

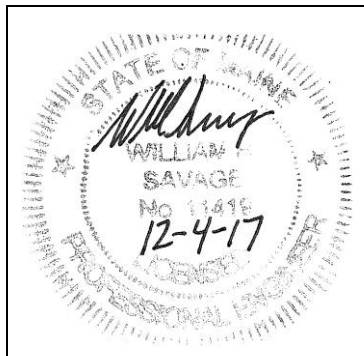
STORMWATER MANAGEMENT **REPORT**

Prepared For:

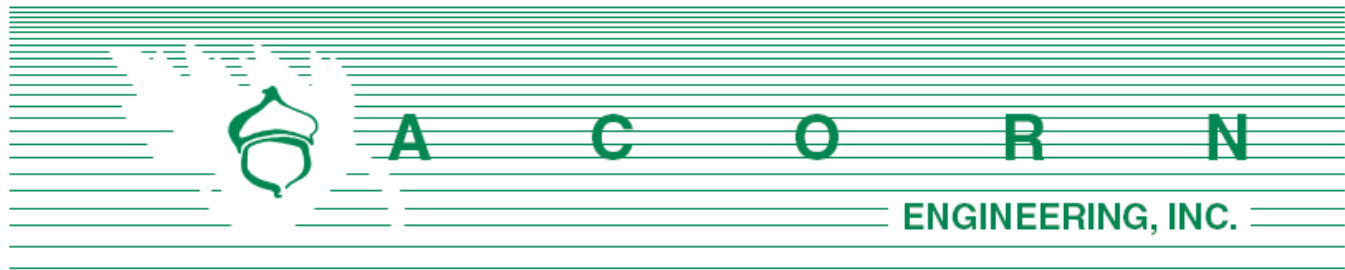
**Diving Rock, LLC
15 Howard Street
Portland, Maine 04101**

Prepared By:

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



December 2017



INTRODUCTION

Acorn Engineering, Inc. has been retained by Diving Rock, LLC to provide civil engineering services for the proposed redevelopment of 149-155 Washington Avenue. The proposed project includes the development of a 4-story building with retail space on the ground level and office space on the remaining three levels.

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.

The proposed project is expected to decrease the impervious area by approximately 550 square-feet. Additionally, the proposed landscaping will help retain stormwater on site. These features will help reduce the overall runoff of stormwater into the street and thus reduce the demand on the City’s combined sewer/storm system.

EXISTING CONDITIONS

The proposed project site is located at the corner of Washington Avenue and East Cove Street. A boundary plan has been prepared by R.W. Eaton Associates of Westbrook, Maine dated March 31, 2016.

Abutting Uses:

- | | |
|-----------------------|---------------------------------|
| ➤ North B-1 Zone | Single Family Residential |
| ➤ East R-6 Zone | Multi Family Residential |
| ➤ South B-1/R-6 Zones | Single Family Residential |
| ➤ West B-1 Zone | Single/Multi Family Residential |

Nearly 100% of the site is comprised of pavement or rooftop. The average slope is relatively steep with grades dropping towards Washington Avenue at approximately 8%.

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 retail space on the ground level and office space on the remaining three levels. Pedestrian access to the site will be provided off Washington Avenue. The development will be served by Portland Water District, Department of Public Works (sewer and storm), Unutil (natural gas), CMP (electric), Charter (cable), and Fairpoint (telephone). All utilities will be routed underground.

The proposed project will decrease the site's impervious area by approximately 700 square-feet. Therefore, stormwater management features for quality control that meets Maine DEP's Chapter 500 General Standards have not been designed. Furthermore, features for quantity control are not required and have not been analyzed; however, the project is anticipated to meet Chapter 500 Flooding Standards by decreasing peak flows from the site.

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 redevelopment was designed to meet the requirements set forth in the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards. The proposed project as designed is anticipated to maintain existing drainage patterns while decreasing the overall volume and flowrate of stormwater runoff. The project will not cause flooding or erosion problems within the subject site, abutters' sites, nor within the right-of-way.

