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February 7, 2018

Mr. John Gunn
Beacon Planning Board Chair
City of Beacon
1 Municipal Plaza
Beacon, NY 12508

RE: River Ridge
City of Beacon
Tax Map No. 5954-33-556840

Dear Mr. Gunn:

The applicant is proposing the development of 18 residential town house units on 2.95 acres between the end of Ferry Street and Route 9D. We have reviewed the response letter from Cuddy & Feder, dated January 30, 2018; a report entitled "Stormwater Pollution Prevention Plan for River Ridge", with the latest revision date of January 30, 2018, as prepared by Hudson Land Design; a report entitled "Water and Sewer Engineer's Report for River Ridge", dated January 30, 2018, as prepared by Hudson Land Design; preliminary retaining wall report dated January 25, 2018, as prepared by Civil Design Professionals; and the following plans entitled "River Ridge Townhouses" as prepared by Aryeh Siegel, Architect and Hudson Land Design, with the latest revision date of January 30, 2018:

- Sheet 1 of 14, entitled "Site Plan"
- Sheet 2 of 14, entitled "Existing Conditions Plan /Survey"
- Sheet 3 of 14, entitled "Landscape & Lighting Plan"
- Sheet 4 of 14, entitled "Buildings Plan"
- Sheet 5 of 14, entitled "Site Section Diagram"
- Sheet 6 of 14, entitled "Renderings"
- Sheet 7 of 14, entitled "Grading Plan"
- Sheet 8 of 14, entitled "Utility Plan"
- Sheet 9 of 14, entitled "Erosion and Sediment Control Plan"
- Sheet 10 of 14, entitled "Drainage Profiles"
- Sheet 11 of 14, entitled "Water & Sewer Profiles"
- Sheet 12 of 14, entitled "Site Details"
- Sheet 13 of 14, entitled "Stormwater Details"
- Sheet 14 of 14, entitled "Water & Sewer Details"

Based upon our review of the above referenced reports and plans, we offer the following comments.

General Comments:

1. The appropriate HOA documentation shall be submitted so that it can be reviewed by the Planning Board Attorney. *The Applicant agrees to the review by the Planning Board Attorney, and requests that this be a condition of subdivision approval.*
2. Although a preliminary retaining wall report was submitted from Civil Design Professionals for the retaining walls proposed at the site, a detailed calculations report with wall plans should be submitted for review. The report and plans shall be signed and sealed by a NYS licensed engineer. The preliminary report also states, "The project geotechnical engineer shall confirm global stability based on the proposed wall design and the actual parameters of the onsite soil." Soil testing should be conducted so that soil data and global stability of the wall can be included in the design report. We would further recommend that the report clearly define acceptable "structural fill" and "select granular" backfill material that can be used. It may be helpful to classify this material using a NYSDOT Item number designation for clarity. The calculation report shall also take into account the stormwater infiltration system located in close proximity to the retaining walls.
3. The Engineer's Water & Sewer Report should be updated to reflect the actual fire flows that can be achieved from the existing hydrants adjacent to the project, along with calculations for the fire flows anticipated from the hydrants proposed as part of the project.
4. The Engineer's Water & Sewer Report states that the water line running along the front of the project will be a 6" line to a point past the hydrant located at the entrance, and then reduced to a 4" line. We would recommend that the water line running from Ferry Street and across the front of the project to the hydrant at the entrance be installed as an 8" line to achieve higher fire flows at the proposed hydrants.
5. The Engineer's Water & Sewer Report states the installation of a 6" fire flow meter, then an 8" double check valve installed after the meter. The size of the meter and double check valve should be coordinated with one another.
6. Developer will need approval from NYSDOT for proposed work within the NYSDOT right-of-way, and Dutchess County Department of Health approval. All correspondences to and from the agencies shall be submitted to the Planning Board.
7. We would recommend that the entrance sidewalk to service the staircase from Wolcott to Ferry Street be shifted to the south, so that Unit 1 does not have to share the access with the general public.

Preliminary Subdivision Plat: (repeated, although not submitted this submission)

1. An easement will be required across the common HOA parcel allowing for ingress and egress to each of the 18 proposed residential lots. *The applicant notes that this should be a condition of Final Approval.*

2. Additional easements may be necessary the running of utilities between the HOA parcel and the individual parcels being created. *The applicant notes that this should be a condition of Final Approval.*

Sheet 1 of 14:

1. Although it appears a Symbol Legend was added to the plan, the legend is missing the symbols. The legend should be revised to include the symbols for the items listed in the legend.
2. The concrete stair detail should include details for the hand rails that would be installed with the stairs.
3. A north arrow should be provided on the plan. This comment is applicable to all plans having a plan view.
4. The roads should be labeled on the plan.

Sheet 3 of 14:

1. The "Retaining Wall" detail on the bottom of the plan should be enlarged and darkened for clarity.
2. Consideration should be given to lightening the existing topography so that the proposed plantings are visible. We would further recommend that the proposed plantings, and their respective callouts, are darkened.
3. It appears that the planting of several of the proposed trees along the front of the project may be in conflict with the existing guide rail located on the south side of the project.

