RANSOM
Consulting, Inc.

Consulting
Engineers
and Scientists

December 11, 2015 Project 141.06157

Barbara Barhydt, Development Review Manager
City of Portland, Planning Division
389 Congress Street, 4th Floor
Portland, Maine 04103

RE: Level III Site Plan Application
8 Unit Residential Condominium Development
65 Munjoy Street
Portland, Maine

Dear Barbara:

On behalf of our client, Adams Apple LLC, we are pleased to submit this Final Level III Site Plan Application for the development of 8 residential condominium units at 65 Munjoy Street. Thanks again for your time during the pre-application meeting on November 18 and we look forward to continued collaboration in creating much needed affordable housing on Munjoy Hill.

In compiling this application, we have attempted to place the materials supporting our application in the same order as the City's checklist. Please feel free to contact me with any questions or concerns you may have regarding the attached application materials.

Sincerely,

RANSOM CONSULTING, INC.

John Mahoney

John Mahoney, P.E.
Project Engineer

400 Commercial Street, Suite 404, Portland, Maine 04101, Tel (207) 772-2891, Fax (207) 772-3248
Pease International Tradeport, 112 Corporate Drive, Portsmouth, New Hampshire 03801, Tel (603) 436-1490
12 Kent Way, Suite 100, Byfield, Massachusetts 01922, Tel (978) 465-1822
2127 Hamilton Avenue, Hamilton, New Jersey 08619, Tel (609) 584-0090
60 Valley Street, Building F, Suite 106, Providence, Rhode Island 02909, Tel (401) 433-2160

www.ransomenv.com

Portland, Maine Yes. Life's good here.

Jeff Levine, AICP, Director
Planning & Urban Development Department

Electronic Signature and Fee Payment Confirmation

Notice: Your electronic signature is considered a legal signature per state law.

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a ***legal signature*** per Maine state law. You are also signifying your intent on paying your fees by the opportunities below.

I, the undersigned, intend and acknowledge that no Site Plan or Historic Preservation Applications can be reviewed until payment of appropriate application fees are ***paid in full*** to the Inspections Office, City of Portland Maine by method noted below:

☐ Within 24-48 hours, once my complete application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.

☐ Within 24-48 hours, once my application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.

☐ I intend to deliver a payment method through the U.S. Postal Service mail once my application paperwork has been electronically delivered.

_____ _____
Applicant Signature: Date:

_____ _____
I have provided digital copies and sent them on: Date:

NOTE: All electronic paperwork must be delivered to buildinginspections@portlandmaine.gov or by physical means i.e. a thumb drive or CD to the Inspections Office, City Hall, 3rd Floor, Room 315.

Level III – Preliminary and Final Site Plans
Development Review Application
Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level III: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level III: Site Plan Development includes:

- New structures with a total floor area of 10,000 sq. ft. or more except in Industrial Zones.
- New structures with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- New temporary or permanent parking area(s) or paving of existing unpaved parking areas for more than 75 vehicles.
- Building addition(s) with a total floor area of 10,000 sq. ft. or more (cumulatively within a 3 year period) except in Industrial Zones.
- Building addition(s) with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- A change in the use of a total floor area of 20,000 sq. ft. or more in any existing building (cumulatively within a 3 year period).
- Multiple family development (3 or more dwelling units) or the addition of any additional dwelling unit if subject to subdivision review.
- Any new major or minor auto business in the B-2 or B-5 Zone, or the construction of any new major or minor auto business greater than 10,000 sq. ft. of building area in any other permitted zone.
- Correctional prerelease facilities.
- Park improvements: New structures greater than 10,000 sq. ft. and/or facilities encompassing 20,000 sq. ft. or more (excludes rehabilitation or replacement of existing facilities); new nighttime outdoor lighting of sports, athletic or recreation facilities not previously illuminated.
- Land disturbance of 3 acres or more (includes stripping, grading, grubbing, filling or excavation).

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14) which is available on our website:

Land Use Code: http://me-portland.civicplus.com/DocumentCenter/Home/View/1080
Design Manual: http://me-portland.civicplus.com/DocumentCenter/View/2355
Technical Manual: http://me-portland.civicplus.com/DocumentCenter/View/2356

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

Updated: April 23, 2014

PROJECT NAME: 65 Munjoy Streets

PROPOSED DEVELOPMENT ADDRESS:

65 Munjoy Street, Portland, Maine, 04101

PROJECT DESCRIPTION:

The proposed project entails construction of a new residential building housing 8 dwelling units.

CHART/BLOCK/LOT: 003 M005

PRELIMINARY PLAN _____ (date)
FINAL PLAN _____ (date)

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Ethan Boxer Macomber Business Name, if applicable: Adam's Apple LLC Address: 30 Danforth Street, Suite 213 City/State : Portland, Maine Zip Code: 04101	**Applicant Contact Information** Work # 207 272 8550 Home# Cell # Fax# e-mail: ethan@anew-development.com
Owner – (if different from Applicant) Name: Address: City/State : Zip Code:	**Owner Contact Information** Work # Home# Cell # Fax# e-mail:
Agent/ Representative Name: John Mahoney; Ransom Consulting, Inc. Address: 400 Commercial Street, Suite 404 City/State : Portland, Maine Zip Code: 04101	**Agent/Representative Contact information** Work # 207 772 2891 Cell # 207 831 6165 e-mail: john.mahoney@ransomenv.com
Billing Information Name: Adam's Apple LLC Address: 30 Danforth Street, Suite 213 City/State : Portland, Maine Zip Code: 04101	**Billing Information** Work # 207 272 8550 Cell # Fax# e-mail: ethan@anew-development.com

Engineer Name: John Mahoney, Ransom Consulting Address: 400 Commercial Street City/State : Portland, Maine Zip Code: 04101	**Engineer Contact Information** Work # 207 772 2891 Cell # 207 831-6165 Fax# e-mail: john.mahoney@ransomenv.com
Surveyor Name: Owen Haskell Inc. Address: 390 US Route 1 City/State : Falmouth, Maine Zip Code: 04105	**Surveyor Contact Information** Work # 207 774 0424 Cell # Fax# e-mail: ebrewer@owenhaskell.com
Architect Name: Evan Carroll, Bild Architecture Address: PO Box 8235 City/State : Portland, Maine Zip Code: 04104	**Architect Contact Information** Work # 207 408 0168 Cell # Fax# e-mail: evan@bildarchitecture.com
Attorney Name: Address: City/State : Zip Code:	**Attorney Contact Information** Work # Cell # Fax# e-mail:

APPLICATION FEES:
Check all reviews that apply. (Payment may be made by Credit Card, Cash or Check payable to the City of Portland.)

Level III Development (check applicable reviews)
_X_ Less than 50,000 sq. ft. ($500.00)
___ 50,000 - 100,000 sq. ft. ($1,000)
___ 100,000 – 200,000 sq. ft. ($2,000)
___ 200,000 – 300,000 sq. ft. ($3,000)
___ over $300,00 sq. ft. ($5,000)
___ Parking lots over 11 spaces ($1,000)
___ After-the-fact Review ($1,000.00 plus applicable application fee)

Plan Amendments (check applicable reviews)
___ Planning Staff Review ($250)
___ Planning Board Review ($500)

The City invoices separately for the following:
- Notices ($.75 each)
- Legal Ad (% of total Ad)
- Planning Review ($40.00 hour)
- Legal Review ($75.00 hour)

Third party review fees are assessed separately. Any outside reviews or analysis requested from the Applicant as part of the development review, are the responsibility of the Applicant and are separate from any application or invoice fees.

Other Reviews (check applicable reviews)
___ Traffic Movement ($1,000)
___ Stormwater Quality ($250)
_X_ Subdivisions ($500 + $25/lot)
# of Lots _8_ x $25/lot = $200
___ Site Location ($3,000, except for residential projects which shall be $200/lot)
# of Lots ___ x $200/lot = _____
___ Other _____
___ Change of Use
___ Flood Plain
___ Shoreland
___ Design Review
___ Housing Replacement
___ Historic Preservation

$1,200 Subtotal -25% for Affordable Housing

$900 Grand Total

APPLICATION SUBMISSION:

1. All site plans and written application materials must be submitted electronically on a CD or thumb drive with each plan submitted as separate files, with individual file which can be found on the **Electronic Plan and Document Submittal** page of the City's website at http://me-portland.civicplus.com/764/Electronic-Plan-and-Document-Submittal

2. In addition, one (1) paper set of the plans (full size), one (1) paper set of plans (11 x 17), paper copy of written materials, and the application fee must be submitted to the Building Inspections Office to start the review process.

The application must be complete, including but not limited to the contact information, project data, application checklists, wastewater capacity, plan for fire department review, and applicant signature. The submissions shall include one (1) paper packet with folded plans containing the following materials:

1. **One (1) full size site plans** that must be **folded.**
2. One (1) copy of all written materials or as follows, unless otherwise noted:
   a. Application form that is completed and signed.
   b. Cover letter stating the nature of the project.
   c. All Written Submittals (Sec. 14-525 2. (c), including evidence of right, title and interest.
3. A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 50 feet.
4. Plans and maps based upon the boundary survey and containing the information found in the attached sample plan checklist.
5. One (1) set of plans reduced to 11 x 17.

Please refer to the application checklist (attached) for a detailed list of submission requirements.

APPLICANT SIGNATURE:

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for a Level II Site Plan review. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant:	**Date:**
John Mahoney	2015-12-11

PROJECT DATA

The following information is required where applicable, in order to complete the application.

Total Area of Site	6,778 sq. ft.
Proposed Total Disturbed Area of the Site	6,778 sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.	
Impervious Surface Area	
Impervious Area (Total Existing)	6,470 sq. ft.
Impervious Area (Total Proposed)	5,178 sq. ft.
Building Ground Floor Area and Total Floor Area	
Building Footprint (Total Existing)	0 sq. ft.
Building Footprint (Total Proposed)	3,336 sq. ft.
Building Floor Area (Total Existing)	0 sq. ft.
Building Floor Area (Total Proposed)	10,008 sq. ft.
Zoning	
Existing	R-6
Proposed, if applicable	
Land Use	
Existing	Parking
Proposed	Residential
Residential, If applicable	
# of Residential Units (Total Existing)	0
# of Residential Units (Total Proposed)	8
# of Lots (Total Proposed)	1
# of Affordable Housing Units (Total Proposed)	As described herein and in City RFP #4115
Proposed Bedroom Mix	
# of Efficiency Units (Total Proposed)	0
# of One-Bedroom Units (Total Proposed)	4
# of Two-Bedroom Units (Total Proposed)	2
# of Three-Bedroom Units (Total Proposed)	2
Parking Spaces	
# of Parking Spaces (Total Existing)	~24
# of Parking Spaces (Total Proposed)	8
# of Handicapped Spaces (Total Proposed)	2
Bicycle Parking Spaces	
# of Bicycle Spaces (Total Existing)	0
# of Bicycle Spaces (Total Proposed)	2
Estimated Cost of Project	$1.7 million

FINAL PLAN - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
X		1	* Completed Application form
X		1	* Application fees
X		1	* Written description of project
X		1	* Evidence of right, title and interest
NA		1	* Evidence of state and/or federal permits
X		1	* Written assessment of proposed project's specific compliance with applicable Zoning requirements
X		1	* Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site
X		1	* Evidence of financial and technical capacity
X		1	Construction Management Plan
X		1	A traffic study and other applicable transportation plans in accordance with Section 1 of the technical Manual, where applicable.
NA		1	Written summary of significant natural features located on the site (Section 14-526 (b) (a))
X		1	Stormwater management plan and stormwater calculations
X		1	Written summary of project's consistency with related city master plans
X		1	Evidence of utility capacity to serve
X		1	Written summary of solid waste generation and proposed management of solid waste
X		1	A code summary referencing NFPA 1 and all Fire Department technical standards
X		1	Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section 14-526 and in City of Portland Design Manual
X		1	Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST** **(* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
X		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
X		1	**Final Site Plans including the following:**
X		Existing and proposed structures, as applicable, and distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone);	
X		Existing and proposed structures on parcels abutting site;	
X		All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;	
X		Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;	
X		Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;	
X		Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;	
X		Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;	
X		Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;	
X		Location of all snow storage areas and/or a snow removal plan;	
X		A traffic control plan as detailed in Section 1 of the Technical Manual;	
NA		Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);	
NA		Location and proposed alteration to any watercourse;	
NA		A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;	
NA		Proposed buffers and preservation measures for wetlands;	
X		Existing soil conditions and location of test pits and test borings;	
X		Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;	
X		A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;	
X		Grading plan;	
NA		Ground water protection measures;	
X		Existing and proposed sewer mains and connections;	

- Continued on next page -

X		Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 3 of the Technical Manual;
X		Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;
X		Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;
X		Location and size of all on site solid waste receptacles, including on site storage containers for recyclable materials for any commercial or industrial property;
X		Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;
NA		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
X		A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in Section Article IX, the Historic Preservation Ordinance;
X		Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;
X		An exterior lighting plan in accordance with Section 12 of the Technical Manual;
X		A signage plan showing the location, dimensions, height and setback of all existing and proposed signs;
X		Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.

