

12 October 2022

Mendham Township Planning Board
2 West Main Street
Brookside, New Jersey 07926

**Re: Lawrence Farmland LLC
Preliminary and Final Major Subdivision, Lawrence Farm Estates
Block 147, Lots 42.06, 42.07, 42.08, 42.12, 42.13, and 42.16
Exmoor Drive and Sutton Place, Mendham Township**

Dear Mr. Giordano and Members of the Board:

Princeton Hydro, LLC has completed our technical review of the plans and supporting materials submitted for the proposed subdivision at Exmoor Drive and Sutton Place (Block 147, Lots 42.06, 42.07, 42.08, 42.12, 42.13, and 42.16). Our review focused on the assessment of the proposed project's potential impacts on the surface water, groundwater, and habitat resources of the Township. In particular, our review analyzed the mitigative measures proposed for the development with respect to stormwater quality management, stormwater quantity management, groundwater recharge, slope disturbance, soil erosion control and protection of sensitive environmental features. Our review and comments are based on the consistency of the proposed development with the Township's Land Use Ordinances and applicable State regulations pertaining to wetlands, stormwater, and threatened and endangered species.

Materials Reviewed

The comments presented in this letter, which summarize our preliminary findings and comments, are based on Princeton Hydro's review of the following documents:

- Preliminary and final major subdivision plan sets for Lawrence Farm Estates, prepared by Yannacone, Villa & Aldrich, LLC (15 sheets) dated 2 September 2022 and revised 4 October 2022.
- Environmental Impact Statement prepared by Environmental Technology Inc. dated 6 September 2022.
- Environmental Impact Statement Addendum prepared by Environmental Technology Inc. dated 5 October 2022.
- Stormwater Management Report prepared by Yannacone Villa & Aldrich, LLC dated 2 September 2022 and revised 4 October 2022.
- Completeness Review letter from French & Parrello Associates dated 23 September 2022.
- Transmittal to Morris County Planning Board by Day Pitney, LLP, dated September 7, 2022,
- Transmittal to NJDEP requesting Wetlands LOI and Flood Hazard Verification by Environmental Technology, Inc, dated August 30, 2022.
- LOI from NJDEP File No. 0000-98-0003.1 dated August 1998 and File No. 1419-02-0004.1 dated November 2002
- Transmittal to Morris County Soil Conservation District by Yannaccone, Villa & Aldrich, LLC, dated September 2, 2022,



Project Overview

This is an application for a residential subdivision of six (6) existing lots to nine (9) proposed lots on Exmoor Drive and Sutton Place. The 60.398 acre property is located in the R-5 Zone and includes Block 147 Lots 42.06, 42.07, 42.08, 42.12, 42.13, and 42.16. The property is characterized by maintained lawn and upland hayfields, upland forest, and wetlands. The property is within the Upper Passaic River watershed.

The Applicant proposes to create three (3) additional lots from the existing six (6) lots. Stormwater from paved surfaces and the roofs will be collected by bioretention basins, one on each lot. The stormwater management system that was constructed as part of the previous major subdivision approval remains.

The following comments pertain to the review of the Environmental Impact Statement and Stormwater Management Design. The provided materials were reviewed based on the New Jersey stormwater regulations (N.J.A.C. 7:8 and N.J.A.C. 7:15) and the New Jersey Best Management Practices Manual.