Sheet 7 of 14:

1. The soil data collected from the on-site deep tests and percolation tests performed at the site should be provided on the plan.
2. It is recommended that spot elevations be provided along the top and bottom of the curb lines to clearly define curb grades.
3. The roads should be labeled on the plan.
4. Grading for the stairs to the Ferry Street cul-de-sac should be shown on the plan.
5. The Post Construction Notes on this sheet should be revised to state that record drawings of the project including all utilities will be provided to the Building Inspector after construction is complete.

Sheet 8 of 14:

1. We have concerns of the possible impacts of the stormwater infiltration system on the retaining wall system given their proximity to one another. The bottom of the retaining wall in this location has an elevation of 104.0, where as the bottom of the stone for the stormwater infiltration system has an elevation of 110.0. Given the elevation difference between the two,

and only a separation distance of 15 feet, we have concerns of increased hydrostatic pressures being built up behind the wall, leading a future wall failure. We are also concerned with the possibility of the infiltrated stormwater draining towards the wall underdrains and being directly discharged towards Hammond Plaza, therefore not infiltrating into the ground as design. One possibility to avoid these possible scenarios from occurring would be to relocate the infiltration system to a location below the proposed retaining walls.

2. The lowest sewerable elevation (LSE) for each unit should be checked based upon a 2% grade from the sewer main to each respective unit. Although the response states "The LSE is the basement or garage floor elevation", if the LSE is set to the garage floor elevation, the sanitary sewer service lines would have insufficient coverage, or actually be above the grade given the downward slope in grade to a drain outside units 1 thru 7.
3. Stationing should be provided along the utilities to correspond with the stationing provided on the various profiles.
4. We would recommend that the water line proposed along the front of the project as 6" ductile iron pipe be changed to an 8" ductile iron pipe to improve possible fire flows at the hydrants to be located on site.
5. The meter pit drain line it currently direct towards the proposed stairwell leading to Ferry Street. The drain line should be re-directed, so that water is not drained onto the stairs.
6. The valve proposed on the main line prior to the entrance should be shifted to after the hydrant tee for the hydrant located at the entrance. A valve should also be added on the hydrant line leading into the site after the tee off of the main line.
7. As the water system is a private system, a note should be added to the plans stating that the water service connection, meter pit, and water lines running through the site are the responsibility of River Ridge Town Houses.
8. A drainage manhole should be provided on the inlet row of the stormwater infiltration system to allow for cleaning as required in the long-term maintenance schedule.

Sheet 10 of 14:

1. Each profile shall be labeled with a title and location.
2. The profiles shall be updated to include all water and sewer line crossings.
3. The profiles shall be updated to include the proposed retaining walls and proposed stairs to the Ferry Street cul-de-sac.

Sheet 11 of 14:

1. Each profile shall be labeled with a title and location.
2. Although valves and fittings are called out at the bottom of the profiles, they should also be shown on the profiles.

3. We would recommend that a sleeve be provided for the water line in where it crosses under the retaining walls, so that in the event of a leak or break in this area, the retaining wall does not fail.
4. A profile should be added to the water line running to the hydrant on the interior of the site from the entrance.
5. Profiles should be updated to include water crossings, sewer crossings, and the proposed stairs to the Ferry Street cul-de-sac.

Sheet 12 of 14:

1. Note No. 2 under the gravity wall detail shall be revised to further state that the final engineering calculations and details shall also be submitted to the Beacon Building Department and the City Engineer for review.

Sheet 13 of 14:

1. The stormwater inspection and long-term maintenance notes provided on Sheet 7 should also be provided on this Sheet, adjacent to the underground detention system detail.
2. Inspection port details for the underground detention system should be provided.

Sheet 14 of 14:

1. We would recommend that the Meter Pit detail be enlarged for clarity.

SWPPP Comments:

1. Water quality/runoff reduction volume was only calculated for the area tributary to underground infiltration area in the parking area (watershed 30). Water quality/runoff reduction volume calculations should account for all disturbed areas of the project.
2. Sizing for the hydrodynamic separator should be provided in the SWPPP.
3. The depth of stone surrounding the Cultec units appears to 8' in the stormwater modeling although the detail on the plans shows less. The stone depth and elevations should be clarified.
4. Channel protection volume requirements and control should be discussed in the SWPPP.
5. The report shows peak flow rate increases at several stormwater discharge point for several design storms. Increases in peak flow rates at any discharge point are not acceptable. The drainage design should be revised to control flows to this design point. This may be accomplished by capturing additional area surrounding the project and directing it to the underground stormwater system.

This completes our review at this time. Further comments may be forth coming based upon future submissions. **A written response letter addressing each of the above comments should be provided with the next submission.** If you have any questions, or require any additional information, please do not hesitate to contact our office.

Very truly,
LANC & TULLY, P.C.



John Russo, P.E.

Cc: John Clarke, Planner
Jennifer Gray, Esq.
Tim Dexter, Building Inspector