PORTLAND FIRE DEPARTMENT
SITE REVIEW
FIRE DEPARTMENT CHECKLIST

A separate drawing[s] shall be provided as part of the site plan application for the Portland Fire Department's review.

1. Name, address, telephone number of applicant
2.
3. Name address, telephone number of architect

4. Proposed uses of any structures [NFPA and IBC classification]
5.
6. Square footage of all structures [total and per story]

7. Elevation of all structures

8. Proposed fire protection of all structures
   - ***As of September 16, 2010 all new construction of one and two family homes are required to be sprinkled in compliance with NFPA 13D. This is required by City Code. (NFPA 101 2009 ed.)***

9. Hydrant locations

10. Water main[s] size and location

11. Access to all structures [min. 2 sides]

12. A code summary shall be included referencing NFPA 1 and all fire department. Technical standards.

Some structures may require Fire flows using annex H of NFPA 1

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Date: 12/7/2015

Mr. Frank J. Brancely,
Senior Engineering Technician,
Phone #: (207) 874-8832,
Fax #: (207) 874-8852,
E-mail:fjb@portlandmaine.gov

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 65 Munjoy Street, Portland, Maine, 04101

Chart Block Lot Number: 003 M005

Proposed Use: Residential

Previous Use: Parking Lot

Existing Sanitary Flows: 0 GPD

Existing Process Flows: 0 GPD

Description and location of City sewer that is to receive the proposed building sewer lateral.

Existing Munjoy Street Sewer

Site Category		
	Commercial *(see part 4 below)*	
	Industrial *(complete part 5 below)*	
	Governmental	
	Residential	X
	Other *(specify)*	

(Clearly, indicate the proposed connections, on the submitted plans)

2. Please, Submit Contact Information.

City Planner's Name: _____ Phone: _____

Owner/Developer Name: Adam's Apple LLC / Ethan Boxer-Macomber

Owner/Developer Address: 30 Danforth Street, Suite 213, Portland, ME, 04101

Phone: 207 272 8550 Fax: E-mail: ethan@anew-development.com

Engineering Consultant Name: John Mahoney, Ransom Consulting

Engineering Consultant Address: 400 Commercial Street, Portland, ME, 04101

Phone: 207 772 2891 Fax: _____ E-mail: john.mahoney@ransomenv.com

(Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review)

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 1,380 GPD

Peaking Factor/ Peak Times: _____

Specify the source of design guidelines: *(i.e.*X*"Handbook of Subsurface Wastewater Disposal in Maine,"*
__ *"Plumbers and Pipe Fitters Calculation Manual,"* __ *Portland Water District Records,* _ *Other (specify)*

_____

(Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet)

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: NA

Size of External Grease Interceptor: _____

Retention Time: _____

Peaking Factor/ Peak Times: _____

(Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet)

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: NA GPD

Do you currently hold Federal or State discharge permits? Yes ____ No ____

Is the process wastewater termed categorical under CFR 40? Yes ____ No ____

OSHA Standard Industrial Code (SIC): *http://www.osha.gov/oshstats/sicser.html*

Peaking Factor/Peak Process Times: _____

(Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps)

(Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided below, or attached, as a separate sheet)

Notes, Comments or Calculation

65 Munjoy Street Sewer/Water Capacity Estimate

Dwelling Unit Type	Qty	Total Bedrooms	Flow per Bedroom (GPD)	Design Flow (GPD)
One-bedroom	4	4	120	480
Two-bedroom	2	4	90	360
Three-bedroom	2	6	90	540
	8	14		1380

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December 9, 2015 Project 141.06157

Glissen Havu on behalf of MEANS
Design Engineer
MEANS Division
Portland Water District
225 Douglass Street
PO Box 3553
Portland, Maine 04104-3553

RE: Request for Capacity to Serve Determination.
8 Unit Condominium Development
65 Munjoy Street
Portland

Dear Glissen:

This letter is requesting a determination of whether the Portland Water District has the capacity to serve a proposed residential development located at 65 Munjoy Street. The development will be comprised of one to three-bedroom units for a total of 8 residential units and 14 bedrooms. Based on the number of bedrooms and the 2015 Maine State Plumbing Code, we anticipate a total demand of 1,380 GPD for domestic service. The attached table below provides the calculations used to determine the aforementioned estimate. The development will also have a sprinkler system for fire protection.

Enclosed, to assist in your review, is site plan. We propose to construct a new 4" ductile iron service from the main to the proposed building. The 4" water service will be used for fire protection. A 2" domestic service will be tapped off of the 4" service at the property line. Both services will have valves at the right-of-way boundary for independent operation. Please let us know whether this proposed configuration is acceptable in terms of capacity and operation, and provide us with any specific service connection requirements.

Please respond to me at the address below (or by email) at your earliest convenience. If you have any questions, please feel free to call me at (207) 772-2891.

Sincerely,

John Mahoney

John Mahoney, P.E.
Project Engineer

Enclosure: Demand Estimate Spreadsheet, Utility Plan for 65 Munjoy Street

400 Commercial Street, Suite 404, Portland, Maine 04101, Tel (207) 772-2891, Fax (207) 772-3248
Pease International Tradeport, 112 Corporate Drive, Portsmouth, New Hampshire 03801, Tel (603) 436-1490
12 Kent Way, Suite 100, Byfield, Massachusetts 01922, Tel (978) 465-1822
2127 Hamilton Avenue, Hamilton, New Jersey 08619, Tel (609) 584-0090
60 Valley Street, Building F, Suite 106, Providence, Rhode Island 02909, Tel (401) 433-2160

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Description of Project

The proposed project at 65 Munjoy Street consists of eight deed-restricted condominium units. There will be two (2) 3-bedroom units, two (2) 2-bedroom units and four (4) 1-bedroom units and the units will be sold to households of moderate income (100%-120% of area median income).

The project design will be integrated within the surrounding neighborhood in massing, proportion, articulation and materials. The building will be designed to high standards of energy efficiency and sustainable design, with features including a code-exceeding low-air infiltration building envelope, high efficiency mechanical systems, low-VOC finishes and all the benefits gained from and urban-infill sight such as is 65 Munjoy Street.

The site and landscape design utilizes the on-site treatment of water run-off, indigenous plants that will not need irrigation once established, and lighting that meets both safety and light pollution standards. The project will provide one (1) parking space per unit with two (2) outdoor spaces and six (6) covered spaces within an open carport, and these spaces will be accessed via one curb-cut on Munjoy Street.

As a collaboration between Adam's Apple LLC, the City of Portland, and the Portland Housing Authority, 65 Munjoy Street will provide much needed housing for households of moderate income in an urban location that places minimal burden on municipal infrastructure.

bildarchitecture.com • evan@bildarchitecture.com • (207)408-0168
PO Box 8235, Portland, ME 04104 • 30 Danforth Street, Suite 213, Portland, ME 04101

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Accessibility Narrative

The proposed project at 65 Munjoy Street will meet Fair Housing Accessibility Standards as is required for a new building. Due to the goal of providing housing at sub-market rates, no elevator will be installed and only the first floor units will need to meet the Fair Housing requirements. As no public spaces exist within the building, ADA will not apply.

The design includes two entrances: a contextual entrance and a practical entrance. The contextual entrance faces the street, has several steps and is slightly recessed. These elements give the building the same connection to the street that is found in the surrounding buildings and has documented historic precedent.

The practical entrance is on the side of the building adjacent to the parking and represents the shortest path by which to leave the building. This side entrance and the way it is used is also consistent with the surrounding buildings. The side entrance is the accessible entrance, and is immediately adjacent to the accessible parking spots.

bildarchitecture.com • evan@bildarchitecture.com • (207)408-0168
PO Box 8235, Portland, ME 04104 • 30 Danforth Street, Suite 213, Portland, ME 04101

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Crime Prevention Through Environmental Design Narrative

Natural surveillance will be used to the maximum extent possible with two one-bedroom apartments on the first floor. These units will have view of the entrance approach and the shared garden space.

The contextual front entrance and the practical parking entrance will be well lit, and while both entrances are recessed the recesses are wider than deep, preventing the possibility of entrapment. Both entrances have multiple sightlines to public ways. The open parking area will be lit during night hours to discourage unwanted use.

The landscape plan clearly delineates public and private space, utilizing plantings, monolithic rock features, fencing and retaining walls. The use of such features will clearly delineate private space without the need for signage.

bildarchitecture.com • evan@bildarchitecture.com • (207)408-0168
PO Box 8235, Portland, ME 04104 • 30 Danforth Street, Suite 213, Portland, ME 04101

Compliance with Zoning

Purpose:

The purpose of the R-6 is to "set aside areas on the peninsula for housing characterized primarily by multifamily dwellings at a high density providing a wide range of housing for differing types of households;" and the 65 Munjoy project propose to provide 1, 2 & 3 bedroom dwellings at a density of (8) units per 0.156 acres or 51 units per acer.

Permitted Uses:

A multifamily dwelling is permitted in the R-6 zone, no open stairways are proposed, and no below-grade dwelling units are proposed. The project proposes (8) parking spaces while only (5) are required.

Dimensional Requirements:

The proposed 65 Munjoy Street project conforms to all dimensional standards as outlined below:

	Requirement	Proposed
Min. lot size	2,000sf	
Min. lot area/dwelling unit	725sf (9 units allowed on 6778sf)	847sf 8 units proposed
Min. street frontage	20ft	84ft
Min. front yard setback	5ft (or average of adjacent yards) (adjacent yards are both 0ft)	3'
Min. rear yard setback	10ft	15ft
Min. side yard setback	5ft	6ft & 23ft
Structural stepbacks	Apply over 35ft	Building will be only 35ft tall
Max. lot coverage	60%	50% (3,389sf)
Min. lot width	20ft	84ft
Max. structure height	45ft	35ft
Min. landscaped open space	20%	23% (1579sf)
Max. garage opening	9ft or 40%	0ft (0%)

Right Title and Interest: 65 Munjoy Street

This documentation is under development and will be provided under a separate cover. Please see Jeff Levine for details.

