

# AC Hotel Portland



## Level III Final Site Plan Application

March 15, 2016

Submitted To:  
CITY OF PORTLAND PLANNING DEPARTMENT

Applicant / Developer:  
**Portland Norwich Group, LLC**  
2330 Palm Ridge Road #305  
Sanibel, FL 33957

Prepared by:  
**Carroll Associates**  
217 Commercial Street, Portland, ME 04101  
and  
**Ransom Consulting Engineers and Scientists**  
400 Commercial Street, Portland, ME 04101

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## **1. Cover Letter**



March 15, 2015

Ms. Barbara Barhydt  
Ms. Helen Donaldson  
City of Portland Planning Authority  
4th Floor, City Hall  
389 Congress Street  
Portland, ME 04101

**RE: AC Hotel Portland  
Fore Street / Hancock Street / Thames Street  
Chart, Block, Lot: 19-B-20**

Dear Barbara / Nell,

On behalf of Portland Norwich Group, LLC we are pleased to submit this Level III - Final Site Plan Application along with supporting materials relating to the proposed hotel.

The following is a brief summary of the current proposed project. The subject property, located in the B6 Eastern Waterfront Mixed Zone, is a vacant (previously developed) lot approximately 1.39 acres in size. The current proposal calls for the lot to be split (by right) and only the northern lot (0.65 ac) is included as part of the current application. The remaining land will be retained for future development.

The subject property is essentially non-vegetated due to the intense level of past development. The entire lot slopes gently from southwest to northeast. The parcel has most recently been used as a gravel parking lot and historically as a portion of the Canadian National Railways Grand Trunk Railroad system. The main body of the lot is bound on three sides by streets; Fore to the west, Hancock to the north, and Thames (Commercial Street Extension) to the east. Other parcels on the block include a vacant lot to the southwest, an existing lot to the south containing the former Grand Trunk Railroad office building and an existing lot to the west containing the Portland Water District Pump Station. Surrounding land uses include: a parking garage with ground floor retail space and a hotel to the west across Fore Street; commercial, office, and parking to the north across Hancock Street; and the Ocean Gateway Terminal to the east across Thames Street (Commercial Street Extension).

The proposed hotel lot is 28,540 sf and will be developed as a six (6) story building that fronts along the three adjacent streets, and will include a 180 room AC Hotel. The proposed site will have vehicular access from Fore Street by a shared two-way driveway that terminates in a formal cul-de-sac. New on-street parking is proposed along Fore Street by a shift in the painted center line. More details concerning the proposed development are available in the attached project description.

Since the Preliminary Application the significant changes that have occurred to the project are listed below:

1. The original lot (19-B-20) is to be split. The current (hotel) project only involves the northern lot (28,540 sf). The southern lot (32,102 sf) will be retained (for future development) by the applicant but is not part of the current project.
2. The residential component (16 condominium units) of the project has been removed – subdivision review is no longer applicable.
3. The separate retail / restaurant component (4,000 sf) of the project has been removed. The hotel bar / lounge and kitchen remain.
4. The first floor has been reworked to add meeting rooms and a community space.
5. The main hotel entrance has been moved from Hancock Street to the interior of the site; a secondary access point to the hotel is located on the corners of Hancock and Thames; access to the community space / meeting rooms are at Hancock near Fore Street; and a more pronounced pedestrian approach in the interior.
6. Façade modifications.
7. Entry drive has been revised to remove radius curbs and instead uses straight tip-downs with a flared driveway per City the standard. Width of driveway has been reduced to 20' wide.
8. Modified interior courtyard.

Attached you will find one copy of the required written documents , one full size (24"x36") copy of the plans, one reduced size (11"x17") copy of the plans, and a CD with the entire application (written documents and plans).

We look forward to working with you, the Staff, and the Planning Board in the review of this project. Please feel free to contact me to discuss any questions or concerns you may have regarding the attached application materials.

Sincerely,  
CARROLL ASSOCIATES



Patrick J. Carroll  
Principal

Enc.

Cc: Ara Aftandilian, Portland Norwich Group, LLC  
Rob Festa, Group One Partners  
Maureen McGlone, Ransom Consulting Engineers

## **2. Application**



## 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.



**PROJECT NAME: AC HOTEL PORTLAND**

**PROPOSED DEVELOPMENT ADDRESS:**

**FORE, HANCOCK, AND THAMES STREET (COMMERCIAL STREET EXTENSION)**

**PROJECT DESCRIPTION:**

**180 ROOM HOTEL**

**CHART/BLOCK/LOT: 019-B-20**

**PRELIMINARY PLAN  
FINAL PLAN**

**X SEPT 29, 2015  
X MARCH 15, 2016**

**CONTACT INFORMATION:**

<b>Applicant – must be owner, Lessee or Buyer</b> Name: <b>ARA AFTANDILIAN</b> Business Name, if applicable: <b>PORTLAND NORWICH GROUP</b> Address: <b>2330 PALM RIDGE ROAD</b> City/State : <b>SANIBEL, FL</b> Zip Code: <b>33957</b>	<b>Applicant Contact Information</b> Work # <b>978.887.3640</b> Home# Cell # Fax# e-mail: <b>AA.SUMMIT@PRODIGY.NET</b>
<b>Owner – (if different from Applicant)</b> Name: <b>SAME AS APPLICANT</b> Address: City/State : Zip Code:	<b>Owner Contact Information</b> Work # Home# Cell # Fax# e-mail:
<b>Agent/ Representative</b> Name: <b>PATRICK CARROLL CARROLL ASSOCIATES</b> Address: <b>217 COMMERCIAL ST., SUITE 200</b> City/State : <b>PORTLAND</b> Zip Code: <b>04101</b>	<b>Agent/Representative Contact information</b> Work # <b>207.772.1552</b> Cell # e-mail: <b>PCARROLL@CARROLL-ASSOC.COM</b>
<b>Billing Information</b> Name: <b>NORWICH PARTNERS, LLC</b> Address: <b>25 FOOTHILL STREET, SUITE 1A</b> City/State : <b>LEBANON, NH</b> Zip Code: <b>03766</b>	<b>Billing Information</b> Work # <b>603.643.2206</b> Cell # Fax# e-mail:

<b>Engineer</b> Name: <b>STEPHEN BRADSTREET</b> <b>RANSOM CONSULTING ENGINEERS</b> Address: <b>400 COMMERCIAL ST., SUITE 404</b> City/State : <b>PORTLAND</b> Zip Code: <b>04101</b>	<b>Engineer Contact Information</b> Work # <b>207.772.2891</b> Cell # _____ Fax# _____ e-mail: <b>STEPHEN.BRADSTREET@RANSOMENV.COM</b>
<b>Surveyor</b> Name: <b>JOHN SWAN</b> <b>OWEN HASKELL, INC.</b> Address: <b>390 US ROUTE ONE</b> City/State : <b>FALMOUTH</b> Zip Code: <b>04105</b>	<b>Surveyor Contact Information</b> Work # <b>207.774.0424</b> Cell # _____ Fax# _____ e-mail: <b>JSWAN@OWENHASKELL.COM</b>
<b>Architect</b> Name: <b>ROB FESTA</b> <b>GROUP ONE PARTNERS, INC.</b> Address: <b>21 WEST THIRD STREET</b> City/State : <b>BOSTON, MA</b> Zip Code: <b>02127</b>	<b>Architect Contact Information</b> Work # <b>617.268.7000</b> Cell # _____ Fax# _____ e-mail: <b>ROB@GROUPONEINC.COM</b>
<b>Attorney</b> Name: <b>LEE LOWRY</b> <b>JENSEN BAIRD GARDNER HENRY</b> Address: <b>10 FREE STREET, PO BOX 4510</b> City/State : <b>PORTLAND</b> Zip Code: <b>04112-4510</b>	<b>Attorney Contact Information</b> Work # <b>207.775.7271</b> Cell # _____ Fax# _____ e-mail: <b>LLOWERY@JBGH.COM</b>

