Professional Services Corporation, PC

Peer Review of

The Residences at West Union

Ashland, MA

October 16, 2015

Engineer/Surveyor
Guerriere and Halnon, Inc.
333 West Street
Milford, MA 01757

Owner/Applicant
Capital Group Properties
259 Turnpike Road, Suite 100
Southboro, MA 01772

Zoning Districts
Residential (A)

Plans Dated
May 23, 2014,
Revised August 6, 2015

Assessors' Reference
Map 10, Lots 101, 103 and 104

Content
Eleven revised drawing sheets

Location
Off Route 135 between Edgewood Drive and Indian Spring Road

INTRODUCTION

The Project is based upon the Comprehensive Permit Application revised by Capital Group Properties to construct a residential development off West Union Street in Ashland, Massachusetts providing one-hundred thirty-two (132) rental apartments on a total land area of approximately 7.67 acres. The units will be housed in a multi-unit apartment complex consisting of one fifty-six unit building, and one seventy-six unit building. A community building/club house is proposed in the front of the side adjacent to the entrance.

The site is located on four parcels within the Residential A – RA district. The locus has been utilized for residential (multi-family) use. An interior Bordering Vegetated Wetland system transects the locus. Similar to the original project, the revised project occupies both remaining upland areas and is proposed to be connected via an interior wetland crossing under the limited project provisions of 310 CMR 10.53.

The project is served by a main driveway that provides access to West Union Street, whereupon it divides into two interior driveways that each serve an apartment building. Approximately two-thousand forty (2,040) LF of proposed total roadway will be constructed to serve the 132 units. The roadway construction will include vertical granite edging, cape cod berm in parking areas and a 5-foot sidewalk on one side. The project is to be served by a looped water service that connects the project to the existing 12-inch water main within West Union Street in two locations. Septic flows, calculated as 23,320 GPD from the two apartment buildings will be collected via gravity system and will discharge to an existing manhole within West Union Street. Additional (nominal) flows will be generated by the clubhouse building. Gas service will connect to the existing 3-inch service in West Union Street and will be brought into the site beneath the entrance drive. Telephone, electric and cable utilities will be extended underground within the site driveway and into the development.

Surface stormwater is to be collected within closed stormdrain systems and directed to four on-site stormwater subsurface basins. An exterior infiltration basin is also proposed adjacent to the entrance drive.

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BASIS OF REVIEW

Our evaluation is based upon review of the following:

PLANS, DOCUMENTS, AND EXHIBITS

In undertaking the engineering peer review of this project, and in addition to the materials cited in the PSC October 14, 2014 evaluation of the project, PSC reviewed the additional plans, documentation and exhibits provided by the Project Development Team including the following:

A. *"133 West Union Street"* consisting of eleven (11) drawing sheets prepared by Guerriere and Halnon, Inc., dated May 23, 2014, revised August 26, 2015.

B. Comparative evaluation between the May 23, 2014 and August 26, 2015 layouts, including project density, setbacks, wetland impacts, open space, unit and bedroom breakdowns, etc., presented in a spreadsheet format.

In conducting this peer review, additional information was obtained from the following:

C. *Stormwater Management Regulations; Town of Ashland Conservation Commission.*

D. *Ashland Wetlands Protection Bylaw*

E. *Wetlands Protection Regulations*

F. *Final Ashland Stormwater By-Law (Adopted by Ashland Town Meeting, May 2, 2007)*

G. *Massachusetts Stormwater Handbook Volumes 1-3*

H. *United States Department of Agriculture; Natural Resources Conservation Service Soil Survey of Massachusetts.*

I. *Review of Flood Insurance Rate Map (FIRM), Middlesex County, Massachusetts (All Jurisdictions) Map Number 25017C0626F, Panel 626 of 656, effective date July 7, 2014.*

J. *Massachusetts GIS Online Mapping – OLIVER.*

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COMMENTS

1. The wetland delineation provided on the current August 2015 drawings differs significantly from the May 2014 drawings and is much narrower and smaller. The spreadsheet indicates that the previous wetland delineation of 50,807 sq-ft has been reduced as 14,620 sq-ft. Both sets of drawings were provided field flags that differ significantly from one another. As the project is configured closely around the wetlands and buffers, the plans should clearly identify whether either or both delineations were approved through issuance of an Order of Resource Area Delineation.

2. The current August 2015 drawings do not differentiate between the delineated limits of Bank for the Intermittent Stream, and limits of the Bordering Vegetated Wetlands. Significant areas of Bordering Vegetated Wetlands that were noted on the 2014 drawings are no longer indicated on the plan. Also, the referenced GLM plan delineations (Oct, 2011) are more than three years old and may not be acceptable to the Commission. It was previously noted by the Commission that certain of the wetland flags appeared to have been disturbed. The date and station by station field notes for each re-established flag should be submitted.

3. The project encroaches in several locations into the 100-foot buffer of the Bordering Vegetated Wetlands and into the 25-foot No Disturb Zone (NDZ) for construction of the electric, water and gas service. Dewatering will be required during construction of these utilities (near the wetland crossing) and they will likely operate in a submerged condition. Encasement details should be provided.

