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February 9, 2021

VIA EMAIL

Mr. Thomas H. Burt
Harbor Coastal Zone Management Commission
Village of Mamaroneck
123 Mamaroneck Avenue
Mamaroneck, NY 10543
Thomas.h.burt.72@gmail.com

Re: 1165 Greacen Point Road
Mamaroneck, New York
Maser Project No. 21000441A

Dear Mr. Burt:

Colliers Engineering & Design, Inc. DBA Maser Consulting has reviewed the above-referenced application to construct a new single-family home. The Applicant is proposing to comply with the applicable Village, County and State requirements by limiting site disturbance and also install a number of stormwater improvements to the site to handle the impervious coverage. However, the Applicant is relying on a septic tank and leach fields to handle their sanitary sewer versus constructing a private sanitary force main to connect to the Village system, as has been done by a number of residents on Greacen Point Road.

What is not noted in the paperwork provided, is if all newer construction has been required to install private sanitary sewer force mains to the receiving manhole on Orienta Avenue. Plans provided for neighbors to their west at No. 1209 and 1326, which are farther away from Orienta Avenue, noted the installation of a joint 2" force main.

From our review, we have the following comments on the provided information:

1. The 1.09-acre property is in the AE-10 Tidal Flood Zone, and the December 14, 2020 letter from Leonard Jackson Associates states that the placement of fill will not affect the inflow/outflow of tidal waters from Long Island Sound. While this is apparently true based on the information submitted, there is no discussion regarding any environmental concerns with the proposed septic system.
2. The property is in the AE Flood Zone with a Base Flood Elevation of 13.00-feet. The home has a proposed Finished Floor Elevation (FFE) of 16.0-feet. The septic system leach field seems to have a base elevation of 8.5-feet given the provided grading and trench detail. No



profiles or elevations have been provided by the Applicant for the proposed septic system and leach field.

3. The Applicant notes on Page 2 of the December 30, 2020 letter from Cuddy + Feder, LLP to the Harbor & Coastal Zone Management Commission that “the proposed 420 cubic yards of fill...is necessary to remove a failing septic system...that can leak raw sewage into the wetlands and coastal waters...” A footnote (4) provided states that “replacement of the failing septic system within the wetlands buffer furthers LWRP Policies 37 and 38...and minimizes the discharge of excess nutrients and organics into coastal waters.” The Applicant only states that the new septic would “minimize” this discharge, not eliminate it completely, as would occur should the Applicant install a new private force main to the Village system on Orienta Avenue. The Applicant makes the above-referenced statement about the failing septic system being replaced with a new septic system, but has failed to provide mounding analysis, specifically detailing the impact of the new system.
4. The December 30, 2020 letter also discusses the ability of the Applicant to install a private sanitary line. While the Applicant notes several obstacles/concerns to the construction of a private sanitary sewer line, the Greacen Point Road Corporation apparently has granted approvals for similar lines in the past, and there was no evidence provided by the Applicant to indicate that there have been problems with either the installation or maintenance of these lines or evidence that there have been any leaks or breaks in these private sewer lines. The major issues appear to be “significant road disruption and access issues.” We do not agree with the conclusions provided in the letter that the installation of the private line would contribute to “...environmental and safety issues...” The Applicant is making the conclusion that a private sewer line will create a greater environmental issue than a private septic system. It should be noted that a properly installed sanitary sewer force main would last forever and need little or no maintenance. A septic system would require monthly and annual maintenance to ensure it functions properly. Also, a septic system relies on the responsibility of the homeowner to limit use of soaps and other environmental contaminants, such as cleaning agents, all of which will contribute to long term failure of the septic system and contamination to groundwater and surface water in the area.
5. The November 4, 2020 letter from Cuddy + Feder, LLP to the Harbor & Coastal Zone Management Commission states that the amended project is consistent with certain LWRP policies. Specifically given LWRP Policies 37 and 38, although not a sole-source aquifer, we believe that the installation of the proposed septic system will have a negative impact on the surface water and groundwater through the discharge of excess nutrients and organics to the underlying groundwater (which would be tidally affected). While this may not occur at the onset of the usage of a septic system, any new septic system will, by design, eventually discharge nutrients into the ground and require regular maintenance and replacement.



6. The Applicant noted in their September 2, 2020 submission that the project would be consistent with Policies 11 and 12, noting that it would prevent the discharge of sewage into wetlands and coastal waters. However, and as noted above, by the very design of a septic system, the leach field will in fact permit these discharges.
7. The Applicant is proposing a mounded septic system with a final (surface) grade elevation of between 11-feet and 15.5-feet. There are no profiles provided by the Applicant. They are proposing a 1,250-gallon septic tank (detail says 1,500-gallon); a leach field with 336-LF of piping in a sand & gravel bed installed above an impermeable clay-filled layer (no information provided regarding capacity of the leach field). The leach field then flows to a 336-LF absorption trench all located in the front yard which would allow septic to eventually leach into the underlying soils. The Applicant notes a Base Flood Elevation of 13.00-feet, and as noted above the base of the septic “expansion area” may be as low as 8.5-feet.
8. The Applicant is proposing an underground stormwater detention system in close proximity to a septic system. The underground stormwater detention system is an infiltration system with an overflow directed toward Delancey Cove. The top of the proposed stormwater system is elevation 11 and the top of the proposed septic system is elevation 15. It should also be noted that the proposed stormwater detention system does not have any test holes or permeability tests that would determine depth to seasonal high groundwater and infiltration rate of the existing soils on site. The location of the system with respect to the septic and the lack of Geotechnical data for the stormwater detention system are both concerns of this office.
9. We have reviewed several letters provided by the Applicant’s Engineers regarding issues related to the installation of the private sanitary sewer, and have the following comments:

