August 10, 2020

Landis Hershey, Conservation Agent
Town of Walpole – Conservation Commission
135 School Street
Walpole, MA 02081

Re: **Proposed Multifamily Development – 55 Summer St Peer Review**

Ms. Hershey:

BETA Group, Inc. (BETA) has reviewed the Notice of Intent, plans, and other materials submitted to the Conservation Commission for the proposed Multifamily Housing Development located at 55 Summer Street in Walpole, Massachusetts (the Site). The project is being concurrently reviewed by the Walpole Zoning Board of Appeals under the Comprehensive Permit review process.

Basis of Review

- *Notice of Intent,* dated May 14, 2020, prepared by Howard Stein Hudson.
- *Project Plans:* "Site Plan for Proposed Multifamily Development," dated May 5, 2020, prepared by Howard Stein Hudson (86 Sheets).
- *Stormwater Management Report*: "Proposed Multifamily Development" dated May 2020, prepared by Howard Stein Hudson.
- *Abbreviated Notice of Resource Area Delineation,* dated November 20, 2019, prepared by Oxbow Associates, Inc.
- *Site Plan and RFA Narrative Revisions,* dated June 20, 2020, prepared by Howard Stein Hudson.
- *Comprehensive Permit (40B) Peer Review,* dated April 20, 2020, prepared by Tetra Tech.
- Massachusetts Stormwater Handbook
- Town of Walpole Wetland Protection By-Law, Chapter 561, Wetland Protection, Division 2 of the General Bylaw (as revised 5/07/201) and Regulations (the Bylaw).
- MACC Buffer Zone Guidebook, dated June 6, 2019
- Massachusetts Wetlands Protection Act (M.G.L. Chapter 131 Section 40 - *the Act)*

Site and Project Description

The Site consists of three lots identified by the Walpole Assessor's Office as Lots 52-78-1, 52-59, and 52-60. In total, the Site consists of 54.73± acre parcel and is located to the north of Summer Street. The existing Site is currently vacant and predominantly woodlands.

An internal wetland system is present throughout the Site. The Site is bounded to the north by Cedar Brook and Cedar Swamp, and the 200-foot Riverfront Area extends into the Site. Several vernal pools are located throughout these wetlands. Portions of the Site to the north and east are within a FEMA-mapped 100-year flood zone (Zone A and Zone AE). The north end of the Site is also within a NHESP-mapped Priority Habitat of Rare Species. The resource area boundaries on the Site were confirmed by two Order of Resource Area Delineation decisions, both of which are still valid.

The project proposes to clear and grade most of the non-wetland areas to construct multi-family housing development. The development will include several larger apartment/townhouse buildings as well as a series of single-family homes. Associated Site improvements include paved parking areas, paved roadways, wetland crossings, and utilities (domestic water, fire service, sewer, gas, electric). Stormwater management is proposed through a network of catch basins, manholes, subsurface infiltration systems, and infiltration ponds.

The project will impact wetland resource areas, riverfront areas, and flood zones that are Subject to Protection under the local Bylaw and the Massachusetts Wetlands Protection Act. The Applicant has submitted a request for a Waiver from compliance with the local Wetlands Protection Bylaw and Regulations, as the Project is seeking approval for a Comprehensive Permit pursuant to M.G.L. Chapter 40B.

STORMWATER MANAGEMENT

The project is large, dense, and complex relative to stormwater management. The project proposes a closed drainage system consisting of deep-sump, hooded catch basins and drainage manholes to capture stormwater runoff from proposed paved areas. This system conveys runoff to either a subsurface infiltration system towards the northern side of the Site or one of several infiltration basins with sediment forebays. These BMPs include overflow outfalls or emergency spillways that discharge runoff into adjacent wetland buffer zones.

BETA was asked by the Conservation Commission to review the ZBA peer review consultants' letter. The scope of this review is the project's compliance with the Massachusetts Stormwater Handbook. This letter is not intended to be a comprehensive peer review of the stormwater management design.

PEER REVIEWER COMMENTS – STORMWATER MANAGEMENT

The project's stormwater design has been reviewed by Tetra Tech (TT) in their peer review letter dated April 10, 2020. BETA has reviewed these findings and is in general agreement with these comments. Additional clarification, comments and recommendations are included below.

MASSACHUSETTS STORMWATER STANDARDS

The following section details BETA's review of project compliance with the MassDEP Stormwater Standards and good engineering practices.

SW1. Provide copy of MassDEP Stormwater Report Checklist.

NO UNTREATED STORMWATER (STANDARD NUMBER 1): *No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.* The proposed stormwater management system includes outfalls which discharge to wetland buffer zones. Prior to discharge, stormwater is treated by deep sump catch basins, sediment forebays, and infiltration ponds (or subsurface infiltration systems). Riprap aprons are proposed at each outfall to control erosion.