**APPLICATION FEES:**

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

<b>Level III Development (check applicable reviews)</b> <input type="checkbox"/> Less than 50,000 sq. ft. (\$500.00) <input type="checkbox"/> 50,000 - 100,000 sq. ft. (\$1,000) <input type="checkbox"/> 100,000 – 200,000 sq. ft. (\$2,000) <input type="checkbox"/> 200,000 – 300,000 sq. ft. (\$3,000) <input type="checkbox"/> over \$300,00 sq. ft. (\$5,000) <input type="checkbox"/> Parking lots over 11 spaces (\$1,000) <input type="checkbox"/> After-the-fact Review (\$1,000.00 plus applicable application fee)  <b>Plan Amendments (check applicable reviews)</b> <input type="checkbox"/> Planning Staff Review (\$250) <input type="checkbox"/> Planning Board Review (\$500)  <hr/> The City invoices separately for the following: <ul style="list-style-type: none"> <li>• Notices (\$.75 each)</li> <li>• Legal Ad (% of total Ad)</li> <li>• Planning Review (\$40.00 hour)</li> <li>• Legal Review (\$75.00 hour)</li> </ul> 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.	<b>Other Reviews (check applicable reviews)</b> <input type="checkbox"/> Traffic Movement (\$1,000) <input type="checkbox"/> Stormwater Quality ( <b>\$250</b> ) <input type="checkbox"/> Subdivisions ( <b>\$500</b> + \$25/lot) # of Lots ___ x \$25/lot = _____ <input type="checkbox"/> Site Location (\$3,000, except for residential projects which shall be \$200/lot) # of Lots ___ x \$200/lot = _____ <input type="checkbox"/> Other _____ <input type="checkbox"/> Change of Use <input type="checkbox"/> Flood Plain <input type="checkbox"/> Shoreland <input type="checkbox"/> Design Review <input type="checkbox"/> Housing Replacement <input type="checkbox"/> Historic Preservation
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**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 III 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: <p style="text-align: center;">MARCH 15, 2016</p>
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## PROJECT DATA

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

<b>Total Area of Site</b>	<b>28,540</b> sq. ft.
<b>Proposed Total Disturbed Area of the Site</b>	<b>28,540</b> 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.	
<b>Impervious Surface Area</b>	
Impervious Area (Total Existing)	<b>entire parcel 28,540</b> sq. ft.
Impervious Area (Total Proposed)	<b>27,707</b> sq. ft.
<b>Building Ground Floor Area and Total Floor Area</b>	
Building Footprint (Total Existing)	<b>0</b> sq. ft.
Building Footprint (Total Proposed)	<b>20,040</b> sq. ft.
Building Floor Area (Total Existing)	<b>0</b> sq. ft.
Building Floor Area (Total Proposed)	<b>108,960</b> sq. ft.
<b>Zoning</b>	
Existing	<b>B6 and SHORELAND ZONE</b>
Proposed, if applicable	<b>B6 and SHORELAND ZONE</b>
<b>Land Use</b>	
Existing	<b>VACANT</b>
Proposed	<b>HOTEL</b>
<b>Residential, If applicable</b>	
# of Residential Units (Total Existing)	<b>N/A</b>
# of Residential Units (Total Proposed)	
# of Lots (Total Proposed)	
# of Affordable Housing Units (Total Proposed)	
<b>Proposed Bedroom Mix</b>	
# of Efficiency Units (Total Proposed)	<b>N/A</b>
# of One-Bedroom Units (Total Proposed)	
# of Two-Bedroom Units (Total Proposed)	
# of Three-Bedroom Units (Total Proposed)	
<b>Parking Spaces</b>	
# of Parking Spaces (Total Existing)	<b>0</b>
# of Parking Spaces (Total Proposed)	<b>0 ON-SITE, 45 REQ'D @ OCEAN GATEWAY GARAGE</b>
# of Handicapped Spaces (Total Proposed)	<b>0 ON-SITE, ALL REQ'D @ OCEAN GATEWAY GARAGE</b>
<b>Bicycle Parking Spaces</b>	
# of Bicycle Spaces (Total Existing)	<b>0</b>
# of Bicycle Spaces (Total Proposed)	<b>10 ON-SITE</b>
<b>Estimated Cost of Project</b>	<b>\$20,000,000</b>

<b>FINAL PLAN - Level III Site Plan</b>			
<b>Applicant Checklist</b>	<b>Planner Checklist</b>	<b># of Copies</b>	<b>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)</b>
X		1	* Completed Application form
X		1	* Application fees
X		1	* Written description of project
X		1	* Evidence of right, title and interest
X		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.
X		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	<b>SITE PLAN SUBMISSIONS CHECKLIST</b> <b>(* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)</b>
X		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
X		1	<b>Final Site Plans including the following:</b>
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;
N/A			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;
N/A			Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);
N/A			Location and proposed alteration to any watercourse;
N/A			A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;
N/A			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;
X			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;
N/A		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
N/A		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.

### **3. Responses to Staff Review Comments**





May 10, 2016

Ms. Helen Donaldson  
City of Portland Planning Authority  
4th Floor, City Hall  
389 Congress Street  
Portland, ME 04101

**RE: AC Hotel Portland  
Response to Staff Review Comments**

Dear Nell,

On behalf of Portland Norwich Group, LLC we are pleased to submit this response letter to the Level III - Final Site Plan Review Comments from the City Staff along with supporting materials relating to the proposed hotel. Below are the comments taken from the Staff Review Letter (*in italics*) along with responses from the applicant (**in bold**) as well as a summary on one additional site plan modification proposed by the applicant.

Since the last submission the architect and the construction management company have been diligently working on refining the structural and interior design of the hotel. As a result of that work the applicant has decided to shift the location of the hotel approximately 1-2 feet closer to Fore Street (depending on where measurement is taken from). As a result of the shift towards Fore Street the setbacks on Fore and Thames are now as follows:

	<u>Min.</u>	<u>Max.</u>
Fore Street	4.90'	5.70'
Thames Street	6.60'	8.10'

The setback along Hancock Street and along the west property line has remained the same.

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Design (Caitlin Cameron)

*B. Buildings/Architecture: Guidelines*

*1. Contextual Design – The project is proposed in an eclectic and underdeveloped area on the waterfront providing less architectural context as other parts of the neighborhood. The hotel is contemporary in design and is of similar scale as the Residence Inn and Ocean Gateway garage. The building orientation respects the mid-block permeability found in the India Street Form-based Code zone (which was not applicable at the time of the application) and therefore places its longest dimension on the “B” street of*

*Hancock and the interior alley will be created through the site keeping physical and visual connections to the waterfront.*

**RESPONSE: none required**

**2. Building Composition:**

*a. Placement – The building has three street frontages and creates a street wall by placing the building at the property line on all three streets. This helps to establish the more urban street wall sought to be built up in the neighborhood and on the waterfront as it develops. The primary entrance faces directly onto Thames Street.*

**RESPONSE: none required**

*b. Height – The Eastern Waterfront Master Plan recommended 3-5 stories for this section of the neighborhood. Building height meets zoning and is similar to surrounding new construction. Much of the surrounding context is unbuilt at this time.*

**RESPONSE: none required**

*c. Massing – The project places its largest massing on the “B” street of Hancock to mitigate the impact of the building length. Scaling elements such as material and façade plane changes, canopies, and fenestration are used to make the scale more comfortable at the street for pedestrians. The building corners on Hancock at Thames and Fore Street are curved for emphasis of entries and in acknowledgment of the surrounding buildings in the context.*

**RESPONSE: none required**

*d. Proportion - The long proportion of the building is oriented to Hancock Street in order to mitigate the scale of the building from the waterfront approach.*

**RESPONSE: none required**

*e. Articulation – The reviewers find the use of “traditional” lintels and headers on the brick portion of the building to be out of context with the contemporary nature of the building as a whole. Articulation in these sections of the building should be provided with details such as punched windows, soldier course, or texture, for example.*

**RESPONSE: The articulation of the window openings in the brick masonry façade have been revised from traditional heavy cast stone heads and sills to a more contemporary punched look with a slim sill and brick reveal.**

*f. Materials – Please provide material samples. There are too many material types and colors without an apparent relationship to each other. The reviewers propose that the Hancock/Fore Street corner material be revised, possibly in color to grey, to be more subtle and provide a visual cohesion for the building as a whole.*

**RESPONSE: The corner of Fore and Hancock Streets has been revised to a dark grey tone pulling from the buildings color palette therefore providing the desired visual cohesion. Material samples will be provided for review and comment.**

3. *Pedestrian Environment* – The project is intended to foster a walkable and enjoyable pedestrian environment through the addition of street trees and pedestrian lights, active street wall in key locations, outdoor dining, and a mid-block pedestrian passage. The building architecture attempts to add pedestrian comfort through articulation and scaling details.

**RESPONSE: none required**

4. *Primary Entrances and Service Entrances* – This project has frontage on three public streets and one internal street. The building is oriented towards Thames Street with the principal façade of the project facing the water and having the most visual exposure as people approach from the ferry, cruise ships, and trail. A prominent entrance faces directly onto Thames with hotel pick-up and drop-off situated interior to the block in the alley which will include a pedestrian-friendly alley accessible to pedestrian traffic from Thames and the Ocean Gateway garage. The service entries are on “B” streets (Hancock and the block interior). An additional public entrance faces Hancock at the community room.