65 Munjoy Street Development

Summary of Covenants

This project is in response to a City of Portland Request for Proposals with the goal to create and preserve access to decent and affordable housing and home-ownership opportunities for persons and families at the 120% median income level who are often denied such opportunities for lack of financial resources. Adam's Apple, LLC and the City have entered into an Affordability Agreement that by deed restricts sales and resales to that income level. Please see attached exhibit. The signed agreement is on file with the City.

EXHIBIT I

AFFORDABILITY AGREEMENT

This AGREEMENT made this ___ day of _____, 2015, by and between Adam's Apple, LLC, a Maine limited liability company with a principal place of business in Portland, Maine, and a mailing address of 17 Chestnut Street, Portland, Maine 04101 ("Developer"), and _____, whose mailing address is _____ (singly or, if more than one, collectively the "Owner") and the City of Portland, a public body corporate and politic with a mailing address of City Hall, 389 Congress Street, Portland, Maine 04101 ("City").

W I T N E S S E T H:

WHEREAS, Owner has this date purchased Unit No. ___ in the _____ Condominium, located at 65 Munjoy Street in Portland, Maine ("Condominium"), which unit is more particularly described in Exhibit A attached hereto and made a part hereof (said unit, together with its percentage interest in Common Elements and vote in the condominium association being referred to collectively herein as the "Unit"); and

WHEREAS, Developer developed the Condominium using funds and land provided by the City of Portland, pursuant to an agreement, the intent of which is to promote and provide affordable housing in Portland in accordance with Maine law; and

WHEREAS, the deed to Owner provides that the Unit was conveyed subject to a Declaration of Covenants, Conditions and Restrictions ("Declaration") recorded in the Cumberland County Registry of Deeds in Book _____, Page ____, and subject to the covenants, conditions and restrictions contained in this Agreement; and

WHEREAS, as required by the City of Portland, and in consideration of the conveyance of the Unit to Owner, Owner agreed and hereby agrees to certain restrictions on the resale of the Unit, including restrictions on the price at which the Unit may be sold and the parties who may purchase it, all on the terms and conditions hereinafter provided and in accordance with Maine law, including 33 M.R.S.A. §§ 121, et. seq.;

NOW THEREFORE, Owner and Adam's Apple, LLC, and the City of Portland, in consideration of the conveyance of the Unit to Owner and of the mutual undertakings set forth herein, hereby agree as follows:

1. Parties' Intent. The terms and conditions contained in this Agreement have been freely accepted by the parties, each with independent and informed advice. This Agreement exists to further the mutual purposes and goals of Owner, Developer, and the City set forth herein to create and preserve access to decent and affordable housing and home-ownership opportunities for persons and families who are often denied such opportunities for lack of financial resources. The terms and conditions of this Agreement are an integral part of the consideration of the transfer of the Unit by Developer to Owner.

2. Uses of Unit. Owner understands and agrees that the Unit must be used as Owner's principal residence, and Owner shall not use the Unit for the conduct of a business (except for a home occupation allowed under the City of Portland zoning ordinance) or as an investment property. Owner shall comply in all respects with the documents relating to the Condominium, including, without limitation, the Declaration, Bylaws and rules and regulations adopted by the condominium association. Owner shall keep the Unit in good, safe, and habitable condition and shall not commit waste. Owner

agrees that the City may from time to time verify that Owner is using the Unit solely as Owner's principal residence, and Owner agrees to furnish any such information as the City may require in order to confirm such use by Owner. Owner shall not lease the Unit for a term in excess of 12 months during the five years immediately following the conveyance of a Unit to Owner and shall not lease the Unit for a term exceeding three months each year thereafter. [***Is this something the City wants? It should be made consistent with the Condominium documents which (for Avesta) say one cannot rent for a period of less than 6 months.]

3. Transfer to Qualified Buyer. Owner may sell, transfer, or otherwise dispose of the Unit only to a Qualified Buyer, as that term is defined in this Section. Any purported sale, transfer, or other disposition to any person or entity without following the procedures set forth below or in violation of the price limitations set forth below, shall be null and void. As used in this Agreement, the term "Qualified Buyer" means a person or household whose income is no higher than one hundred twenty percent (120%) of the median family income for the Portland Metropolitan Statistical Area, as most recently promulgated by the United States Department of Housing and Urban Development, adjusted for family size, or if that index ceases to be promulgated, a successor or similar index as selected by the City.

4. Transfer to Owner's Heirs. Upon receipt of notice from the personal representative of the Owner's or co-Owner's estate given within ninety (90) days of the death of Owner (or the last surviving co-Owner of the Unit), the City shall, except for good cause shown, consent to a transfer of the Unit to and by one or more of the following:

A. the spouse or domestic partner of the Owner ("domestic partner" is defined as a person living with Owner and sharing a common domestic life but neither joined by marriage nor a civil union), including a transfer to such spouse or domestic partner by operation of law, or a transfer that results in Owner and Owner's spouse or domestic partner becoming co-owners of the Unit; or

B. the child or children of the Owner; or

C. member(s) of the Owner's household who have resided in the Unit for at least three years prior to the Owner's death.

The covenants set forth in this Agreement shall continue in full force and effect after the transfers described in subsections A. through C. above, and the transferee under this Section 4 shall be bound by this Agreement.

5. Notice To City: Procedure for Sale:

A. Whenever Owner intends to effect a sale, transfer or disposition of the Unit to a third party, prior to listing the Unit for sale or entering into a purchase and sale agreement, or otherwise taking any steps to consummate the sale of the Unit, Owner shall give the City written notice of such intent (the "Notice of Intent") addressed to the City of Portland at 389 Congress Street, Portland, Maine, or at such other address as the City shall provide to Owner by written notice.

B. Within thirty (30) days of receiving the Notice of Intent, the City shall determine (1) the qualifications and income guidelines for a Qualified Buyer hereunder; and (2) Owner's Maximum Allowable Price as determined under Section 7 below. The City shall communicate the results of such determinations to Owner within said thirty (30) day period (the "Notice of Determination"). Owner shall provide the City with whatever reasonable information the City requests in order to make the determinations under this subsection.

C. When Owner finds a prospective Buyer who may be a Qualified Buyer, Owner shall communicate that fact in writing to the City and shall cause the prospective Buyer to deliver to City such information, financial or otherwise, about the prospective Buyer as City shall reasonably request. City shall have the right in all cases to determine whether a proposed Buyer is a Qualified Buyer. City shall have ten (10) business days from the date it receives the information about the Buyer in which to determine if Owner's prospective Buyer is indeed a Qualified Buyer.

D. Within five (5) business days of executing any purchase and sale agreement with any party, Owner shall notify the City in writing that Owner has entered into such purchase and sale agreement and shall furnish the City with a copy of such agreement and any other information the City shall reasonably request.

E. When the Unit is sold to a Qualified Buyer under the terms of this Section 5, the Qualified Buyer shall be bound by all of the terms of this Agreement. No transfer to a Qualified Buyer shall be deemed to terminate this Agreement. Any transfer by Owner either in violation of this Agreement or to a person or persons who are not determined by the City to be Qualified Buyers shall be void and no force or effect.

6. City's Option Price. In the event of a foreclosure pursuant to Paragraph 10 or eminent domain pursuant to Paragraph 11, Option Price ("Option Price") shall be the lesser of the Maximum Allowable Price or the Market Value. For purposes of this section, "Market Value" means the fair market value of the Unit determined in an appraisal conducted by a mutually acceptable, professionally certified appraiser. If the parties are unable to agree on an appraiser, each party shall appoint a professionally certified appraiser, and Market Value shall be determined by taking the average of the values determined by the two appraisers.

7. Determination of Maximum Allowable Price. The "Maximum Allowable Price," as such term is used in this Agreement, shall be the price that is affordable to a reasonable range of Qualified Buyers, as determined by the City in its discretion.

8. Right of Entry and Inspection; Cooperation and Furnishing of Information. The City shall have the right upon reasonable prior written notice to enter the Unit at reasonable times during the daytime hours to assure that Owner is in compliance with the terms and conditions contained herein. Owner shall provide the City with such information relating to the occupants of the Unit and Owner's mortgagees as the City may reasonably request.

9. Construction and Duration. The covenants herein shall run with the land and shall be perpetual. Owner covenants and agrees for himself, his heirs, personal representatives and assigns that the rights and restrictions contained herein shall be for the benefit of the City and its successors and assigns, and shall be binding on all future purchasers of the Unit. Developer, Owner and the City agree and intend that this Agreement and the covenants contained herein are to be interpreted as "Affordable Housing Covenants" as defined by 33 M.R.S.A. §121. Both Developer and the City shall be deemed to be "Qualified Holders" under 33 M.R.S.A. §121 (3) from the date of execution of the Declaration until the date of the completion of the first sale of each of the units in the Development (hereinafter "Initial Sales Period"; during that Initial Sales Period, Developer shall have primary responsibility for the enforcement and administration of this Agreement and the City shall take no action either to enforce or administer this Agreement unless Developer fails to do so after written notice by the City. After the Initial Sales Period, provided Developer has not defaulted in its obligations under this Agreement, Developer shall cease to be a Qualified Holder and the City shall be the sole Qualified Holder with sole right and responsibility for enforcement and administration of this Agreement.

10. Applicability of This Agreement to Mortgagees. Notwithstanding anything to the contrary contained herein the terms of this Agreement shall not apply to the following types of transfers of the Unit:

A. Transfers by the Owner to a mortgagee in lieu of foreclosure;

B. Transfers by a mortgagee of Owner as a result of a foreclosure sale;

C. Transfers by a mortgagee immediately following a transfer to such mortgagee as a result of a foreclosure;

D. Transfers by the transferee of any transfer described in subsection C above which results from a mortgage servicing relationship between a servicing lender and a governmental entity serving as a secondary market mortgage purchaser;

provided, however, that this Agreement shall apply in full to all subsequent transfers of the Unit not described in subsections A through D of this Section 10 and any such transferees shall own the Unit subject in all respects to all of the terms and conditions of this Agreement. The provisions in this paragraph shall apply in the same manner to all subsequent holders of mortgages on the Unit.

The holder of record of any mortgage on the Unit (each, a "Mortgagee") shall notify the City in the event of any default for which such Mortgagee intends to commence foreclosure proceedings or similar remedial action pursuant to its mortgage, which notice shall be sent to the City not less than one hundred twenty (120) days prior to the foreclosure sale or the acceptance of a deed in lieu of foreclosure. The Owner expressly agrees to the delivery of such foreclosure notice and any other communications and disclosures made by such Mortgagee holder pursuant to this Agreement. Should the Mortgagee fail to provide notice as set forth in this section, Owner shall nonetheless promptly provide the City with copies of any notices of foreclosure received by Owner.

Upon receipt by the City of any notice of foreclosure from either a Mortgagee or from the Owner, the City shall have the option to acquire the Unit at the City's Option Price as defined in Paragraph 6. The City shall have sixty (60) days from the receipt of any notice under this paragraph within which to close on its acquisition of the Unit. The City shall have the right, but not the obligation, to cure any default by Owner in connection with a default notice sent by either Owner or a Mortgagee, and if the City cures such default, it shall be entitled to deduct all amounts paid by it before remitting to Owner any proceeds of sale in connection with the exercise by the City of the option granted to it under this Section 10.

11. Disbursement of Insurance and Eminent Domain Proceeds. In the event Owner receives proceeds as a result of a complete eminent domain taking of the Unit, Owner and the City shall share in such proceeds such that the Owner shall, subject to the rights of senior and junior mortgage holders in their respective order of priority, receive an amount equal to no more than the Option Price as determined under Section 6 above, with the City receiving the balance of the proceeds, if any. If there occurs a partial eminent domain taking, or if Owner receives any insurance proceeds as a result of any casualty loss to the Unit, then the parties shall share in the proceeds on a pro-rata basis, with Owner (subject to the rights of senior and junior mortgage holders in their respective order of priority) receiving a percentage of the Option Price based on the diminution of value of the Unit, with the City receiving the balance of the proceeds, if any.

