



Via Overnight Delivery

November 16, 2015

Chemung County Stormwater Coalition
851 Chemung Street
Horseheads, NY 14845

Attention: Jimmie Joe Carl, P.E.

**Re: Response to Comments Summary
Proposed Retail Development – Primax Properties, LLC
658 Main Street, Horseheads, New York**

RECEIVED NOV 17 2015

Dear Mr. Carl:

On behalf of our client, Primax Properties, LLC, we are pleased to submit this response to comments summary to the Chemung County Stormwater Coalition for the above referenced project. This summary is in response to the various comments received in your letter dated October 29, 2015, as noted below with our responses in italics.

Soils Testing & Evaluation

1. As per the submitted Geotechnical Engineering Report, two infiltrations tests (1-1 and 1-2) were completed near the proposed infiltration basin. As per Page 4 of the Geotechnical Engineering Report, the average measured infiltration rates for 1-1 and 1-2 were 0.6 inches/hour and 0.3 inches/hour, respectively. As per Section 6.3.1 of the NYS Stormwater Design Manual, "To be suitable for infiltration, underlying soils shall have an infiltration rate of at least 0.5 inches per hour". As such, a fundamental question exists whether the proposed infiltration basin is a suitable stormwater management practice for this site.

Comment acknowledged. Percolation testing was conducted in addition to the infiltration testing within the area of the proposed stormwater management area as described in the previously submitted Geotechnical Report. The percolation tests were conducted at a depth of 2.5', opposed to the 5' depth of the infiltration testing, and a percolation rate of 3.8 min/in and 1.4 min/in were observe, as described in section 3.4 Percolation Testing of the Geotechnical Report found within the SWPPP accompanying this response to comments summary. Per criteria set forth in the NYS Stormwater Design Manual, these are adequate percolation rates for the use of an infiltration practice. The proposed stormwater infiltration basin floor is proposed 2' below the existing surface today and has been modelled accordingly.

2. What is the groundwater elevation at the proposed stormwater infiltration basin? Are seasonal fluctuations in the groundwater table expected? As per the NYS Stormwater Design Manual, a minimum of 3 feet of vertical separation from the bottom on an infiltration practice to the seasonally high groundwater elevation is required.

Comment acknowledged. Borings were conducted in the proposed stormwater management area as part of the geotechnical evaluation of the site and the observations can be found within the Geotechnical Report. Boring B-8 and B-10 were conducted within the infiltration basin area at a depth of 7' and 6', respectively. No groundwater was present at these depths therefore the minimum 3' separation from groundwater to the bottom of the infiltration basin has been exceeded.

Stormwater Modeling

1. As per the submitted hydrologic modeling, the proposed infiltration basin was modeling with an infiltration rate of 2.6 inches/hour, although the average of the infiltration tests was less than 0.5 inches/hour. Refer to Comment #1 under Soils Testing & Evaluation.

Comment acknowledged. See response to comment 1 above. Percolation testing results within the proposed infiltration basin area were used to model the proposed infiltration practice accordingly as the infiltration testing



was conducted at a depth that does not correspond to the proposed depth of the infiltration basin. However, the 2.6 inches/hour infiltration rate is inaccurate and is not the average of the two observed percolation rates. P-1 resulted in a rate of 3.8 min/in and P-2 resulted in 1.4 min/in. The average of these two observed rates is 2.6 min/in or 23 in/hr. We are using a maximum, and conservative, infiltration rate of 7.5 in/hr for modeling; the hydrologic modeling has been revised accordingly.

2. As per the submitted drainage area mapping for existing conditions, stormwater would currently leave the project site at two different locations. On the contrary, the submitted hydrologic modeling (for both the existing and post-developed conditions) appears to model all of the stormwater reaching a single location. Hydrologic modeling should be completed such that both Points of Interest are evaluated for this project site.

Comment acknowledged. Existing drainage patterns use adjoining properties as a travel path for stormwater runoff. This stormwater flows through residential properties and into a drainage ditch along the roadway (1st Street), the same drainage ditch as which stormwater enters from the front of the project site, as shown on the attached exhibit. We are proposing to limit the flow of stormwater through the adjoining properties by redirecting the contributing areas away from adjacent properties and to the same drainage ditch which they flow to today. We have used this drainage ditch as our single design point. All contributing flows have been mitigated, per criteria set forth in the NYS Stormwater Design Manual, onsite and will have no adverse effect on adjoining properties or downstream tributaries.

3. In regards to the modeling of the Grass Swale, the following items are noted.

- a. Would off-site areas drain to this swale?

