

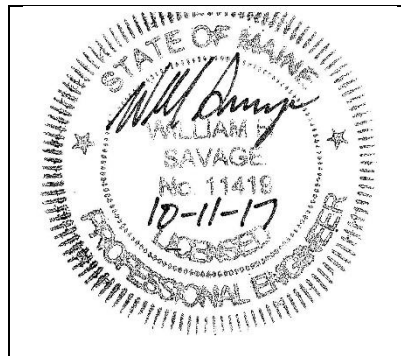
STORMWATER MANAGEMENT **REPORT**

Prepared For:

**Walter & Kelly Williams
24 St. Lawrence Street
Portland, Maine 04101**

Prepared By:

**Acorn Engineering, Inc.
158 Danforth Street
Portland, Maine 04102**



October 2017



A C O R N

ENGINEERING, INC.

INTRODUCTION

Acorn Engineering, Inc. has been retained by Walter & Kelly Willaism to provide civil engineering services for the proposed redevelopment of 24 St. Lawrence Street. The proposed project is to redevelop a two-unit townhouse building into a four-story, five-unit condominium. The first floor is proposed to be a six-car parking garage.

A stormwater analysis has been prepared to demonstrate that the project will meet the following requirements of the City of Portland (the City):

- City of Portland Land Use Ordinance Chapter 14, Article V. Site Plan Section 14-523. Required Approvals and Applicability (F) Level III Site Plan Review.
- City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and Maine DEP Chapter 500 Stormwater Management.

EXISTING CONDITIONS

The proposed project site is located on St. Lawrence Street. A boundary plan has been prepared by Owen Haskell, Inc of Falmouth, Maine dated November 30, 2016.

All abutting uses are residential within the R-6 zone.

Over 60% of the property is covered by impervious surfaces including two structures, pavement, brick, pavers, and retaining walls. The remaining surface is vegetation in the form of grass and brush. The majority of the site slopes towards the south (towards Waterville Street), with the rear sloping over 10% in some areas. The northerly half of the dwelling's roof drains to St. Lawrence Street which then slopes towards Fore Street at an average of 9%.

The project team is not aware of the presence of any existing significant natural features located on the site. Given the urban setting and existing impervious surfaces, a field inventory of significant natural feature was not undertaken. The project is not located within a watershed classified as an Urban Impaired Stream.

PROPOSED DEVELOPMENT

The proposed project is a four-story building with five dwelling units and first floor parking garage. The parking garage will have six parking spaces. Pedestrian access to the site shall be provided off St. Lawrence Street. The development will be served by Portland Water District, Department of Public Works (sewer), Unutil (natural gas), CMP (electric), Charter (cable), and Fairpoint (telephone). All utilities will be routed underground.

The proposed project will increase the site's impervious area by approximately 540 square-feet. This

impact is below the 1,000 square-foot threshold and therefore, stormwater management features for quality and quantity control have not been designed due to the insignificant increase in impervious area.

Stormwater will enter roof drains before connecting to a storm drain outlet that is proposed to tap into the 18" combined sewer main within St. Lawrence. The foundation drain will also connect to this storm drain outlet. Lastly, a field inlet will collect stormwater within the green space at the northerly side of the building and will be wyed into the foundation drain, eventually making its way to the combined sewer within the street.

The stormwater flows to the street are expected to marginally increase while the flows to the existing 15-foot retaining wall and abutting properties are expected to significantly decrease.

SOILS

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County
- United States Department of Agriculture Web Soil Survey

Given the soils information, listed above, no onsite wastewater is proposed; the applicant does not intend to perform a more intense hydric soil boundary delineation because the waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11 are met.

The area within and surrounding the project includes soil types listed in the table below. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. Higher "K" values indicate more erodible soils.

Table 1 - "K" Value		
Soils Type	Subsurface	Substratum
Hinckley	0.17	0.17

The soil "K" values for the soils, listed above, show a low susceptibility to erosion. The site's susceptibility to erosion is from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although soil "K" values for the soils show a low susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance given the sustained slope throughout the site.