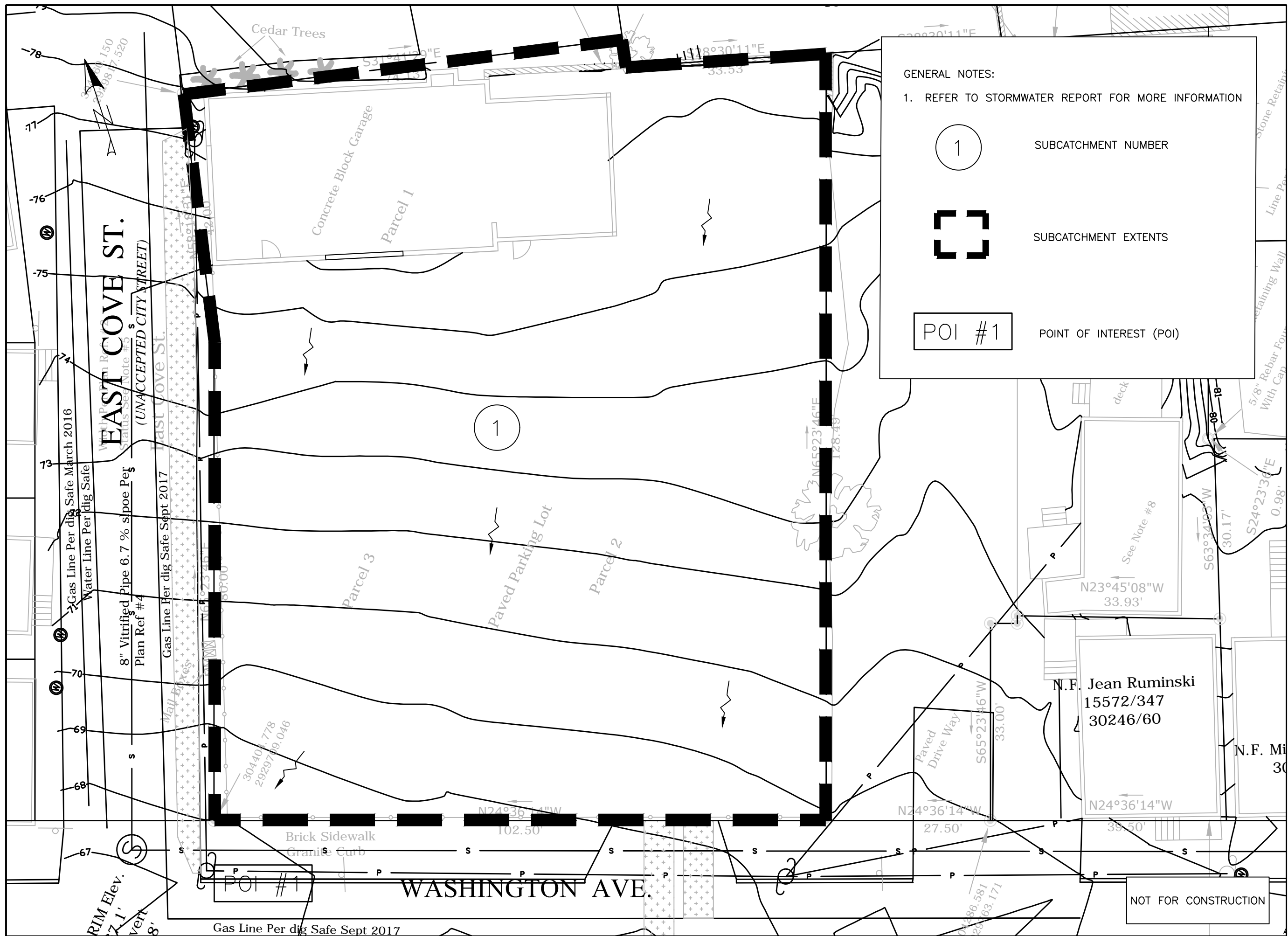
Attachments

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

① SUBCATCHMENT NUMBER

⊔ SUBCATCHMENT EXTENTS

POI #1 POINT OF INTEREST (POI)

ISSUED FOR	BY
CITY APP.	DATE WHS 11/9/17

DRAWING NAME: PRE-DEVELOPMENT WATERSHED MAP
 PROJECT NAME: 151 WASHINGTON AVE. REDEVELOPMENT
 CLIENT: DIVING ROCK, LLC
 15 HOWARD STREET, PORTLAND, ME 04101



