



851 Chemung Street
Horseheads, New York 14845

May 22, 2021

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

**Re: Proposed Medical Office Building
503 Park Place, City of Elmira
Review of Stormwater Management Plan**

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 Development Drawings for Proposed Medical Office Building, Prepared by James Allen Rumsey, Dated April 23, 2021, Received May 11, 2021, Not stamped by a licensed professional
- Stormwater Management Report for Proposed Medical Office Building, Prepared by Pinewoods Engineering, P.C., Revision dated April 29, 2021, Received May 11, 2021, Stamped by a licensed professional engineer
- Stormwater Maintenance Agreement, Received on May 11, 2021
- Post Construction Stormwater Operation and Maintenance Manual for Medical Office Building, Received May 11, 2021
- Response letter to our April 14, 2021 Stormwater Management Review Letter, Prepared by Benderson Development, Dated May 6, 2021, Received May 11, 2021

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

I. Soils Testing & Evaluation

1. Infiltration testing has not been completed for the proposed Dry Well #1 or proposed Dry Well #3. Also, in regards to the proposed Dry Well #2, the closest infiltration test was over 25 feet away. It is important that representative testing be completed for the various components of the infiltration system. It appears that the design infiltration rate for the entire site is based upon a single infiltration test. It is requested that additional infiltration testing be completed in other portions of the project site.

2. In the revised plans, it is noted that *“All depths of infiltration trenches and dry wells are to be excavated to reach the sand/stone layer (approx. 5.5 – 6 ft) depth. Refer to infiltration casing information from Geotech Report. Geotechnical engineer to be on site to confirm sufficient depth has been reached to dry wells”*. The following questions pertain to these notes.
- a. Will the Geotechnical Engineer also be on-site to confirm that the proposed infiltration trenches will reach the sand/gravel layer?
 - b. An approximate depth of 5.5 to 6 feet to the sand/gravel layer is noted on the Plans. In the boring logs, the depth to the sand/gravel is noted as being over 10 feet in Boring No.: B/I-1.
 - c. In situations where a proposed drywell (or infiltration trench) is situated on remnant building foundations, floor slabs, etc., what actions will be taken to ensure that these do not negatively impact the performance of the proposed dry well (on infiltration trench)? These actions should be specified on the plans.

II. Stormwater Infiltration Systems

1. In the submitted Stormwater Management Report, it is noted that the field-measured infiltration rate was 14 inches/hour and the design infiltration rate of 14 inches/hour was utilized to size the proposed infiltration system. Typically, the selected design infiltration rate is lower than the measured infiltration rate to account for the reduction in infiltration rate over time attributed to particulates from stormwater accumulating within/near the interface with the native gravel and/or the geotextile fabric.
2. As per the Stormwater Management Report, it is noted that *“the existing dry well will be replaced with a larger one and three additional dry wells are proposed for receiving and infiltrating runoff”*. What is the size (diameter and depth) of the existing dry well?
3. As per the Stormwater Management Report, it is noted that *“each of the four dry wells are proposed to be 7.33-ft inside diameter”*. On the Dry Well Detail on Plan Sheet C5.2, it is noted that the minimum diameter of the dry wells shall be 6'-10". What is the proposed minimum diameter of the proposed dry wells?
4. The following questions and comments pertain to the proposed dry wells on Drawing No. C5.1 and the Dry Well Detail on Drawing No. C5.2 of the submitted plans.
 - What specific type of Mirafi fabric is proposed? This should be noted on the detail.
 - What is type of aggregate is proposed along the outside of the dry well? Typically, this aggregate would be larger than the diameter of the drain holes.
 - What type of material is proposed to replace the existing soils between the dry well and the underlying sand/gravel? This should be clearly noted on this detail.
5. The following questions and comments pertain to the proposed storm sewer on Drawing No. C5.1 and the Trench Section Details on Drawing No. C5.2 of the submitted plans.
 - What specific type of Mirafi fabric is proposed? This should be noted on the detail.
 - What type of material is proposed to replace the existing soils between the bottom of the storm sewer and the underlying sand/gravel? This should be clearly noted on this detail.
6. The following questions and comments pertain to the proposed storm manholes on Drawing No. C5.1 and the Typical Storm Manhole Detail on Drawing No. C5.2 of the submitted plans.

