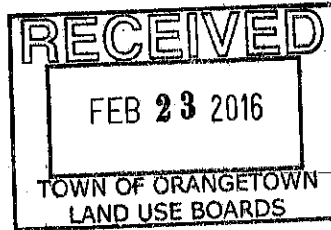




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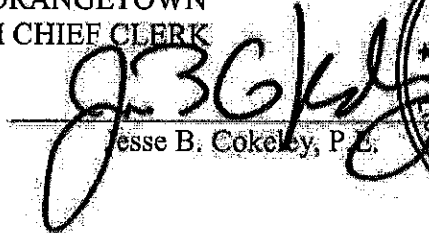
MEMORANDUM

To: PLANNING BOARD, TOWN OF ORANGETOWN
ATTN: CHERYL COOPERSMITH CHIEF CLERK

From: MASER CONSULTING P.A.

Date: February 23, 2016

Re: **HILLSIDE COMMERCIAL PARK SITE PLAN, PB#07-45**
MC PROJECT NO. ORP-010


Jesse B. Cokley, P.E.



In response to prior comments received from the Town of Orangetown Planning Board, its consultants and other reviewing agencies, the applicant's engineer (Brooker Engineering, PLLC) has submitted the following items:

- Site Plans (Sheets T, 1-15) for Hillside Commercial Park, Town of Orangetown, prepared by Brooker Engineering, PLLC, dated 8/29/07 and last revised 1/12/16;
- Drainage Analysis prepared for Hillside Commercial Park by Brooker Engineering, PLLC, revised 1/11/16;

Many of our prior comments have been addressed but please note the Drainage Analysis submitted is not a full SWPPP, which is required to include a Notice of Intent and other various certifications prior to receiving final sign-off from the MS4 and obtaining a permit for construction from the NYSDEC. The Town of Orangetown Department of Environmental Management and Engineering typically reviews the full SWPPP for accuracy and completeness. Accordingly, below is a list of our comments and concerns with respect to the proposed drainage design ONLY:

1. The Revised Drainage Analysis provides calculations for the required stormwater mitigation features including Water Quality Volume, Runoff Reduction Volume, and Peak Flows. We take no issue with the calculations at this time.
2. The Soil Test Pit Data provided for Hole # S3 indicates groundwater was encountered at a depth of 6.5 feet. It is tough to read the plans and determine the existing surface in this area and how it lines up with the bottom of the Stormtech Chambers located at an elevation of 230.0 according to the plans. Please provide the approximate elevation of the groundwater and ensure this does not impact the design and location of the Stormtech Chambers per NYSSMDM regulations or manufacturer's recommendations.
3. The elevations of the Outlet Structures on the plans/details do not match the elevations provided in the Drainage Analysis. Please revise for consistency.
4. Our previous comment stated that the 6" diameter orifices found in both outlet control structures are above the invert elevation of the infiltration systems. The applicant has noted in their response letter that "(b)oth of the infiltration systems include an inlet



manhole with a sump, and an outlet structure with a sump. If infiltration does not occur as anticipated, the systems would back up into the inlet manhole and/or outlet structure, and the sumps could then be used to drain the systems by pumping.” Granted the percolation test results were favorable, but if the system fails to infiltrate as anticipated, these orifices are the lowest elevation in the outlet structure that will allow water to leave, meaning the bottom portions of the Stormtech Chambers will always be full with water. The systems should either be raised or the orifices lowered to ensure the system empties, leaving full storage capacity available for future storm events. Otherwise, a provision will need to be added to the Operation & Maintenance Plan that these systems will have to be monitored after each rainfall and the systems will have to be drained by pumping if it is discovered that infiltration is not occurring as anticipated.

5. Comments on Site Plans:

- a. HW A5 has an invert of 223.4 but a contour elevation of 228 around the headwall.
- b. The proposed retaining wall around the watchman’s residence calls out a bottom of wall elevation of 224.0 but it appears existing grades in this area are somewhere between 220.0 and 222.0.
- c. The top of wall spot near CB D3 appears incorrect.
- d. Portions of the proposed grading along the western drive around the self-storage building needs to be revised. The portion between the centerline of the western drive and the proposed building north of Ejector Pump # 2 and south of FI C3 is all labelled the same elevation (231.2) which will not drain and could lead to standing water that will ice over in the winter time.
- e. The trash enclosure south of CB L1 needs TW/BW spot elevations added to it.
- f. Will there be guiderail proposed on the top of the retaining walls that are adjacent to driveways?
- g. Where and how does CB N4 discharge?
- h. There appears to be a conflict with the proposed gas and water lines and OS N5.
- i. The Check Dam for Vegetated Swale #3 has an invert of 226 but there is a spot elevation downstream of the check dam at 226.3. This would seem to leave standing water in this area.
- j. Spot elevation on the stairs at the northeast corner of the warehouse building is 438.5 which appears incorrect given the other spot shots are in the 200 range.

Please note that upon submission of revised documents including a full SWPPP, further stormwater review and comment may be provided. The above comments represent our professional opinion and judgment, but may not necessarily, in all cases, reflect the opinion of the Planning Board. **Overall, the proposed stormwater management plan meets the intent of the regulations and therefore we recommend the Hillside Commercial Park Site Plan be approved for drainage subject to the above project comments.**