JMC Memorandum to the Commission dated December 29, 2021

- a. Infrastructure Crowding and Future Planning – the Applicant argues that the installation of this private line will affect future installations of unplanned private sewers and unplanned drainage infrastructure improvements. However, the Applicant also notes that a survey of the existing sewer lines is available providing the information needed for this and future private sewer line installations. We are not aware that either the Village or the Greacen Point Road Corporation has any plans on the installation of drainage improvements, so this argument is moot;
- b. Operation, Maintenance and Infiltration & Inflow Monitoring Responsibility – the Applicant refers to various instances for the need to shut off the sewer lines and “...periodically checking for leaks...” but there is no record of any issues with the existing installations that this has ever been required. Further, any maintenance issues related to shutting off the existing Greacen Point Road contributing flow into the Village receiving manhole is no different than anywhere else in the Village;



- c. Emergency Responsibility – again there is no record of any issues with any of the existing private sanitary sewer lines serving the homes on Greacen Point Road. The responsibility for any repair would fall on the private homeowner, much the same as if there were a leak in a private septic system, required pumping of the septic system and/or issues related to seepage from the leach field. These are maintenance issues;
- d. NYDEC Penalties for Environmental Impacts – the Applicant argues that should there be a leak of the private sewer line(s) running into Long Island Sound, that there would be fines imposed. Again, there is no record of any instances where there has been a leak in any of the existing private sewer lines. The installation of a septic system, by its very nature, would leach into the ground beneath the leach field which is affected by the tidal actions in the surrounding waters;
- e. Public Sewer Line Feasibility – there are no plans by the Village to install a public sewer line, so this argument is a non-issue;
- f. Low pressure Sewer Line versus Gravity Septic – we maintain that although the Applicant argues about the lifespan of the septic system, that shortly after the system becomes operational, that septic waters by design will be leaching into the underlying soils and eventually into the surrounding waters. The Applicant ignores the fact that septic systems also require regular maintenance by the homeowner and have noted that the existing system was failing and required replacing.

LJA Associates - Letter dated December 14, 2020

- g. The Applicant discusses the placement of fill on-site, and concludes that the fill “...will not affect the inflow or outflow of tidal waters of Long Island Sound, will not affect the flood elevations...” However, we understand that the placement of this fill is required primarily due to the installation of the septic system. The fill would include the proposed clay impermeable layer beneath the primary leach field, then a gravel layer and cover soils (common and topsoil). The expansion leach field area would also require the installation of gravel and cover soils (but without the underlying impermeable clay layer). All of this additional fill and site disturbance would not be required if the Applicant were to install a private sewer line. The impacts for this line would be limited and confined to the normal activities associated with the excavation of a trench, pipe installation and backfill within the Greacen Road right-of-way. Further, the requirement for fill for the septic is also caused by the type of house being proposed for the site. The Applicant could mitigate or have a net zero fill, if the Applicant were to redesign the house and site plan for the property. The reason for the additional fill in the flood plain is caused by the type of development proposed for the site.



10. The Applicant has submitted the Coastal Assessment Form which includes 44 LWRP Policies. Based on our review, we take no exception to their responses with the following comments:
- a. Policy 12 – “Activities or development in the coastal area will be undertaken so as to minimize damage to natural resources...” The Applicant has responded that “grading on the site will be limited to the maximum extent possible to allow for the moderate development of the site.” However, the proposed septic system installation will disturb an additional 5,200-square foot of the front yard with the proposed clay-lined leach field, and the proposed 100-percent expansion area in addition to the proposed fill materials.
 - b. Policy 17 – “minimize damage...from flooding and erosion.” While the Applicant notes that they are maintaining setbacks and complying with the applicable building codes, this does not address the erosion issues associated with the proposed leach fields which, although temporary, would be avoided if a private sewer line were to be installed.
 - c. Policy 18 – “safeguard vital...environmental interests...” While the Applicant indicates that this Policy is not applicable, our review of the provided documentation would seem to favor the installation of a private sewer system versus a septic system to fully comply with this policy.
 - d. Policy 37 – “Best Management Practices will be utilized to minimize...excess nutrients, organics...into coastal waters.” While the Applicant also responds that this is not applicable, the installation of a septic system will eventually discharge excess nutrients and organics into the coastal waters.
 - e. Policy 38 – “quality and quantity of surface and groundwater supplies will be preserved and protected...” While the Applicant again responds that this is not applicable, the installation of a septic system will eventually discharge excess nutrients and organics into the groundwater (although not a groundwater “supply”).

Conclusion

Based on all of the above, the request for additional fill in the flood plain is caused by the Applicant’s proposed Dwelling & Site Plan and their desire to maximize the use of the site for the proposed development. It is the opinion of this office that the Applicant can redesign this site to have a net zero fill and limit any impacts to groundwater and surface water in the area.

It should also be noted that the conclusion the Applicant makes, that “A septic system is safer or limits environmental contamination to surface and groundwater better than a sanitary sewer force main”, is false. The proper construction on a sanitary sewer force main will have no impact to



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groundwater or surface water unless disturbed by an outside source, such as a utility company. A sanitary sewer also requires little or no maintenance, if installed properly. To the contrary, a septic system requires monthly and annual maintenance to make sure it is functioning properly and relies on the responsibility of the homeowner to limit the use of soaps and cleaning agents to limit contamination to groundwater and/or surface water.

Should you require additional information or have questions on the above, please feel free to contact the undersigned.

Very truly yours,

**COLLIERS ENGINEERING & DESIGN, INC.
DBA MASER CONSULTING**

A handwritten signature in blue ink, appearing to read 'ARH', is positioned above the name of the signatory.

Andrew R. Hipolit, P.E., P.P., C.M.E., C.P.W.M.
Senior Principal

ARH/dw

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