12. Breach of Covenant: Remedies. In the event of a breach of this Agreement by Owner, which breach is not cured within thirty (30) days after written notice from the City, the City may enforce the terms of this Agreement in an action at law or in equity.

13. Miscellaneous. Any sale or transfer conducted contrary to the terms and conditions contained herein shall be null and void. All sales or transfers shall be subject to all terms and conditions contained herein. If any portion of this Agreement is declared unenforceable by a court of competent jurisdiction, such declaration shall not affect the validity or enforcement of the remaining provisions hereof. Notices hereunder shall be in writing and sent by first class mail, certified return receipt requested, addressed to the recipient at the address given above. If the City or its successors or assigns shall change addresses, it shall give notice of the new address in the manner provided in this paragraph.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first written above.

WITNESS:

ADAM'S APPLE, LLC

_____

By:_____
Name:
Title: Its Member

_____

_____
Name:
Owner

CITY OF PORTLAND

_____

By:_____
Name:
Title:

STATE OF MAINE
CUMBERLAND, SS. , 201_

Personally appeared the above-named Peter L. Bass, Member of Adam's Apple, LLC, as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said company.

Before me,

_____
Notary Public/Attorney at Law

Printed name: _____

My Commission Expires: _____

STATE OF MAINE
CUMBERLAND, SS. , 201_

Personally appeared the above-named _____ and acknowledged the foregoing instrument to be his/her free act and deed.

Before me,

_____
Notary Public/Attorney at Law

Printed name: _____

My Commission Expires: _____

STATE OF MAINE
CUMBERLAND, SS. , 201_

Personally appeared the above-named _____, _____ of the City of Portland as aforesaid, and acknowledged the foregoing instrument to be his/her free act and deed in his/her said capacity and the free act and deed of said City of Portland.

Before me,

_____
Notary Public/Attorney at Law

Printed name: _____

My Commission Expires: _____

Gorham
SAVINGS BANK

December 10, 2015

Planning Board
City of Portland
Portland, Maine

Re: Development of 65 Munjoy Street Portland, Maine

Dear Planning Board Members,

I am writing on behalf of Adams Apple, LLC and its principals Peter Bass and Ethan Boxer-Macomber, Developers of the proposed project at 65 Munjoy Street Portland, Maine.

Peter Bass has successfully completed a number of commercial and residential development projects including affordable housing and live/work studios in Portland. His current project at 33 Lafayette Street in Portland is another example of his work in urban redevelopment. Gorham Savings Bank has had a deposit relationship and borrowing relationships with Peter Bass for many years.

Ethan Boxer-Macomber has been involved in housing and urban redevelopment in his former capacity as Senior Manager and Development Officer at Avesta developing low income housing and recently as owner of ANEW Development, LLC. He currently is redeveloping the former Roosevelt School in South Portland into 19 housing units.

Based on their technical and practical development experience, Peter and Ethan have demonstrated both the management capabilities and the financial resources necessary to see a project like this through to a successful completion.

This letter is not to be construed as a loan commitment

If you should need further information or clarification, please contact me at 222-1492.

Regards,

Karl Suchecki
Sr. Vice President

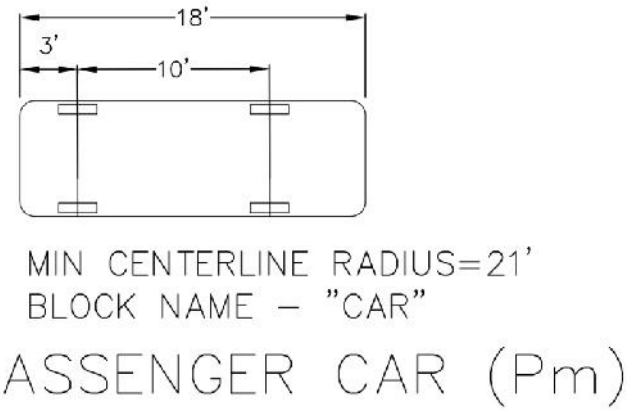
63 Marginal Way, Suite 200, Portland ME 04101 • Tel. (207) 221-8484
www.gorhamsavingsbank.com

RANSOM
Consulting
Engineers
and Scientists

Memo

Date:	December 11, 2015
Subject:	Proposed Parking at 65 Munjoy Street
From:	John Mahoney
To:	Barbara Barhydt and Thomas Errico

Five 9' wide by 18' long, one 8' wide by 18' long and two 9' wide by 15' long parking spaces are provided as shown on Sheet C1. The 8' wide space is next to a 5' wide isle, which will provide additional clearance. This 5' wide isle will also facilitate two accessible parking stalls. Vehicles will pull into the stalls forward and then back out onto Munjoy Street. Ransom conducted a turning template analysis using the passenger design vehicle template shown below.



In addition to the turning template analysis, Ransom reviewed the operations of the Marquis Lofts development at 33 Lafayette Street. The configuration is similar to 65 Munjoy with parking beneath the building at a right angle to the driveway. The turning template analysis revealed that the greatest constraint of this configuration is the width of the driveway. The width of the driveway (retaining wall to face of garage door) was measured to be 18.5 feet. The project's

400 Commercial Street, Suite 404, Portland, Maine 04101, Tel (207) 772-2891, Fax (207) 772-3248
Pease International Tradeport, 112 Corporate Drive, Portsmouth, New Hampshire 03801, Tel (603) 436-1490
12 Kent Way, Suite 100, Byfield, Massachusetts 01922-1221, Tel (978) 465-1822
60 Valley Street, Building F, Suite 106, Providence, Rhode Island 02909, Tel (401) 433-2160
2127 Hamilton Avenue, Hamilton, New Jersey 08619, Tel (609) 584-0090

www.ransomenv.com

developer Peter Bass has indicated that parking operations have been working reasonable well.

The driveway with for 65 Munjoy is proposed to be 18' which is slightly less than Marquis Lofts. However, although 65 Munjoy will have a retaining wall at the edge of the driveway, it will not project above the driveway. The vertical wall can create "shy" space (with vehicles maintaining clearance) and it does not allow bumpers or mirrors to project past the edge of the driveway. For these reasons, it is anticipated that parking operations at 65 Munjoy will be at least as good as those at Marquis Lofts.

It is our opinion that parking operations at this site will be typical of parking operations at other multi-unit sites on Munjoy Hill and that the design strikes an appropriate balance between the geometrically divergent goals of providing robust parking accommodations and minimizing impervious area. We recognize that during snowy winters, snow removal may be required to maintain the usability of all 8 parking spaces.

RANSOM Consulting, Inc.

Consulting Engineers and Scientists

65 Munjoy Street Stormwater Management Narrative

Date:	December 11, 2015
From:	John Mahoney, P.E.
Peer Review:	Stephen J. Bradstreet, P.E.
Location:	65 Munjoy Street, Portland, Maine

Existing Conditions:

The site is a 6,778 SF (.16 acres) acre parcel located at 65 Munjoy Street, which is on the east side of Munjoy Street between Moody and Wilson Streets. Nearly the entire parcel is paved. The parcel is relatively flat, with a difference in elevation of only approximately two feet between the highest point, near Munjoy Street, and the lowest point, at the back of the parcel.

Stormwater runoff currently drains across the existing paved parking lot from Munjoy Street towards the back of the lot and onto City owned land currently used by the public as a park. Approximately two thirds of the site drains towards the eastern corner of the parcel; then into a shallow grassed swale adjacent to the playground; then into an existing catch (adjacent to the paved trail that connects Becket to O'Brian Street) that discharges into Wilson Street stormdrain system. The remaining third of the site drains towards the northern corner of the parcel; then flows over the surface on City park land and is directed towards Moody Street; then flows along the Moody Street gutter line and into a catch basin on Moody Street.

The existing drainage systems on Wilson Street, Moody Street and Munjoy Street are currently combined sanitary sewer and stormdrain systems.

Based on the Cumberland County USDA soil survey GIS data, the existing soils on this site are hydrological group A, excessively drained.

Proposed Development:

The owner is proposing to construct an 8-unit residential building along with associated driveway and parking areas. The proposed development will reduce the impervious area by approximately 20%.

Proposed Sewer Separation:

Based on conversations with Dave Pineo and Justin Pellerin on November 23, it is our understanding that the City intends to separate the drainage system on both Moody and Wilson Streets. However (although this may happen at some point in the future) there is currently no plan to separate the drainage system on Munjoy Street.

Stormwater Management – Basic Standards:

Erosion and sedimentation control measures are detailed and described on Sheets C1 and C3. Good housekeeping practices shall be in accordance with Maine DEP Best Management Practices. A post construction stormwater management plan and a stormwater BMP inspection and maintenance log are included with this submission.

Stormwater Management - Quality:

We are proposing to construct three rain gardens to capture and infiltrate stormwater runoff. Approximately three quarters of the driveway will be conveyed to two rain gardens, one on either end of the driveway. The building's roof and the green space on the southeast side will drain to a larger rain garden in the northern corner of the building. The patio behind the building will consist of pervious pavers. The rain gardens will be 2" to 3" deep and consist of a central "riverbed" of natural rounded stone to dissipate concentrated flows and provide storage surrounded by soil filter media planted with perennials and native grasses.

As shown on C2, the outlets of the rain gardens are designed to preserve the site's existing drainage patterns. Overflow from the rain gardens will leave the site via grassed level spreaders. We considered piping the stormwater to the Munjoy Street combined sewer, but preserving the existing drainage will direct the stormwater towards Moody and Wilson Streets, which are proposed to be separated.

Stormwater Management - Quantity:

In our opinion, the combination of reducing the site's impervious area and constructing the proposed rain gardens will reduce peak runoff rates during rainfall events when compared with runoff rates of pre-development conditions. This, in turn, will reduce the burden on the City's drainage system.

65 Munjoy Street: Post-Construction Stormwater Compliance Requirements

The Applicant shall maintain the BMPs in accordance with the approved plan and shall demonstrate compliance with the plan as follows:

(a) *Inspections.* The owner or operator of a BMP shall hire a qualified post-construction stormwater inspector to at least annually, inspect the BMPs, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan.

(b) *Maintenance and repair.* If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide a record of the deficiency and corrective action(s) to the department of public services (“DPS”) in the annual report.

(c) *Annual report.* The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, on or by June 30 of each year, provide a completed and signed certification to DPS in a form provided by DPS, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action(s) taken.

(d) *Filing fee.* Any persons required to file and annual certification under this section shall include with the annual certification a filing fee established by DPS to pay the administrative and technical costs of review of the annual certification.

(e) *Right of entry.* In order to determine compliance with this article and with the post-construction stormwater management plan, DPS may enter upon property at reasonable hours with the consent of the owner, occupant or agent to inspect the BMPs.

65 Munjoy Street: Stormwater BMP Inspection and Maintenance Log

The City of Portland, ME requires ongoing annual inspections to ensure the proper maintenance and operation of stormwater management facilities. Inspections must be conducted by third parties qualified by the City.

A. General Information

Use only one Cover Sheet per site with as many specific structural BMP Inspection Report attachments as needed. Attach required color digital photos of site, structures and devices as applicable with captions.