- As per Drawing C5.1, the heights of the proposed storm manholes (as measured from the top of grate to the pipe invert) would be approximately 3.8 to 4.5 feet. Given the height of the frame/cover and the thickness of the top slab of the manhole, the interior height of the manhole would not allow ready access/use of these manholes.

III. Stormwater Collection and Conveyance

1. The type of pipe for the proposed perforated HDPE storm sewer should be noted on the plans?

IV. Erosion & Sediment Control/SWPPP

1. The Erosion & Sediment Control Plan should be consistent with the erosion and sediment control requirements outlined in the City's Stormwater Management and Erosion & Sediment Control Ordinance. Refer to that Ordinance for the requirements for the preparation of a Stormwater Pollution Prevention Plan (SWPPP), including Contractor Certifications and preparation of Inspection Reports.
2. In regards to the proposed Sequence of Construction, the following comments and questions are provided.
 - a. The Sequence of Construction should be provided on the plans and SWPPP.
 - b. Shouldn't the E & S Controls be installed prior to the demolition of the existing buildings (assuming that some earth disturbance would result with the removal of the floor slabs, footers, etc)?
3. Silt fence is included in the Best Management Practices table on Sheet C3.0. If silt fence is proposed for this project, appropriate details should be included.
4. In regards to the proposed Stabilized Construction Entrance, the Stabilized Construction Entrance should slope away from the sidewalk and throughfare. The detail and plans should indicate this.
5. The SWPPP should indicate how roof runoff will be managed during construction?

V. Operation & Maintenance Plan/Agreement

1. In regards to the proposed stormwater infiltration systems, a detailed O & M Plan should be developed that includes (but not be limited to) the following items.
 - i. Specific operation and maintenance tasks
 - ii. Monitoring requirements (including frequency)
 - iii. Frequency of and thresholds (triggers) for maintenance activities

Like other stormwater infiltration systems, the proposed drywells (and infiltration trenches) would have an effective life span, after which the repair and/or replacement of these would be needed. A number of factors impact the effective working life of an infiltration system, including the nature of the existing soils, the nature and amount of solid particulates discharged to the system, the degree of maintenance, and the nature of the pretreatment provided. Maintenance of the proposed infiltration system will be critical to the long-term performance and effective life of these systems.

The Operation & Maintenance Plan should include the following items.

A. Overall Infiltration System Performance

- i. As per the submitted Stormwater Management Report, *“The stormwater measures have been designed to contain the post-developed 100-year storm event without offsite flow. The system is designed to completely infiltrate collected runoff for storm events up to and including the 100-year event”*.
 - a. Maintenance and system improvement items to be implemented, if stormwater overflows occur that result in stormwater from the project site reaching off-site areas during a storm event with a return frequency of 100-years (or lower).
 - b. Time frame to implement above maintenance and system improvement items
- ii. The observed infiltration rate in the infiltration system (as measured in a drywell or catch basin) is less than the design infiltration rate.
 - a. Procedures for measuring observed infiltration rates
 - b. Maintenance and system improvement items to be implemented, if observed stormwater infiltration rates are less than the design infiltration rate
 - c. Frequency of completing the measurement of observed infiltration rates

B. Maintenance of Catch Basins

- i. Frequency of inspection of catch basins
- ii. Threshold for cleaning of sumps
- iii. Threshold for cleaning grates

C. Performance of Catch Basins

- i. Stormwater flows are not being captured entirely by a catch basin and stormwater flows are leaving the project site and are reaching off-site areas.
 - a. Maintenance and system improvement items to be implemented, if a catch basin is not fully collecting stormwater flows from the project site and this uncollected stormwater is reaching off-site areas during a storm event with a return frequency of 100-years (or lower).
 - b. Time frame to implement above maintenance and system improvement items
 - c. Frequency of inspection

D. Cleaning of Parking and Walk Areas

- i. Frequency of inspection
- ii. Threshold for cleanings

- E. Tables should be included in the O & M Plan that shall be used to document the date of inspections, the findings of the inspections, and maintenance completed to the stormwater system. These completed tables shall be maintained by the Owner on-site and shall be made available upon request by City of Elmira personnel for their review.

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,



Jimmie Joe Carl, P.E.

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