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May 24, 2018

Mr. David R. Consigli
Milford Zoning Board of Appeals
52 Main St
Milford, MA 01757

**Re: The Residences at Stone Ridge, Milford, MA
Review of Comprehensive Permit Application (40B)**

Dear Members of the Milford Zoning Board of Appeals:

As requested by the Milford Zoning Board of Appeals (ZBA), Comprehensive Environmental Inc. (CEI) has provided a technical review of the Residences at Stone Ridge Comprehensive Permit (MGL Ch. 40B) application. This letter provides a summary of our initial comments regarding documents furnished by the Town of Milford to CEI for our review.

Please note that CEI's review focuses on environmental (including drainage) and traffic aspects of the project. The traffic component of our review is being conducted under sub-contract to BSC Group. Milford Town staff, other consultants, and the Milford Water Company are conducting reviews of the other aspects of the project, such as water supply capacity and services, and land-use planning considerations. The future potential office park development and previously approved Restaurant Depot portions of the site are not included in this review.

CEI has based the review on the following information found on the Town of Milford's webpage dedicated to the Stone Ridge Project:

1. A Comprehensive Permit Application entitled "The Residences at Stone Ridge, Milford, MA", dated March 15, 2018 and prepared by the Gutierrez Company.
2. Civil design drawings entitled "Residences at Stone Ridge, 200-300 Deer Street, Milford MA", dated March 9, 2018 and prepared by Symmes Maini & McKee. The drawing set consists of 11 sheets.
3. Land surveyor drawings entitled "Existing Conditions, Plan of Land", dated March 18, 2008, prepared by VHB. The drawing set consists of 7 sheets.

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4. Architectural design drawings entitled "Stone Ridge" dated February 20, 2018 and prepared by Sheskey Architects. The drawing set consists of 4 sheets.
5. Residences at Stone Ridge project feedback letters from Milford's Town departments, Milford Water Company, and a letter from Tata & Howard sent to the ZBA in November and January 22, 2018.
6. Stone Ridge Notice of Intent, dated January 28, 2008, prepared by VHB.

CEI staff participated in a site visit to view existing conditions on May 15, 2018. We offer the following comments from our review of the referenced materials:

A. Related Environmental Permitting Required for the Project

Please note that in addition to the Comprehensive Permit 40B, the project must comply with regulatory requirements under a number of state and federal environmental programs. The Applicant will be required to pursue the following state and federal permits:

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1. In compliance with the Massachusetts Environmental Policy Act (MEPA), the Applicant received a Final Environmental Impact Report (FEIR) Certificate in 2008 for a previous development plan for the site which was a proposed office park with four office buildings. The applicant will be required to submit a Notice of Project Change to the MEPA Office, both for review of design changes associated with the currently proposed residential development and due to the lapse in time (over three years since the date of the FEIR Certificate). Based on information submitted with the Notice of Project Change, the MEPA Office will determine whether the proposed changes will be reviewed as part of the previous FEIR or if a new EIR is required for the revised project.
2. The proposed project includes permanent impacts to Wetland Resource Areas and Buffer Zone as defined under the Massachusetts Wetlands Protection Act (WPA) and will therefore require WPA permitting under jurisdiction of the Milford Conservation Commission. The Applicant obtained a WPA Order of Conditions (OOC) in 2006 for the subdivision roadway, and this OOC was recently extended through October 5, 2020. A second OOC was obtained in 2017 for the previously proposed office park (including the Restaurant Depot which is currently under construction).



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When compared to the previously proposed office park, the currently proposed housing development involves a new proposed use, different configurations and locations for buildings and associated parking areas, and different areas of impact under WPA jurisdiction. As such, we recommend that the Town require the Applicant to submit a new Notice of Intent for the proposed development for review by the Milford Conservation Commission, including an updated wetland delineation for the site (*see additional discussion below under B.1*).

3. A National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) is required from USEPA for construction activities that disturb over one acre of land.

B. Environmental Resource Areas

The project will require review by the Milford Conservation Commission under the WPA regulations and will need to address impacts to all regulated resource areas.

1. The site design is based on a wetland delineation completed in January 2007 by VHB. During the site visit, CEI observed an area that appeared to exist as a contiguous wetland between Wetland 9 (shown on the design drawings as an isolated wetland) and Wetland 2. Numbered wetland flags corresponding with those shown on the design drawings were not observed during the site visit, although several fragments of older flagging lacking identifying numbers were observed. CEI recommends that a new wetland delineation should be conducted as part of the new WPA permitting recommended above, and that the design drawings should be updated to include the updated wetland delineation flag locations.
2. The application does not discuss the disturbance impacts for the space required to install retaining walls.

