



9F Presidential Way  
Woburn, MA 01801

July 9, 2018

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Kate Newhall-Smith, Planner  
Office of Planning and Development  
Newburyport City Hall  
60 Pleasant Street  
Newburyport, MA 01950

Re: Response to Site Plan Review Comments  
Application for Site Plan Review  
Proposed Building Expansion  
75 Parker Street  
Newburyport, MA  
Cornerstone Project: 18021-30

Dear Ms. Newhall-Smith:

On behalf of Port City Realty, LLC, Cornerstone has prepared this response to the Site Plan Review Comments prepared by Christiansen & Sergi, Inc., Haverhill, MA, dated June 4, 2018 regarding the above referenced project. A copy of the Review Comments received are presented in Attachment No. 1.

**Site Plan Review Comments:**

4. The proposed infiltration system has been moved closer to the wetlands to approximately 30' from the edge of the BVW. Infiltration cannot be utilized within 50' of a wetland according to the MA Stormwater Handbook.

**Response:** Table RR of the Stormwater Management Handbook outlines "General Setback Requirements: Other Surface Waters: 50 ft". The Handbook does not provide a definition of "other surface waters", however the Massachusetts Wetlands Protection Act defines "other surface waters" to include bordering vegetated wetlands. The proposed infiltration system is located 35' from the BVW. Additionally, the bottom of the infiltration system is located at elevation 16.8 feet, 2 feet above the estimates seasonal high groundwater elevation and above the FEMA flood elevation of 10 feet.

The design includes significant pretreatment (Jellyfish treatment device) along with a retaining wall with an impervious barrier located 30' from the wetland. The Mounding Analysis submitted demonstrates that there is no breakout or mounding at the wetland boundary. These elements demonstrate that there is no adverse effect on the wetland.

5. The separation distance between the rim and invert of the catch basins should be confirmed for constructability by the design engineer. We understand a flat top option has been provided. Using an 8" flat top, 4" to the bottom of the joint, and a minimum of 14" for the pipe, the minimum to the top of the structure is 26" without a frame and grate. The frames height should be specified, however it does not appear that the structure can be constructed. The catch basins that require a flat top should be specified in the detail.

**Response: The separation from rim to invert for the catchbasin is buildable. We have extensive experience in drainage design and have installed catchbasins with similar or less separation numerous times. Additional notes have been added to the details sheets indicating that all catch basins are flat top structures as requested by the Newburyport DPS. The precast concrete manufacturer will provide a construction submittal to the design engineer prior to manufacturing the structure.**

6. The drain manholes that require a flat top should be listed in the detail.

**Response: The concrete supplier will be responsible for the manufacturing of the structure and will provide a construction submittal to the design engineer prior to manufacturing the structure.**

7. The item numbers specified cannot be found on the East Jordan Iron Works site to verify.

**Response: The frames and grates are not a proprietary item, so the contractor has the ability to source the products from various suppliers. Construction submittals will be provided to the design engineer during construction. For reference we provided frame and grate references to EJ Prescott Manhole Castings catalogue.**

8. The bypass manholes should be reviewed for constructability. The detail should be revised to show DMH7 as the diversion manhole. The Bypass manhole detail does not represent the conditions on the site and should be revised. The two bypass structures have 4 and 5 pipes cored into the structure. A specific detail for each bypass manhole should be provided showing each pipe in the structure, the thickness and shape of the diversion wall and the angle of the pipes connected to the manhole. For example, if DMH 7 is built as shown, flow from CB 6 will not be treated. The angle of the pipes and the location of the diversion wall do not appear to be constructible.

**Response: The bypass manhole detail has been revised to depict the configuration of DMH 4 and 7.**

11. More spot grades should be provided at the new entrance for approximately 75' to ensure the water is draining as designed.

**Response: There are adequate spot grades depicted on the site plan.**

12. The outlet structure for Rain Garden 1 cannot be constructed as designed. A 4" orifice is proposed at elevation 15.45 which would make the top of the orifice at 15.78. The bottom of the rectangular orifice is at 15.80. This would allow .24" between the orifices. The invert of the outlet pipe is at 15.35 which would put the

inside of the top of the pipe at 16.35. The top of the structure is at 16.35. The outlet pipe would be above the top of the structure. Outlet structure 2 cannot be constructed as proposed. A 2" rectangular orifice is proposed at 18.10 which would put the top of the orifice at 18.27. A second 2" orifice is proposed at 18.4. This would leave 1.56" between the orifices. Greater separation between the orifices should be provided to be able to construct the structure.

**Response: The orifices on outlet control structures are offset, not directly on top of each other. The top of structure elevation for outlet control structure 1 has been revised.**

13. An easement should be provided on the abutting property to allow the drainage discharge. We understand existing conditions show overland flow reaching the abutting property, creating a point discharge should be discussed with the abutter.