The swale is anticipated to pick up minimal flows from the adjoining property and direct them to the existing drainage ditch along the R.O.W. This will mitigate any flows through the property today that may affect the adjoining downstream properties. If the swale does pick up off-site drainage, no effect on the downstream drainage ditch is anticipated as any existing flows would be tributary to the drainage ditch today.

- b. The slope of the swale along Main Street appears to be approximately 1 percent, as opposed to the 0.5 percent used in the hydrologic model.

The hydrologic model has been updated accordingly.

4. With the proposed grading, would drainage from off-site areas be redirected to another location? Would more impervious area be redirected to the NYSDOT ditch that would result in higher flow rates reaching this ditch?

Comment acknowledged. With the proposed grading, drainage from off-site areas reaches the same drainage ditch and ultimately same creek as it does in existing conditions. The drainage released to the existing drainage ditch will not exceed existing flows.

5. Details regarding the proposed Soil Restoration should be clearly outlined in the SWPPP and Plans. In regards to the calculation of CNs for developed conditions, consideration should be given that (from a practical standpoint) that soil restoration can't be completed for all disturbed areas that shall remain vegetated.

Comment acknowledged. Soil Restoration notes and details have been added to the documents accordingly. The subcatchment 1C CN value has been revised to represent "fair" condition grass cover similar to existing conditions as a large portion of this area is to remain undisturbed.



Stormwater Conveyance

1. Hydraulic calculations justifying the sizing of the proposed driveway culvert and the storm sewers for the roof drainage should be provided.

Comment acknowledged. Hydraulic calculations have been added to the Hydrologic modeling as requested.

2. Drainage from off-site areas should be considered in the sizing of the driveway culvert and grassed swale.

Comment acknowledged. The proposed swale has been designed conservatively to accommodate potential off-site drainage areas. The proposed swale has an average flow depth of 0.36' and has adequate capacity to accommodate off-site drainage as demonstrated in the hydrologic modeling. The contributing off-site area is shown on the exhibit attached.

3. The plans should clearly indicate how runoff from the pavement within the post-developed Subcatchment 1B will be directed to the proposed settling basin. Is curbing proposed?

Asphalt curbing will direct runoff to the proposed settling basin; the plans have been updated accordingly.

Miscellaneous

1. In accordance with the Town's Stormwater Management and Erosion and Sediment Ordinance, a formal, signed enforceable operation and maintenance agreement for the stormwater collection and management system shall be provided by the Applicant. Furthermore, this agreement must reference and include an approved Operation & Maintenance Plan that are specific to the proposed stormwater management practices. It is recommended that the O & M Plan outline steps and measures to be implemented if operational/performance issues are encountered with the proposed stormwater infiltration system. This agreement shall be binding on all subsequent landowners and recorded in the office of the County Clerk as a deed restriction on the property. Also, the Applicant shall convey to the Town easements and/or rights-of way to assure access for periodic inspections by the Town or their representatives (and for maintenance if required). These agreements, as well as the Operation & Maintenance Plan, shall be subject to the review and approval of the Town of Horseheads, their attorney, and Chemung County Stormwater Coalition.

Comment acknowledged. A maintenance agreement will be put in place prior to the issuance of the Certificate of Occupancy.

2. This review pertains to stormwater management. The Applicant is responsible to obtaining all necessary approvals, including those from the Town of Horseheads, the Chemung County Health Department, the Chemung County Highway Department, and New York State Department of Transportation (NYSDOT).

Comment acknowledged.

3. Has NYSDOT been contacted regarding the driveway entrance permit, discharging developed stormwater to their ditch along Main Street, and culvert requirements?

Comment acknowledged. The NYSDOT has been contacted regarding the proposed driveway and stormwater improvements and our project is currently under review.

4. On Page 2 of the SWPPP narrative, it is noted that "The site is not located within a Municipal Separate Storm Sewer System (MS4) municipality". This statement is inaccurate, as the Town of Horseheads is a MS4 municipality.

Comment acknowledged. This statement has been revised accordingly along with the NOI.



5. How will the existing on-site well be decommissioned? Likewise, how will the existing on-site septic system be decommissioned?

The existing well and septic system will be decommissioned by a contractor will meet all State and local requirements.

Please find the following enclosed as part of this review and approval:

- One (1) copy of the Site, Grading & Drainage, and Erosion Control plans, prepared by this office, last revised 10/23/15.
- One (1) copy of an exhibit showing the existing and proposed drainage paths.
- One (1) copy of the Storm Water Pollution Prevention Plan, prepared by this office, revised through November 12, 2015.

Should you have any questions or any additional needs please do not hesitate to contact us at (518) 438-9900.

Sincerely,

BOHLER ENGINEERING MA, LLC

Caryn Miodzianowski

cc: Primax Properties, LLC
Tom Skebey, Town of Horseheads