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**To:** Alan Trembulak  
**From:** Timothy Derrick, P.E.  
**Date:** 24 August 2020  
**Re:** Verona Planning Board Hearing – 8/27/2020  
Stormwater Management Testimony Outline  
Tennis Courts Renovation  
Montclair Golf Club  
Verona, New Jersey  
Langan Project No.: 001039209

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Please find below the testimony I have prepared to described the stormwater management evaluation for the proposed project.

- We prepared the submitted stormwater memorandum (last revised 7/15/2020) to demonstrate that the requirements of the Stormwater Management Rule (NJAC 7:8) and Chapter 123 (Stormwater Management) of the Township of Verona Code have been met for the tennis courts renovation project at Montclair Golf Club.
- The memorandum, calculations, plans, and figures demonstrate that stormwater flows from the project area decrease due to a 0.23 acres or 10,000 square foot decrease in impervious coverage by eliminating a tennis court and tennis court practice area and therefore meet the requirements of the regulations.
- Stormwater quality measures are not required for this project because the impervious surface will decrease by 0.23 acres within the project area.
- The submitted New Jersey Groundwater Recharge Spreadsheet demonstrates that the proposed project will meet the requirements by infiltrating a greater amount in proposed conditions than existing conditions.
- Due to the impervious area decrease of 10,000 square feet, the stormwater quantity requirements are met because the proposed stormwater discharges from the project area decrease for the 2-, 10-, and 100-year storm events.

As requested in the memorandum prepared by Beckmeyer Engineering, P.C., last revised 8/20/2020, I am providing the following testimony.

- ***Drainage Comment 4 – Testimony shall be given on the use of “Poor Cover” and not “Good Cover” for the wooded area.***

All “Woods” were assigned to be in “poor condition” in existing and proposed conditions.

Per TR-55, woods in “poor condition” has:

*"Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning"*

Per TR-55, woods in "good condition" has:

*"Woods are protected from grazing, and litter and brush adequately cover the soil"*

At the golf club the woods would be considered "poor condition" because forest litter, small trees, and brush are removed by continuous maintenance. A photograph of the existing wooded area is included in the stormwater memorandum.

- ***Drainage Comment 5 – Testimony on why the initial "tc" path does not extend into the area added to the watershed "A": both existing and proposed.***

The time of concentration path does not extend into the wooded area of the site in existing and proposed conditions because it would not represent the peak runoff from the watershed which is mostly tennis courts, grass, and landscaped areas in both proposed and existing conditions.

- ***Drainage Comments 6 and 7 – Testimony on shall be given on the winterization of proposed hydrocourt irrigation system and how it simulates the existing system.***

Testimony to be provided by James Gilday describing that during the winter neither the proposed nor existing system is irrigated. The HarTru material, which is the same material in the proposed and existing conditions, will maintain the same runoff properties.

- ***Drainage Comment 8 – Testimony shall be given on the use of CN's from the four hydrologic soil group (A,B,C,D) and the storm flow differences in each HSG as well as the use of the "Worst Case Scenario" from all four calculations. Also, any discussions with Mr. Edwin Muniz from the NRCS shall be put on record.***

As discussed with Mr. Beckmeyer and at the previous board meeting, the reported soil type on the National Resources Conservation Service (NRCS) Web Soil Survey is URBONB (Urban Land, Boonton Substratum), which does not have an associated Hydraulic Soil Group (HSG). Due to the unknown HSG associated with the existing soils and in lieu of soil testing, we have prepared hydraulic calculations for each HSG (A, B, C, and D) to demonstrate the flow from the project site will decrease in proposed conditions regardless of the HSG. The flows are included in Table 1 in the memorandum report.

The email correspondence with Edwin Muniz from the NRCS can be provided.

- ***Drainage Comment 9 – Testimony on why "Woods" of 0.09 acres was removed from "Present" existing***
- ***Drainage Comment 10 – Testimony shall be given on why the small strip of wooded area between the road and practice area, 0.09 acres, was added watershed "A" (tennis courts) and removed from watershed "B" on existing watershed map CG101 dated July 15, 2020. The existing topographic appears to dictate that this area presently flows to watershed "B".***

The 0.09 acres of woods was removed from Watershed "B" and added to Watershed "A" based on a site visit made on March 12<sup>th</sup>. The survey prepared by Suburban Engineering Consultants, dated 3/11/2020, ends at the fence line adjacent to the practice tee. Additional contours from an older aerial survey was used to augment the area beyond the limits of the Suburban Survey.

- ***Drainage Comment 11 – Testimony on the selection of "Fort Mott" shall be given.***

As described in the "Calculation Assumptions" the memorandum, the existing soil survey does not provide clear direction for the hydraulic soil groups present within the project limits. We assumed a HSG A for confirming groundwater recharge requirements for the project. We assumed a HSG of A because it would be the most conservative assumption because it would generate more recharge in proposed and existing conditions. Per Table 2 of Appendix E of the NJ Stormwater BMP Manual, the "Fort Mott" soil series was chosen in the spreadsheet as the default HSG A series.