1.0 Environmental Impact Statement

- 1.1 The application submitted to the Planning Board includes an Environmental Impact Statement (EIS), prepared by Environmental Technology Inc. dated 6 September 2022 along with an Addendum dated 5 October 2022 to address comments presented at the Technical Review Committee (TRC) on 27 September 2022 regarding the suitability of the site to provide adequate water yields for the proposed individual wells. The EIS is basically complete and was prepared in keeping with the guidance provided in the Township's Land Development Ordinances, §17-3.1.
- 1.2 Under Chapter III. Plan and Description of Development on pg. 25, the list of Lots included in the property includes 42.11 and not 42.12. The Applicant shall make the list of lots consistent across documents.
- 1.3 The area's soils are thoroughly characterized in the EIS in Table 1 as well as the soils map in Figure 4. However, soil logs were not included in the EIS to help further illustrate the soil throughout the site. The Applicant shall include the soil logs in the EIS as required in §17-3.1a(4).
- 1.4 The Applicant has noted that an inventory of existing fauna was prepared as outlined in §17-3.1a(11) in part and included actual sightings and observation of sign. There is, however, no information about that survey. The Applicant shall provide testimony as to the details (dates, time of day, weather, methodology) of the on-site investigations in compliance with this ordinance.
- 1.5 The EIS states that contains documented habitat for Indiana bats and Northern Myotis. As these are federal and state endangered bats, time of year restrictions on tree removal should be considered to avoid negative impact during roosting season (April -October). The timing restriction should be added to the construction sequence details.
- 1.6 There is an inventory of existing street trees but not of trees to be removed from areas to be developed. It is stated that "the removal of trees is unavoidable" and that "No unique habitats or species will be impacted"; there is no documentation to substantiate the

claim. At very least, there should be a statement noting the status of specimen trees on the site. It is requested that an inventory of tree to be removed with a DBH >8" be provided for impacted areas and mitigation plans be explained in more detail to better understand the full impact to the vegetation of the area (number of trees proposed to be used for replacement, consideration of native species, etc.).

- 1.7 The application must receive Soil Erosion and Sediment Control certification from the Morris County Soil Conservation District. Further, a current LOI and Flood Hazard verification shall be obtained. The Applicant has requested these documents and shall supply the SESC certification, LOI, and FHA verification to the Planning Board and experts upon receipt.
- 1.8 Bio-basins are proposed for the stormwater management of each lot. However, little detail is given on the planting of the basins. There is only "site-tolerant grasses" listed be used. Please provide details on seed mixes to be used and planting plan for vegetation on slopes. This is a good opportunity to plant more than grass and install pollinator habitat, especially if there will be rip-rap overflows.
- 1.9 The EIS addendum fully addresses concerns about available drinking water from wells.

2.0 Runoff Quantity Standards

In accordance with N.J.A.C. 7:8-5.6 Stormwater runoff quantity standards, the development must meet the minimum design and performance standards to control erosion, maintain groundwater recharge (7:8-5.4), and control stormwater runoff quantity (peak flow rate control) impacts of the development. Per N.J.A.C. 7:8-5.6(b), in order to control stormwater runoff quantity impacts, the design engineer shall complete one of the following:

- i. Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the 2, 10, and 100-yr storm events do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;
 - ii. Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction conditions, in the peak runoff rates of stormwater leaving the site for the 2, 10, and 100-yr storm events and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site;
 - iii. Design stormwater management measures so that the post-construction peak runoff rates for the 2, 10, and 100-yr storm events are 50, 75, and 80 percent of the pre-construction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed.
- 2.1 The Applicant's Engineer demonstrates that the project meets the third criteria noted above, which is supported in Stormwater Runoff Quantity Standard in the Stormwater Management Report. Peak flow reductions for each design storm have been met for the disturbed areas.

3.0 Water Quality Standards

In accordance with N.J.A.C. 7:8-5.5, Stormwater runoff quality standards, the stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in the stormwater runoff generated from the water quality design storm by 80 percent of the anticipated load from the developed site, expressed as an annual average. Stormwater management measures shall only be required for water quality control if an additional one-quarter acre of impervious surface is being proposed on a development site.

- 3.1 The Applicant's Engineer indicates that the proposed development will result in a removal rate of 80 percent for TSS with the use of Bioretention Basins. However, it is not clear how specifically this will be achieved since the report merely states that the rate will be achieved, and the plan sheets indicate only a Typical Bio-Basin to be included on each of the proposed nine lots. Is it feasible to provide calculations at this time that will confirm what is being reported?

