



# GRAHAM ASSOCIATES, INC.

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April 20, 2021

Town of Ipswich  
Planning Board  
25 Green Street  
Ipswich, MA 01938

Attn: Ethan Parsons  
Director of Planning and Development

*Re: Written Responses  
Request for Certification  
R.E. Puff, Jr., P.E. 4/8/21 Peer Review  
126-128 High Street  
H.L. Graham Project No. 19-1914*

Dear Mr. Parsons:

Attached is our initial written responses to Bob Puff's Peer Review letter of 4/8/21 for Burnham's Landing, 126-128 High Street.

We will be working in detail through his comments with the intent to revise plans and documents by or before April 29, 2021.

Please note in this letter the **BOLD** text responses. If possible, we would like Bob, yourself and/or the Board to review these specific areas of the report, clarify Bob's comments and reflect on our initial reply.

Stormwater Management

1. We will revisit the modeling with respect to infiltration and make the necessary corrections to discarded flow.
  - a. **The mounding analysis box was incorrectly checked off. As stated MA DEP Stormwater Policy does require this exercise when 4' of separation to groundwater is not provided. In our view, it seems obvious that there will be no impact to any mounding beneath IFS 1 and therefore the analysis was not provided. Does the reviewer feel that mounding might impact some property or structure?**
  - b. **We recognize the reported commercial parking lot flooding. As I have personally observed and noted the lot floods now with just a ¼" to ½" rain event. We contend that the design much improves the existing condition. Never-the-less we will revisit IFS 1 and add additional storage infiltration capacity to reduce flooding during the larger storm events to "the maximum extent practicable". This increase in BMP units may come at the expense of landscaping.**
  - c. **We recognize that the groundwater separation of 2' at IFS 1 does not comply with Ipswich Zoning Bylaw IX.C.7. Footnote 4.b, which stipulates a 3' separation. This criteria conflicts with MA DEP Stormwater Policy, which requires a 2' minimum separation. In fact, the subject footnote references compliance with MA DEP Stormwater Policy and then goes on to cite the 3'**



**separation in conflict with the policy? Due to the elevation of the existing commercial building and walks and entrance areas thereto, it is not possible to attain the referenced 3' separation. Accordingly, we purport that the design meets the criteria "to the maximum extent practicable" and request relief from the 3' separation requirement in the Bylaw.**

2. We will revisit the modeling for IFS 2 and address the 100-year event warnings.
3. **The contributing drainage area for WQI 2 is quite small and requiring the additional manhole structures and piping to place it off line complicates the design and increases the cost substantially for value returned. We would ask the reviewer to reconsider requiring the "off-line" plumbing arrangement at WQI 2. For the larger contributing drainage area to WQI 1, we will attempt to provide the "offline" arrangement requested. As an alternative to making these off-line revisions would the Board and reviewer be open to using an on-line system such as the Unistorm proprietary unit. This unit was approved by the Ipswich Conservation Commission for use in one of our recent projects situated in the RFA and discharging to the Town's drainage system outletting to the Ipswich River.**
  - a. **Is there a reason why the outlet piping from the WQI's cannot be plumbed into the IFS headers? Would clean-outs at the ends of the headers be acceptable?**



- b. We will examine the distribution from WQI 1 to IFS 1 to assure even distribution.
  - c. We will provide the requested sizing calculations for the WQI's.
  - d. We will amend our WQI detail to call for watertight seals between chambers.
4. **This will provide 10' lateral separation between DW1 thru DW6 and adjacent proposed building foundations. This may require us to eliminate one infiltration unit, which will change our post-development peak and volume figures. As such the "to the maximum extent practicable" criteria may again be applicable.**
- a. **The relatively small 20'±x30'± backyards will be finished as lawn, crushed stone, pervious pavers or combinations thereof. With the drywell units situated in the center of these areas, infiltration thru those surfaces will find its way quickly to the DW's. We see no need for yard drains or the like to address this comment.**
  - b. We will revisit the design and detail to address this comment.
  - c. Now that decks and stairs and landings have been provided by the architect, revised plans will assure that footings for decks and stairs will clear the DW locations.
5. **Soils testing was conducted near areas where our initially submitted plan located three (3) primary infiltration systems. The testing avoided ripping up existing bit parking areas and digging in proximity to an under ground electric service to the commercial building. The testing completed showed consistent**



**results for depths of sandy parent soils and estimated water table. We would request relief from this requirement in lieu of testing more closely to IFS 1 and IFS 2 in the existing paved areas at the onset of construction.**

- 6. We will provide sewer pipe dams as requested. Subject to increasing the capacity of IFS 1 (see 1.b. above) we will also attempt to provide as much separation between IFS 1 and the proposed sewer line.**
7. As plans are refined we will coordinate drainage design with proposed landscaping.
8. We will address the precautionary concerns as requested.
- 9.a. The proposed project does not include metal roofing.
- 9.b. Our design calls for roof drains (RD) around the perimeter of the buildings such that all residential roof runoff can be directed to DW1 thru DW6. As architectural roof plans are finalized we will locate all proposed downspout locations on our plans indicating the tie-in locations to roof drains.

#### Site Grading and Drainage

- 1. The design incorporates the flatter than normal grades so as to maximize separation to water table from the bottom of IFS 1. Due to the elevation of the existing commercial building and adjacent covered walk, the design requires either the flatter grades as proposed and/or relief from the 2' separation requirement with either fitting the criteria as "to the maximum extent practicable"?**

2. In fact it is not a standard crown in this area but rather a slight super elevation such that drainage slopes to the southeasterly curb line making its way to CB 3.
3. We will amend our plans to indicate surface flow arrows. We believe the spot grades shown are sufficient. As architectural roof plans are finalized we will amend our plans to show location of downspouts that tie into the proposed roof drain system.
4. We will revisit the subject manhole, which at first observation appeared to be a dead unused structure with no inlet or purpose. We will revise our plans accordingly.
5. We will provide hydraulic calculations as suggested.
6. We will revisit this suggestion for adding additional manhole structure at D2/D5. (See Stormwater Management 3. above as relates to pipe D7).
7. We will look into the structures and piping mentioned relative to cover, strength, etc.
- 8.a. We do not anticipate “rutting” over IFS 2.
- 8.b. We will clarify the detail at WQI 2 for the pipe segment D9 outlet.
- 8.c. We will clarify the location of the proposed overflow at DW2 and DW3.
- 8.d. We will provide the requested detail.
9. We will provide the requested hood specification.
10. We will provide the requested specifications and detail.

DEP Stormwater Management Items

1. Standard 3 – See Stormwater Management 1.a. above.
2. Standard 4 – See Stormwater Management 3.c. above.



3. Standard 4 – We will provide the additional LTPPP items requested.
4. Standard 6 – We will address this comment in the revised LTPPP.
5. **Standard 7 – Throughout this response we have mentioned several areas where this Standard – Redevelopment applies, permitting the design to comply “to the maximum extent practicable”. We will summarize the relief sought from the standards not fully met.**
6. Standard 8 – No response required.
7. Standard 9 – We will revise the Post Construction O&M Plan to address the points raised.
8. **Standard 10 – This statement was included in the submitted documents?**

Thank you for your anticipated favorable and timely response.

Very truly yours,

**H.L. GRAHAM ASSOCIATES, INC.**

H.L. Graham, P.E.  
President

HLG/gb

Enclosure

cc: Lou Rubino