SW2. Provide calculations for sizing of riprap aprons to ensure that runoff will not cause erosion.

DEVELOPMENT PEAK DISCHARGE RATES (STANDARD NUMBER 2): *Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.* The project proposes a significant change to ground cover which will greatly increase the discharge rate of stormwater runoff from the Site. This increase will be mitigated by infiltration ponds to capture, store, and infiltrate runoff. The provided calculations indicate a decrease in peak discharge rate and runoff volume for the 2, 10, 25, and 100-year storm events.

SW3. The Applicant is using an infiltration rate for "A" soil based on soil test data taken throughout the site and yet is using "B, C and D" soil in the hydrology model. If soils data indicates "A" soils revise pre and post development HydroCAD models, modeling all upland soils as "A" soils.

SW4. Revise model using a CN value of 98 (water surface) for all infiltration basins to avoid double counting infiltration.

RECHARGE TO GROUNDWATER (STANDARD NUMBER 3): *Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to maximum extent practicable.* NRCS soil maps indicate the presence of various soil groups predominantly including fine sandy loam. Hydrologic Soil Group (HSG) ratings are primarily B, C, and D. Infiltration ponds are proposed to provide the required recharge volume. Drawdown calculations have been provided showing the BMPs will drain within 72 hours.

SW5. Due to the reliance on infiltration to provide mitigation for stormwater impacts and the fact that the design does not allow for flexibility (due to density) if infiltration rates do not match the assumed rates as well as the difference in assumed hydrologic group rating of soils from NRCS mapping, BETA recommends the Applicant provide two in-situ saturated conductivity tests for each of the proposed basins to confirm design.

SW6. Recommend including a condition requiring observation of excavation for each infiltration basin/system by an agent of Town prior to installation of loam and seed.

SW7. Provide provision to protect the infiltration basins during construction to ensure they operate as designed after construction is complete.

TOTAL SUSPENDED SOLIDS (STANDARD NUMBER 4): *For new development, stormwater management systems must be designed to remove 80% of the annual load of Total Suspended Solids*. The proposed design includes treatment trains consisting of deep sump catch basins, sediment forebays, and infiltration basins to provide both 44% pretreatment and 80% total treatment. One treatment train includes an isolator row and subsurface system to achieve a similar result. The infiltration BMPs have been designed to treat the 1" water quality volume. BETA defers to the peer review by Tetra Tech regarding the accuracy of water quality volume calculations.

HIGHER POTENTIAL POLLUTANT LOADS (STANDARD NUMBER 5): *Stormwater discharges from Land Uses with Higher Potential Pollutant Loads (LUHPPLs) require the use of specific stormwater management BMPs.* The project is not considered a LUHPPL – not applicable.

CRITICAL AREAS (STANDARD NUMBER 6): *Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas.* The project proposes discharges from Infiltration Pond #1 to several vernal pools which are defined as Class B Outstanding Resource Waters under 314 CMR 4.00 Section 4.06(2). Infiltration basins and sediment forebays are recommended BMPs for discharges to this critical area.

SW8. Correct project narrative to indicate the presence of a critical area.

SW9. Provide source control and pollution prevention plan.

SW10. Setback stormwater BMPs at least 100' from vernal pool.

SW11. Perform required habitat evaluation.

REDEVELOPMENT (STANDARD NUMBER 7): *Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable.* The project is not a redevelopment – **Not Applicable.**

EROSION AND SEDIMENT CONTROLS (STANDARD NUMBER 8): *Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.* As the project proposes to disturb greater than one acre of land, it will be required to file a Notice of Intent with EPA and develop a Stormwater Pollution Prevention Plan (SWPPP). The Applicant has provided limited erosion control notes and no SWPPP was included in the submittal. Plans indicate perimeter erosion controls and stabilized construction entrance. Given the size of the Site and significant impact to resource areas, additional information is required to show compliance with this standard.

SW12. Provide a draft SWPPP.

SW13. Provide phasing plan that controls the area of the Site to be disturbed at any one time, recommended to be no greater than 5 acres.

SW14. Provide anticipated locations of proposed staging and stockpile areas.

SW15. Provide typical inspection and maintenance requirements for all erosion control BMPs.

SW16. Expand construction sequencing plan to include time of storm water system installation. Provide means of protecting stormwater BMPs during construction and restoring any damaged areas prior to the BMP coming online.

SW17. Provide specifications for temporary and final seeding.

SW18. Clarify if the "proposed erosion control" label on the plans is meant to indicate silt fence, compost filter tube, or both.

SW19. Revise erosion control plan to include perimeter controls at all limits of wetlands. Several areas do not depict erosion control measures.

SW20. Recommend including a condition requiring submission of a copy of the final, signed SWPPP.