C. General Comments

1. The parcel for Residences at Stone Ridge (Lot 2B) is shown as 16.564 acres. This corresponds to approximately 16.3 units per acre. Subtracting the unusable area of approximately 5.5 acres (wetland 2, Basin 2, and the constructed wetland), the area for the development is about 11 acres, or about 25 units per acre. These calculated densities do not agree with the



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“Gross Density” reported on page 9 of the Mass Housing 40B application as 4.60 units per acre.

2. On Page 1 of the technical report, under Soils: Please include the figure numbers for the drainage area maps, in lieu of “XX” placeholder.
3. Appendix 3, page 2, please revise spelling error on header: “Required Recharge Volume & *Drawdown* Calculations”.
4. The technical report does not discuss compliance with Stormwater Standard 10.
5. The proposed design is the second of three design phases. How might the future office park development impact the Residences at Stone Ridge?

D. Stormwater Management Design

1. The following comments are in regard to the subsurface data:
 - a. Please show the location of the May 2008 test pits on the current plans. This information should be available for the review of the proposed design, especially the constructed wetland and infiltration Basin 2.
 - b. Test pits No. TP-3 and TP-4 are described as located at or near the location of Basin 2 but are not shown on the current plans. The elevations listed in the SHA geotechnical report for these test pits are not consistent with the existing topography shown on the drawings. For example, the existing ground elevation at TP-3 and TP-4 is listed as 321ft and 323ft, respectively; however, the existing elevation at Basin 2 is shown as 328ft – 332ft on sheet C141.
 - c. Bedrock was encountered at only 4ft below ground surface at TP-3 and 7ft below ground surface at TP-4, suggesting there may not be enough room for an infiltration basin.
 - d. The reporting forms in the geotechnical report do not include comments on the presence or absence of redoximorphic features typically used by soil evaluators to identify potential seasonal high groundwater.

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e. The applicant should provide information that indicates how the soils data at these test pits was interpreted to derive the infiltration rate used for the design of this basin. The hydrologic calculations use 0.770 inches per hour, which is not listed in the Rawls table provided in the Massachusetts Stormwater Handbook. Also, different infiltration rates are cited in the recharge calculations in Appendix 3 of the Technical Report. The Applicant should describe how soils textures and corresponding infiltration rates have been interpreted from the geotechnical report.

f. Test pits No. TP-7 and TP-8 are described as located at or near the location of the constructed wetland but are not shown on the current plans. The depth to seasonal high ground water is not reported. The test pit reports show sandy soils which may not be suitable for the constructed wetland.

g. The Applicant is relying on subsurface data collected 10 years ago. It is possible that groundwater elevations have changed overtime or have been impacted by the adjacent development. Since the data appears incomplete (missing depth to seasonal high groundwater at TP-7 and TP-8 as well as the questionable location of TP-3 and TP-4 and depth to bedrock), CEI recommends that confirmatory test pits at the constructed wetland and Basin 2 should be performed prior to final design.

2. The proposed stormwater infiltration basin (Basin 2) does not include an emergency spillway. In general, any emergency spillway should be constructed in existing ground (not in fill). If this is not feasible, design of an appropriate emergency outlet structure should be provided. The design should also address potential erosion impacts down-gradient of the spillway.

3. The Applicant has requested waivers of provisions of the Town of Milford's Stormwater Management By-law. We recommend that the ZBA deny the requested waivers, other than those providing for the ZBA to act as issuing authority for construction approvals required under the bylaw.



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- a. The design requirements under this bylaw are consistent with the Massachusetts Stormwater Management Standards under the Wetlands Protection Act Regulations, with which the Applicant must comply, so the bylaw does not impose a greater burden on the design than otherwise applies.
 - b. In addition, this bylaw enables the Town of Milford to comply with its obligations to the USEPA under the NPDES Stormwater Program, General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). That permit requires Milford to regulate stormwater discharges, including enforcement of ongoing maintenance of systems extending beyond the initial development and construction of the project stormwater facilities. Waiver of this bylaw may hamper the Town's ability to manage stormwater discharges in compliance with its federal permit over the long term.
 - c. A properly designed stormwater management system is critical to the protection of property and water resource areas for a project of this scale. Given this, CEI recommends the ZBA, as issuing authority relative to the local stormwater bylaw, require the Applicant to document compliance with the Massachusetts Stormwater Management Standards and Massachusetts Stormwater Handbook as a part of the Comprehensive Permit review.
4. The site plan refers to details for outlet control structures (OCS) used in the infiltration basin and constructed stormwater wetland as G3 on sheet C502; however, these details are not provided.
 5. Flared end outfalls are shown terminating without the use of riprap aprons. Design information of riprap aprons should be provided to ensure erosion of slopes and sedimentation will not occur.
 6. The plans do not show the proposed location of snow storage.
 7. The Applicant needs to provide detail drawings of the proprietary stormwater devices as well as third-party verification of their TSS removal performance.



