CHEMUNG COUNTY STORMWATER COALITION

851 Chemung Street
Horseheads, New York 14845

October 6, 2015

Attn: Mr. Tom Skebey, Stormwater Management Officer
City of Elmira
101 West Second Street
Elmira, New York 14901

Re: CDS Monarch
Elmira, New York
Review of Stormwater Management Plan

Mr. Skebey:

I have completed a review of the above-referenced project regarding the Stormwater Pollution Prevention Plan and stormwater management system design for that project.

- Preliminary Stormwater Pollution Prevention Plan (SWPPP) for CDS Monarch, Stamped by a NYS Licensed Professional Engineer, Prepared by HUNT Engineers, Dated September 2015, Received September 11, 2015
- Site Plan Drawings for CDS Monarch, Stamped by a NYS Licensed Professional Engineer, Prepared by HUNT Engineers, Dated September 11, 2015

My review comments and questions regarding the SWPPP and stormwater management system for the above-referenced project, based upon the submitted information, are as follows.

STORMWATER MANAGEMENT CALCULATIONS & DESIGN

1. As per the submitted boring logs, silt is noted to a depth of 8 to 10 feet and overlays sand and gravel. Does this silt represent a layer with low infiltration rates? Is the design intent of the infiltration basin to expose the sand and gravel layer? At what elevations were the infiltration tests completed?

2. The location of the proposed gravel diaphragms should be clearly indicated on the plans.

3. The location and extents of the proposed stone trench within the proposed infiltration basin should be clearly noted on the plans.

4. A stormwater quality treatment unit is proposed for a portion of the stormwater collection system. The following questions and comments pertain to this.

   a. Manufacturer's literature and design/sizing information is requested and should be provided in the SWPPP.

   b. The plans call for two storm sewers to discharge to this unit. Is this acceptable from the manufacturer's perspective?

c. Some of the dimensions on Detail #6 on Sheet C7.3 appear to be incorrect.

d. A maximum pipe size of 12" in noted on the detail on Sheet C7.3, although a 15-inch diameter storm sewer is noted on the Utility Plan.

e. Is this unit intended to have an open-grate to receive surface runoff?

5. The proposed Soil Restoration requirements should be noted on the plans and within the Sequence of Construction.

STORMWATER CONVEYANCE

1. In regards to the sizing of the proposed storm sewers, the following questions and comments pertain.

   a. The hydraulic sizing of the storm sewers should take into consideration the tailwater presented by stored water within the proposed infiltration basin. The associated sizing calculations should be provided.

   b. Does the proposed stormwater quality treatment unit offer a hydraulic loss that could act to reduce the hydraulic capacity of the storm sewer system? If so, this should be considered when estimating the hydraulic capacity of the proposed storm sewer.

2. The stormwater management plan is based upon the 100-year peak stormwater flow rate reaching the proposed infiltration basin. As such, it should be demonstrated that the 100-year peak flow will be directed to the proposed infiltration basin.

3. The grading plan (and possibly the storm sewer layout) should be refined such to indicate how runoff from Developed Sub-Area DA-BASIN-A2 (as per C8.1 of the SWPPP) will be collected by the proposed storm sewer system. In addition, it is recommended that provisions to collect runoff from the northern part of Developed Sub-Area DA-BYPASS-C be incorporated into the design.

4. Could the proposed grading and construction near the adjacent Parsons lot result in the ponding of runoff?

5. The following questions and comments pertain to the roof leader collector piping and the roof drainage system.

   a. Justification (including associated calculations) for the sizing of the proposed collector piping for the roof leaders should be provided.

   b. Are manholes (or other means to access the collector piping) proposed?

   c. Are the use of tees and other abrupt bends proposed for roof leader collector piping?

   d. A trench section detail should be provided for the roof leader collection piping. Is geotextile fabric proposed to be utilized?

   e. What design storm is used to size the roof leader and drain system?

6. On Sheet C4.0 under Site Storm Sewer Utility Plan Notes, reference is made to the use of precast concrete catch basins. No detail is provided for a precast concrete catch basin on the plans, although a detail for a Nyloplast inlet is provided. What is proposed?

7. The ability of the proposed stormwater catch basins to collect peak stormwater flow rates should be documented and included in the SWPPP. Consideration should be given to these inlets being partially blinded.

8. The following questions and comments pertain to the proposed Rip Rap Outlet Protection Detail.

   a. Documentation regarding the sizing of the rip rap should be included in the SWPPP.

   b. As per the NYS Standards and Specifications for Erosion and Sediment Control, the minimum layer thickness for a stone filling with d_{50} of 6 inches is 14 inches.

SOILS TESTING & EVALUATION

1. Were borings or test pits completed within the area of the proposed infiltration basin to confirm that the soil profiles are comparable to those obtained from the borings within the proposed building footprint?

2. The complete infiltration testing information and results are requested.

EROSION & SEDIMENT CONTROL

1. Will 5 acres or more be disturbed at any one time? If so, a 5-acre authorization would be required.

2. The location of concrete washouts should be noted on the E & S Plan.

3. The proposed construction entrance should be noted on the E & S Plan.

4. In regards to the E & S controls for the proposed stormwater inlets on the west side of the property, Note #8 under E & S Plan Notes on Sheet C6.0 is referenced. Note #8 refers to Rip Rap Outlet Protection and does not seem to apply to controls for the inlets.

5. As per the NYS Stormwater Design Manual, "*Infiltration practices shall never serve as a sediment control device during the construction phase. In addition, the Erosion and Sediment Control plan for the site shall clearly indicate how sediment will be prevented from entering the infiltration facility*." How will the temporary Stone Outlet Sediment Trap be coordinated such that the infiltration basin is not compromised. What are the proposed extents of the Stone Outlet Sediment Trap?

6. In general, the perimeter controls (such as silt sock or silt fence) should be placed outside of the limits of the proposed grading.

7. It appears that additional perimeter controls are warranted along the north property line and in the eastern portion of the project.

MISCELLANEOUS

1. In accordance with the City'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. This is especially pertinent to this project, as the use of infiltration basins and trenches will have specific O & M needs to maintain its on-going performance.

   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 City easements and/or rights-of-way to assure access for periodic inspections by the City 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 City of Elmira, their attorney, and Chemung County Stormwater Coalition.

2. This review pertains to stormwater management. The Applicant is responsible to obtaining all necessary approvals, including those from the City of Elmira and the Chemung County Sewer District.

3. There appears to be a conflict between the proposed storm sewer and the proposed sanitary sewer.

4. In regards to the proposed drive entrance onto Maple Avenue, the following comments pertain.

   a. A detail for the proposed depressed granite curb should be provided on the plans, as well as a detail for the proposed sidewalk that crosses the entrance drive.

   b. Spot elevations for the proposed curbs, sidewalk, and ramps should be provided.

If you have any questions or comments regarding this letter, please do not hesitate to contact me. Furthermore, I would be happy to meet to discuss this project in greater detail.

Sincerely,

Jimmie Joe Carl, P.E.

Cc: Andy Avery, P.E. Chemung County
Craig Southard, P.E., City of Elmira
HUNT Engineers