



January 11, 2012

Frank Valdes, AIA  
Senior Associate  
DiMella Shaffer  
281 Summer Street  
Boston, MA 02210

RE: Nitsch Project #8398  
Mystic Water Works  
Capen Court Phase III  
Somerville, MA 02144

Dear Frank,

Nitsch Engineering has reviewed the letter entitled "*Problems with Capen Court Phase III Stormwater Report & Civil Engineering plan Mismatch*", written by Frank Kelly and dated January 2, 2012, for the project site at the Mystic Water Works Pump House located at Capen Court in Somerville, Massachusetts.

Mr. Kelly references data on an adjacent site, not the site of the Phase III project. Please be aware that soil types can change within a single site. The United States Department of Agriculture (USDA) soil survey depicts the entire Phase I and Phase II project and a portion of Phase III within the unclassified fill material. The remaining portion of Phase III is classified as a well-draining sandy loam soil. It is within this other area where the proposed underground retention area is to be placed.

The National Resources Conservation Service (NRCS) data should be taken with a conservative approach. Nitsch Engineering designed the Capen Court Phase III drainage system with a more conservative onsite soil classification (hydraulic soil group D - HSG D) as stated on page 3 of the post construction hydrology report and not as the more permeable Hydraulic Soil Group B as the NRCS report depicts. Hydraulic soil group D is a low permeable soil and was used as the design basis for this drainage system.

Under issue #2 Mr. Kelly makes an incorrect interpretation of the figures in the routing diagram for the post-construction hydrology report. While the subcatchments (designated with the hexagon shape) 1P, 2P, and 5P have a designated contributing catchment area, the underground storage area (4P) is a pond (designated as a triangle) and 3P is a design point (designated as a rectangle). The Pond and Reach are relevant in a routing diagram, but not within the HydroCAD soil listing as they contain no new contributing area.

The stormwater system design is detailed in full within the Stormwater Report per standard engineering practice, and shows that the proposed system will in fact create a decrease in the peak run-off rate and volume of stormwater leaving the site while improving the stormwater quality. No further comments were generated after review of the City of Somerville Engineering Department.

The recharge system for Phase II does indeed abut the Phase III site but would not affect the hydrology pattern within the Phase III site since the systems are exclusive of each other. The proposed underground retention system for Phase III is located over 125 feet from the stormwater management system at Capen Court Phase II. The Stormwater Report analyzes the hydrology of the Phase III site which is common engineering practice and therefore, no further analysis is needed.

The drainage report would not necessarily detail how a system is interconnected (as the civil plans show), it does show how the stormwater detention area is routed (schematically) and sized to handle the entire drainage pattern of the site. This is a very conservative approach to the design of this site. Nitsch Engineering disagrees with Mr. Bernstein's opinion about needing to revise the drainage report since the drainage report in conjunction with the civil plans show in great detail how the proposed stormwater design works and connects to the existing stormwater system within Mystic Valley Parkway. Furthermore, it is very

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unlikely that the implementation of the Capen Court Phase III stormwater design will have any impact to Mr. Kelly's property which is over 220 feet away and a few feet in elevation above the Phase III site.

In conclusion, Nitsch Engineering believes that we have produced a comprehensive Stormwater Report showing, in detail, how the storm system for the Capen Court Phase III project is intended to work. This report was reviewed in great detail and approved by the City of Somerville's City Engineer.

If you have any questions, please call.

Very truly yours,

**Nitsch Engineering, Inc.**



Owen M Wartella, PE, CPESC, LEED AP BD+C  
Project Engineer

OMW/mmn