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8. It appears that the wetlands are being used to attenuate stormwater flows. For instance, Wetland 5 and 6 are shown upstream of man-made stormwater storage structures in the proposed condition. Additionally, the watersheds and peak volumes change for each respective wetland. Therefore, in the proposed conditions, some wetlands will receive more water than in the existing conditions, while others will receive less. The Wetlands Protection Act Regulations specifically prohibit the use wetlands for meeting stormwater management requirements.
9. On Civil Drawing C-504, detail E1 is entitled "Subsurface Recharge." It appears that this should be more appropriately entitled "Subsurface Storage", as this feature appears to have no recharge function.

E. Stormwater Management Calculation

1. CEI agrees that the site should be classified as a Land Use with Higher Potential Pollutant Load (LUHPPL), and that the required pretreatment prior to infiltration is 44% TSS removal.
2. CEI agrees that the site drains to a critical area, and that the 1-inch water quality volume should be used in the calculations.
3. In the TSS removal calculation for area PR 3.2, constructed stormwater wetlands provide 80% TSS removal rate when combined with a sediment forebay. The sediment forebay is required when using a constructed stormwater wetland and does not provide 25% TSS removal in addition to the 80%.
4. The pre-development and post-development areas do not appear to be equal. CEI calculated 49.6 acres used in the post-development area and 46.4 acres in the pre-development area.
5. Subcatchment "B2" is not shown on Figure 7 of the HydroCAD calculation.
6. Time of concentration travel paths are not shown on Figure 6 or Figure 7 of the HydroCAD analysis.
7. The analysis shows that the peak discharge rate to Design Point 3 (Wetland 2) exceeds the pre-development conditions by 0.03cfs.



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8. Wetland Pond W-5 is shown with different stage/storage data for post-development, compared to existing conditions. This is not consistent with the drawings, which do not appear to alter the size of this wetland.

F. Construction-Related Issues

1. From observations during our site visit, the property appears to be very stony, with very large boulders and outcrops evident. Site construction will likely require rock removal operations, including potential blasting and crushing activities. We recommend the ZBA require the applicant to address how rock removal will be accomplished during construction, including documentation of how blasting, crushing, processing, and transport of the rock material will be accomplished. Issues such as blasting management and noise management should be addressed. If excess rock must be removed from the site, the applicant should describe how the material will be disposed, and what the construction traffic impacts will be and how they will be managed.
2. All references to hay or haybales should be changed to straw or straw bales. Hay should not be used because of its seeds and potential to spread invasive species. Please refer to page 25 of the link below:
<https://www.massdot.state.ma.us/Portals/8/docs/FieldOperations/ErosionSedimentFieldGuide2013.pdf>

G. Operation and Maintenance Plan

1. A Stormwater Pollution Prevention Plan is absent from the technical report.
2. The project is subject to Standard 6; therefore, the Operation and Maintenance Plan (OMP) should address shutdown and containment of the drainage system in the event of a spill.
3. The OMP should be updated with specific information regarding any proprietary stormwater device.
4. The illicit discharge statement and list of allowable non-stormwater discharges is not included in the technical report.

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H. Traffic & Pedestrian Safety

CEI's subcontractor, BSC Group, has provided a technical peer review of the Traffic Impact and Access Study, including pedestrian safety on May 1, 2018.

If you have any questions or comments regarding this report, please contact either Matt Doyon or Bob Hartzel at 508-281-5160.

Sincerely,
COMPREHENSIVE ENVIRONMENTAL, INC.

Matthew P. Doyon, P.E.
Project Engineer

Robert Hartzel, CLM, CPESC
Project Manager

cc: Gerry Moody, Milford Town Council (via email)
Sam Offei-Addo, BSC Group (via email)
Israel Lopez, The Gutierrez Company (via email)
Will Park, SMMA (via email)

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