used throughout the Site for stabilization. Also, save leaves and other surface debris for similar use in stabilization of disturbed areas.
- h. The use of Haybales is not allowed on the Site. (The Applicant's submittals need to be revised to remove all references to Haybales). Only compost filter socks of minimum 8-inch height are to be employed, and these shall be backed by a silt fence and a high-visibility Limit-of-Work (LOW) fence. The Board of Health requires that the details for the filter mitt and wattle comply with the specifications of the Conservation Commission (see the Commission's web site).
- i. A LOW fence is required for abutting properties.
- j. No topsoil is to be imported to the Site unless required because of a shortage of topsoil gathered or stockpiled on the Site, and only if pre-approved by the Wrentham Conservation Agent.

*HSH: All aforementioned information will be provided in the final SWPPP that will be submitted to the Town of Wrentham prior to construction.*

**Standard 9: Long Term Operation and Maintenance Plan and Long Term Pollution**

**Prevention Plan.** An Operation and Maintenance Plan has been submitted as part of the stormwater report, however this plan does not fully comply with Standard 9. This O&M plan should be amended as follows:

- 34. The O&M plan could include all relevant elements as required by Standard 9 for a Long Term Pollution Prevention Plan (LTPPP), or it may be preferable for the Applicant to submit a separate LTPPP document. The project Homeowners Association can utilize a LTPPP as a guide for property management. The LTPPP requirements are listed in Comment 16 above.

*HSH: A Long-Term Pollution Prevention Plan has been included as Appendix A in the Supplemental Data Report. This will be a "living" document that will be updated and revised as the SWPPP is prepared.*

- 35. To fully comply with Standard 9, the Applicant should revise and confirm that their Long-Term Operation and Maintenance Plan at a minimum includes all of the following:
  - a. Stormwater management system owners;





- b. The party or parties responsible for operation and maintenance, including how future property owners will be notified of the presence of the stormwater management system and the requirement for proper operation and maintenance;
- c. A narrative description of the routine and non-routine stormwater system maintenance tasks to be undertaken by the Homeowner Association after construction is complete and a schedule for implementing those tasks;
- d. A plan that is drawn to scale and shows the location of all stormwater BMPs in each treatment train along with the discharge point;
- e. A description and delineation of public safety features; and
- f. An estimated Total Annual Operations and Maintenance Budget for all stormwater BMP systems combined.

*HSH: The Long-Term Pollution Prevention Plan has been included with the aforementioned items as Appendix A within the Supplemental Data Report.*

36. The O&M Plan for stormwater facilities should include recommendations, which should also be included on the maintenance and inspection forms, regarding the frequency of inspection of the Rain Guardian systems' equipment and filters, with emphasis on requiring increased frequency of inspections during seasons when leaves, debris and sand will stress these filter systems.

*HSH: Proprietary maintenance and BMP information can be found in Appendix A and C of the Supplemental Data Report.*

37. The O&M Plan should include recommendations for maintenance, and inspection forms for the infiltration basin overflow and inflow receiving areas.

*HSH: The O&M Plan within the Long-Term Pollution Prevention Plan includes recommendations for the infiltration basin overflow and inflow areas.*

38. The O&M Plan should include recommendations for maintenance, and inspection forms for the 10-foot wide pervious parking shoulder areas.

*HSH: The O&M Plan within the Long-Term Pollution Prevention Plan includes recommendations for the pervious parking shoulders throughout the site.*



39. Although snow storage areas have been shown on the “Layout and Materials Plan” (sheets C4.1 and C4.2) of the project plans, the O&M Plan should include this snow storage plan to show operators where snow storage should occur during winter storms. In addition, the Applicant should submit calculations that document the amount of snow accumulation that will be gathered during a typical snowstorm event from paved areas, and also demonstrate the calculated amount of storage that will be provided by the recommended snow storage zones. The following are suggested guidelines for such calculations:

- a. Calculate snow accumulation to occur after paving the Site (say per inch of snow)
- b. Calculate the maximum storage capacity of the various areas noted on the project plans (plus any new areas). Assume a maximum storage height based on 1:1 side slope snow storage that will fit within the designated snow storage footprints.
- c. From a. and b. above, and allowing for compaction, determine how many inches of snow can be effectively stored on the project Site, and by default, the excess volume that will require haul-away to an appropriate disposal site.
- d. Also, provide a response (in the project narrative) to discuss how the Site will comply with MADEP Snow Storage Guidelines which can be found at:  
<https://www.mass.gov/guides/snow-disposal-guidance#-snow-disposal-guidance->

*HSH: Snow storage calculations have been provided as Appendix K of the Supplemental Data Report and meets all standards set forth by the State.*

DEP guidance, in part states: “Avoid disposing of snow on top of storm drain catch basins or in stormwater drainage systems including detention basins, swales or ditches. Snow combined with sand and debris may block a stormwater drainage system, causing localized flooding. A high volume of sand, sediment, and litter released from melting snow also may be quickly transported through the system into surface water.”