**RESPONSE: none required**

5. *Parking Structures* – N/A Parking is provided off-site in the Ocean Gateway Garage.

**RESPONSE: none required**

6. *Infill and Small Scale Development* – N/A

**RESPONSE: none required**

7. *Historic Structures* – N/A

**RESPONSE: none required**

8. *Civic Structures* – N/A

**RESPONSE: none required**

9. *Marine Development* – N/A

**RESPONSE: none required**

C. Open Space and the Public Realm: Guidelines

1. *Public Open Space and Plazas* – N/A

**RESPONSE: none required**

2. *Private Open Space and Plazas*

a. *Internal Open Space* – The project provides internal open space in the form of a mid-block alley accessible to pedestrians from Thames and Fore Streets and for vehicles from Fore Street. The space is designed as the pick-up and drop-off for the hotel and also serves as a welcome mid-block permeable break in the large block providing visual and physical connection through the block to the waterfront. The amenities include landscaping, bollards, benches, potentially an art installation, and high quality paving – the intention is to make the space inviting for pedestrian travel.

**RESPONSE: none required**

*b. Internal/External Interplay – The project will also include outdoor dining spaces on Thames Street with the intention of activating the street.*

**RESPONSE: As a result of the building being shifted slightly towards Fore Street there is now greater room along the Thames Street sidewalk to better accommodate outdoor dining, pedestrians, and streetscape elements, all which in turn help to create an active street scene.**

*c. Passageways – See a. above – mid-block passage is included in project and is open air and publicly accessible.*

**RESPONSE: The passageway is an important piece of the Master Plan for the two lots. It is a critical connection for the project to the surroundings, both physically and visually. Although the passage way has not been fully designed yet the India Street Form Based Code requires at least 25 feet and there will be at least that between the hotel and the future Thames Street building.**

3. Historic Sites – N/A

**RESPONSE: none required**

4. Public Art – N/A

**RESPONSE: none required**

5. View Protection – N/A

**RESPONSE: none required**

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Civil (David Senus)

1. The Applicant has noted that a construction management plan will be provided by the contractor once a contractor has been selected. If this approach is acceptable to Planning and other reviewers, the submittal of a construction management plan should be made Condition of Approval for the project.

**RESPONSE: none required**

2. In accordance with Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards. We offer the following comments:

*a) Basic Standards: The Applicant has included plan and detail sheets that contain details and notes related to erosion and sediment control requirements, inspection and maintenance requirements, and good housekeeping practices in general accordance with Appendix A, B, & C of MaineDEP Chapter 500. In addition to the information provided, sheet C1.2 should include notes requiring frequent street sweeping within the Right-of-Way, and a silt sack should be called out on the catch basin located at the intersection of Hancock and Thames.*

**RESPONSE: Sheet C1.2 has been revised to include the requested information.**

*b) General Standards: The Applicant has noted that the entire parcel is considered impervious with concrete pads or gravel surfaces and that future development on the remaining property is anticipated to consist of multiple structures for retail/office/residential use, with landscaped*

*areas and walking paths. With the addition of landscaped areas, it is anticipated that the proposed development will decrease the Site's overall impervious area. The project will not result in an increase in impervious area. As such, the project is not required to include any specific stormwater management features for stormwater quality control. Although not specifically required, the Applicant has proposed permeable pavers with a filter system to provide treatment on the site. We find the project to be compliant with the City's requirements for the General Standards.*

**RESPONSE: none required**

*c) Flooding Standard: The project will not result in an increase in impervious area. As such, the project is not required to include any specific stormwater management features to control the rate or quantity of stormwater runoff from the site. The Applicant has proposed an R-Tank system below a portion of the permeable paver filter system to provide storage for stormwater runoff. The Applicant has demonstrated that the project will not result in an increase in the peak rate of runoff from the Site; as such, we find the project to be in compliance with the City's requirements for the Flooding Standard.*

**RESPONSE: none required**

*3. The proposed storm drain connection into the public storm drain system in Thames Street is shown as a 12" pipe connecting into an existing 15" storm drain; the Applicant should include a proposed drain manhole at this connection location within Thames Street. Also, an additional area of sidewalk repair (beyond what is currently shown on the plans) will be necessary to install the storm drain as proposed.*

**RESPONSE: Sheet C1.0 has been revised to include additional sidewalk repair and Sheet C1.2 has been revised to include a proposed drain manhole.**

*4. The Stormwater model was developed anticipating that roof runoff from the building will be directed into the subsurface R-Tank system. The plans should reflect storm drain connection(s) from the building into the R-Tank system for roof water.*

**RESPONSE: Connections for roof drains have been added to Sheet C1.2. Additional 4" maintenance ports have also been included.**

*5. The plans call for Loam & Seed of any disturbed areas on Lot 2. This note would imply that only areas on Lot 2 that are impacted by this construction work will receive a surface improvement, while other areas will remain in their current condition. The City's Planning Staff and the Planning Board will need to decide whether the current condition, along with proposed loam and seed of "disturbed areas", represents an acceptable surface condition for Lot 2 upon completion of this work. We agree with the Applicant's response that any surface improvements on Lot 2 can continue to be considered existing impervious surface (reflective of the current condition) for future stormwater calculations. If additional improvements on Lot 2 are not required by the City at this time, we recommend that the City consider identifying a timeframe whereby the current condition would need to be improved if other development does not occur on Lot 2.*

**RESPONSE: It is the opinion of the applicant that the remaining land should not have to be loamed and seeded until at least the hotel opens. This land is currently being used by Gorham Savings Bank as a construction staging area will also be utilized for hotel construction staging. The applicant feels that any of the remaining land, approved and pending construction for a future building, at the time of the hotel opens would not be required to be loamed and seeded.**

6. The Applicant should provide the following details in accordance with the City of Portland Technical Manual for work within the City Right-of-Way:

- a) Vertical Granite Curb;
- b) Brick Sidewalk;

**RESPONSE: Details 5 and 6 on Sheet C2.1 comply with the City of Portland standards.**

7. Sheet C-1.1 – Utility Plan

a) A street lighting design (including service feeds and conduit) should be detailed on the utility plan or on a separate electrical plan for review.

**RESPONSE: Sheet C1.1 identifies the new street lighting locations. The notes identify that the existing service feeds will be relocated as part of this construction and will be coordinated with the City DPW.**

b) The existing utility pole at the corner of Fore and Hancock is a termination pole with a guy wire and a transformer that appears to provide power for a City street lighting circuit. The plans call for the removal of the pole and associated guy wire, with coordination through CMP. Removal of this pole will require time to coordinate, and may result in a requirement for the installation of additional pole(s) at alternate locations. We recommend that this process begin at this time, and that the City DPW be included in the discussions for relocation of the CMP and street lighting infrastructure

**RESPONSE: The applicant will include the City DPW in discussions with CMP regarding the removal of the pole at the intersection of Fore and Hancock Street.**

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Engineering (Michael Farmer)

1. We recommend that the electric power supply for the project be extended from the existing underground electric power distribution system in Fore Street and other adjacent streets, not from the existing utility pole and overhead wires at the corner of Fore St. And Hancock St., as shown on the plans. The project plans should include removing the existing utility pole and overhead wires, if this can reasonably be done at a reasonable cost. Item addressed.

**RESPONSE: none required**

2. Underground electric power (and underground communication) conduits in the street right of way should be incorporated into concrete encased duct banks. The details on sheet C2.0 should be revised accordingly. Item addressed.

**RESPONSE: none required**

3. We would like to have a chance to review the electric utility service plans for the project after they have been approved by CMP Co. staff. We are assuming what is being proposed is what will be constructed. No further comments.

