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From: Jennifer Johnson [mailto:jjohnson@nitscheng.com]
Sent: Wednesday, February 18, 2015 4:03 PM
To: shinton@mindspring.com
Cc: Steven Ventresca
Subject: Long Ridge Rd - Drainage Review

Hi Steve,

As requested, we performed a preliminary review of the revised drainage report and plans submitted by the Applicant and still have the same concerns with the accuracy of their calculations.

Under Standard 2 of the MassDEP Stormwater Management Standards, the peak rate of stormwater runoff being discharged from the proposed project site must be the same or less than the quantity discharging from the existing site. As we noted in our December 22, 2014 letter, the Applicant used HydroCAD to analyze the quantities of stormwater in the existing and proposed conditions, but the model output contained several error messages that raised concerns in our review. At this point, we still cannot confirm that the Applicant is meeting Standard 2.

Here is a list of initial comments of the revised plans/documents dated 2/6/2015. Note that this should not be considered a complete list as there may be other comments as we further review the documents.

There is a discrepancy in the total proposed impervious area between the HydroCAD model (71,057 sf) and the other calculations (including recharge calculations) provided in the Stormwater Report (88,984 sf).

The sediment forebay and irrigation cistern should be removed from the HydroCAD model, as these "ponds" should be assumed to be full during storm events.

The Applicant is including off-site area in the HydroCAD model because it flows onto the project site towards the design point. While we generally agree with this approach, this area should be modeled the same in both the existing and proposed conditions analysis because it is not changing. Currently, the proposed watershed has a lower peak rate than the existing watershed, which may be impacting the overall analysis.

Brem-170-02.18.2015

The proposed recharge system is generating several warnings in the 10-, 25-, and 100-year storm events. These errors are specifically related to "ponds" that are undersized for the flow going to them. Additionally, the storage of the recharge system is exceeded beginning in the 10-year storm, which indicates that stormwater may pond in the cul-de-sac.

The model includes all proposed drainage pipes to be used for conveyance, but in several instances these pipes are over capacity even in smaller storm events. It should be noted that in HydroCAD when capacity is exceeded in reaches (pipes, swales, etc), the program loses the volume and there are also impacts to the peak runoff rate.

Based on the grading provided, there are several pipes located below pavement that appear to have little or no cover.

Based on these comments, our sense is that the Applicant will need to revise the calculations and the drainage system again to comply with the Stormwater Standards. If the ZBA would like, we could meet with the Applicant to review the model and discuss our comments. Please let us know how you would like us to proceed.

Also, we are reviewing the list of outstanding items that Peggy sent over and will have our comments to you tomorrow.

Jenn

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