



28 Vannah Avenue
Portland, Maine 04103
Tel: 207.781.5242
Fax: 207.781.4245

September 30, 2013
File: 13105

Ms. Jean Fraser
City of Portland
389 Congress Street, 4th Floor
Portland, ME 04101

RE: 133 YORK STREET
RESPONSE TO DAVID SENUS, P.E., MEMO DATED AUGUST 27, 2013

Dear Jean,

Below are the responses to David's comments:

1. *In accordance with Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of Maine DEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards. We have reviewed these standards relative to the proposed project and offer the following comments:*

a) *Basic Standard: Plans, notes, and details have been provided to address erosion and sediment control requirements, inspection and maintenance requirements, and good housekeeping practices in general accordance with Appendix A, B, & C of Maine DEP Chapter 500. In addition to the notes and details contained on the plans, consider adding a temporary stabilization measure within the shallow swale on the east edge of the driveway.*

We have added mesh to the swale above the tree filter.

b) *General Standard: The Applicant has proposed a stormwater tree well to treat runoff from an impervious area in excess of the proposed new impervious area; the approach meets the intent of the General Standards. The Applicant should provide calculations on the sizing and design of the tree filter system, and clarify the system dimensions on Tree Filter detail sheet.*

We have added details on the tree filter to the drawings. We have removed the roof drain from the filter at the recommendation of Tree Filter's manufacturer. Attached are calculations for the tree filter.



- c) *Flooding Standard: The project will result in a net increase in impervious area of 3,652 SF, resulting in an increase in the volume and rate of stormwater discharge from the site. The Applicant proposes to collect and route much of the stormwater from the site (and from uphill areas that drain onto the site) into the City's closed drainage system in York Street. As such, the project will result in a net reduction of stormwater runoff onto the neighboring properties. The Applicant should confirm with DPS that the existing storm drain system in York Street has adequate capacity to accept drainage from the site, If acceptable to DPS, the Applicant must request a waiver from the Flooding Standard for the current design. A waiver from the Flooding Standard appears to be appropriate for this project, as the increase in impervious area is relatively insignificant and the project will provide an improved drainage condition for the neighboring downhill properties.*

Based on staff memos the stormwater connection to York Street is acceptable to DPS.

2. *Please confirm that POA#2 on the "Proposed Conditions" depicted on DI .1 is not intended to indicate runoff onto the Harborview Development parcel.*

The POA towards Harborview was intended to analyze the flow in that direction based on existing conditions, where a significant flow went in that direction. The proposed conditions convey the water to the York Street drain eliminating the need to analyze the flows at that location.

3. *Storm drain and sewer pipe in the City Right of Way must conform to City Standards (refer to Section 2.5.2 of the City of Portland Technical Manual).*

The storm drain pipe type has been changed.

4. *Provide additional information related to the roof drain connection to the treewell filter and the treewell filter connection to the site's storm drain system (provide pipe sizes, invert elevations, and detail the connections to the tree filter).*

The details of the drainage connections have been provided.

5. *Proposed topography on C1.3 indicates that a portion of the drainage from uphill lots will be routed directly along the west building wall, please review the grading in this area.*

The grading is correct. There are openings in that wall required by code that prevent grading away from the building. We have ripped the area to provide a stable surface.

6. *Note 3 on C1.1 states that "All Powerline Utilities Shall Be Overhead"; however, a note on C1.3 indicates an underground connection from the utility pole at the rear of the building; please clarify. In addition, it appears that an easement will be required from McCormick Place Condominium for this underground utility connection.*



Mr. Jean Fraser
September 30, 2013
3 of 3
File: 13105

The existing utilities access the site in that location.

7. *A modular block retaining wall system is proposed along the property line on the west side of the site. It appears that an easement or temporary construction access agreement will be required from the Gilman-Flint and the Wallingford properties. The wall should be designed by a professional engineer, if the stamped design of the retaining wall system will be performed by the retaining wall manufacturer, a note should be added to the detail indicating this requirement.*

The modular block wall will be stamped by the supplier. We have moved the wall to the edge of the pavement so it can be placed without the need to trespass.