Project Name:	65 Munjoy Street	**Inspection Date:**	
Parcel Map, Block and Lot:	003 M005	**Current Weather:**	
BMP Owner:	Adams Apple LLC	**Date / Amount Last Precip:**	
Owner Mailing Address:	30 Danforth Street Suite 213, Portland ME	**3PI Company:**	
		3PI Mailing Address:	
Owner Phone #:	(207) 272-8550		
Owner Email:	ethan@anewdevelopment.com	**Inspector Name:**	
		Inspector Phone #:	
		Inspector Email:	

B. Inspection Report Attachments

Please document the number of each structural BMP type found at this site in the blank spaces provided below. Use additional Attachments if / as needed and submit all Attachments together with the Cover Sheet as a single report.

BMP Type	Number BMPs at site
Vegetated Areas	-
Rain Garden Areas	3
Parking-Driveway Area	1

Other (describe	

C. Inspection Results

FAIL** ☐

** If any one item on an Inspection Report attachment is coded as "Work Needed" then entire BMP fails inspection.

** If a site has multiple BMPs and one fails inspection, mark as "Fail" until all BMPs pass inspection.

Note: Applicable BMP Inspection Reports and confirmatory color digital photos summarizing required repairs must be submitted to the City following completion of the preliminary inspection. A re-inspection and certification must be completed within 60 days of the failed preliminary report. It is recommended that the inspector be part of the repair / maintenance process to ensure that repairs are performed properly.

PASS ☐

Note: a qualified professional (as determined by the City) must sign below and include all applicable Inspection Report attachments and confirmatory digital color photos with captions.

D. Professional Certification (as qualified by City of Portland Stormwater Program Coordinator)

To be completed only when all BMPs at this site are functioning as designed with no outstanding maintenance issues.

I, _____, as a duly qualified third party inspector attest that a thorough inspection has been completed for ALL applicable BMPs that are associated with this particular site. All inspected structural BMPs are performing as designed and intended and are in compliance with the provisions of the City Portland's Standards

Signature: _____

Date: _____

Form Adapted from the City of South Portland's Annual Structural BMP Inspection Report Cover Sheet

	Date:		
General Information	**Observations**		
Inspection duration (hours)			
Days since last precipitation			
Quantity of last precipitation (in)			
Type of inspection			
Storm event			
Current weather			
Photos taken	☐ Yes	☐ No	☐ NA
Nearby natural resources	☐ Yes	☐ No	☐ NA
Copy of ESC plan	☐ Yes	☐ No	☐ NA
MEDEP Permit # (*if applicable*)			
General info notes			

Vegetated Areas	**Observations**		
No bare areas (< 90% covered) with sparse growth	☐ Yes	☐ No	☐ NA
No erosion	☐ Yes	☐ No	☐ NA
Vegetated area notes			

Rain Garden Areas	**Observations**		
Accumulated sediments and debris (trash) within the infiltration area have been removed and legally disposed of	☐ Yes	☐ No	☐ NA
Native grasses mowed. Required twice a year	☐ Yes	☐ No	☐ NA
Grades as shown on the Drainage & Utilities Plan – C1 have been retained	☐ Yes	☐ No	☐ NA
Plantings are healthy	☐ Yes	☐ No	☐ NA
Rain Garden Notes The rain garden areas are shallow depressions intended to slow and infiltrate stormwater run-off and it is critical that they not be filled in.			

Parking/Driveway Area			
Accumulated winter sand has been cleared	☐ Yes	☐ No	☐ NA
Pavement swept to help remove sediment	☐ Yes	☐ No	☐ NA
No stormwater is impeded by accumulations of material	☐ Yes	☐ No	☐ NA
Notes:			

Other Comments	**Observations**
Corrective action needed	☐ Yes ☐ No ☐ NA
If corrective action in needed, please explain detail	
Verbal notification provided to responsible party	☐ Yes ☐ No
Verbal notification contact	
Follow up required	☐ Yes ☐ No
Final comment notes	

Photos (*use additional pages as needed*)

Review Notes
Date Reviewed: Reviewed by: Date entered: Date edited: Edited by:

65 Munjoy Street, Portland, Maine

STORMWATER DRAINAGE SYSTEM
MAINTENANCE AGREEMENT AND
RELEASE FROM LIABILITY

IN CONSIDERATION OF the site plan and subdivision approval granted by the Planning Board of the City of Portland to a plan entitled **65 Munjoy Street: Civil and Landscape Drawings** prepared for **Adams Apple LLC,** by **Ransom Consulting, Inc**. dated **December 11, 2015** recorded in the Cumberland County Registry of Deeds in Plan Book _____, Page _____ (the "Plan") and pursuant to a condition thereof, **Adams Apple LLC** (owner) having a mailing address of **30 Danforth Street, Suite 213, Portland, Maine 04101**, the owner of the subject premises, does hereby agree, for itself, its successors and assigns (the "Owner"), as follows:

Maintenance Agreement

That it will, at its own cost and expense and at all times in perpetuity, maintain in good repair and in proper working order the stormwater drainage system, as shown on said plan, including but not limited to the **rain gardens, roof drain outlet level spreaders and drainage swales** in strict compliance with the Maintenance of Facilities as described in **65 Munjoy Street Stormwater Management Narrative and the 65 Munjoy Street Stormwater Inspection and Maintenance Log** (Stormwater Management Plan) dated **December 11, 2015** and Chapter 32 of the Portland City Code. Owner of the subject premises further agrees to keep a Stormwater Maintenance Log that will be made available for inspection by the City of Portland upon reasonable notice and request.

This Agreement is for the benefit of the said City of Portland and all persons in lawful possession of the property; further, that the said City of Portland may enforce this Agreement by an action at law or in equity in any court of competent jurisdiction; further, that after giving the Owner written notice as described in this Agreement, and a stated time to perform, that the said City of Portland, by its authorized agents or representatives, may, but is not obligated to, enter upon the property in question to maintain, repair, or replace said stormwater drainage system, including but not limited to the **rain gardens, roof drain outlet level spreaders and drainage swales** thereon in the event of any failure or neglect thereof, the cost and expense thereof to be reimbursed in full to the said City of Portland by the Owner upon written demand. Any funds owed to the City under this paragraph shall be secured by a lien on the property.

This Agreement shall bind the undersigned only so long as it retains any interest in

said premises, and shall run with the land and be binding upon the Owner's successors and assigns as their interests may from time to time appear. The Owner agrees to provide a copy of this Agreement to any successor or assign and to forward to the City an Addendum signed by any successor or assign in which the successor or assign states that the successor or assign has read the Agreement, agrees to all its terms and conditions.

For the purpose of this Agreement the real estate shown by chart, block and lot number in the records on file in the City Assessor's office shall constitute "the property" that may be entered by the City and liened if the City is not paid all of its costs and charges following the mailing of a written demand for payment to the Owner pursuant to the process and with the same force and effect as that established by 36 M.R.S.A. §§ 942 and 943 for real estate tax liens.

Any written notices or demands required by this Agreement shall be complete on the date the notice is mailed to the owner of record as shown on the tax roles on file in the City Assessor's Office. If the property has more than one owner on said tax rolls, service shall be complete by mailing it to only the first listed owner. The failure to receive any written notice required by this Agreement shall not prevent the City from entering the property and performing maintenance or repairs on the stormwater system, or any component thereof, or liening it or create a cause of action against the City.

Dated at Portland, Maine this_____day of _____, 20__.

_____

By:_____

Its: _____

STATE OF MAINE
CUMBERLAND, ss. Date: _____

Personally appeared the above-named_____, and acknowledged the foregoing instrument to be his/his free act and deed in his/her said capacity, and the free act and deed of said_____.

Before me,

_____

Notary Public/Attorney at Law

Print name: _____

Project Consistency with City Master Plans

The proposed subdivision is precisely the type of development that is encouraged by Portland's Comprehensive Plan. It meets multiple comprehensive plan goals, including at least the following, each of which is discussed in more detail below:

FUTURE LAND USE PLAN

- Encourage orderly growth and development in appropriate areas, making efficient use of public services and preventing development sprawl. (State Goal A, Comprehensive Plan, Vol. I, Portland's Goals and Policies for the Future, p. 21);

- In the R-6 zone, encourage the existing compact lot development pattern typically found on the peninsula. (Comprehensive Plan, Vol. II, Future Land Use Plan, p. 65)

HOUSING POLICIES

- Advance the overall goal of maintaining a 25% share of Cumberland County's population, taking advantage of the City's capacity to accommodate more people (Comprehensive Plan, Vol. I, Portland's Goals and Policies for the Future, p. 21-22);

- Create new housing to support Portland as an employment center and to achieve an improved balance between jobs and housing. (Comprehensive Plan, Vol I, Portland's Goals and Policies for the Future, pp. 21-22);

- Ensure that an adequate supply of housing is available to meet the needs and preferences of all Portland households, including a continuum of options across all income levels. (Comprehensive Plan, Vol I, Portland's Goals and Policies for the Future, p. 44);

- Identify vacant land and redevelopment opportunities throughout the City to facilitate the construction of new housing. (Comprehensive Plan, Vol I, Portland's Goals and Policies for the Future, p. 44);

- Promote residential densities that are consistent with past development patterns. (Housing: Sustaining Portland's Future, p. 27);

SUSTAINABILITY

- Increase efficient use of transportation resources by avoiding decentralizing land use trends and supporting land use patterns that favor density and concentration. Comprehensive Plan, Vol I, Transportation Resources, T-7-8);

- Design housing to use new technologies and materials that reduce costs and increase energy efficiency. (Comprehensive Plan, Vol I, Portland's Goals and Policies for the Future, p. 22)

A. Future Land Use Plan

In accordance with the mandate of the State Growth Management policies, the City designated all properties zoned R-6 as part of the growth area. However, the Future Land Use Plan went beyond that simple designation to assert that Portland needs growth to sustain it as a healthy city and to maintain its role as the economic, cultural and residential center for the region. (p. 55). Ideally, that growth will "provide housing near employment centers, support public transportation, attract families with children, expand the tax base, and stabilize neighborhoods." (p. 55)

In looking at where that growth can be accommodated within Portland, it found that only 9.75% of land in all residential zones is vacant, and in the highest density residential zone, the R-6 zone, only 2.77% of the land is vacant. As a way to foster the growth necessary to a healthy future, the Future Land Use Plan specifically endorses the recommendation, first made in Housing: Sustaining Portland's Future, to "rewrite[e] the zoning ordinance to encourage new housing and eliminate[e] barriers to development by allowing greater housing density and more efficient use of vacant land, infill lots, and redevelopment opportunities." (Future Land Use, p. 55) The Future Land Use Plan notes with approval that amendments are in process to make more of the vacant land available for development, stating:

> Currently, the R-6 Zone Amendments for Small Lot Infill Development are being prepared to allow undersized vacant lots to be developed at former density and setback requirements. The intent of these amendments is to encourage new housing on small infill lots in a manner consistent with the existing compact lot development pattern typically found on the peninsula. (p. 65)

B. Housing Policies

Increased residential housing is viewed as a key to maintaining the health of the City. It is not sufficient for it merely to be an employment center for people to commute to by day, while living in and paying real estate taxes to suburban towns. The housing component of the comprehensive plan, Housing: Sustaining Portland's Future, calls for Portland to accommodate housing for more people so that the City increases to and then maintains a 25% share of the county's population. (p. 53)

One fundamental housing goal is to increase the supply of housing. To further that goal, the housing plan states the City should strive to ensure the construction of a diverse mix "that offers a continuum of options across all income levels." (p. 29) The City should also encourage higher density housing, "particularly located near services, such as schools, businesses, institutions, employers, and public transportation." (p. 30) Particular emphasis is placed on encouraging infill development, and housing within and adjacent to the downtown. In furtherance of the goal of developing a broad range of housing, it states the City should "[e]ncourage opportunities for the development of homes that are attractive to those households moving up in the real estate market . . . so Portland can remain competitive with surrounding suburban communities. (p. 32) Additional supply-based objectives include "identify[ing] vacant land and redevelopment opportunities throughout the city to facilitate the construction of new housing" and "[p]romot[ing] Portland as a Pro-Housing Community." (p. 33) While some parts of the housing plan emphasize affordable assisted housing, it states "the need for market rate housing for mid and higher income households is also critically important to Portland's future. Eliminating barriers to housing development and supporting market rate projects through the approval process can assist in this." (p. 62b)

Another basic housing plan goal is to maintain neighborhood stability and integrity. The plan calls for the City to "[e]ncourage innovative new housing development which is designed to be compatible with the scale, character, and traditional development patterns of each individual residential neighborhood." (p. 44) The plan advocates "work[ing] with owners and developers to find productive uses for vacant and underutilized lots." (p. 45) The plan makes it clear that it is not trying to encourage suburban, single-story ranch house infill development that was typical of prior periods. Instead the 2002 plan values traditional patterns of development and residential density, and criticizes the fact that (particularly in the R-6 zone) the traditional development pattern cannot be replicated under the zoning then in effect. (p. 27) Since that date, the City has implemented the R-6 small lot provisions so that infill development can replicate the traditional character and pattern of development.

