



**McGOEY, HAUSER and EDSALL  
CONSULTING ENGINEERS P.C.**

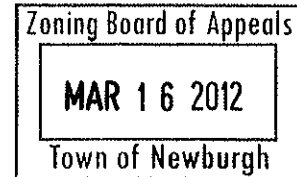
RICHARD D. McGOEY, P.E. (NY & PA)  
WILLIAM J. HAUSER, P.E. (NY & NJ & PA)  
MARK J. EDSALL, P.E. (NY, NJ & PA)  
JAMES M. FARR, P.E. (NY & PA)

9 October 2009

**MEMORANDUM**

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**TO: JOHN EWASUTYN, CHAIRMAN**  
**FROM: PATRICK J. HINES, ASSOCIATE**  
**SUBJECT: SHOPPES AT UNION SQUARE – STORMWATER MANAGEMENT REVIEW**

The undersigned and John Szarowski, P.E., have reviewed a preliminary stormwater pollution prevention plan prepared for the subject project by Langan Engineering and Environmental Services dated 18 September 2009. The Stormwater Pollution Prevention plan has been revised based on revisions to the proposed site plan depicted on plans prepared by Langan Engineers dated 18 September 2009. Representatives of this office previously discussed the Stormwater Management plan with Langan Engineer's with regard the site being tributary to the City of Newburgh Water Supply. The City of Newburgh previously approved a Stormwater Management plan SWPPP on the site which provided water quality treatment in excess of that which would be required by the Town of Newburgh and the NYSDEC regulations. The stream traversing the site has an NYSDEC Class A rating. In order to mitigate potential impacts to the watershed, our office requested that the Stormwater Management system be designed to treat the 110 percent of the water quality volume. In order to accomplish this, several Best Management practices have been instituted on the most recently submitted plans.

Three separate stormwater treatment systems designed to treat both water quantity and water quality have been designed into the plans. Stormwater quantity control is proposed on the site via under parking storage through the use of concrete vaults and in pipe storage. The two treatment systems located north and west of the stream have sand filters within concrete vaults to provide water quality treatment prior to discharge. Each of the systems contains a diversion manhole to discharge the water quality volume to the sand filters while larger storm events are directed to the underground stormwater storage systems for controlled discharge below predevelopment flow rates. The system located closest to NYS Route 300 relies on an under parking lot storage system for water quantity control as well as a surface sand filter for water quality control prior to discharge to the stream.

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Additional Best Management Practices have been designed into the plans including a bio-retention filter strip in the center island of the parking area for the proposed Shoprite building. This system will receive surface runoff from the parking lot and filter it through soil media prior to discharge. The bio-retention area will appear as a landscape island, however, drop cubs will allow water to flow into the system.

During our review of the stormwater management plan, a water shed analysis was performed identifying a 1.5 square mile watershed. An existing 54 inch diameter reinforced concrete pipe was identified at the location of the proposed truck entrance off of Orr Avenue. The applicant's representative has designed a culvert crossing which leaves the 54 inch diameter pipe in place. After reviewing, and evaluation of the Stormwater Management plan and a field review of existing conditions in the watershed from NYS Route 17K through the project site, it was determined in consultation with this office that the 54 inch diameter pipe would be removed from the access drive and a conventional box culvert sized to convey the design storm flow through the project area would be provided. This will eliminate an existing restriction in the watershed which results in significant ponding upgradient of the culvert and discharge outside the existing stream channel due the restriction of the undersized pipe as well as poor hydraulic's within the pipe due to bends in the pipe. The applicant's representative have confirmed that the access road will be redesigned incorporating this office's recommendations.

In addition to the modifications discussed above, this office suggest that the westerly most Stormwater Management Facility to be redesigned to permit the discharge from the water quantity and water quality control structure to be located further east. This relocation will allow this Stormwater Management system to discharge downgradient of an existing residential structure rather than upgradient as previously designed. Our office has provided minor technical comments regarding the content of the stormwater pollution prevention plan including additional language in Soil Erosion and Sediment Control requirements. Upon receipt of revised plans implementing the recommendations above and addressing minor technical comments, our office once again will review the Stormwater Management plan for consistency with NYSDEC, Town of Newburgh, and the City of Newburgh requirements.

Respectfully submitted,

McGoey, Hauser and Edsall  
Consulting Engineers, P.C.

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Patrick J. Hines  
Associate



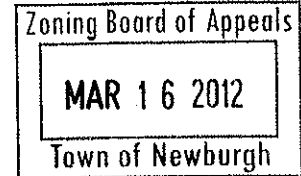
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**TOWN OF NEWBURGH  
PLANNING BOARD  
REVIEW COMMENTS**



**PROJECT: SHOPS AT UNION**  
**PROJECT NO.: 07-05**  
**PROJECT LOCATION: SECTION 96, BLOCK 1, LOT 6**  
**PROJECT REPRESENTATIVE: LANGDON ENGINEERS-BRIAN WAISNOR**  
**GODDARD DEVELOPMENT**  
**REVIEW DATE: 11 FEBRUARY 2011**  
**MEETING DATE: 17 FEBRUARY 2011**

1. Plans have been presented for a three phase development for the originally approved site plan. Phase I of the project will be the addition to the existing Cosmos restaurant building, associated parking improvements, stormwater management and utilities. All stormwater management facilities within the highlighted area for Phase must be installed prior to issuance of a Certificate of Occupancy for Phase I including under parking storage and water quality control surface sand filters.
2. The site has been broken up such that each of the Phases can be constructed without the necessity to construct subsequent Phases. Phasing notes have been added which are similar to notes utilized on other Phased site plans to address timing of Certificate of Occupancy.
3. No significant changes to the previously approved site plan are proposed under the Phasing, merely a construction sequence has been addressed in the recent plan sheet. This office previously signed off on the stormwater management aspects of the project.

Respectfully submitted,

***McGoey, Hauser and Edsall  
Consulting Engineers, P.C.***

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Patrick J. Hines  
Associate

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