**RESPONSE: none required**

4. The plans show two grease traps, which would be privately owned and maintained, in the street right of way. We have allowed private grease traps in City streets in some retrofit situations where existing buildings and existing businesses had no practical alternatives. However, in projects such as this, which entail complete site development and new building construction from the foundation up, there would

*seem to be no good reasons why an efficient and practical design that includes private grease traps on private property could not be created. We believe that public streets should be reserved for public purposes. For these reasons, we recommend that the design be revised to put the grease traps on private property. There should also be sanitary sewer manhole(s) on the grease trap discharge lines, so that the wastewater from the grease traps could be isolated and collected for analysis.*

*One proposed grease trap has been eliminated. The remaining proposed grease trap is still shown within the street right of way. We have allowed this in the past when no other alternatives exist. In this case there are alternatives and this department is not supportive of the proposed location.*

**RESPONSE: The AC Hotel is a select service hotel with minimal food preparation, thus, an internal grease trap located within the kitchen area will be sufficient.**

*5. The grease trap details on sheet C2.0 should be revised as follows, if they are to be located in a public street or sidewalk. The grease traps should be H2O load rated. The grease traps should be recessed below finish grade and the access ports should be provided with cast iron manhole frames and covers, set on three or more courses of brick and mortar (concrete grade rings might be used in some situations).  
Item addressed.*

**RESPONSE: none required**

*6. All new (or reset) granite curb construction should be laid out so that mitered corners are not used on curb "bump outs," or other areas, where they are exposed to possible plow damage. Circular curb should be used in these areas in lieu of mitered corners. The curb layout should be designed so no curb pieces shorter than 4 feet are required. The bump out cannot be constructed as shown. Radius needs to be 10' with 4' min. lengths of curbing. The applicant has indicated they will address this item.*

**RESPONSE: Refer to Sheet C1.0**

*7. The circular driveway plans show accessible sidewalk ramps adjacent to granite cobblestone pavement in the driveway. The granite cobblestones would look nice; but, I wonder if the cobblestone surface can be constructed smooth enough to meet ADA design standards. Applicant must assure that entire site is ADA compliant and has indicated they will do so.*

**RESPONSE: Refer to Sheet C1.2**

*8. Fore St is under a paving moratorium until 10-22-16. The applicant has indicated they will not disturb Fore St before 10-21-16.*

**RESPONSE: none required**

*9. William Clark will be forwarding survey comments under a separate cover.*

**RESPONSE: none required**

*10. This project is not located within the Historic Zone therefore the driveway apron must be constructed of asphalt unless a council waiver is requested. This Department would be supportive if a waiver is requested.*

**RESPONSE: Section 1.8 of the Technical Manual suggests that the apron can be constructed of brick or bituminous. A 1' bituminous strip was included as shown on the City details. If a waiver is required, could you reference the section which needs to be waived?**

11. Please add note to plan set stating, "All work within the street right of way shall meet City of Portland Technical Manual standards."

**RESPONSE: Refer to C2.0**

12. The applicant is showing a proposed 12" ADS N12 drain line to be installed in Thames St. N12 is not allowed to be installed within the street right of way. Please refer to the City's Technical Manual. Also a drain manhole is required where the propose 12" pipe connects with the existing 15" pipe in Thames St.

**RESPONSE: The pipe has been revised to PVC.**

13. The City's Technical Manual require of catch basin which discharge to the City's stormwater system to have three foot sumps. Please change plan details to reflect this requirement.

**RESPONSE: The type F basins shown on the plans discharge to the R-Tank storage system and not directly to the City's stormwater system. However, the sump called out on detail 2, Sheet C2.2 has been revised.**

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Traffic (Tom Errico)

1. The applicant will be developing a detailed pavement marking plan for Fore Street that depicts adjustment to the center line and implementation of on-street parking on the south side. I'll review the details upon receipt of the plan.

**RESPONSE: The applicant will work with City staff and Mr. Errico on the design of the section of Fore Street fronting the site. A note has been added to the Site Plan.**

2. The City will coordinate with the applicant on proposed on street parking regulations for Fore Street. At this time the City is considering time limit parking regulations.

**RESPONSE: See response to item 1.**

3. The applicant is proposing conversion of a vehicle parking space to a loading space on Hancock Street. I generally find this change to be acceptable, but I still need to review final details.

**RESPONSE: The applicant will work with City staff and Mr. Errico on the approval and implementation of converting any parking spaces along Hancock Street. A note has been added to the Site Plan showing the proposed location for the Hancock Street loading space.**

4. The above parking regulation changes will need City Council approval and the applicant shall be responsible for assisting City staff in seeking the approval.

**RESPONSE: See response to item 3.**

5. It is my recommendation that a crosswalk be implemented on the west side of Fore Street at Hancock Street (particularly given use of the Gateway Parking Garage by the project). The crosswalk may include warning signs and shall be fully ADA compliant on both sides of Fore Street.

**RESPONSE: See response to item 1.**

6. City staff continues to review the curb extension at the southwest corner of the Fore Street/Hancock Street intersection. Alterations to the ramp configuration and depth of the extension will be required.

**RESPONSE: See response to item 1.**



7. The applicant should provide specific details on the current, committed, and proposed users of the Gateway Parking Garage.

**RESPONSE:** A summary of current leases at the Ocean Gateway Garage is attached; it also includes future parking lease obligations such as the 400 spaces for the Portland Gateway Development Site and the AC Hotel. The future parking lease obligations are "up to" numbers and even at the full amounts the total number of 121% of available parking spaces is within industry standards taking into account the mix of uses.

8. The City does not support the provision of two approach lanes on Fore Street at India Street. The applicant shall confirm only one lane is necessary.

**RESPONSE:** Gorrill Palmer analyzed this approach as a single lane approach in the previously submitted traffic evaluation and found the capacity to be acceptable, and therefore a single lane is appropriate. See also item 1.

9. The City is requesting the applicant evaluate the provision of a four way STOP controlled intersection at the Fore Street/Hancock Street intersection to address safety and traffic issues.

**RESPONSE:** Gorrill Palmer completed this review and submitted the results to the City and Mr. Errico in a Memo (Driveway Capacity Analysis, Fore Street / Hancock Street All-Way Stop Analysis) dated April 15, 2016. The results indicate that a four way STOP is not warranted.

10. Fore Street is classified as a Collector Street and City standards require 150 feet of corner clearance to Hancock Street. I support a waiver from City standards given that the location of the driveway is approximately mid-block between Hancock Street and India Street.

**RESPONSE:** The applicant will be seeking a waiver for the proposed driveway location, see below.

**The City of Portland Technical Manual Section 1.7, Subsection 1.7.2.7 (Location and spacing of driveways), third bullet states the following:**

- **Along arterial and collector streets, access driveways to corner lots shall be located a minimum of one hundred fifty (150) feet from the intersection of the projection of right-of-way lines to the center line of the driveway except as provided for hereinafter.**

**Since Fore Street is classified as a Collector Street, this requirement applies.**

**The proposed driveway measured as described above is approximately 120 feet rather than the required 150 feet. The proposed driveway location was determined based on allowable site frontage and positioning the driveway in the center of the frontage. This positioning locates the driveway approximately half way between Hancock Street and the accesses to the parking garage on the opposite side of the street and the Portland Water District driveway on the same side of the street. Thus allowing maximum separation between Hancock Street and two driveways.**

**Therefore, the applicant respectfully requests a waiver from the 150 feet of required separation as identified above.**

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Planning (Nell Donaldson)

1. Please specify where sloped granite curb transitions to vertical granite curb in the turnaround and confirm ADA access into the main entrance to the hotel from this approach.  
**RESPONSE: The drop-off circle is defined by sloped curb, except for in front of the main entrance where it will be flush to accommodate ADA access. The driveway from Fore Street will be defined by vertical curb and will transition into slope at the start of the radii into the circle. Please see Site Plan Sheet C1.0 for notes indicating transition, curb materials, and ADA access.**
  2. The revised submittal includes a copy of the deed transferring ownership of the garage and notes that the garage ownership was subsequently sold. Please provide a copy of the lease agreement for garage spaces.  
**RESPONSE: The parking lease for the Portland Gateway development site including the AC Hotel site is attached, this parking lease is for up to 400 parking spaces. The Applicant and Ocean Gateway Garage are completing a new parking lease specifically for the AC Hotel for approximately 100 parking spaces that will be provided to the Planning Staff upon execution.**
  3. On-street parking on Fore should be designated as 1-hour parking.  
**RESPONSE: A note has been added to the Site Plan indicating that on-street parking on Fore Street will be designated as 1-hour.**
  4. Show the loading zone proposed on Hancock Street.  
**RESPONSE: The applicant will work with City staff and Mr. Errico on the approval and implementation of converting any parking spaces along Hancock Street. A note has been added to the Site Plan showing the proposed location for the Hancock Street loading space**
  5. Provide water capacity letter.  
**RESPONSE: A capacity letter from Portland Water District is attached.**
  6. Show awnings and grease trap on Final Site Plan.  
**RESPONSE: Awnings and canopies are now included on the Site Plan. Grease traps will now be located internally.**
  7. Provide the average grade calculation.  
**RESPONSE: Please see Grading Plan and Architectural Elevations.**
- 

Landscape (Jeff Tarling)

We met with the City Arborist on April 13 to go over his review comments. He suggest that the proposed raised granite tree planters at the end of the on-street parking, within the curb extensions, be located at the end of the parking to help delineate it and to prevent odd left over spaces in the sidewalk. He also recommended that these specific tree planters should be more triangular in shape to fit the space better and larger to allow for additional low planting to happen.