**Response: Flow from a portion of 75 Parker Street and 77 Parker Street flow to an undeveloped strip of land extending from 1 Preble Road. The portion of the parcel abutting the project site is graded to facilitate overland flow to an existing culvert. The use of overland flow to drainage channels, culverts and wetlands is consistent with drainage flows throughout the industrial property. As no changes in drainage volumes or patterns are proposed, an easement across the parcel is not needed or warranted.**

Additional comment via Email. TJ Melvin of CSI stated that 65% of the impervious area needs to be directed towards the infiltration system.

**Response: Per Table RR Rules for Groundwater Recharge "Required recharge volume must be infiltrated only to the maximum extent practicable if: The site is comprised wholly of C and D soils and bedrock at the land surface" The site is mapped as a silt loam, C soil, or Udorthents and onsite soil testing confirmed the silt loam classification. As a result, the standard for infiltration is "the maximum extent practicable"**

**The design incorporates two rain gardens that due to the shallow depth to estimated seasonal high groundwater are not being credited towards groundwater recharge. In real world conditions, additional groundwater recharge will be obtained through the rain gardens in all but the highest of seasonal groundwater conditions.**

**The site redevelopment proposes a net increase of 29,159 sf of impervious area; of which 14,215 (49%) is directed to the subsurface infiltration system. Although the design does not take credit for infiltration through the rain gardens, the design directs 35,359 sf of impervious area to rain garden 1, rain garden 2, or the infiltration system, which equates to 75% of the total impervious area onsite.**

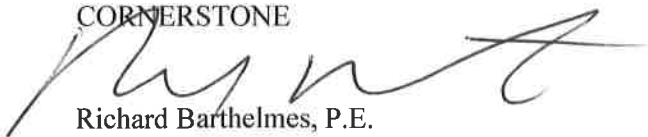
**In accordance with the Stormwater Management Handbook, the design is required to meet Standard 3 to the maximum extent practicable. Due to elevation of the existing building, and depth to seasonal high groundwater, the design directs as much impervious area to the underground infiltration system as possible and incorporates rain garden stormwater management techniques to maximize infiltration and disconnect impervious surfaces.**

**The subsurface infiltration system has also been design to maximize groundwater recharge by raising the elevation of the outlet weir as high as possible to maximize the stormwater retained in the system. The system provides for a static recharge volume of 1,914 cf (volume below the lowest outlet), and a simple dynamic recharge volume of 3,310 cf. The recharge volume prescribed in the Stormwater Handbook is 987 cf, and the adjusted minimum recharge volume is 3,287 cf based on the contributing impervious area. The design provides adequate storage and maximizes infiltration to maximum extent practicable.**

**The stormwater management system design reduces the total volume off site in all storm events, and provides for increased treatment compared to existing conditions. The site is a redevelopment project and the existing building and elevations drive the design of the proposed buildings and pavement. The design meets the standards for groundwater recharge (both volume and location) to the maximum extent practicable and have no detrimental impact to surface waters and Border Vegetated Wetlands adjacent to the site.**

If you have any questions or desire any additional information regarding this matter, please do not hesitate to contact me at 781-937-3045.

Very truly yours,  
CORNERSTONE



Richard Barthelmes, P.E.

attachments

cc: Port City Realty, LLC  
Christiansen & Sergi, Inc.  
John-Eric White, P.E., City Engineer

**ATTACHMENT NO. 1**

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**Site Plan Review Comments**



***CHRISTIANSEN & SERGI, INC.***  
***PROFESSIONAL ENGINEERS AND LAND SURVEYORS***

160 SUMMER STREET, HAVERHILL, MA 01830

**City of Newburyport Planning Board**  
**Site Plan Review**

Review Date: 6/4/18  
Plan Title: Proposed Building Addition Site Plan  
Applicant: Port City Realty, LLC  
Applicant's Engineer: Cornerstone  
Plan Date: May 22, 2018

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The submitted plan set was reviewed for compliance with the City of Newburyport Site Plan Review. The applicant has submitted the following plans and documents for Christiansen & Sergi, Inc. (CSI) to review:

1. Plans entitled Proposed Building Addition; Sheets C1 – C8, dated 5/22/2018
2. Application for Site Plan Review, dated 3/30/2018.
3. Stormwater Analysis, last revised 5/30/2018.
4. Architectural Plans, Sheets A101 - A102, dated 5/7/2018.
5. Landscape Plan, Sheet L1, dated 5/22/18

A compliance checklist comparing the plan's content to the City of Newburyport requirements for a site plan is attached. While there are many areas in which the plan is non-compliant the Board should consider which of those required items are necessary to be added to the plan and which are not needed

We have listed below those non-compliant issues we consider to be of most Importance as well as engineering design issues that need to be addresses so that the project will be built and function as intended.

1. Comment resolved.
2. Comment resolved.
3. Comment resolved.
4. The proposed infiltration system has been moved closer to the wetlands to approximately 30' from the edge of the BVW. Infiltration cannot be utilized within 50' of a wetland according to the MA Stormwater Handbook.