8. *The Stormwater Management Plan should include a stormwater inspection and maintenance plan developed in accordance with and in reference to Chapter 32 of the City of Portland Code of Ordinances.*

Attached is a Maintenance Plan for the stormwater system.

Sincerely,

PINKHAM & GREER

A handwritten signature in black ink, appearing to read "Thomas S. Greer". The signature is stylized and cursive.

Thomas S. Greer, P.E.

Enclosures

cc: David Senus, Jeremy Benn/Joe Flynn, File

TSG/rjs



28 Vannah Avenue
 Portland, Maine 04103
 (207) 781-5242
 FAX (207) 781-4245

JOB 133 York Street
 SHEET NO. 1 OF 1
 CALCULATED BY TSG DATE 9/27/13
 CHECKED BY _____ DATE _____
 SCALE _____

TREE FILTER SYSTEM

THE TREE FILTER SYSTEM PROVIDES TREATMENT OF STORMWATER BY FILTRATION THROUGH THE ROOT ZONE OF THE TREE AND INFILTRATION INTO THE SURROUNDING SOILS.

BASED ON COUNTY SOILS MAPPING THE SOILS AT THIS LOCATION ARE HUXLEY GRAVELLY SAND. THIS SOIL HAS A PERMEABILITY OF GREATER THAN 6.3 "/hr BASED ON THE COUNTY SOILS SHEETS.

THE AREA THAT DRAINS TO THE TREE WELL INCLUDES THE FRONT PARKING AREA, DRIVEWAY AND A SECTION OF THE PARKING LOT BEHIND THE PROPOSED BUILDING. THIS IS ESTIMATED AT 36 SQ FT.

FLOW TO THE TREE WELL FOR 1" OF RUNOFF:

AREA OF INFILTRATION 36 SQ FT OF BOTTOM AREA AND 7/8 FEET OF SIDE WALL.

INFILTRATION RATE

$$6.3 \text{ "/hr} \times 60 \times \frac{1}{12} \text{ "} \times \frac{1 \text{ MIN}}{60 \text{ SEC}} = 0.525 \text{ CFS}$$

SEE ATTACHED HYDROCAD SHEET FOR 1.25" RAIN EVENT.

Summary for Pond 37P: TREE WELL

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.127 ac, 100.00% Impervious, Inflow Depth > 0.98"
 Inflow = 0.15 cfs @ 12.07 hrs, Volume= 0.010 af
 Outflow = 0.15 cfs @ 12.08 hrs, Volume= 0.010 af, Atten= 1%, Lag= 0.2 min
 Discarded = 0.15 cfs @ 12.08 hrs, Volume= 0.010 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

x 43,560 = 5,532 sqft dk
1" of Runoff COMES FROM 1.25" RAIN

Routing by Storage method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 32.02' @ 12.08 hrs Surf.Area= 63 sf Storage= 1 cf

Plug-Flow detention time= 0.1 min calculated for 0.010 af (100% of inflow)
 Center-of-Mass det. time= 0.1 min (752.5 - 752.4)

Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	219 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	64	0	0
34.00	10	74	74
36.00	10	20	94
38.00	10	20	114
39.00	200	105	219

Device	Routing	Invert	Outlet Devices
#1	Discarded	32.00'	0.53 cfs Exfiltration at all elevations
#2	Primary	33.50'	6.0" Round Culvert L= 6.0' Ke= 0.500 Inlet / Outlet Invert= 33.50' / 33.25' S= 0.0417 '/' Cc= 0.900 n= 0.010
#3	Primary	38.50'	4.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.53 cfs @ 12.08 hrs HW=32.02' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.53 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=32.00' (Free Discharge)
 ↑2=Culvert (Controls 0.00 cfs)
 ↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 37P: TREE WELL

Hydrograph