**RESPONSE: We have incorporated four alternative style raised tree planters (with under planting of perennials) into the streetscape; two each at the curb extensions at Fore/Hancock and Thames/Hancock.**

Fire (Keith Gautreau)

The fire department reviewed the drawings and documents. The applicant has addressed the fire department's concerns regarding the fire department's concern that there is a fire connection between the building and the driveway. The fire department has advised that the fire department's concern is that there is a fire connection between the building and the driveway.

**RESPONSE: The Applicant will investigate maintaining sufficient width within the pedestrian connection from the vehicular circle to Thames Street to permit fire apparatus vehicles to access the vehicular circle from Thames Street.**

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Attached you will find an electronic copy of the written documents and the revised plans on a CD.

We look forward to working with you, the Staff, and the Planning Board in the review of this project. Please feel free to contact me to discuss any questions or concerns you may have regarding the attached application materials.

Sincerely,  
CARROLL ASSOCIATES



Patrick J. Carroll  
Principal

Enc.

Cc: Ara Aftandilian, Portland Norwich Group, LLC  
Rob Festa, Group One Partners  
Maureen McGlone, Ransom Consulting Engineers



May 18, 2016

Ms. Helen Donaldson  
City of Portland Planning Authority  
4th Floor, City Hall  
389 Congress Street  
Portland, ME 04101

**RE: AC Hotel Portland  
Response to Staff Review Comments**

Dear Nell,

On behalf of Portland Norwich Group, LLC we are pleased to submit this response letter to the additional Site Plan Review Comments from the Department of Public Works (dated May 13, 2016) and Planning (dated May 16, 2016) along with supporting materials relating to the proposed hotel. Below are the comments taken from the Staff Review (*in italics*) along with responses from the applicant (**in bold**) as well as a summary on one additional site plan modification proposed by the applicant.

Planning (Helen Donaldson)

*1. Your application includes a request for a waiver on the screening/buffering requirements of the TM. You're technically required to screen things like loading and servicing areas and utility structures (hence some of our discussions about the rooftop screen). However, I don't think you technically need a screening waiver. Can you eliminate the request to avoid confusion? All that would be left for waiver requests is the driveway separation waiver that you included in your most recent letter.*

**RESPONSE: Please see attached, revised "Request for Waiver" Exhibit, which now contains only waiver requests for the driveway location and brick driveway apron.**

*2. Can you verify the floor area (108,960 SF - is this right?) and footprint (20,040 SF is listed in the application, 20,385 is cited on the plans).*

**RESPONSE: According to the latest from the Architect and Construction Manager, the current footprint is 19,403 sf and the current floor area is 106,223 sf. See revised Floor Plans.**

*3. Can you get us updated renderings to correspond with the revised elevations you sent on the 10th?*

**RESPONSE: Revised perspective/elevation renderings are attached. Also attached are images of the hotel material samples.**

Department of Public Works (David Margolis-Pineo)

1. Sheet C1.0 – Site Plan, the applicant is showing a brick driveway apron and has asked where the code states an asphalt drive is required. It is my understanding that the City Council in 2000 passed such a material policy and that any change from this policy requires Council authorization.

**RESPONSE: The applicant is requesting a waiver from the City Council's driveway apron material policy requiring asphalt aprons in non-historic districts to and allow for a brick paver apron. The applicant feels that the proposed brick apron provides a more refined look (while being just as durable as asphalt) and fits with the surrounding better as both the Ocean Gateway Garage and Residence Inn have brick driveway aprons and the subject property is located adjacent to the Historic District.**

2. Sheet C1.2, Grading, it is desirable to have the pedestrian crossings of Fore St and Hancock St Extension be perpendicular. This issue will need more discussion.

**RESPONSE: The applicant is prepared to work with the City and the City's Traffic consultant to provide intersection improvements that meet the needs of all parties. At issue is the best way to manage safe pedestrian passage and landing on the opposite side of the Fore Street and Hancock Street when the existing landings are not perpendicular. We believe that a compromise can be reached that does not involve the reconstruction of the remaining 3 corners of the intersection and are willing to work with the City to achieve this and can incorporate this into the Fore Street improvement plan.**

3. The proposed a catchbasin in the travel way of Fore St at the Hancock St intersection is not desirable. The proposed N12 piping in Fore St. is not allowed by City standards. The applicant is requested to provide more research and detail of the existing and provide a revised drainage system layout.

**RESPONSE: We have removed the proposed catchbasin from the travel way of Fore Street and have relocated it along the curb at the parking spaces. The existing CBs along that section of Fore Street currently discharge into the 48" brick combined sewer that terminates at the adjacent pump station. We have provided a connection between the proposed CB and an existing CB rather along the same side of Fore Street rather than connecting to the 48" brick sewer. We are not aware of the City's plans for future separation of the system along this section of Fore Street, but are willing to discuss them and provide a drainage connection that best meets those needs.**

4. It is understood that the grease generated by the food preparation now proposed by this facility can be handled by under counter devices. Please coordinate with Rachel Smith (8748833) of this department for proper sizing and approval.

**RESPONSE: None necessary.**

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Surveying (Bill Clark)

1. Set property corners.

**RESPONSE: Plan will be revised as requested prior to recording.**

2. Add State Plane Coordinates as indicated.

**RESPONSE: Plan will be revised as requested prior to recording.**

3. Commercial Street Extension is not an official street name. The new street was accepted in 2008 as Thames Street.

**RESPONSE: Plan will be revised as requested prior to recording.**

4. Hancock Street Extension is not an official street named. The new street was accepted in 2008 as Hancock Street.

**RESPONSE: Plan will be revised as requested prior to recording.**

5. The "Maine D.O.T. 26' wide Rail Corridor" as shown on the plan was relocated in 2004 to the southeasterly side of Thames Street. Refer to Ocean Gateway Subdivision Plan CCRD Plan Book 204, Page 622 for the relocation. Refer to two deeds:

(1.) CCRD 21687\_054 from the State of Maine to the City of Portland dated 10/01/2004.

(2.) CCRD 21986\_343 from the City of Portland to the State of Maine dated 9/13/2004.

**RESPONSE: Plan will be revised as requested prior to recording.**

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Civil (Lauren Swett)

1. The Applicant has noted that a construction management plan will be provided by the contractor once a contractor has been selected. If this approach is acceptable to Planning and other reviewers, the submittal of a construction management plan should be made Condition of Approval for the project.

**RESPONSE: None necessary.**

2. The Applicant has noted that the remaining land on Lot 2 will not be loamed and seeded as part of this project and that the area is currently being used as a construction staging area, and will be used for that purpose during the hotel construction. Following completion of the construction of the hotel and the use of the Lot 2 space for staging, the area should be stabilized to prevent erosion. Per the Basic Standards for erosion and sedimentation control in the Maine DEP Chapter 500 Stormwater Management rules, if an area will not be worked on for more than seven days, it should receive temporary stabilization, and if it will not be worked on for more than one year, permanent stabilization is required. We recommend that the Applicant identify temporary and permanent stabilization measures to be utilized on Lot 2, dependent on the timing of future development

**RESPONSE: Temporary and Permanent Erosion Control methods are discussed in the erosion control notes on Detail Sheet C2.0 (which was not on the list of documents reviewed by the reviewer as it had not been revised with the May 10 submission). Further clarification was made to the permanent erosion control measures to address "exposed soils" which will remain after construction activities in addition to the previously discussed disturbed soils. As previously discussed, regardless of the method of erosion control further stormwater calculations will still consider this area as gravel.**

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Attached you will find an electronic copy of the written documents and the revised plans on a CD.

We look forward to working with you, the Staff, and the Planning Board in the review of this project. Please feel free to contact me to discuss any questions or concerns you may have regarding the attached application materials.

Sincerely,  
CARROLL ASSOCIATES

A handwritten signature in black ink, appearing to read 'Patrick J. Carroll', with a long horizontal flourish extending to the right.