5. The separation distance between the rim and invert of the catch basins should be confirmed for constructability by the design engineer. We understand a flat top option has been provided. Using an 8" flat top, 4" to the bottom of the joint, and a minimum of 14" for the pipe, the minimum to the top of the structure is 26" without a frame and grate. The frames height should be specified, however it does not appear that the structure can be constructed. The catch basins that require a flat top should be specified in the detail.
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9. Comment resolved.
10. Comment resolved.
11. More spot grades should be provided at the new entrance for approximately 75' to ensure the water is draining as designed.
12. The outlet structure for Rain Garden 1 cannot be constructed as designed. A 4" orifice is proposed at elevation 15.45 which would make the top of the orifice at 15.78. The bottom of the rectangular orifice is at 15.80. This would allow .24" between the orifices. The invert of the outlet pipe is at 15.35 which would put the inside of the top of the pipe at 16.35. The top of the structure is at 16.35. The outlet pipe would be above the top of the structure. Outlet structure 2 cannot be constructed as proposed. A 2" rectangular orifice is proposed at 18.10 which would put the top of the orifice at 18.27. A second 2" orifice is proposed at 18.4. This would leave 1.56" between the orifices. Greater separation between the orifices should be provided to be able to construct the structure.
13. An easement should be provided on the abutting property to allow the drainage discharge. We understand existing conditions show overland flow reaching the abutting property, creating a point discharge should be discussed with the abutter.

14. More information regarding the utilities connected to the existing building is required to ensure adequate cover will be provided. DPS should also review for compliance with City standards.
15. Comment resolved.

The Applicant should submit revised plans and a written response to these comments at their earliest convenience. The Applicant may request a digital copy of this review to expedite their response. Should the Applicant have any questions or comments regarding this review, the Applicant should correspond through the Planning Board, or may contact Christiansen & Sergi, Inc. at the discretion of the City of Newburyport Planning Board.

Regards,

Christiansen & Sergi, Inc.



**ATTACHMENT NO. 2**

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**Table RR**  
**Massachusetts Stormwater Standards**

Table RR

Rules for Groundwater Recharge
<p>All BMPs must be designed according to the specifications and procedures in Volumes 2 and 3 of the Massachusetts Stormwater Handbook.</p> <p>Except as expressly provided herein, entire required recharge volume must be infiltrated.</p> <p>Required recharge volume must be infiltrated only to the maximum extent practicable, if: The site is comprised wholly of C and D soils and bedrock at the land surface; Recharge is proposed at or adjacent to a site that has:</p> <ul style="list-style-type: none"> <li>➤ been classified as contaminated;</li> <li>➤ contamination that has been capped in place;</li> <li>➤ an Activity and Use Limitation (AUL) that precludes inducing runoff to the groundwater pursuant to MGL Chapter 21E and the Massachusetts Contingency Plan, 310 CMR 40.0000;</li> <li>➤ has a solid waste landfill as defined in 310 CMR 19.000; or</li> <li>➤ groundwater from the recharge area that flows directly toward a solid waste landfill or 21E site.</li> </ul> <p><b>Design Requirements:</b> At least 44% of the TSS must be removed prior to discharge to the infiltration structure if the discharge is:</p> <ul style="list-style-type: none"> <li>➤ within a Zone II or Interim Wellhead Protection Area;</li> <li>➤ near an Outstanding Resource Water or Special Resource Water;</li> <li>➤ near a shellfish growing area, cold-water fishery, or bathing beach;</li> <li>➤ from a land use with higher potential pollutant loads; or</li> <li>➤ within an area with a rapid infiltration rate (greater than 2.4 inches per hour).</li> </ul> <p>Except as set forth below, roof runoff from may be discharged to the ground via a dry well without pretreatment. The discharge of roof runoff to the ground requires pretreatment by means of a BMP capable of removing metals, such as a sand filter, organic filter or filtering biorention area, if the roof is a metal roof that is located in the Zone II or Interim Wellhead Protection Area of a public water supply and/or at an industrial site. Metal roofs are galvanized steel or copper.</p> <p><b>Depth to groundwater:</b> At a minimum there should be a two-foot separation between bottom of structure and seasonal high groundwater.</p> <p><b>Minimum Infiltration Rate.</b> 0.17 inches per hour. All infiltration structures must be able to drain fully within 72 hours.</p> <p><b>General Setback Requirements:</b> Soil Absorption Systems for Title 5 System: 50 ft. Private wells: 100 ft. Public wells: Outside Zone I Public reservoir, surface water sources for public water systems and their tributaries: Outside Zone A Other surface waters: 50 ft. Property Line: 10 feet Building foundations (including slabs): &gt;10 to 100 ft. depending on type of recharge BMP. See BMP description for exact minimum setback. Specific BMPs have additional setback requirements. See Volume 2, Chapter 2.</p>