4. Stormwater management calculations were not provided. To evaluate the layout in terms of point source discharges from the surface basins, pre- and post-developed discharge rates and volumes from the project, conveyance capacities of onsite stormwater drain pipes, volumetric and infiltrative capacity for each of the subsurface stormwater galley systems, etc., a current set of hydrologic and hydraulic calculations should be submitted.

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5. Portions of the utility construction and access drive between with Buildings A and B encroach into the NDZ. It is our opinion that the applicant has not met the required responsibility of addressing to the Board that waiving the local Regulations will include sufficient and reliable information which demonstrates

    a. That sufficient wetland resource area function and value and adjacent upland habitat will remain such that the interests of the Act and bylaw are protected,

    b. That likely use and maintenance of the altered area will have no detrimental effect on water quality of the adjacent resource area or quality of the remaining habitat area, and

    c. That the work to be performed sufficiently protects or enhances wetland interests.

6. The comparative spreadsheet does not include an analysis of impacts from either proposed layout to impacts both within the 100-foot buffer and within the 25-foot NDZ.

7. Sheet C-8.0 includes a guardrail detail adjacent to the proposed modular block retaining wall system. Guardrail must be designed with sufficient resistance to the overturning moment that it not conflict with the retaining wall system. Because the guardrail near the clubhouse parking spaces and entrance drive pavements is dictated by the configuration of both, the provided detail is not sufficiently dimensioned to illustrate that the guardrail/retaining wall system is feasible.

8. The proposed contours are incorrectly drawn along the entrance drive and clubhouse parking area. The proposed grades between the wall and the NDZ at the toe of wall may extend into the NDZ when corrected. Also, there is a missing 264 contour on the roadway grading plan.

9. The Town requested that Low Impact Development Best Management Practices be incorporated into the stormwater management system, including roof rainwater harvesting for use in irrigation. The revised plan does not include LID stormwater design features.

10. The plan should better clarify the scope and extent of construction within the jurisdictional buffers, including construction details and horizontal limits for retaining wall foundations.

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11. The roadway crossing between the upland areas will be constructed fully within the NDZ. The Culvert Profile indicated on Sheet C-10.0 conflicts with the adjacent detail to the left. The water and sewer utilities should be adjusted to be maintained clear of the culvert foundations. The foundations should be drawn to scale on the profile.

12. The embedment note on Sheet C-10.0 indicates the open bottom box culvert will be embedded 24-inches. The profile indicates a significantly deeper embedment depth, which would be more appropriate to keep the foundation below the frost line. The design of both the precast walls and culvert should bear the seal of a registered structural engineer.

13. A typical section of the crossing, showing the roadway construction, sidewalk, fencing, guardrail, both retaining walls, the three sided box culvert, channel treatment/restoration, and utilities including gas, electric water and sewer should be added to the plan. A 42 inch high pedestrian protection rail (with no exposed horizontal elements, i.e. ladder effect) must be provided along all walls having a 3 ½ ft. exposed face. A detail showing a combined guardrail and pedestrian rail should be added to the drawings.

14. The snow storage area that has been provided alongside the main entrance will impact the adjacent Resource Area and extends inside the fenced area to the stormwater management basin. Three snow storage locations associated with the Building B site are adjacent to the NDZ and the stormwater management basin and should reconfigured if possible. Signage should be added on the wetland side of each of the parking areas, prohibiting snow storage in wetland areas.

15. Snow removal operations should emphasize low salt application, with a higher reliance on alternate means of road treatment, such as sanding.

16. The project is solely reliant upon subsurface recharge systems to accommodate flows from pavement areas. Each system should be provided with a dedicated oil-water separation unit to protect groundwater from gas or oil spills on the pavement that are conveyed to the closed system with runoff. The Stormceptor SC-900 is specified for the large system near Building B, and at the front of the project. We are concerned that the proposed isolator rows, while complying with the TSS removal requirements, do not protect against hydrocarbons. Additional Stormceptor units should be provided upgradient of each recharge system.

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17. Existing specimen trees over 8-inch caliper along the limits of construction should be added to the Existing Site Conditions Plan to facilitate preservation. A tree protection detail should be added to the drawings for specimens to be maintained.

18. Each row of subsurface galleys should be provided with an observation port to facilitate maintenance. Additional inspection ports should be provided for the large system near Building B.

19. The applicant has indicated that a first level Environmental Assessment in accordance with MGL Ch. 21E was to be undertaken for the site. It is unclear whether the results have been made available to the Commission.

20. The prior sets of drawings indicated a proposed irrigation well indicated in the vicinity of the clubhouse. Please clarify whether this supplemental water source is proposed for the current plan.

21. The applicant should be encouraged to limit turf areas due to water demand and requirements for lawn chemicals and fertilizer. Due to the intensive development of the site that includes large grassed areas, PSC recommends that a Turf Management plan should be provided that adequately protects the adjacent wetland areas from nitrate and phosphate loadings. This was requested during the Comprehensive review for the Board of Appeals, and should be provided, even if included as a condition of approval.

22. A dedicated location on the site for equipment fueling operations should be sited on the drawings outside the wetland and buffers to minimize the potential for contamination from spills.

23. An updated Operation and Maintenance Plan should be provided, including frequency of inspection and debris removal of the subsurface recharge systems. Maintenance of the subsurface systems should include inspection frequency and debris removal. DEP recommends that mosquito controls be included in the O&M Plan in the event that a system has failed.

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