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851 Chemung Street  
Horseheads, New York 14845

November 29, 2022

Attn: Mr. John McCracken, Code Enforcement Officer  
City of Elmira  
202 South Main Street  
Elmira, New York 14845

**Re: Proposed Addition for Kentworth Northeast Group, Inc.  
43 Industrial Park Boulevard  
City of Elmira, New York 14901**

Mr. McCracken:

I have completed a review of the following submitted information for the above-referenced project regarding the stormwater management plan for that project.

- Site Plan Drawings for Proposed Addition for Kentworth Northeast Group, Inc., Prepared for Kentworth Northeast Group, Inc., Plans sheets state "Final Print", Prepared by Fagan Engineers, Dated August 2019, Revision Dated October 31, 2022, Stamped by a licensed professional engineer, Received on November 2, 2022
- Stormwater Pollution Prevention Plan for Kentworth Trucking, Prepared by Fagan Engineers, Revision dated November 2022, Stamped by a licensed professional engineer, Received on November 2, 2022
- Response letter to our October 13, 2022 SWPPP review letter, Prepared by Fagan Engineers, Dated November 1, 2022

My review comments regarding stormwater management for the proposed Addition for Kentworth Northeast Group, Inc., as provided in the above-referenced submitted information, are as follows. As you remember, during our November 8, 2022 meeting with Fagan Engineers, Elmira Structures, and you at your office, these items were discussed.

**I. HYDROLOGIC/HYDRAULIC MODELING**

**1. Existing Conditions**

- a. The existing stormwater management system consists of a number of on-site dry wells. What is the historic performance of these? Are the results of the hydrologic/hydraulic modeling representative of the observed historic performance of the existing dry well system? For example, as per the submitted modeling results, a maximum water elevation of 859.14 is estimated for a 1-year storm event for Sub-Area 1C, which equates to over 2 feet of water above the existing dry well rim within a pavement area.

Also, as per the submitted hydrologic modeling results, for a 1-year storm event, it is estimated that a significant area of ponding would occur in the existing parking lot near the second entrance (from the south).

Do these estimates align with observed historic performance? Given that the site has been utilized for a trucking facility for a number of years, it would seem that frequent extensive ponding (and its associated frequency) would have been noticed.

- b. In regards to existing Sub-Area 1B, based on the Existing Conditions Plan, this sub-area is modeled draining directly to Industrial Parkway Boulevard. On the contrary, it appears that most of Sub-Area 1B drains to an existing dry well.
- c. Based on the existing topographic mapping, existing Sub-areas 3A and 3B drain to the adjacent property to the south.

## 2. Post-Developed Conditions

- a. In regards to the Post-Developed Sub-area 3, the following items are noted.
  - i. It appears that most of this sub-area would drain to the adjacent property to the south, although the hydrologic model indicates that it would drain directly to Industrial Park Boulevard.
  - ii. The boundaries of this sub-area are inconsistent with the proposed grading plan.
  - iii. A “Point of Interest” should be established for the existing and post-developed areas that drain to the adjacent property to the south, where estimated existing and post-developed peak flow rates would be compared.

## II. STORMWATER COLLECTION

- 1. Do the grates for the proposed inlets have adequate hydraulic capacity to accommodate peak stormwater flow rates? Appropriate background information and calculations should be provided.
- 2. Given the proposed spillway elevation for the proposed Forebay and the proposed “Confining Layer”, a tailwater may routinely exist on/within the proposed storm sewer system that would result in the proposed storm sewer being routinely submerged. For example, if the water level in the proposed Forebay was at its spillway (elevation of 857.5), the static water level in CB-7 would be roughly 1.5 foot below the rim of this inlet. Given this, the following items are noted for consideration.
  - a. It is anticipated that freezing of static water within the shallower portions of the proposed storm sewer would be an issue (including the Crystal Stream unit, CB #1, and adjacent storm sewers)
  - b. Would sediment build-up in the storm sewer occur? If so, how would this be managed?

### III. STORMWATER TREATMENT & DETENTION

#### 1. Runoff Reduction

- a. It is my understanding that Runoff Reduction (RRv) practices need to be applied for an area that is equal to or larger than the proposed increased area of impervious.

#### 2. Bio-Retention Filters

- a. The underdrain piping for the proposed bio-retention filters should be shown on the Utility Plan. What plantings are proposed for the bio-retention filters?
- b. It was indicated that roof runoff would be directed to the proposed bioretention areas. It is unclear from the submitted plans how this would be accomplished. All pertinent piping should be indicated on the Utility Plan. The grading plan should be refined to clearly show how runoff shall be directed to the proposed bio-retention filters.
- c. Would routine surcharging of the media in the proposed bioretention filters occur that would effectively reduce the capacity of that filter?
- d. Would the proposed bio-retention filters accommodate the minimum required RRv?

#### 3. Crystal Stream Treatment Unit

- a. Does the Crystal Stream unit comply with HS-20 loading requirements?
- b. Appropriate filter media should be utilized that targets the probable pollutants in runoff from this site. Given the proposed use of the site, it would seem that oils and gas would be probable pollutants.
- b. Would the performance and ability to complete maintenance of the proposed Crystal Stream unit be negatively impacted by the tail water presented by the forebay and the stormwater management basin. Of note, it appears that trapped oils and other floatables within the Crystal Stream unit would be released during certain highwater events. Improvements to address this issue should be pursued.