Conclusion

The proposed development was designed to meet the requirements implemented by the MDEP under the Stormwater Management Statute (38 M.R.S.A. § 420-D) as well as the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards. The proposed project as designed is not anticipated to cause flooding or erosion problems within the subject site, abutters' sites, nor within the right-of-way.

Attachments

Attachment A: Soils Map

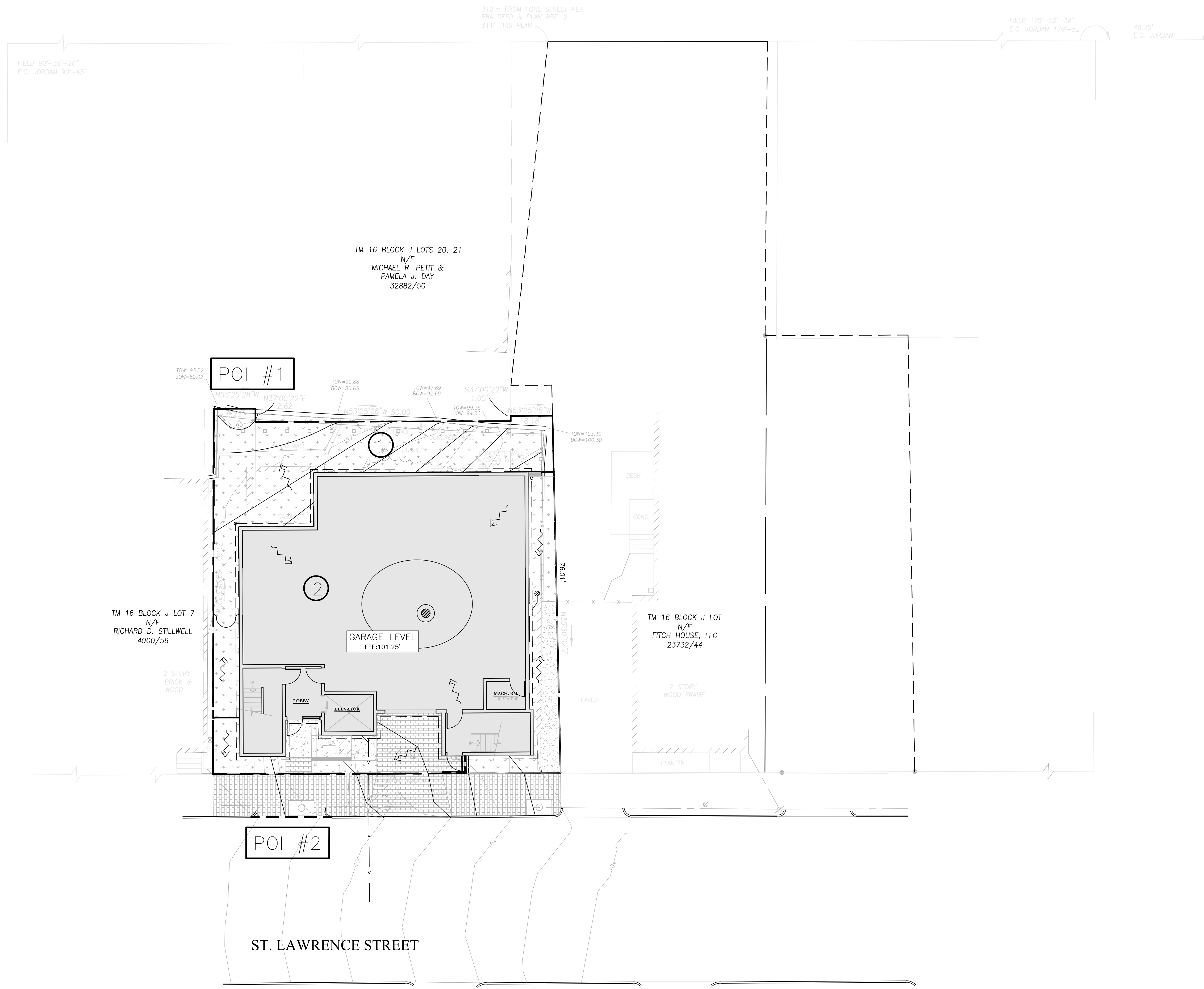
Attachment B: Pre-Construction Watershed Map