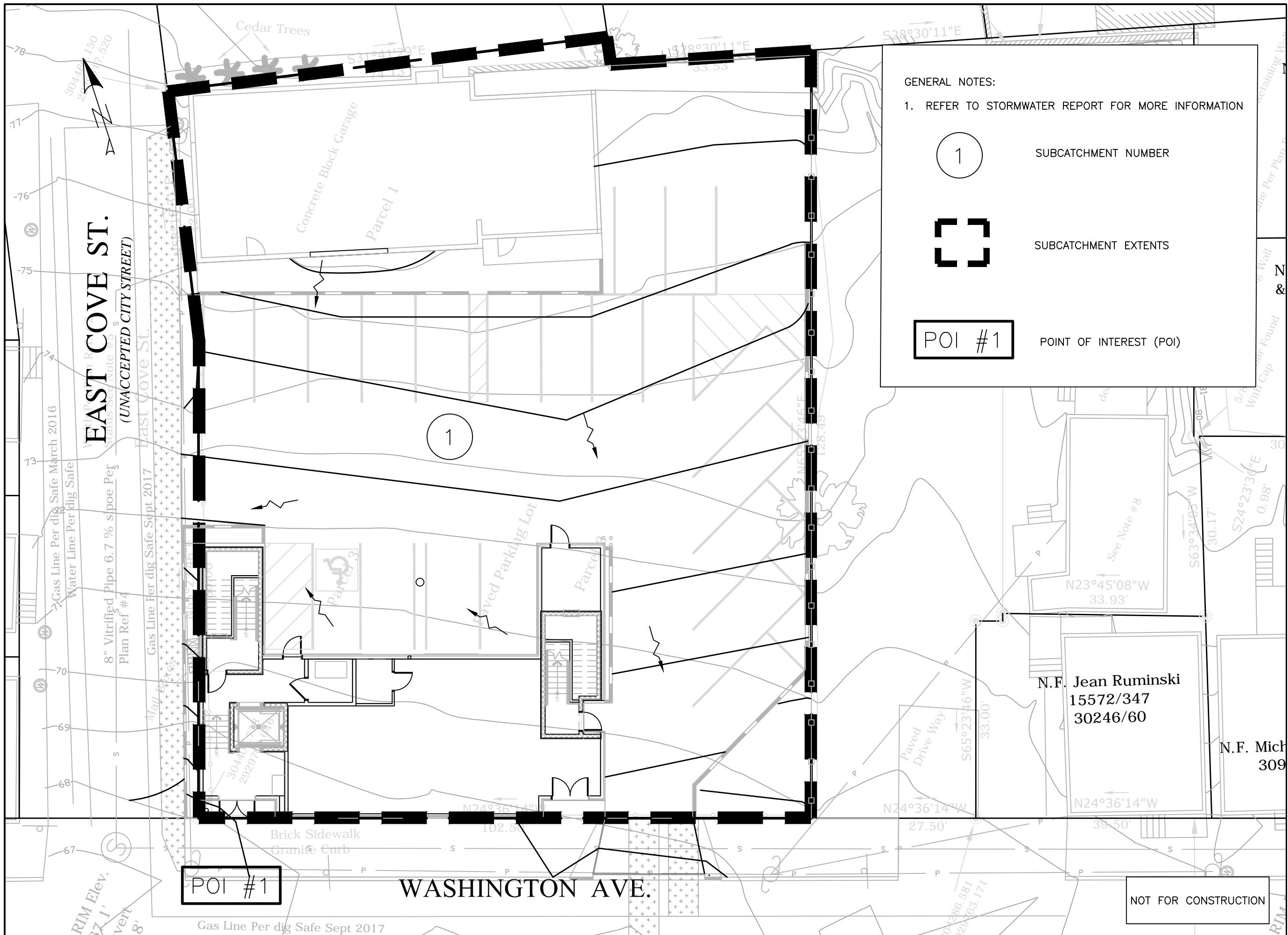
158 DANFORTH ST
 PORTLAND, MAINE 04104
 (207) 775-2655

FILE:	1090_CIVIL
JN:	1090
SCALE:	NTS
DESIGN BY:	SJL
DRAWN BY:	SJL
CHECKED BY:	WHS

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DRAWING NO.
PRE

NOT FOR CONSTRUCTION



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

① SUBCATCHMENT NUMBER

▣ SUBCATCHMENT EXTENTS

POI #1 POINT OF INTEREST (POI)

ISSUED FOR	BY
PRELIM APP.	DATE
	WHS
	9/30/17

DRAWING NAME: PRE-DEVELOPMENT WATERSHED MAP

PROJECT NAME: 151 WASHINGTON AVE. REDEVELOPMENT

CLIENT: KING PINE CAPITAL, LLC
 15 HOWARD STREET, PORTLAND, ME 04101



158 DANFORTH ST
 PORTLAND, MAINE 04104
 (207) 775-2655

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POST

POI #1

NOT FOR CONSTRUCTION

WASHINGTON AVE.

N.F. Jean Ruminski
 15572/347
 30246/60

N.F. Mich
 309

Gas Line Per dig Safe Sept 2017

EAST COVE ST.
 (UNACCEPTED CITY STREET)

East Cove St.

