



February 3, 2025

Town of Arlington Conservation Commission
Attn: Mr. Charles Tirone, Chairperson
730 Massachusetts Avenue
Arlington, MA 02476

**RE: Thorndike Place, Dorothy Road, Arlington, Massachusetts – Preliminary
Comments on GZA Peer Review**

Dear Mr. Tirone and Commission Members,

McDonald Morrissey Associates, LLC (MMA) is providing this letter to relay comments that respond to certain elements of the January 28, 2025 technical review letter pertaining to the subject line project that was issued to the Commission by GZA GeoEnvironmental, Inc. (GZA)¹. These comments are as follows:

- Consistent with MMA's January 15, 2025 letter, GZA acknowledges that simultaneous infiltration from other nearby systems (e.g., System 1) would result in groundwater mounding that could interfere—and be additive on top of—mounding generated by System 7. After correcting erroneous inputs used by BSC, GZA performs their own mounding calculation for System 7 using the Hantush analytical model (i.e., BSC's selected mounding analysis method). GZA's results show a groundwater mound rising to within approximately 0.5 feet of the bottom of System 7, but this result ignores the additive influence of System 1. As demonstrated in MMA's January 15, 2025 letter, if the additive System 1 influence is considered using a comparable modeling method to BSC's, there is clear evidence of groundwater mounding rising well above the bottom of System 7. Thus, at a minimum, additional analysis is necessary to support GZA's claim that groundwater mounding will not adversely impact the drainage time of System 7, nor the rate control capability of the overall stormwater system, to the point of violating MSH requirements.
- MMA generally agrees with GZA's view on the need for consistency between initial infiltration rate and duration inputs to mounding analyses and HydroCAD assumptions and output for the 100-year, 24-hour design storm event. However, MMA notes that GZA does not acknowledge—nor seek correction of—unjustified/unsupported infiltration rates used by BSC in their HydroCAD model. As stated in MMA's January 15, 2025 letter, BSC inexplicably uses an infiltration rate of 0.52 inches per hour (in/hr) for certain proposed features, including System 1;

¹ Letter to Mr. David Morgan, Town of Arlington, from Anthony B. Urbano, GZA GeoEnvironmental, Inc. RE: *Response to January 2025 Redesign, Peer Review of Stormwater Mound Evaluation, Proposed Thorndike Place Residential Development, Arlington, Massachusetts*. Dated January 28, 2025.

whereas, BSC has only claimed to justify the use of an infiltration rate of 0.27 in/hr. This issue must be corrected and HydroCAD simulations must be reperformed to generate representative results that can be used as inputs to subsequent mounding analyses.

- MMA acknowledges GZA's recommendations regarding peat removal and underdrain design. However, MMA notes neither action has been accounted for in any mounding analysis performed to date, including the calculations presented in GZA's letter. The ultimate influence of certain modifications would depend on specific design characteristics and site conditions (e.g., drain position, capacity, lateral extent of peat deposits, etc.). It would therefore be premature and speculative to rely on any mitigating function associated with these modifications, though MMA notes we are not suggesting any such claim is being made by GZA or BSC.
- MMA reiterates our disagreement with GZA's opinion on the "suitability" of BSC's claimed estimated seasonal high groundwater (ESHGW) condition of elevation 4.0-feet². In our opinion, if established in accordance with Massachusetts Stormwater Handbook (MSH) requirements, the resultant ESHGW condition would reside above this elevation, and a mounding analysis for System 1 would continue to be required under the revised design. Furthermore, based on information presented to date, and under the assumption that BSC would apply the same analytical technique(s) used to date, MMA sees no evidence that such an analysis would be successful in demonstrating compliance with certain applicable MSH requirements.

The comments presented herein are preliminary and based on information made available to MMA as of the indicated transmittal date. MMA therefore reserves the right to amend and/or extend this commentary based on expanded review and/or review of new information provided by the Applicant or other interested parties.

Sincerely,



Michael Mobile, Ph.D., CGWP
President, McDonald Morrissey Associates, LLC

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² Refer to Letter to Mr. David Morgan, Town of Arlington, from Anthony B. Urbano, GZA GeoEnvironmental, Inc. *RE: Peer Review of Stormwater Mound Evaluation and Design Groundwater Elevation, Proposed Thorndike Place Residential Development, Arlington, Massachusetts.* Dated August 1, 2024.