4.0 Groundwater Recharge Standards

Per N.J.A.C. 7:8-5.4, Groundwater recharge standards, 7:8-5.4(b)1, The minimum design and performance standards for groundwater recharge are as follows, the design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at N.J.A.C. 7:8-5.7, either:

- I. Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100% of the average annual pre-construction groundwater recharge volume for the site; or
- II. Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from pre-construction to post-construction for the two-year storm is infiltrated.

- 4.1 The client has demonstrated through soil logs and test pits that the Typical Bio-Basin will comply with the groundwater recharge standards. The location of the soil logs and test pits is consistent with the locations of the Typical Bio-Basin (proposed conditions).

5.0 Non-Structural Stormwater Management Strategies

In accordance with N.J.A.C. 7:8-5.3 (green infrastructure standards), the project should, to the maximum extent practicable, meet the standards in N.J.A.C. 7:8-5.4 (groundwater recharge standards) and 5.5 (stormwater runoff quality standards) by incorporating nonstructural stormwater management strategies. Based on the documents received to date, it appears as though the applicant has considered utilizing nonstructural management strategies. The applicant has submitted a low impact development checklist within the stormwater report.

- 5.1 What will be the targeted reduction in time of concentration (t_c) and are all reductions in t_c accomplished via grading?

- 5.2 How will soil compaction be minimized during any planned construction/earthwork activities at the project site?
- 5.3 Presentation of Time of Concentration (t_c) data needs to be made consistent. On p. 65 of the Stormwater Management Report (South – Existing Conditions) $t_c = 17.3$ mins; this is also presented on the “Drainage Area Plan” (South – Existing Conditions) as $t_c = 17.3$ mins. The South – Proposed Conditions on p. 80 of the Stormwater Management Report is shown as $t_c = 17.5$ mins but not given on “Drainage Area Plan” (South – Proposed Conditions). The applicant is asked to make sure the t_c for the proposed conditions is shown on the Drainage Area Plan for Proposed Conditions. Additionally, it is requested that the applicant provide testimony as to what the actual t_c is for “Drainage Area Plan” (South) – Proposed Conditions and what causes the increase in t_c ; is it the result of grading?

6.0 Operation and Maintenance

Operations and Maintenance (O & M) manuals need to be prepared in accordance with N.J.A.C. 7:8-5.8 and the New Jersey Stormwater Best Management Practices Manual. The following comments are provided with respect to the operation and maintenance requirements:

- 6.1 For specific stormwater structures/features (e.g., bioretention basins), there should be something in place to ensure the property owners will be compliant with maintenance over the project life.


7.0 Erosion and Sediment Control

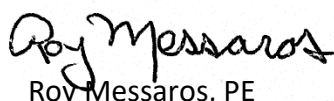
The application includes a soil erosion and sediment control plan. The plan includes locations and details for appropriate typical silt fence, limits of disturbance, soil stockpiles, project limits. Since the project includes more than 5,000 square feet of disturbance, the Applicant will be required to apply to the Morris County Soil Conservation District for certification. The following comment is provided with respect to the soil erosion and sediment control considerations of the project:

- 7.1 The plans provided are for the purpose of municipal and agency reviews and approval. For soil erosion and sediment control, detailed plans for construction for the nine proposed lots will need to be submit and approved by the Morris County Soil Conservation District.

This concludes Princeton Hydro’s preliminary review of the materials submitted to the Land Use Board for the proposed preliminary and final major subdivision, Lawrence farm Estates, at Block 147 Lots 42.06, 42.07, 42.08, 42.12, 42.13, and 42.16. We reserve the right to provide further comment should it become necessary. If the Board has any questions concerning our report, please feel free to contact us.

Sincerely,


Jack Szczepanski, PhD
Senior Ecologist


Roy Messaros, PE
Senior Project Manager

Princeton Hydro, LLC

Princeton Hydro, LLC

cc: file, 1114.029