OPERATIONS/MAINTENANCE PLAN (STANDARD NUMBER 9): *A Long-Term Operation and Maintenance Plan shall be developed and implemented to ensure that stormwater management systems function as designed.* A Stormwater Operation and Maintenance (O&M) Plan has been included in the submittal.

SW21. Update O&M to provide minimum required information, including:

- *a. Stormwater System Owner (contact information)*
- *b. Party(ies) responsible for operation and maintenance, including how future property owners will be notified of the need for maintenance.*
- *c. Plan depicting the location of all stormwater BMPs including discharge points include vehicle access paths for stormwater basin/system maintenance.*
- *d. Estimated operations and maintenance budget.*

SW22. Attach manufacturer maintenance recommendations for Stormtech system and isolator row.

SW23. Provide inspection and maintenance tasks for proposed outfalls and culverts.

ILLICIT DISCHARGES (STANDARD NUMBER 10): *All illicit discharges to the stormwater management system are prohibited.* The report narrative indicates that an illicit discharge compliance statement will be provided under separate cover.

SW24. Recommend a condition to require providing a signed illicit discharge compliance statement.

SW25. Provide measures in the pollution prevention plan to prevent illicit discharges to the stormwater management system.

Massachusetts Stormwater Handbook – BMP Design

The Massachusetts Stormwater Handbook provides guidance for design of stormwater BMPs. The following section details the project's conformance with these design standards. BETA defers to peer review by Tetra Tech regarding suitability of soil conditions.

SW26. Provide alternative catch basin top detail for structures that are not adjacent to curbs.

SW27. Revise infiltration basin detail to include outfall pipe and emergency spillway.

SW28. Verify that infiltration basins/system meet setback to foundations (10 ft down gradient) and wetlands (50 ft) and access (15 ft) requirements. See also TT 19 & 29.

WETLAND AND ENVIRONMENTAL RESOURCE AREAS

BETA reviewed the Notice of Intent (NOI) submitted by the Applicant on May 14, 2020 and found it provided few construction details, limited wetland restoration procedures and design, and no information regarding construction activities within buffer zones (e.g. staging, dewatering, etc.). Temporary and permanent activities proposed within areas subject to jurisdiction under the Bylaw and the Act will need to be reviewed. This review focuses on the information provided in the May 14, 2020 NOI that is subject to the interests of the Bylaw and the Wetlands Protection Act. As part of the review, BETA conducted a site visit to observe existing conditions and areas of proposed impacts within and adjacent to resource areas on the site. The site is primarily wooded undeveloped land with numerous wetland resource areas separated by hilly topography with steep elevation changes. Puddingstone cobbles and boulders are scattered throughout the site and a unique cluster of large puddingstone erratic boulders were observed in the northeastern corner. The site provides significant wetland, vernal pools, and upland habitats for a number of wildlife species including terrestrial amphibians that spend the majority of their lives in the uplands and utilize the site's vernal pools during the breeding season. Dense shrub thickets throughout the site provide nesting habitat for bird species. During the visit BETA observed wood frogs within the northern forested uplands and a young red tail hawk in the tree canopy of the inner portion of the site.

It should be noted here that it is BETA's opinion that Applicant has not overcome the burden of proof that there is not practical alternative to siting the structural stormwater management measures within the outer Riverfront Area (RA). The Applicant needs to analyze the impacts of reducing the development footprint to avoid impacts to the RA altogether. Additionally, the RA boundary needs to be better depicted on the Grading and Drainage Plans to be able to determine what RA impacts are associated with the stormwater management measures and what is associated with site development activities.

BETA reviewed vernal pool boundaries and found the extent of Vernal Pool #3, in the southern portion of the site, larger than the area delineated in the field and shown on the site plans. Vernal pools size and shape vary from year to year based on environmental conditions and boundaries should be delineated to encompass all suitable areas within a wetland. Vernal Pool #3 is situated within contour 212', a large area with no defined slope change, which amphibians could utilize for breeding in any number of locations. Evidence of mean annual highwater was observable that indicated suitable breeding habitat beyond that shown on the site plans.

WE1. Vernal Pool#3 boundary and associated 100' buffer is larger than that currently shown on the site plans and should be enlarged based on detailed elevation or numerous breeding season surveys.

The project will develop approximately 75% of the site's uplands as well as grade and clear large areas adjacent to vernal pools. Terrestrial amphibians that use vernal pools for breeding depend on adjacent upland habitat most of their life. Although the project maintains a 100' buffer around each vernal pool, most of this buffer area is covered by wetlands and provide little upland habitat.

WE2. The project should provide more undisturbed upland areas contiguous to vernal pools to protect Vernal Pools 1, 2 and 3. Development of the upland buffers between the vernal pool complex will eliminate safe migration of vernal pool species between pools.