Patrick J. Carroll  
Principal

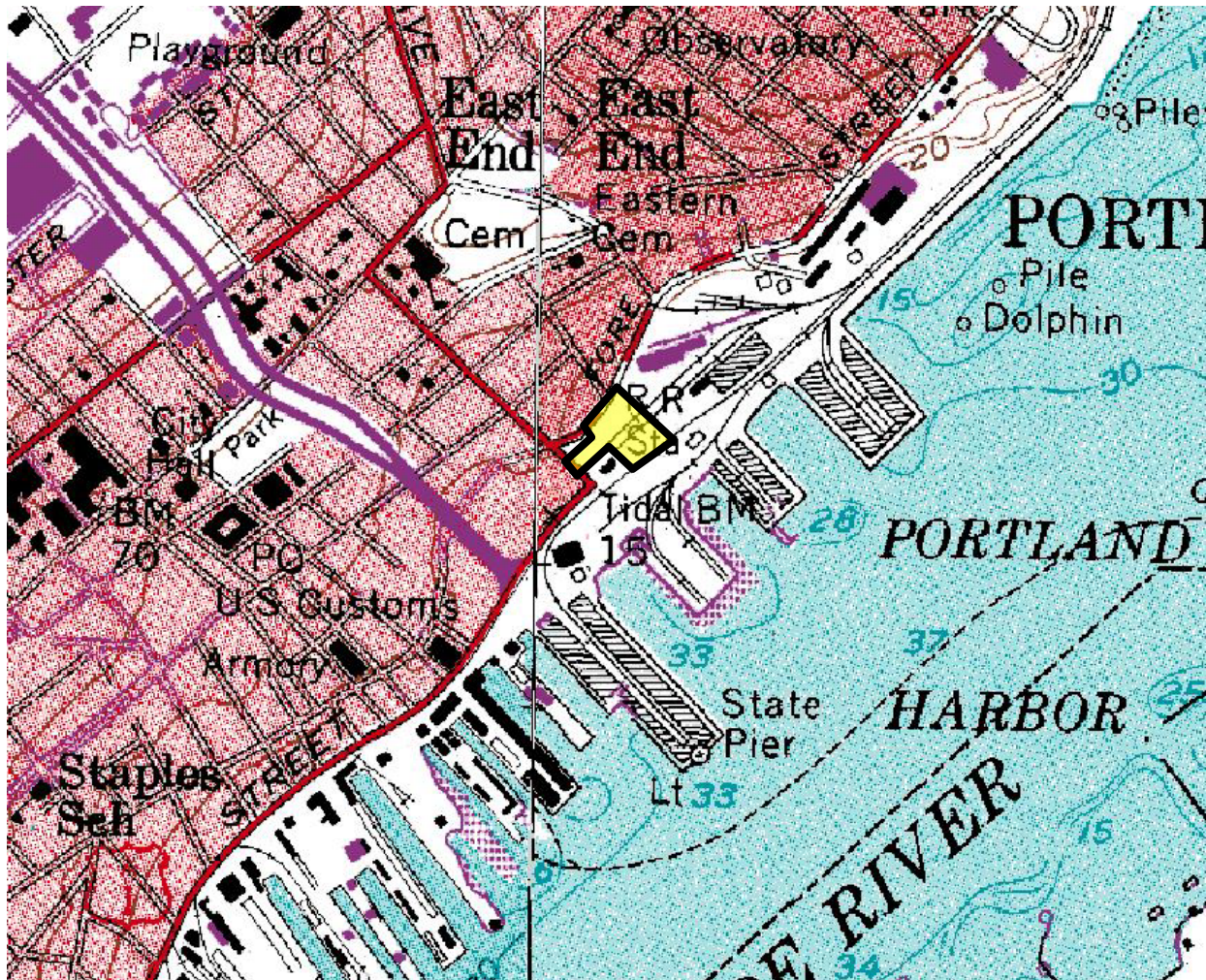
Enc.

Cc: Ara Aftandilian, Portland Norwich Group, LLC  
Rob Festa, Group One Partners  
Maureen McGlone, Ransom Consulting Engineers

## **4. Location Maps**

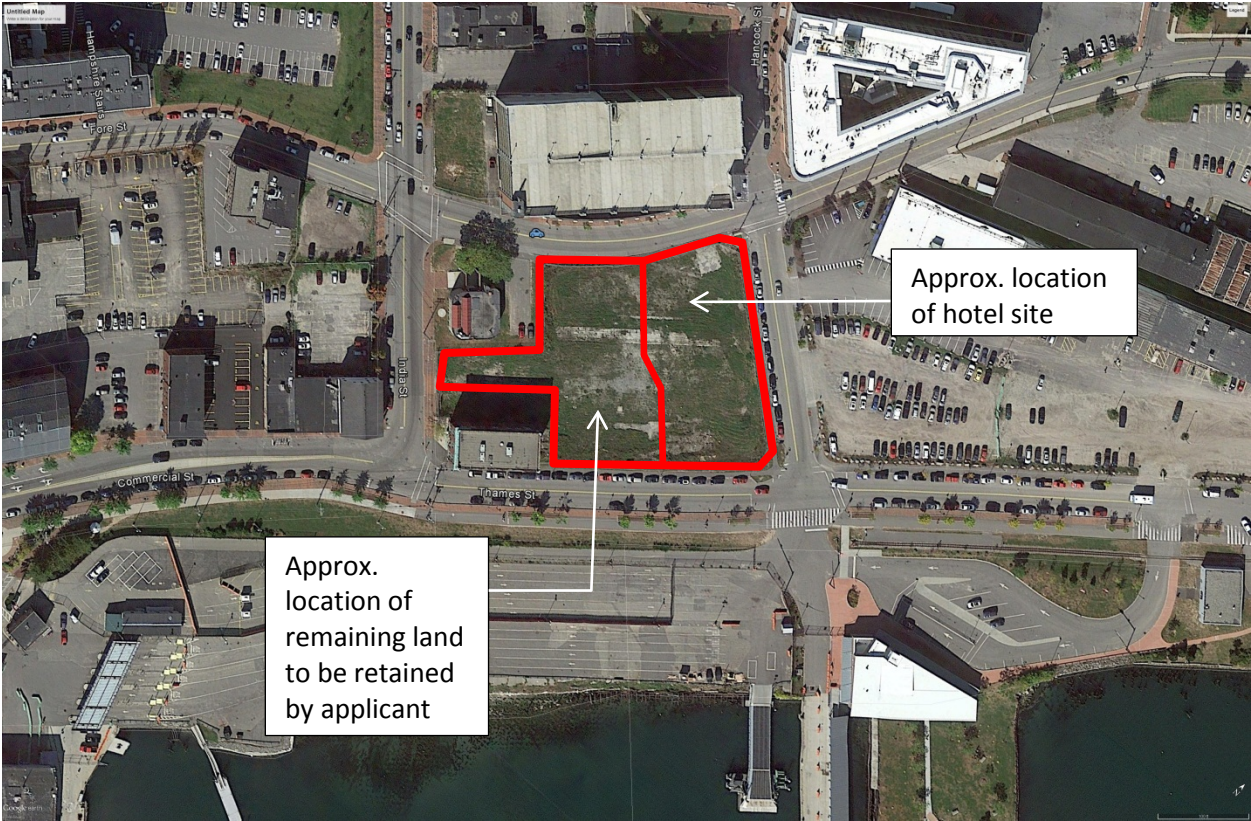


**Location Map – USGS**



*USGS map of approximate subject property (outlined in black and filled with yellow).*

**Location Map – Aerial photograph**



*Aerial photograph of approximate vacant subject property (outlined in red).*

## **5. Description of Project**

## **Description of Project**

**Site:** The proposed project consists of the development of a six (6) story building that fronts along the three abutting streets, and will include a 180 room AC Hotel.

New on-street parking (6 spaces), brick sidewalks, and other streetscape improvements are proposed along the existing property frontage on Fore Street, from the existing Portland Water District Pump Station lot north to the intersection with Hancock Street where a curb extension is proposed. By introducing on-street parking and a curb extension along Fore Street a section of lane and centerline restriping must occur, please see sheet C1.0 - Site Plan by Ransom Consulting as well as the Traffic Movement Permit Application (TMP) by Gorrill-Palmer Traffic Engineers (under separate cover) for further details. Hancock and Thames Streets are proposed to remain in their current configurations. New brick sidewalks, curb ramps, street trees, and lighting (updated and or relocated) will occur on all the three abutting streets.

The project will be accessed from Fore Street with a 20' driveway that terminates at a one-way cul-de-sac. The outermost portion of the cul-de-sac provides short term valet/drop-off/pick-up zone; the middle portion is an 18' one-way travel lane; and the inner most zone is a 10' radius raised island and 5' cobblestone buffer. This area has been designed for passenger and small delivery type vehicles. The driveway will provide access to the hotel's main entry/exit, and interior courtyard.

It is proposed that long-term/permanent parking will occur across the street at the Ocean Gateway Parking Garage. The applicant has secured sufficient parking spaces subject to long term leases. There is ample parking available in the garage with approximately half of the 720 parking spaces currently subject to leases.