C. Sustainability

The land use policy promoting infill development and increased housing stock in close proximity to downtown, discussed above, has been identified by the City as an important part of creating environmental and economic sustainability. ("Sustainable Portland", Final Report of the Mayor's Sustainable Portland Taskforce, November, 2007). The proposed development is consistent with these goals.

Similarly, the Sustainability Report identified green building as an important means for reducing pollution and our collective carbon footprint. (Id., p. 6) This building is designed to have numerous green features including: all landscaping native species; roof water runoff collected in rain barrels for irrigation; building envelope sealed to prevent air leaks with insulation well above present construction standards; energy efficient windows with largest oriented to optimize solar gain and windows located for cross natural ventilation, without air-conditioning systems; energy efficient systems and appliances, air exchangers, and radiant floor heat in each unit; low VOC paints, glues and sealants; roof light color to prevent heat build up; and many green building materials, flooring, siding, and recycled products.

Solid Waste Management Plan: 65 Munjoy Street

Solid waste and recycling will be collected curbside by the city using pay per use purple bags and approved recycling bins. Appropriate trash containers will be placed in the mechanical storage room for weekly storage.

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NFPA Code Summary

Building Area Information

Building Footprint:	3,336 SF
R-2 Net:	7,307 SF
Parking Net:	1,345 SF
Building Gross:	10,008 SF

NFPA Code Overview

Use:	New Residential Apartment Building & New Storage
Construction:	No minimum requirement
Sprinkler:	NFPA 13R (Supervised to meet standards set forth in Chapter 10 Article VIII of the City of Portland)
Occupancy:	41 Occupants

NFPA 10

NFPA 10	6.2.1.1	Each floor shall have a single (2) unit Class A Fire Extinguisher

NFPA 101

3.3.32.5	New Building
6.1.8.1.5	Residential Occupancy – Apartment Building (Chapter 30)
6.1.13.1	Storage – Enclosed Parking Structure (Chapter 42)
6.1.14.4.3	1 hour separation required in sprinkled building
6.2.2.3	Ordinary Hazard Contents
7.1.3.1	Exit access corridors shall have one-hour fire resistance rating
7.1.3.2.1	Stairs three stories or fewer shall have one-hour fire rating
7.1.5.1	Min headroom: 7'-6"
7.1.6.3	Cross Slope limited to 1:48
7.2.1.2.3.2	Egress door min clear width: 32"
7.2.1.4	Door swing and force to open shall comply with this section
7.2.1.5	Door locks, latches and alarms shall comply with this section
7.2.2.2.1.1	Max riser height: 7"
	Min Tread depth: 11"
	Min headroom: 6'-8"
7.2.2.2.1.2	Min stair width: 36" (for occupancy under 50)
7.2.2.3.2.3	Min landing depth: stair width
7.2.2.4.4.1	Handrail height: 36"
7.2.2.4.4.6	Handrail shape: 1 ½" circular cross section
7.2.2.4.4.9	Handrails shall return to wall or newel post
7.2.2.4.4.10	Handrails shall extend 12" at top of stair and one tread length at bottom
7.2.2.4.5.2	Min guard height: 42"
7.2.2.4.5.3	Open guards shall not allow the passage of a 4" sphere
7.2.2.5.4	Stairway identification shall comply with this section.
7.2.6.3	Stair discharge shall have a 1-hr fire resistance rating.

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PO Box 8235, Portland, ME 04104 • 30 Danforth Street, Suite 213, Portland, ME 04101

7.2.12.1.1	Sprinkler precludes need for area of refuge in stair.
7.3.1.2	**Occupancy Load**
	Residential Apartment: 200 gross at 7307sf is 37 occupants
	Storage: 500 gross at 1345sf is 3 occupants
	Total Occupant Load: 40 occupants
7.3.4	Min Egress width: 36"
7.4.1.1	See 30.2.4.4
7.8	Egress Illumination shall be in accordance with this section.
7.9	Emergency Lighting shall be in accordance with this section.
7.10	Marking for means of egress shall comply with this section.
30.1.2.3	Dwelling units allowed over parking when either: • Parking is sprinkled with NFPA 13 system or • Uses are separated with a 1-hour fire rating fire resistance rating.
30.1.6	No minimum construction requirements
30.2.1.1	Means of Egress shall comply with Chapter 7 and Chapter 30
30.2.4.4	Single stair permitted from building given • Less than 3 stories • Less than 3 units/floor • No basement • No distance from unit door to stair • 1-hr rated stair • Self-closing doors • No corridors • ½ hr rating between units
30.2.5	Common Path Limit: 50'
30.2.5.4.2	Dead-End Limit: 50'
30.2.6.2	Max Travel Distance within unit (sprinkled): 125'
30.2.6.3.2	Max Travel Distance from unit door to exit (sprinkled): 200'
30.3.4	Fire detection and alarm system shall comply with this section.
30.3.4.5	Smoke alarms shall be installed: In every sleeping area Outside every sleeping area At least one on each level
30.3.5.2	Sprinkler system NFPA 13R permitted for four or fewer stories.
30.3.6.1.2	Corridor walls (sprinkled): ½ hour
30.3.7.2	Dwelling unit separation (sprinkled): ½ hour
42.1.6	No minimum construction requirements
42.2.4.1	Single means of egress allowed within common path of travel limit.
42.2.5	Dead End Corridor: 100' Common Path of Travel: 100'
42.2.6	Maximum Travel Distance: 400'

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Design Standards Assessment

Overall Context

The design for the 65 Munjoy Street is contextual in massing, articulation and materials, while utilizing contemporary details. The Flats offer apartment units in the traditional triple-decker style that is found throughout Portland and on Munjoy Hill. The unit density to land area ratio is comparable to nearby areas on Munjoy Hill.

Massing and Orientation to the Street

The form of the building is manipulated to create a massing that is similar to the surrounding buildings while allowing for a building footprint and circulation that is more efficient than two separate buildings. Off-street parking is concealed at the side of the building.

The main entrance of the Flats opens to the street, and is sheltered by a canopy. The windows on the street façade are arranged in a symmetrical and rhythmic pattern. The project proposes to provide designed space at the sidewalk edge with intentional landscaping.

Proportion, Scale and Balance

The Flats are designed with the common triple-decker as the model for proportion and scale. The building height, massing of the façade, and window arrangement seek to replicate the classic triple-decker building type.

Articulation and Materials

The articulation of details for the Flats seeks to utilize contemporary design within the contextual massing and proportion framework. The cornice and canopy are articulated with rough cut cedar as opposed to painted trim. The windows consist of fixed upper windows paired with lower awning windows instead of less energy efficient double-hung windows. While the primary masses of the building are clad in traditional clapboard, the base and highlight material will be a stained board and batten.

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RIPCORD ENGINEERING
PO BOX 4175
PORTLAND, ME 04101
(207) 331-7900

Mr. Evan Carroll
30 Danforth Street Suite 213
Portland, Maine
04101

December 6, 2015

Mr. Carroll,

The HVAC design effort for the multi-family residential project at 65 Munjoy Street has not yet begun in earnest, however Ripcord Engineering will specify that all HVAC equipment will meet any applicable state and federal emissions requirements.

Sincerely,

SONIA M. BARRANTES, P.E.
RIPCORD ENGINEERING

SUMMIT
GEOENGINEERING SERVICES

Geotechnical Report

New Residential Building
65 Munjoy Street
Portland, Maine

Prepared for:

Anew Development
17 Chestnut Street, PO Box 201
Portland, Maine 04112

Prepared by:

Summit Geoengineering Services
P.O. Box 7216
Lewiston, Maine

Project #15232
November 2015

November 19, 2015
Summit #15232

Ethan Boxer-Macomber
Anew Development
17 Chestnut Street, PO Box 201
Portland, Maine 04112

Reference: Geotechnical Engineering Report, Proposed Residential Building
65 Munjoy Street, Portland, Maine

Dear Ethan;

We have completed the geotechnical investigation for the construction of a new residential building at 65 Munjoy Street in Portland, Maine. Our scope of services included performing five test borings at the site and preparing this report summarizing our findings and geotechnical recommendations.

Our scope of services for this project did not include an environmental site assessment or further investigation for the presence or absence of hazardous or toxic material on, below, or around the site.

1.0 Site and Project Description

We understand that the project consists of the construction of a new 3 story residential building with a footprint of approximately 3,300 square feet (60 feet by 55 feet). We further understand that the building is a slab-on-grade structure in the southern half and contains a car port at ground level in the northern half. The building will be wood framed and is proposed to have a conventional frost wall foundation.

The site, approximately 0.15 acres, is currently a paved parking lot sandwiched between two wood framed homes. The site is relatively flat.

Phase I and Phase II ESA's have been completed at the site by others. Based on the results of these studies, a soil management plan was recommended and will be implemented. We understand that the contaminated soil will be removed from the site and transported to a recycling facility. The excavated soil will be replaced to existing grade with uncontaminated granular soil.

2.0 Explorations

Summit Geoengineering Services (SGS) drilled a total of five borings at the site on October 20, 2015. The borings were located by Summit by taping from existing site features. The borings were completed using 2¼-inch hollow stem augers. Borings were drilled from 12 to 17 feet below the existing ground surface. Refusal in boring B-3 was encountered at a depth of 13.5 feet. Standard split spoon samples were obtained at the surface and at 5 foot intervals.

The location of the borings is shown on the Test Boring Location Plan in Appendix A. Logs of the explorations are included in Appendix B.

3.0 Subsurface Conditions

The soil at the site generally consists of the following materials and thicknesses.

- Pavement, 2 to 2-1/2 inches
- Fill, 4.5 to 7.5 feet
- Marine Regressive, 3.5 to 4 feet (B-3 and B-4 only)
- Glacial Till, 5 to greater than 10 feet
- Bedrock (13.5 feet at B-3)

The fill soil, encountered at all the boring locations, varies from brown to dark brown silty sand to brown sand with a little gravel. The fill contained a trace to little ash. No organics or other unsuitable materials were encountered. A 12 inch thick topsoil layer was encountered in B-4 from a depth of 3.5 to 4.5 feet. A slight petroleum odor was observed at the B-1 and B-5 locations. A strong petroleum odor was observed at the B-2 location. SPT-N values in the fill ranged from 2 to 16 blows per foot (bpf) and averaged 7 bpf.

