



851 Chemung Street
Horseheads, New York 14845

June 14, 2021

Attn: Mr. John McCracken, Director of Code Enforcement
City of Elmira
Inspection Services Department
101 West Second Street
Elmira, New York 14901

**Re: Hilliard Corporation Warehouse- College Ave. Plant
City of Elmira
Review of Stormwater Management System & SWPPP**

Mr. McCracken:

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

- Project Drawings for Hilliard Corporation Warehouse, Elmira, New York, PRELIMINARY PRINTS – NOT FOR CONSTRUCTION, Prepared by Fagan Engineers, Revision dated June 1, 2021, Received June 2, 2021, Stamped by a licensed professional engineer
- Stormwater Pollution Prevention Plan (SWPPP) for Hilliard – College Ave. Plant, Prepared by Fagan Engineers, Revision dated June 1, 2021, Received June 2, 2021, Stamped by a licensed professional engineer
- Submittal letter from Fagan Engineers, dated June 2, 2021
- June 1, 2021 letter prepared by Fagan Engineers in response to our May 26, 2021 stormwater management review letter

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. Given that the submitted plans are preliminary in nature, my review comments are also preliminary.

I. General

1. The submitted plans indicate “Preliminary Print: Not for Construction”. When will final plans be provided?

II. Soils Testing & Groundwater Levels

1. Upon discussion with Fagan Engineers, an additional test pit was scheduled to be completed last week to determine if adequate vertical separation would exist between the groundwater and the bottom of the proposed infiltration system.

III. Stormwater Infiltration System

1. Is the Design Engineer confident that the proposed StormTech infiltration system (and the stormwater flows it would receive) will not negatively impact the adjacent Wallin Building?
2. The Stormtech layout and details on Scheet C11 are noted as “Not for Construction”. When will a final design details be provided?
3. In regards to the detail entitled “DMH-4 I Inlet Structure” of Sheet C12, the inlet elevation of the proposed manifold pipe appears to be too high to connect easily to the StormTech units.

IV. Stormwater Collection and Conveyance

1. As per the SWPPP, in regards to the proposed stormwater management system, the design objective is to have sufficient hydraulic capacity to collect and convey the peak 100-year stormwater flow to the proposed StormTech infiltration system. Likewise, the proposed StormTech infiltration system is intended to have adequate capacity to accept the peak 100-year stormwater flows without overtopping. The following questions and comments pertain the hydraulic capacity of the stormwater collection system.
 - Will the roof gutter and downspout system be sized to accommodate the peak 100-year stormwater flow rates? Has the roof gutter and downspout system been designed? If so, are the design and supporting calculations available? If the roof drain and downspout system are not proposed to be sized to accommodate the peak 100-year stormwater flow rates, provisions should be included in the design of the proposed storm sewer system to collect overflows from the gutter system.
 - In regards to the submitted hydraulic calculations for the proposed storm sewer, the effects of minor losses should be considered and included in these calculations.
 - Given the current configuration of the proposed storm sewer system, this system may be prone to air-locking during certain intense rainfalls. A means to vent the proposed storm sewer may be beneficial.
 - The plans and profiles indicate that the proposed storm sewer shall be HDPE pipe. The “Typical Roof Drain Detail” on Sheet C8 indicates that the proposed storm sewer pipe shall be PVC. This discrepancy should be addressed.
2. The following questions and comments pertain to the proposed lateral storm drain piping from the downspout to the storm sewer.
 - As per the submitted response letter from Fagan Engineers, it is indicated that the proposed building downspouts shall have a cross-section of 4 inches x 5 inches. As per the “Typical Roof Drain Detail” on Sheet C8, a 4-inch dia. pipe is proposed to connect the downspout to the storm sewer. The cross-sectional area of the 4-inch dia. pipe is considerably smaller than that of the downspout. Would a larger diameter pipe be more appropriate?
 - How will the proposed PVC lateral storm drain connect to the proposed storm sewer?

VI. Erosion & Sediment Control

1. Over the course of construction, will this stabilized construction be on a readily accessible route for construction traffic?
2. The routine inspection and cleaning of the existing drive should be included in the E & S Plan.

VII. Operation & Maintenance Plan/Agreement

1. Refer to comment regarding the O & M Agreement from our May 26, 2021 SWPPP review letter.
2. A detailed O & M Plan should be developed that includes (but not be limited to) the following items for the stormwater collection system (including the gutter/downspout system) and the stormwater infiltration system.
 - i. Specific operation and maintenance tasks
 - ii. Monitoring requirements (including frequency)
 - iii. Frequency and thresholds of maintenance activities

What items shall be inspected? How frequently shall the inspections be completed? What action steps shall be taken if maintenance is required? How will the performance of the proposed Stormtech infiltration system be monitored? How often will the observation ports on the proposed StormTech system be utilized? What thresholds will prompt maintenance of the proposed StormTech system? When will the Isolator Row be cleaned? What maintenance measures will be implemented if the observed infiltration rate is less than the design infiltration rate? What maintenance measures will be implemented if the proposed StormTech system is unable to accommodate storm flows from a storm that is smaller than a 100-year storm? It is requested that the City be notified if there is an observed performance issue with the proposed StormTech system (including an observed infiltration rate that is less than the design infiltration rate)?

3. In regards to the entrance drive for the loading dock area, as per Table 4.3 of the NYS Stormwater Management Design Manual, outdoor loading/unloading facilities are deemed a hotspot land use. As such, stormwater runoff from hotspots cannot be allowed to infiltrate untreated into groundwater.

In the submitted response letter from Fagan Engineers, it is indicated that the proposed warehouse building shall store aluminum and metal castings and, as such, would not be considered to be a hot spot land use. It is noted in their response letter *“statements will be included into the O & M about future materials if different than what is being proposed to be loaded/unloaded”*.

If the City accepts that opinion, it is recommended that provisions be included in the O & M Agreement that address the potential of the proposed loading dock becoming a hotspot at some point in the future. For example, if (in the future) material with the potential of being a pollutant source for runoff begins being be loaded/unloaded at this loading dock.

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, flowing style.

Jimmie Joe Carl, P.E.

Cc: Andy Avery, P.E., City of Elmira
Rick Vary, City of Elmira