**Standard 10: Prohibition of Illicit Discharges.** An Illicit Discharge Compliance Statement has not been submitted and therefore this standard has not been met.

40. The Applicant should submit a signed Illicit Discharge Compliance Statement as discussed in the Massachusetts SWH.

*HSH: A signed Illicit Discharge Compliance Statement has been provided.*



## Other Comments on the Project Submittals

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41. A retaining wall is proposed along the west side of the Site, along the 100-foot buffer to a potential vernal pool. The wall height will vary from 0.2-feet to 7.6-feet. This retaining wall needs to be designed by a Massachusetts registered Structural Engineer. Calculations for factor of safety against overturning, sliding and bearing capacity are required for any section over 4-feet in height, and the proximity of wetlands and possible high groundwater should be factored into the design. If the structural plans are provided by a wall manufacturer then the Board should require that the plans be based on site specific geotechnical information and the Board should not accept plans that are qualified by requiring further determination of geotechnical conditions after issuance of the signed and sealed structural drawings.

*HSH: All design and calculations associated with the retaining wall on site will be completed by a Massachusetts registered Structural Engineer and will be provided prior to construction. Howard Stein Hudson requests that the conditions of approval specify that the wall construction and impacts are not any closer to the resource areas than depicted in the plans currently under review.*

42. Explain how construction of the retaining wall, in close proximity to 100-foot buffer to a potential vernal pool, will be possible without temporary disruption of the buffer zone, and please designate an appropriate “temporary disturbance limit of work” line on the Grading and Drainage Plans (Sheet C5.2), and provide reasonable estimates of the area (in square feet) of temporary disturbance that will be required for access to, and construction of the retaining wall, and provide a restoration plan for the disturbances.

*HSH: The proposed Versa-lok wall system construction guidance requires a 2' wide trench for the installation of the base of the wall. The wall will then be battered away from the limit of work. No temporary disturbance will be necessary for installation of the wall. Howard Stein Hudson requests that the conditions of approval specify that the wall construction and impacts are not any closer to the resource areas than depicted in the plans currently under review.*

43. Explain how grading on the east side of the stormwater basin, which is in close proximity to the property line, will be possible without temporary disruption past the property line. Also, proposed grades of 251 and 250 on the east side of are shown to extend over the proposed limit of the erosion control barrier, and past the tree line limit very close to the existing stone wall and property line. Please designate an appropriate “temporary disturbance limit of work” line on the Grading and Drainage Plans (Sheet C5.1) and provide reasonable estimates of the area (in square feet) of temporary disturbance that will be required on adjacent



property for access to grading for these areas; and note if the existing stone wall will need to be disturbed. Provide a restoration plan for any such disturbances along the property line. In addition, the Applicant should provide evidence of abutters' approval for any temporary work or disturbance on abutting properties.

*HSH: The design of the infiltration basin and surrounding area has been revised. The infiltration basin has been moved farther away from the property line and a swale has been designed to collect runoff from the abutting property and the project site from the top of the berm. This runoff is collected in the swale and directed south to the wetland on the project site. The stone wall is used as the limit of work and limit of clearing. No disturbance will occur past the stone wall, located on the project site. The wall is to remain, and the vegetation on the east side of the wall will provide screening from the shallow infiltration basin. The proposed berm is more than 18' away from the existing property line and only 1.7' above the grade of the abutting property. (Berm=251.7, existing grade on abutting property=250).*

44. Show the proposed downspout locations for the homesite roof drainage systems.

*HSH: Proposed downspout locations for the homesite roof drainage systems has been provided as Appendix L of the Supplemental Data Report.*

45. Provide details for the proposed post & rail guard rails to be used on site.

*HSH: A detail of the proposed post and rail fence around the site has been added to Detail Sheet 2 (Sheet C10.2) of the plan set.*

46. Provide details for the proposed gravel pathway.

*HSH: A detail of the proposed gravel pathway has been added to Detail Sheet 1 (Sheet C10.1) of the plan set.*