The marine regressive layer, encountered at the B-3 and B-4 locations at depths of 5 and 4.5 feet, respectively, is described as brown clean (no fines) sand or gravelly sand. SPT-N values in the till ranged from 14 to 28 and averaged 22 bpf. This soil was dry and is classified as SP in accordance with the Unified Soil Classification System.

The glacial till soil, encountered at depths ranging from 6.5 to 8.5 feet, ranges from olive-gray sandy silt with gravel and clay to olive-gray silt with sand, gravel, and clay. SPT-N values in the till ranged from 40 to 57 and averaged 45 bpf. This soil is classified as ML.

Refusal, presumed to be bedrock, was encountered at a depth of 13.5 feet at the B-3 location. Refusal was not encountered at the other boring locations. Samples of the bedrock were not taken. Based on maps published by the Maine Geological Survey, the bedrock is part of the Spring Point Formation consisting of greenish-gray biotite-quartz schist and amphibolite.

Groundwater was observed at a depth of 5.1 feet at the B-2 location approximately 2 hours after completion of the drilling. Groundwater was not observed at the other boring locations. The sidewalls of the boreholes collapsed at depths of 6, 3.8, and 6.2 feet at the B-3, B-4, and B-5 locations, respectively. Collapsing of boreholes may indicate the groundwater level, but not definitely.

4.0 Foundation Design Recommendations

4.1 Allowable Bearing Pressure

We understand that the contaminated soil at the site will be removed and replaced. Based on the soil conditions observed in the borings and discussions at a project meeting, we recommend that 5 feet of soil be removed within the building footprint. This material should be replaced with Structural Fill (SF), specified below.

Based on the above and the required minimum frost depth, the exterior footings will be constructed on SF placed and compacted over the fill or marine regressive soil. The interior footing will be constructed on at least 3 feet of SF. We recommend that the interior and exterior footings for the proposed building be proportioned using an allowable bearing pressure of 4,000 psf. Column locations and loads were not available for this report. Assuming typical loading conditions for this type of building, total settlement for this allowable bearing pressure is estimated to be less than 1/2 inch and differential settlement will be negligible. This bearing pressure and associated settlement are based on the following conditions:

- At least 5 feet of existing soil is removed from the site.
- The exposed soil within the building footprint beneath the removed fill is proofrolled by making a minimum of 4 passes in each of two perpendicular directions using a vibratory roller with a minimum operating weight of 10 tons.
- The building footprint is backfilled with Structural Fill (SF), specified below, placed directly on the proofrolled soil.

SF should meet the following gradation requirements (MDOT 703.06, Type D).

STRUCTURAL FILL (SF)	
Sieve Size	**Percent finer**
3 inch	100
½ inch	35 to 80
1/4 inch	25 to 65
No. 40	0 to 30
No. 200	0 to 7

SF should be placed in a maximum of 12 inch lifts and be compacted to a minimum of 95% of ASTM D1557. The maximum particle size should be limited to 6 inches.

4.2 Frost Protection

Based on the required frost protection depth, exterior footings should be constructed at a minimum depth of 4 feet below the exterior finished grade. This frost protection depth is based on a design air-freezing index of 1,250-degree days for the Portland area.

We recommend that the exterior of the foundation walls be backfilled with SF as described above. As an alternative, Foundation Backfill (FB) soil meeting the following gradation specification (MDOT 703.06 Type E) can be used:

FOUNDATION BACKFILL	
Sieve Size	**Percent finer**
3 inch	100
¼ inch	25 to 100
No. 40	0 to 50
No. 200	0 to 7

Reference: MeDOT Specification 703.06, Type E

The maximum particle size should be limited to 6 inches. The Foundation Backfill should be compacted to a minimum of 95 percent of its maximum dry density, determined in accordance with ASTM D1557.

4.3 Groundwater Control

Groundwater was observed at the B-2 location at a depth of 5.1 feet. Groundwater was not observed in the other borings. Based on this perimeter underdrains are not strictly necessary at this site. Consideration should be given to the potential for contaminated groundwater to collect in the underdrain. With the above in mind, in order to account for potential changes in local and regional hydrogeology and infiltration of regionally generated surface water runoff, it may be desirable to install exterior perimeter underdrains. If used, perimeter underdrains should consist of 4 inch rigid perforated PVC placed adjacent to the exterior footings and surrounded by a minimum of 6 inches of crushed stone wrapped in filter fabric to prevent clogging from the migration of the fine soil particles in the foundation backfill soils. The underdrain pipe should be outlet to a location where it will be free flowing.

4.4 Seismic Design

The subgrade profile at the site is categorized as Site Class D, "Stiff Soil" in accordance with the 2012 International Building Code (IBC). The following seismic site coefficients should be used:

2009 IBC SEISMIC COEFFICIENTS	
Seismic Coefficient	**Site Class D**
Short period spectral response (S_S)	0.240
1 second spectral response (S_1)	0.078
Site coefficient (S_{ms})	0.384
Site Coefficient (S_{D1})	0.187
Design short period spectral response (S_{DS})	0.256
Design 1 second spectral response (S_{D1})	0.125

Soils susceptible to liquefaction were not encountered in the borings.

4.5 Slabs on Grade – Heated Areas

Site preparation will include removal of up to 5 feet of the existing fill and replacement with SF within the building footprint. Typically we recommend the slabs-on-grade in heated areas be constructed on a minimum 12-inch thick layer of Structural Fill (SF). Based on this, the slab can be constructed directly on the replacement SF. Refer to Section 4.1 above.

The slabs can be designed using a subgrade modulus value of 175 pci for the above subgrade conditions.

4.6 Slabs-on-Grade – Unheated Areas

As described above, exterior slabs within the building footprint can be placed directly on the replacement fill soil. We recommend that slabs on grade in unheated areas outside the building footprint (or outside the SF replacement area) be placed on a minimum of 30 inches of SF in order to provide frost heave protection. We further recommend that concrete slabs at entrances be constructed on a frost wall foundation. This construction method will exclude potential slab movements from interfering with doors.

5.0 Pavement Section Design

The mean annual freezing index for the Portland area is approximately 900 degree F days. The mean annual frost penetration depth for this freezing index and the soil at the site is approximately 30 inches.

Based on the subgrade soil conditions and the anticipated traffic (cars and light trucks traveling at low speeds) we recommend a minimum total pavement section thickness of approximately 60% of the mean annual frost penetration depth, or 18 inches. We further recommend that the pavement section consist of the following materials.

PAVEMENT SECTION MATERIAL THICKNESSES		
Material	**Thickness (in)**	**Specification**
Asphalt Surface Course	3/4	MeDOT 703.09 Type 9.5 mm
Asphalt Binder Course	2-1/4	MeDOT 703.09 Type 19 mm
Base Soil	3	MeDOT 703.06 Type A
Subbase Soil	12	MeDOT 703.06 Type D

The material specifications are referenced to the 2014 Maine Department of Transportation Standard Specifications.

We recommend that the subgrade soil in pavement areas be proofrolled as described in Section 4.1 above. Subbase and Base soil can each be placed in a single lift. These soils should be compacted to a minimum of 95 percent of their maximum dry density, determined in accordance with ASTM D1557, Modified Proctor Density.

In areas within the building footprint, the asphalt courses can be placed on 3 inches of Type A soil placed and compacted directly on the Structural Fill.

Groundwater is not an issue for pavement areas at this site and pavement underdrains are not necessary.

6.0 Construction Considerations

The composition of the existing fill is primarily mineral. The majority of the fill at the site will be removed from the site and therefore will not be available for re-use at the site.

The existing fill soil is classified as OSHA Type C. Temporary slopes deeper than 4 feet in the existing fill soil should be sloped no steeper than 1.5H:1V.

We understand that excavations to remove the existing soil may come close the existing houses. If the sides of the excavation cannot be sloped shoring may be required. One option may be to use large precast concrete blocks (“waste blocks”), jersey barriers, or other temporary barriers.

The groundwater is anticipated to be below the bottom of excavations and temporary dewatering of excavations should not be necessary.

7.0 Closure

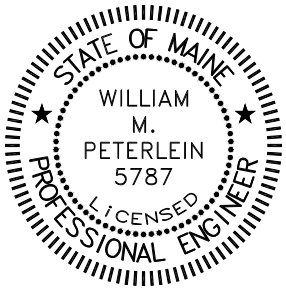
Our recommendations are based on professional judgment and generally accepted principles of geotechnical engineering. Some changes in subsurface conditions from those presented in this report may occur. Should these conditions differ materially from those described in this report, Summit should be notified so that we can re-evaluate our recommendations.

Finished grades and foundation loads were not available for this report. We recommend that SGS be given an opportunity to review the grading and foundation plans to confirm that the assumptions used to generate the recommendations in this report are valid.

We appreciate the opportunity to provide geotechnical engineering services on this phase of the project. If there are any questions please do not hesitate to contact me.

Sincerely,
Summit Geoengineering Services, Inc.

William M. Peterlein, P.E.
Principal Geotechnical Engineer



APPENDIX A

TEST BORING LOCATION PLAN

LEGEND

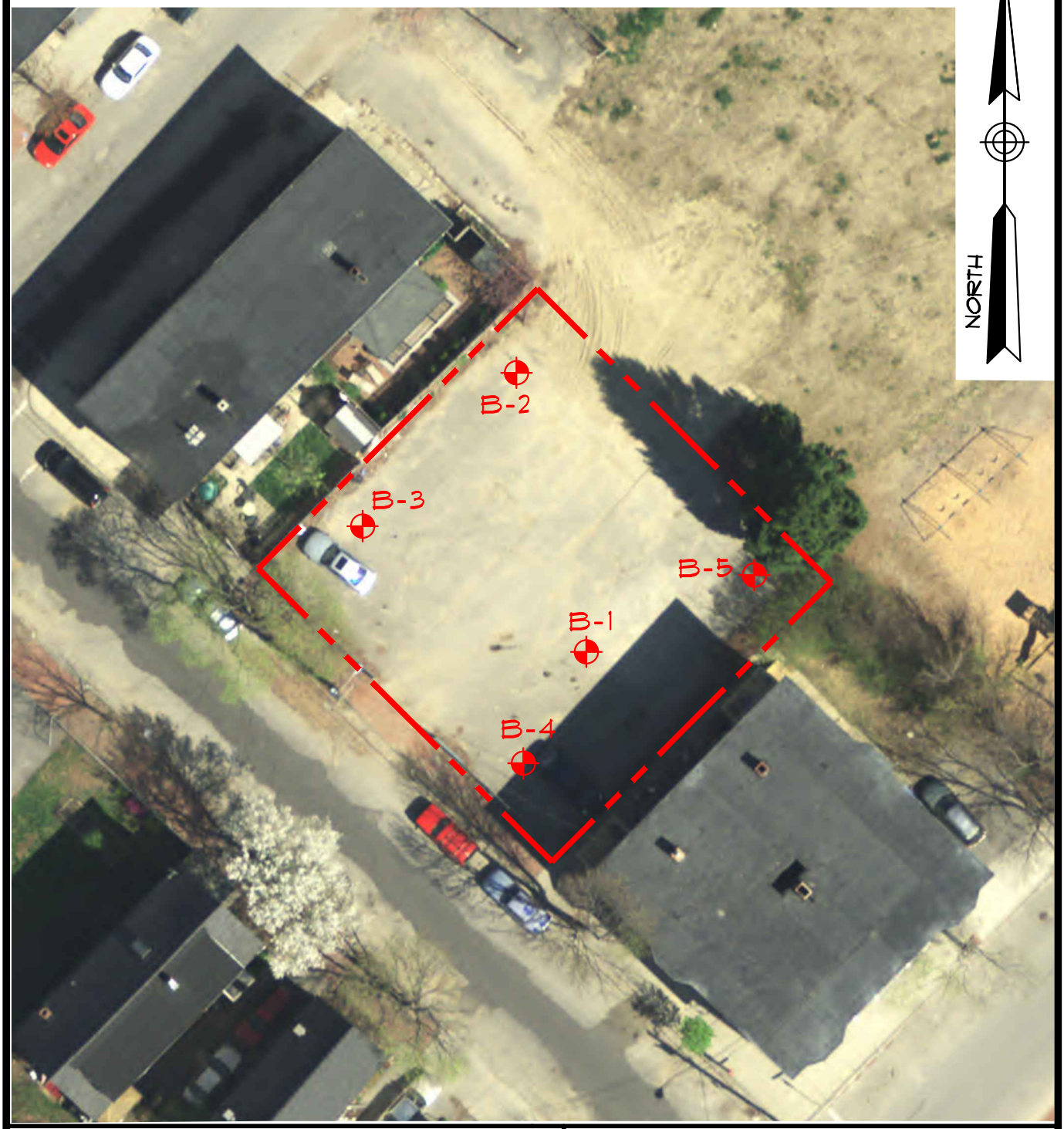
B-1 SUMMIT TEST BORING (OCTOBER 20, 2015)

PLAN REFERENCE

AERIAL IMAGE (2012) OBTAINED FROM MAINE OFFICE OF G.I.S.