Attachment C: Post-Construction Watershed Map



GENERAL NOTES:
 1. REFER TO STORMWATER REPORT FOR MORE INFORMATION

- SUBCATCHMENT NUMBER
- SUBCATCHMENT EXTENTS
- UNDERDRAIN
- POINT OF INTEREST (POI)



PRELIMINARY
 NOT ISSUED FOR
 CONSTRUCTION

ISSUED FOR	BY
DATE	DATE
PRELIM. APP.	WHS xxx/xx

DRAWING NAME: POST-DEVELOPMENT PLAN
PROJECT NAME: 24 ST. LAWRENCE REDEVELOPMENT
CLIENT: HR PROPERTY MANAGEMENT 24 ST. LAWRENCE STREET, PORTLAND, ME 04101

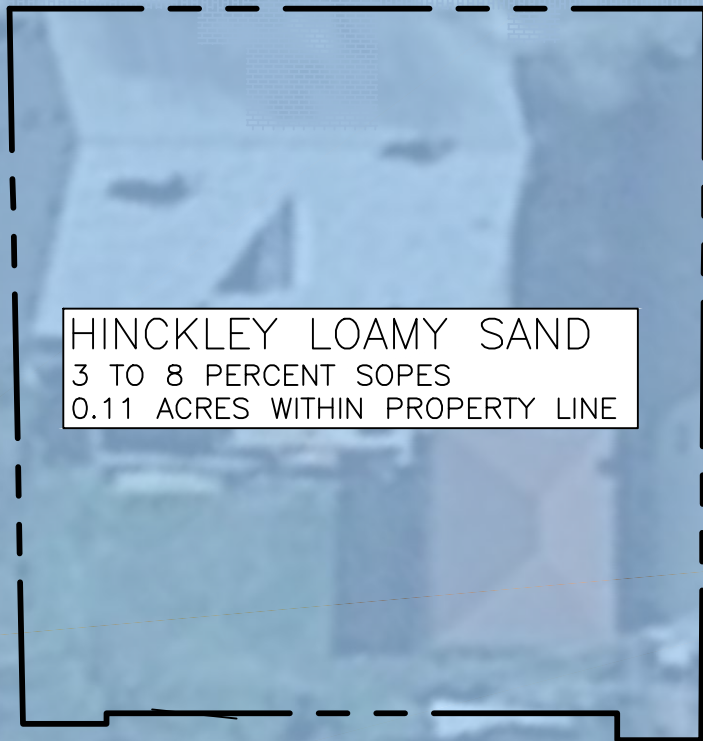
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ENGINEERING, INC.

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 OR UNAUTHORIZED, WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

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JN:	1088
SCALE:	1"=10'
DESIGNED BY:	ADG
DRAWN BY:	ADG
CHECKED BY:	WHS

DRAWING NO.
POST



HINCKLEY LOAMY SAND
 3 TO 8 PERCENT SOPEs
 0.11 ACRES WITHIN PROPERTY LINE

PERMIT LEVEL:
 NOT FOR
 CONSTRUCTION

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DRAWING NAME:
 SOILS MAP

PROJECT NAME:
 24 ST. LAWRENCE STREET
 REDEVELOPMENT

CLIENT:
 HR PROPERTY MANAGEMENT

ISSUED FOR	BY
CITY APP.	DATE WHS 10/10/17
	REV DATE

DRAWING NO.
SOILS