#### 4. Stormwater Management Basin

- a. In regards to the proposed rock aprons at the discharge of storm pipes, the following items are noted.
  - i. Sizing calculations for this apron should be provided, including rock sizing.
  - ii. In regards to the table for the Rip-Rap Outlet Apron Detail on Sheet C8 of the plans, what is the "Stone Dia." reference, D<sub>50</sub> or max? This should be clarified on the plans.
- b. In regards to the proposed spillway for the proposed stormwater management basin, the following items are noted.
  - i. Sizing calculations for the rock for the spillway should be provided.

- ii. How will the slope below the spillway on the stream-side of the berm be protected from overflows over the spillway?
- iii. On the outlet structure detail on Sheet C5, it is noted that a 9-inch deep layer of washed stone would be placed on the spillway. Given the porous nature of washed stone, some flow would be expected to pass through the stone, although the water level within the proposed stormwater management basin would be below the spillway crest. A means to prevent flow through the washed stone layer should be pursued.
- c. A means to protect the downstream side of the spillway between the forebay and the stormwater treatment area should be pursued.

#### 5. Flood Elevation Impacts

- a. The proposed stormwater management basin, as well as most of the proposed collection system (including portions of the proposed Crystal Stream treatment unit), will be located below the 100-year floodplain elevation. During certain extreme highwater events, the performance of the proposed stormwater management system (including the stormwater collection system) would be compromised.

For example, during a 100-year storm event, the flood elevations on the adjacent Newtown Creek would be higher than the spillway of the basin, resulting in the outlet structure being submerged and the basin becoming filled (in part of Newtown Creek water).

- It is requested that the Applicant quantify how often the proposed stormwater system would be compromised by flood elevations on Newtown Creek that would compromise its performance. During these times, would on-site stormwater be directed to Industrial Park Boulevard? What storm return period would on-site flows not be able to be conveyed by the proposed storm sewer system and would be directed to Industrial Park Boulevard? What would be the extents of ponding water on the Kentworth property (including the asphalt areas)? Where would flows from the Kentworth site be discharged to Industrial Park Boulevard?
- Is there a potential that flood waters from Newtown Creek could backwater through the proposed storm sewer system and introduce flows to Industrial Parkway Boulevard? If so, how can this be mitigated?

#### IV. MISCELLANEOUS ITEMS

1. The amount of area sheet draining from the site to Industrial Parkway Boulevard over the drive entrances should be reduced to the extent practicable. This item shall be reviewed with the City of Elmira DPW.
2. As per the Grading Plan, an area of the proposed pavement between the proposed CB #3 and the adjacent entrance to the east is shown to be very flat. As such, this area would most likely be prone to puddling water and icing.
3. What is the status of the Floodplain Development Permit for this project?

4. A formal, signed enforceable maintenance agreement for the stormwater system (including the proposed bio-retention filters and the Crystal Stream treatment unit) shall be provided by the Applicant/Owner, accepted by the City, and executed by the Applicant. This agreement shall be binding on all subsequent property owners and recorded in the office of the Chemung County Clerk as a deed restriction on the property. That agreement must be accepted by the City and their attorney.

The maintenance agreement shall include a detailed operation & maintenance plan that has specific provisions for the long-term maintenance of the stormwater management system, including (but not limited to) the following items.

- i. Specific operation and maintenance tasks
- ii. Monitoring requirements (including frequency)
- iii. Thresholds (triggers) for maintenance activities/action
- iv. Housekeeping and operational measures to reduce/prevent pollutants being exposed to rainfall and stormwater

Examples of items that should be included in the O & M Plan include the following.

#### Crystal Stream Unit

- Inspection frequency for the Crystal Stream unit
- Frequency for the Crystal Stream Unit receiving a complete cleaning.
- What considerations would result in the cleaning of the Crystal Stream Unit, before the maximum duration between filter media changes is reached?
- The maximum duration before the filter media is replaced
- Frequency for cleaning trash trap and associated thresholds
- Frequency for cleaning oil trap and associated thresholds

#### Bio-Retention Filters

- Inspection and maintenance items regarding the bio-retention filters
- Management of plantings
- Restoration and replacement of soil media
- Thresholds for maintenance activities

#### Stormwater Management Basin

- Frequency of cleaning forebay (with consideration given to the elevation of the inflow storm sewer)
- Management of woody growth on berms
- Mowing of basin (including berms)
- Management of burrowing animals and their impacts

Other

- Management procedures for a fuel spill on-site
- Frequency of sweeping parking lot and associated thresholds
- The City requires a O & M checklist and maintenance log as part of the detailed O & M Plan.

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

Sincerely,

A handwritten signature in blue ink that reads "Jimmie Joe Carl". The signature is written in a cursive, slightly slanted style.

Jimmie Joe Carl, P.E.

Cc: Rick Vary, City of Elmira  
Elmira Structures  
Fagan Engineers