



PLANNING & DEVELOPMENT

Date: February 15, 2023

To: David Held, PE., Provost & Rovero, Inc.,
From: Maureen FitzGerald, Environmental Planner

Re: 109R & 131 Clark Lane
Inland Wetland Application #C-22-14
Staff Comments – Public Hearing Record Review

**C-22-14
109R & 131 CLARK LANE
PUBLIC HEARING 01-26-23
EXHIBIT #54**

Mr. Held,

Please review and respond to the following comments and questions regarding the application and public hearing exhibits and discussions. Thank you.

1. What percent reduction in annual hydrologic input to the off-site (northern) wetland area is anticipated due to the site development and reduction of contributing drainage area to the western edge of the forested wetland?
2. Consider additional LID measures for roof run-off to reduce the directly connected impervious area and reduce the amount of run-off directed to the basin from the building roof areas. It appears feasible to direct roof drains to lawn areas west of units 27 through 47 and south of units 24 – 30 in lieu of rain gardens or vegetated swales. Lawn drains are present to pick up any standing residual water following storm events.
3. Is it feasible to direct the 4 inch shallow PVC underdrain located upgradient of the bioretention basin to discharge northeast of the basin at grade, thereby maintaining some of the predevelopment flow to the receiving wetland. This will entail minor temporary disturbance of the vegetated upland buffer to approximate contour elevation 92.
4. Include in the detention basin details a suitable layer of growing media and incorporate microtopography into the basin bottom elevation to provide elevated areas for shrub and emergent plug plantings to diversify wetland substrate and increase wetland value of basin. Basin planting schedule should include number and type of proposed planting, container type and size.
5. Include a forebay in the biofiltration basin to assist in capture of debris from the stormwater discharge.
6. Consider monitoring water elevation within basins with standpipes during construction and selecting basin plantings to match. Final planting schedule should be submitted to the Commission's agent for approval prior to basin planting.
7. Indicate how the Clark Lane municipal stormwater drainage connection to the proposed private system will be granted to the Town; e. g. by MOU or easement.

8. During construction, there is concern regarding sediment discharge from the exposed basin soils, especially from Clark Lane stormwater inputs. Can "clean" off-site run-off be separated from construction run-off and directed to stabilized vegetated areas to reduce erosion potential during construction?
9. What design storm flow have the temporary diversion channels been sized for Clark lane run-off?
10. Temporary ESC matting should be considered for basin bottom soils to control soil erosion after the system is completed when basins are not fully vegetated.
11. Provide temporary ESC measures downgradient of level spreader outlet construction.
12. Extend the 10 ft. wide re-enforced turf access path to the basin outlet area to facilitate maintenance.
13. Final plans should include proposed de-watering area locations on ESC site plans.
14. Construction of the subsurface infiltration systems and the infiltration basins should be inspected by the design engineer during construction to verify the type, depths, and permeability of the specified fill materials are consistent with the approved plans. The bioretention basin soil mixture and subsoil permeability require specific material testing, permeability testing and material components per the detail. Verification of those properties will need to be provided to the Town.
15. Prior to the issuance of a certificate of occupancy an as-built plan and inspection report will be required with a written verification that the stormwater treatment and infiltration systems were constructed in accordance with the approved plans and the design infiltration rate.
16. Stormwater quality monitoring is recommended in the Jordan Brook watershed management plan. Performance of the bioretention basin in pollutant removal including nitrogen, phosphorus, metals, and bacteria generated from the site development should be monitored at intervals of 2 times per year (semi-annually) by a qualified third party following completion of the site construction to demonstrate pollutant removal functions of the biofiltration/detention basin system and monitor potential impacts to stream quality from the site development.

Samples are to be collected where the stormwater enters the biofiltration basin and exits the detention basin. Parameters to be tested include: total suspended solids, total phosphorus, nitrate-N, total copper, total lead, and total zinc. Samples are to be collected during storm events of 0.5 inch or greater during a 24-hour period during the early (April-May) and late (September-October) growing season. A year-end monitoring report will be required to be submitted to the Commission's agent by December 15th of the monitoring year. Stormwater discharge quality monitoring and reporting should continue for a minimum of 3 years following completion of site development.

17. Post construction monitoring of the stormwater basin vegetation and stabilization should be conducted by a wetland scientist or other qualified professional for a period of three (3) years following completion of the stormwater basins to document vegetation establishment/success and functioning of the stormwater basins. Monitoring should be conducted 2 times per year during the early and latter part of the growing season and include, vegetation establishment, depth of ponding and draw-down interval, sideslope and substrate stabilization, and outlet stabilization. Invasive plant species shall be removed from the basins. Total herbaceous coverage of the basin is to equal or exceed 75% at the end of the second monitoring year. A monitoring report will be required to be submitted to the Conservation Commission by the end of each monitoring year. The Commission may require corrective actions to maintain or repair the stormwater basins.

18. It has been suggested to include invasive plant species control measures for the upland buffer. There is a significant establishment of invasive plants both on and off the subject property. Cutting and treating bittersweet vines impacting existing trees may be a reasonable control measure at time of construction. Long-term control and eradication of invasive plant species may not be feasible. A targeted approach or specific species management may be an option.
19. Prior approved site plans for the property maps upland soils east and west of the on-site stream corridor wetland. The proposed conservation easement restrictive document should note that the land includes uplands as well as wetlands.

Please contact me if you have any questions at 860 444-5813.

Respectfully,



Maureen FitzGerald
Environmental Planner
Town of Waterford
mfitzgerald@waterfordct.org

cc: Waterford Conservation Commission
Attorney M. Branse