Concrete Block Garage
 Parcel 1

Paved Parking Lot
 Parcel 2

Parcel 3

Gas Line Per dig Safe March 2016
 Water Line Per dig Safe
 8" Vitrified Pipe 6.7% slope Per Plan Ref #4
 Gas Line Per dig Safe Sept 2017

RIM Elev. 77.1'

Brick Sidewalk
 Granite Curb

S38°30'11"E

S31°24'29"E

S18°30'11"E

N23°45'08"W
 33.93'

N24°36'14"W

N24°36'14"W

S65°23'46"W

S24°23'36"E

S63°34'03"W

30.17'

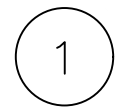
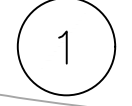
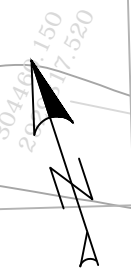
0.98'

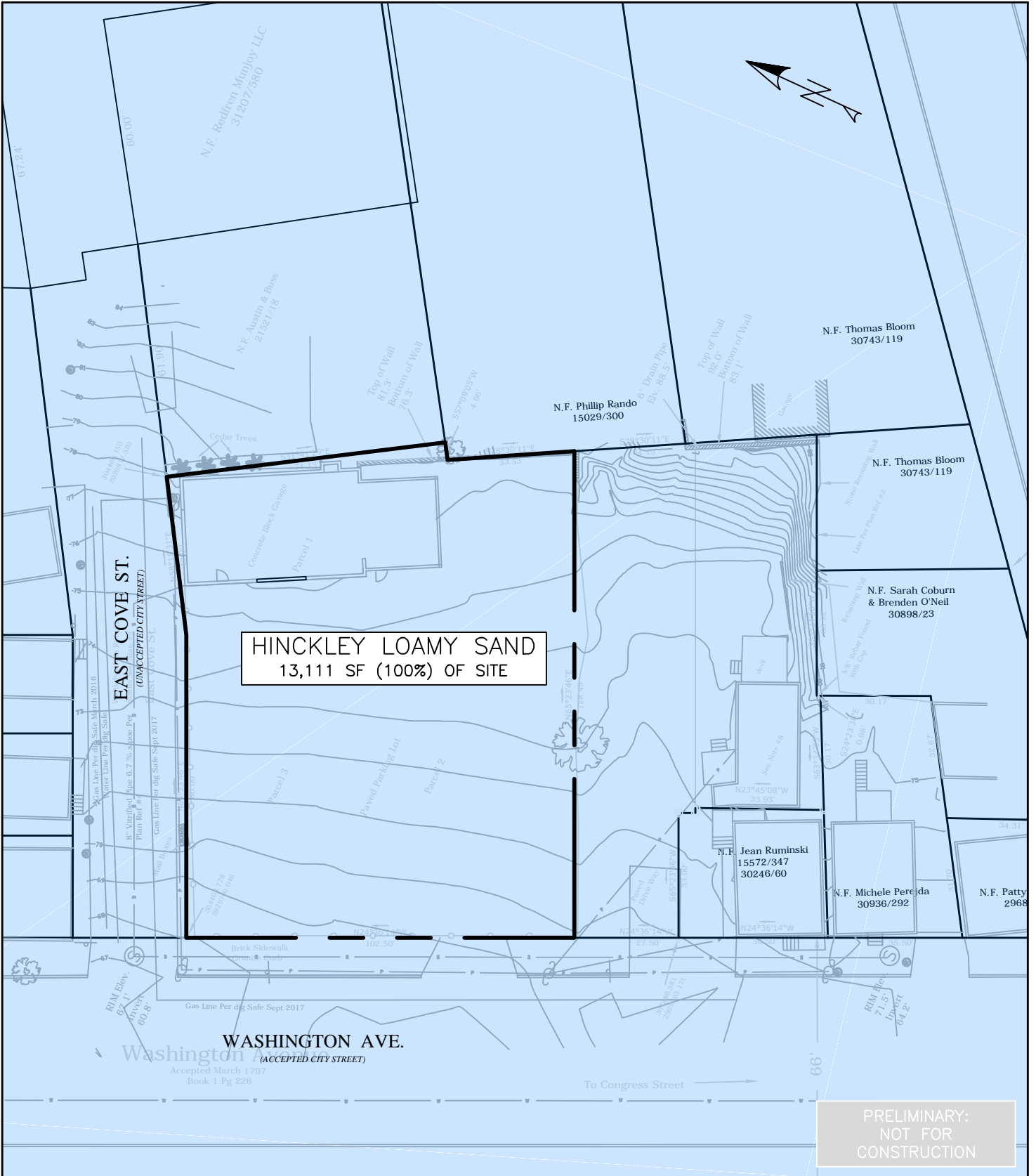
33.00'

27.50'

39.50'

04286.581
 283763.171



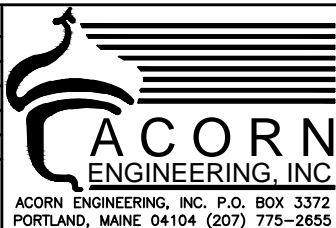


HINKLEY LOAMY SAND
13,111 SF (100%) OF SITE

PRELIMINARY:
NOT FOR
CONSTRUCTION

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CLIENT:
DIVING ROCK, LLC

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DRAWING NO.
SOILS