**Landscaping:** On the south side of the hotel, between the hotel and employee entry/exit doors is a small, three season gathering space designed to take advantage of the southern exposure. It is defined by the drop-off cul-de-sac, street trees, and flanked by landscaping and stone benches which helps to soften edges and highlight the building access points with multi-season interest. The center island in the cul-de-sac will have space reserved for a piece of sculpture or art set in a bed of vegetation. All sidewalks will be planted with street trees either in flush tree grates (in narrow areas) or raised granite planters (where more is available). The street trees will help to reduce the mass of the building to a more pedestrian scale, define sidewalks, provide shade, and offer seasonal color/interest.

### Utilities:

The utilities for the hotel building will be accessed on Fore Street, Hancock Street, and Thames Street. Water (fire and domestic service) will be made at a water main within Fore Street. Natural gas service and electrical service will also be accessed in Fore Street as the water, gas, and electrical demarcation locations are on that end of the structure. With the hotel use (including kitchen) and the bar/lounge, it is estimated that water consumption could be on the order of 23,000 gallons per day. Water service connection will be made to the 12-inch water main in Fore Street and separated at the street for domestic and fire use. Sanitary discharge from the building will be into the 12-inch sanitary line in Hancock Street. The hotel kitchen will have separate discharges to the system which include a grease trap. The discharge from the hotel kitchen can be made into the sanitary line in Hancock Street. The natural gas main on the south side of Fore Street will need to be relocated to within the ROW prior to excavation for the building foundation. Future development of the parcel will likely utilize service connections within Fore Street or may consider access from Thames Street, but will consider a trunk line to the interior of the property and branch off to individual structures.

Three phase electric power is available in Fore Street. This project proposes to make a primary connection to an existing underground electric duct bank (shown on CMP drawing 905-3768) reportedly installed during construction for the Ocean Gateway Parking Garage. The primary ductbank will continue along Fore Street, and will terminate in an 8x12 sidewalk underground transformer vault adjacent to the hotel. The secondary electric will enter the building at the electrical room. The telephone, data, and cable service will be underground from a manhole in Fore Street and terminate at the telephone/data room along Hancock Street.

### Stormwater:

The existing site has been vacant for some time, but exists as a gravel site with several concrete pads at or close to the surface. The site was most recently used as a staging area for construction projects in the area completed within the last ten years. The site is relatively flat with general grade sloping from west to east. Surface stormwater currently sheds off of the property and enters into the separated storm drain system within Hancock and Thames Street. This system discharges to the ocean adjacent to the Ocean Gateway terminal building. While Chapter 500 redevelopment standards would indicate that new development of the site would not specifically require treatment of stormwater, the developer has chosen to provide permeable pavers with a filter system within the driveway and drop-off area. Storage

of the stormwater would be provided below the filter system (R-Tank system is currently proposed). The hotel roof is not proposed to be treated; however, the roof drains will connect to the subsurface storage system and provide detention prior to discharge to the storm drain. The storage system has been oversized to include connection for buildings within the future development.

**Architecture:** The proposed building is a 6-story, 'C' shaped structure containing 108,960 gsf with 180 guestrooms. Its longer axis fronts on Hancock Street and the two short legs front on Fore and Thames Streets.

The ground floor will consist of the hotel's lobby, reception, meeting rooms, lounge / bar, back of house areas, meeting rooms, community space, fitness room, and mechanical rooms. The hotel entry points break down as follows: Interior Courtyard will consist of the main entry, a valet office, employee entrance, electrical room, and lounge; Thames Street will consist of entry to the bar/lounge; and Hancock Street will consist of entry to the trash/receiving and secondary entry to the hotel / common room. Within the middle of the hotel ground floor there is a proposed interior, common receiving, delivery, and trash room. This service area will be accessed for service from Hancock Street.

Floors two through six will be comprised of 180 hotel rooms.

Exterior façade materials on the ground floor will be precast concrete, aluminum storefront, metal and glass canopy at the tenant entry and glass vestibules at the hotel and residential entries. Other typical floors will use brick veneer, cast unit masonry, composite metal panel, metal shingle and punched aluminum "warehouse" style windows.

## **6. Evidence of Right, Title, or Interest**

WARRANTY DEED

OCEAN GATEWAY GARAGE LLC, a Maine limited liability company with its principal place of business in Boston, County of Suffolk and Commonwealth of Massachusetts, for consideration paid, grants to PORTLAND NORWICH GROUP LLC, a Delaware limited liability company with its principal place of business in Sanibel, County of Lee and State of Florida, having a mailing address of 2330 Palm Ridge Road, # 305, Sanibel, FL 33957, WITH WARRANTY COVENANTS, the land, buildings, improvements and appurtenances thereof situated in Portland, County of Cumberland and State of Maine bounded and described as follows:

Parcel I – Development Parcel

A certain parcel or land situated on the northeasterly side of India Street, the southerly side of Fore Street, the southwesterly side of Hancock Street Extension and the northwesterly side of Commercial Street Extension in the City of Portland, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the northeasterly sideline of India Street at land now or formerly of The Portland Water District, reference Book 3870, Page 101;

Thence N 43°-41'-10" E along said land a distance of 119.66 feet;

Thence N 46°-18'-50" W along said land a distance of 94.47 feet to the southeasterly sideline of Fore Street;

Thence N 57°-57'-41" E along said sideline a distance of 11.78 feet;

Thence N 41°-40'-33" E along said sideline a distance of 66.60 feet;

Thence northeasterly along a curve concave to the left having a radius of 434.53 feet an arc distance of 76.00 feet, said curve having a chord which bears N 35°-16'-03" E a distance of 75.90 feet;

Thence N 28°-51'-33" E along said sideline a distance of 45.63 feet to Hancock Street Extension;

Thence easterly along said Hancock Street Extension and along a curve concave to the right having a radius of 15.00 feet an arc distance of 25.49 feet, said curve having a chord which bears N 77°-32'-05" E a distance of 22.53 feet;

Thence S 53°-47'-21" E along said Hancock Street Extension a distance of 225.68 feet;

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Thence southerly along said Hancock Street Extension and along a curve concave to the right having a radius of 12.00 feet an arc distance of 19.77 feet, said curve having a chord which bears S 6°-35'-54" E a distance of 17.61 feet;

Thence southwesterly along Commercial Street Extension and along a curve concave to the right having a radius of 971.00 feet an arc distance of 98.70 feet, said curve having a chord which bears S 43°-30'-16" W a distance of 98.65 feet;

Thence S 46°-24'-59" W along said Commercial Street Extension a distance of 130.24 feet;

Thence S 46°-41''-14" E along said Commercial Street Extension a distance of 2.07 feet to land shown on Amended Subdivision Plan Regarding The Longfellow, A Condominium and Adjacent Land of LRAR LLC dated January 30, 2015, recorded in said Registry in Plan Book 215, Page 369 (herein, the "Longfellow Property") (reference also being made to the First Amendment to Declaration of The Longfellow, A Condominium, recorded in said Registry in Book 32583, Page 232, and a Release Deed from GSB Corporation to LRAR LLC recorded in said Registry in Book 32583, Page 244);

Thence N 43°-10'-34" W along said Longfellow Property a distance of 63.64 feet;

Thence S 46°-38'-39" W along said Longfellow Property a distance of 126.40 feet to said India Street;

Thence N 46°-24'-57" W along said sideline a distance of 57.09 feet to the point of beginning.

The foregoing premises are conveyed herein subject to, and with the benefit of, all matters affecting such premises under the following instruments:

1. Easements and related rights described in the deed from Canadian National Railroad Company to the City of Portland, Maine dated August 30, 1993 and recorded in the Cumberland County Registry of Deeds in Book 10924, Page 84; as affected by the deed from LRAR LLC to the City of Portland dated December 27, 2006 and recorded in said Registry in Book 24709, Page 332, to the extent the foregoing may still affect the premises

2. Declaration of Covenants and Restrictions by and between Canadian National Railway Company and One India Street Associates acknowledged June 6, 1996 and recorded in the Cumberland County Registry of Deeds in Book 12565, Page 32, as affected by Declaration of One India Street Associates dated September 10, 1998 and recorded in said Registry in Book 14151, Page 258, as affected by a certain Declaration of Environmental Covenant granted by LRAR LLC to the Maine Department of Environmental Protection and joined in by GSB Corporation and Canadian National Railway Company dated August 21, 2015 and recorded in said Registry in Book 32544, Page 238.

3. Memorandum of Understanding by and between One India Street LLC and the City of Portland dated April 16, 2005 and recorded in the Cumberland County Registry of Deeds in Book 22673, Page 155, as affected by the deed from LRAR LLC to the City of Portland dated December 27, 2006 and recorded in said Registry in Book 24709, Page 332.

4. Such state of facts disclosed on ALTA/ACSM Land Title Survey on Fore Street and India Street, Portland, Maine Made for Portland Norwich Group, LLC by Owen Haskell, Inc. dated February 17, 2015, last revised October 28, 2015.