WE3. The Applicant should provide additional assessments on how the proposed impacts to habitat meet applicable performance criteria and adequately protect vernal pool upland habitats as well as the capacity of the RA to provide important wildlife habitat functions in the locations of the proposed alterations.

WE4. The Wildlife Habitat Evaluation provided with the NOI should provide more assessment of the overall connectivity of the wetland and vernal pools systems to the Cedar Swamp Brook. Upon site development, the wetland systems will be the only migration pathway from Vernal Pool #1 to the RA and river system. Vernal Pool #2 will be completely cut off.

The proposed project includes two stream and wetland crossings that will result in impacts to banks of intermittent streams, vegetated wetlands, the 25' No Disturbance Zone[1], and the 100' buffer zone. The impacts are necessary to gain access to the site and mitigation has been provided at a 1:1.5 ratio as shown in the plan details at each crossing.

WE5. A Wetland Restoration Plan developed in accordance with the Massachusetts Inland Wetland Replication Guidelines and Checklist should be provided (Section 1.5.2 of the Bylaw). Restoration area details, such as existing and proposed contours and cross-sections, should be provided with the Site Plans.

WE6. Given the amount of impacts and loss of upland habitat resulting from the project the Applicant should provide wetland restoration at a 2:1 ratio or provide greater buffer zone protection.

WE7. The Wetland Restoration Plan should include a designated <u>minimum</u> *25' No Disturbed Zone of native vegetation and the area should be indicated on the plans.*

[1] According to the Walpole Bylaw Regulations Section 1.4.1 The Commission shall require the Applicant to maintain a twenty-five (25) foot wide contiguous, undisturbed vegetative buffer measured from, and parallel to, the wetland resource boundary, as a minimum.

The project proposes a 25' No Disturbed Zone around all resource areas except for three unavoidable impact areas.

WE8. The 25' No Disturbed Zone should be maintained as a native vegetated and natural buffer between site wetlands and the development. This Zone should not be mowed, fertilized, or maintained as lawn. The Development's Operation and Maintenance Plan should include specific language on the proper maintenance of the No Disturbed Zone as a natural buffer.

WE9. An Invasive Species Control Plan should be included in the NOI application to ensure areas within 100 feet of resources will not be affected by invasive species that typically spread to disturbed areas as a result of construction activities.

Clearing and grading associated with the Project will significantly permanently alter 100-Foot buffer zone Bylaw resource area. The 100-foot buffer zone (or Bordering Land) on the Site is presumed to protect the important functions and values of the wetland resource areas. According to the Bylaw Regulations, scientific research and the Commission's own experience in reviewing a wide variety of projects, clearly demonstrates that alteration and construction activities within Bordering Lands (i.e. 100 foot buffer zone) consistently results in destructive and cumulative impacts on wetland resource areas. Bordering Land plays a significant role in wildlife habitat protection. Many studies document that amphibians, reptiles, birds and mammals regularly use upland buffer zones for nesting, feeding, over-wintering and reproducing.[2] Removing the natural features of the 100-foot buffer zone, as currently proposed, will remove wildlife cover resulting in a permanent adverse impact to wildlife escape and migration pathways, nesting, and forage. The Bylaw Regulations protect the wildlife habitat interest of the Buffer Zone, presuming that a 25-foot vegetated buffer is the minimum buffer necessary to protect the important functions and values of the resource areas.

Buffer zone width is one of the most important variables for water quality protection, especially when a Project will result in intense use of the adjacent land[3]. Since the current Project will result in a high-density residential neighborhood, migration of nutrients and sediment are likely, therefore a minimum of a 50-foot undisturbed buffer is recommended.

In addition to providing wildlife habitat, upland buffer zones help control the rate at which water enters and leaves a wetland system and regulates stream base flows during dry times. The Site's steep topography and varied subsurface soil conditions are features that provide and maintain the hydrology required to support the wetland system and the potential vernal pool habitat. The Project will result in significant changes to the current watershed to the BVW, vernal pools and stream system. Therefore, a reduction in local recharge upgradient and cross-gradient of the wetland system may have a significant adverse effect on water budgets.

WE10. The Applicant should provide the Commission with a specific graphic that illustrates both current and proposed watersheds to the on-site resource areas and describe the changes in groundwater recharge within 100 feet of the boundaries to the resource areas.

At this time the Applicant has not provided sufficient information to describe the site, the work, or the effects of the work on the interests protected by the Site's resource areas and vernal pools. The Applicant has not overcome the burden of proof that they have no practical alternatives to the significant impacts resulting from construction of stormwater management structures and site development activities in the RA. Therefore, the Commission should not issue an Order of Conditions approving the project.

[2] MACC Buffer Zone Guidebook, dated June 6, 2019

Thank you. If you have any questions, please contact us at your convenience.

Very truly yours,
BETA Group, Inc.

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