N

NORTH



TEST BORING LOCATION PLAN
65 MUNJOY STREET

PORTLAND, MAINE

PREPARED FOR

ANEW DEVELOPMENT

DATE: 10-22-2015	DRAWN BY: KRF	CHECKED BY: WMP
JOB: 15232	SCALE: 1" = 30'	FILE: 15232 BOR

145 LISBON ST. - SUITE 601
LEWISTON, ME 04240
Tel.: (207) 576-3313

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-7761

SUMMIT
GEOENGINEERING SERVICES
www.summitgeoeng.com

APPENDIX B

BORINGS LOGS

EXPLORATION REPORT COVER SHEET

The exploration report has been prepared by the geotechnical engineer from both field and laboratory data. Differences between field logs and exploration reports may exist.

It is common practice in the soil and foundation engineering profession that field logs and laboratory data sheets not be included in engineering reports, because they do no represent the engineer's final opinion as to appropriate descriptions for conditions encountered in the exploration and testing work. The field logs will be retained in our office for review. Results of laboratory tests are generally shown on the borings logs or are described in the text of the report as appropriate.

Drilling and Sampling Symbols:

SS = Split Spoon
ST = Shelby Tube – 2" OD, disturbed
UT = Shelby Tube – 3" OD, undisturbed
HSA = Hollow Stem Auger
CS = Casing – size as noted
Sv = Vane Shear
PP = Pocket Penetrometer
RX = Rock Core – size as noted
Hyd = Hydraulic advance of probes
WOH = Weight of Hammer
WOR = Weight of Rod
GS = Grain Size Data
PI = Plasticity Index
LL = Liquid Limit
w = Natural Water Content
USCS = unified Soil Classification System

Water Level Measurements:

Water levels indicated on the boring logs are the levels measured in the boring at the times indicated. In pervious soils, the indicated elevations are considered reliable groundwater levels. In impervious soils, the accurate determination of groundwater elevations may not be possible, even after several days of observations; additional evidence of groundwater elevations via observation or monitoring wells must be sought.

Gradation Description and Terminology:

Boulders:	Over 8 inches	Trace:	Less than 5%
Cobbles:	8 inches to 3 inches	Little:	5% to 15%
Gravel:	3 inches to No.4 sieve	Some:	15% to 25%
Sand:	No.4 to No. 200 sieve	Silty, Sandy, etc.:	Greater than 25%
Silt:	No. 200 sieve to 0.005 mm		
Clay:	less than 0.005 mm		

Density of Granular Soils and Consistency of Cohesive Soils:

CONSISTENCY OF COHESIVE SOILS		DENSITY OF GRANULAR SOILS	
SPT N-value blows/ft	**Consistency**	**SPT N-value blows/ft**	**Relative Density**
0 to 2	Very Soft	0 to 3	Very Loose
3 to 4	Soft	4 to 9	Loose
5 to 8	Firm	10 to 29	Compact
9 to 16	Stiff	30 to 49	Dense
17 to 32	Very Stiff	50 to 80	Very Dense
>32	Hard		

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Anew Orbit	Boring #:	**B-1**
Location:	65 Munjoy Street	Project #:	#15232
City, State:	Portland, Maine	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	Not Available
Driller:	C. Coolidge, P.E.	Reference:	
Summit Staff:	B. Peterlein, P.E.	Date started: 10/20/2015	Date Completed: 10/20/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model: AMS Po	AMS	Diameter:	2"OD/1.5"ID
Method:	Auger	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
10/20/2015			None Observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/8	0 to 2	4		2" Pavement		
1				4		Black to dark brown silty SAND mixed with gray Ash,		
				3		moist, loose, SM		FILL
2				2				
	S-2	24/12	2 to 4	2		Same as above		
3				2		slight petroleum odor		
				2				
4				2				
5								
	S-3	24/18	5 to 7	2		Brown Silty SAND, trace Gravel, trace Ash, wet,		
6				6		compact, SM		
				10				
7				12		Brown medium to fine SAND, little Silt, moist, compact,		
	S-4	24/24	7 to 9	17		SM		
8				17		Dark gray Sandy SILT, little Clay, trace Gravel,		
				17		moist, compact, ML		
9				28				GLACIAL TILL
10								
	S-5	24/24	10 to 12	24		Same as above		
11				23				
				27				
12				29				
13								
14								
15								
	S-6		15 to 17	18		Same as above		
16				27				
				30				
17				50				
						End of Boring at 17 ft		
18								
19								
20								
21								
22								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-2**

Project:	Anew Orbit	Project #:	#15232
Location:	65 Munjoy Street	Sheet:	1 of 1
City, State:	Portland, Maine	Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	Not Available
Driller:	C. Coolidge, P.E.	Reference:	
Summit Staff:	B. Peterlein, P.E.	Date started: 10/20/2015	Date Completed: 10/20/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model: AMS Po	AMS	Diameter:	2"OD/1.5"ID
Method:	Auger	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
10/20/2015	5.4 ft		At completion
10/21/2015	5.1 ft		2 Hours after completion

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/8	0 to 2	3		2-1/2" Pavement		
1				2		Brown Silty SAND, little Gravel, trace Ash, moist,		FILL
				2		loose, SM		
2				1				
	S-2	24/12	2 to 4	1		Gray Silty SAND mixed with Ash, moist, loose, SM		
3				1				
				1				
4				2				
5								
	S-3	24/18	5 to 7	1		Brown medium to fine SAND, little Silt, wet, trace		
6				2		Ash, very loose, SM		
				3				
7				6		Strong petroleum odor		
	S-4	24/20	7 to 9	7				GLACIAL TILL
8				7		Gray Silty SAND, trace Clay and Gravel, wet, compact,		
				7		SM		
9				10				
10								
	S-5	24/24	10 to 12	12		Olive-gray Sandy SILT, trace Clay and Gravel, dry,		
11				19		hard, ML or CL		
				22				
12				22				
13								
14								
15								
	S-6	24/24	15 to 17	17		Same as above, rock in tip of spoon		
16				22				
				19				
17				28				
						End of Boring at 17 ft		
18								
19								
20								
21								
22								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Anew Orbit	Boring #:	B-3
Location:	65 Munjoy Street	Project #:	#15232
City, State:	Portland, Maine	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	Not Available
Driller:	C. Coolidge, P.E.	Reference:	
Summit Staff:	B. Peterlein, P.E.	Date started: 10/20/2015	Date Completed: 10/20/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model: AMS Po	AMS	Diameter:	2"OD/1.5"ID
Method:	Auger	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
10/20/2015	None		Caved at 6 ft

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/8	0 to 2	2		2" Pavement		
1				4		Brown SAND, little Gravel, trace Silt, dry, loose, SP		
				3				FILL
2				2				
	S-2	24/0	2 to 4	1		No recovery, rock in tip of spoon		
3				2				
				2				
4				2				
5								
	S-3	24/16	5 to 7	3		Brown SAND, clean, dry, compact, SP		
6				7				MARINE REGRESSIVE
				7				
7				12				
	S-4	24/24	7 to 9	18		Brown SAND, trace Silt, dry, compact, SP		
8				21				
				7				
9				14				
						Olive-gray SILT, little Sand and Gravel, trace Clay,		GLACIAL TILL
10						dry, very dense, ML		
	S-5	24/24	10 to 12	12				
11				19				
				21				
12				29				
13								
14						End of Boring on Auger Refusal at 13.5 ft		
15								
16								
17								
18								
19								
20								
21								
22								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Anew Orbit	Boring #:	B-4
Location:	65 Munjoy Street	Project #:	#15232
City, State:	Portland, Maine	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	Not Available
Driller:	C. Coolidge, P.E.	Reference:	
Summit Staff:	B. Peterlein, P.E.	Date started: 10/20/2015	Date Completed: 10/20/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model: AMS Po	AMS	Diameter:	2"OD/1.5"ID
Method:	Auger	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
10/20/2015	None		Caved at 3.8 ft

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/8	0 to 2	2		2" Pavement		
1				3		Brown SAND, little Gravel and Silt, moist, loose, SM		
				3				FILL
2				2				
	S-2	24/12	2 to 4	2		Gray SILT mixed with Ash, moist, loose, ML		
3				3				
				3				
4				4		Olive-brown Sandy SILT, trace rootlets, trace Gravel,		
						moist, firn, ML		
5								
	S-3	24/8	5 to 7	7		Brown Gravelly SAND, clean, dry, SP		MARINE REGRESSIVE
6				9				
				14				
7				15				
8								
9								
10								GLACIAL TILL
	S-4	24/24	10 to 12	11		Olive-gray SILT, little fine Sand and Clay, trace Gravel,		
11				24		dry, hard, ML or CL		
				18				
12				27				
						End of Boring at 12 ft		
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Anew Orbit	Boring #:	B-5
Location:	65 Munjoy Street	Project #:	#15232
City, State:	Portland, Maine	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	Not Available
Driller:	C. Coolidge, P.E.	Reference:	
Summit Staff:	B. Peterlein, P.E.	Date started: 10/20/2015	Date Completed: 10/20/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model: AMS Po	AMS	Diameter:	2"OD/1.5"ID
Method:	Auger	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
10/20/2015	None		Caved at 6.2 ft

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/8	0 to 2	2		2-1/2" Pavement		
1				3		Dark brown SAND, little Silt, trace Gravel, little Ash		
				4		moist, loose, SM		FILL
2				3				
	S-2	24/12	2 to 4	4		Black Silty SAND, little Gravel mixed with Ash, damp,		
3				3		loose, SM		
				3				
4				2				
5								
	S-3	24/16	5 to 7	7		Brown to black Silty SAND, little Ash, trace Gravel,	Petroleum Odor	
6				15		wet, compact, SM		
				15				
7				9				
8								
9								GLACIAL TILL
10								
	S-5	24/24	10 to 12	14		Gray Sandy SILT, trace Gravel, trace Clay, dry, very		
11				18		dense, ML or CL		
				27				
12				30				
13								
14								
15								
	S-6	24/24	15 to 17	15		Same as above		
16				20				
				22				
17				27				
						End of Boring at 17 ft		
18								
19								
20								
21								
22								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%