5. Rights and easements excepted and reserved in the deed from LRAR LLC to the City of Portland dated December 27, 2006 and recorded in said Registry in Book 24709, Page 332.

6. Easement Agreement granted by the City of Portland to LRAR LLC dated January 31, 2007 and recorded in said Registry of Deeds in Book 24811, Page 268.

7. License Agreement granted by the City of Portland to LRAR LLC dated January 31, 2007 and recorded in the Cumberland County Registry of Deeds in Book 24811, Page 278.

8. Easement Deed from the Portland Water District to LRAR LLC dated May 2, 2007 and recorded in said Registry in Book 25072, Page 79.

9. Easement Deed from the Portland Water District to LRAR LLC dated May 2, 2007 and recorded in said Registry in Book 25072, Page 83.

10. Commissioner's Certification of Completion of Remedial Actions under a Voluntary Response Action Plan dated July 16, 2015 and recorded in said Registry in Book 32544, Page 229

11. Declaration of Environmental Covenant granted by LRAR LLC to the Maine Department of Environmental Protection and joined in by GSB Corporation and Canadian National Railway Company dated August 21, 2015 and recorded in said Registry in Book 32544, Page 238.

FOR SOURCE OF TITLE, reference is hereby made to a Deed from LRAR LLC to the Grantor herein dated November 18, 2015, and recorded in said Registry in Book 32746, Page 285.

Parcel II – Ocean Gateway Garage

A certain parcel of land, together with the buildings and improvements thereon, situated on the northwesterly side of Fore Street in the City of Portland, County of Cumberland, and State of Maine, being shown as "Proposed Lot 3" on the Subdivision/Recording Plat On India Street and Fore Street, Portland, Maine, recorded in said Registry in Plan Book 207, Page 54, and bounded and described as follows:

Beginning on the northwesterly sideline of Fore Street at a point, said point bearing N 57° 57' 41" E along said sideline a distance of 63.85 feet from the intersection of said northwesterly sideline of Fore Street with the northeasterly sideline of India Street;

Thence N 48° 35' 31" W along land now or formerly of 25 India Street LLC a distance of 124.60 feet to land now or formerly of Micucci Brothers, reference Book 11090, Page 193;

Thence N 44° 40' 52" E along said land a distance of 116.57 feet;

Thence N 48° 38' 09" W along said land a distance of 9.95 feet;

Thence N 41° 27' 56" E along land now or formerly of Hancock & Middle LLC a distance of 153.97 feet;

Thence S 48° 33' 01" E along the southwesterly sideline of Hancock Street Extension a distance of 115.03 feet;

Thence southerly along a curve concave to the right having a radius of 15.00 feet an arc distance of 20.27 feet along said Hancock Street Extension to said northwesterly sideline of Fore Street, said curve having a chord which bears S 9° 51' 33" E a distance of 18.76 feet;

Thence S 28° 51' 33" W along said sideline a distance of 51.37 feet;

Thence southwesterly along said sideline and along a curve concave to the right having a radius of 384.90 feet an arc distance of 86.10 feet, said curve having a chord which bears S 35° 16' 03" W a distance of 85.92 feet;

Thence southwesterly along said sideline and along a curve concave to the right having a radius of 341.90 feet an arc distance of 97.07 feet, said curve having a chord which bears S 49° 48' 33" W a distance of 96.74 feet;

Thence S 57° 57' 41" W along said sideline a distance of 28.43 feet to the point of beginning, containing 37,626 square feet, more or less.

The foregoing premises are conveyed herein subject to, and with the benefit of, all matters affecting such premises under the following instruments:

1. Such state of facts as shown on survey entitled "ALTA/ACSM Land Title Survey on Fore Street and India Street, Portland, Cumberland County, Maine, made for Portland Norwich Group, LLC, prepared by Owen Haskell, Inc. dated February 17, 2015, revised October 28, 2015, Job No. 2015-021P.

2. State of Maine Department of Environmental Protection Maine Hazardous Waste Seepage and Solid Waste Management Act Findings of Fact and Order dated December 18, 1990 and recorded in said the Cumberland County Registry of Deeds in Book 9936, Page 205.

3. Declaration of Restrictive Covenant by Amdura Corporation dated as of March 9, 1992 and recorded in the Cumberland County Registry of Deeds in Book 9973, Page 122, as amended by Amended and Restated Declaration of Restrictive Covenant dated March 29, 2004 and recorded in said Registry in Book 21111, Page 26.
4. Easement Agreement granted by the City of Portland to Ocean Gateway Garage LLC dated January 31, 2007 and recorded in the said Registry in Book 24811, Page 264.
5. License Agreement granted by the City of Portland to Ocean Gateway Garage LLC dated January 31, 2007 and recorded in said Registry in Book 24811, Page 274.
6. Stack Easement granted by Ocean Gateway Garage LLC to Portland Water District dated May 2, 2007 and recorded in said Registry in Book 25071, Page 264.
7. Communications Equipment Agreement granted by Ocean Gateway Garage LLC to Portland Water District dated May 2, 2007 and recorded in said Registry in Book 25071, Page 267.
8. Easement reserved in the Quitclaim Deed with Covenant from Ocean Gateway Garage LLC to Hancock & Middle LLC dated May 25, 2007, and recorded in said Registry in Book 25165, Page 230.
9. License Agreement from the City of Portland to Ocean Gateway Garage LLC dated August 8, 2007 and recorded in said Registry in Book 25397, Page 266.
10. Subject to terms of Lease between Ocean Gateway Garage LLC and Chapin Realty LLC dated October 2007 and recorded in said Registry in Book 25688, Page 182.
11. Rights and easement granted by Ocean Gateway Garage LLC to Central Maine Power Company and Verizon New England, Inc. dated November 11, 2007 and recorded in said Registry in Book 25776, Page 76.
12. Rights and easement granted by Ocean Gateway Garage LLC to Northern Utilities, Inc. dated January 29, 2008 and recorded in said Registry in Book 25800, Page 225.
13. Landlord's Estoppel and Consent among Chapin Realty LLC, Ocean Gateway Garage LLC and Wells Fargo Bank National Association dated as of March 12, 2008 and recorded in said Registry in Book 25903, Page 261 as amended by Amended & Restated Landlord's Estoppel & Consent dated May 2011 and recorded in said Registry in Book 29002, Page 255 and further amended by Second Amended and Restated Landlord's Estoppel & Consent dated May 28, 2014 and recorded in said Registry in Book 31526, Page 277.
14. Abutter's Agreement between Ocean Gateway Garage LLC and Eight Middle Land Company LLC dated May 1, 2013 and recorded in said Registry in Book 30623, Page 318.

15. Abutter's Agreement between Ocean Gateway Garage LLC and East India Land Company LLC dated May 1, 2013 and recorded in said Registry in Book 30624, Page 21.

16. Subject to a life estate in a single unassigned parking space as set forth in Quitclaim Deed from Ocean Gateway Garage LLC to Fred M. Forsley dated May 1, 2013 and recorded in the Cumberland County Registry of Deeds in Book 30624, Page 59.

17. Subject to the terms of a certain Memorandum of Lease between Ocean Gateway Garage LLC and East India Land Company LLC dated as of May 1, 2013 and recorded in the Cumberland County Registry of Deeds in Book 30624, Page 39.

18. Subject to the terms of a certain Memorandum of Lease between Ocean Gateway Garage LLC and Eight Middle Land Company LLC dated as of May 1, 2013 and recorded in said Registry of Deeds in Book 30624, Page 41.

19. Rights and easements conveyed by deed from Ocean Gateway Garage LLC to 25 India Street LLC by deed dated as of May 25, 2007 and recorded in said Registry in Book 25165, Page 250, as affected or supplemented by a conveyance of easements by Joinder by Ocean Gateway Garage in a deed to East India Land Company LLC dated May 1, 2013, recorded in said Registry in Book 30624, Page 17.

20. Rights and easements conveyed by deed from Ocean Gateway Garage LLC to Hancock & Middle LLC by deed dated as of May 25, 2007, recorded in said Registry in Book 25165, Page 230, as affected or supplemented by a conveyance of easements by Ocean Gateway Garage by its Joinder in a deed from Hancock & Middle LLC to Eight Middle Land Company LLC, dated May 1, 2013, recorded in said Registry in Book 30623, Page 314.

21. Subject to the terms of a certain Memorandum of Parking Lease between Ocean Gateway Garage LLC and GSB Corporation dated September 9, 2015 and recorded in said Registry of Deeds in Book 32583, Page 247.

22. Commissioner's Certification of Completion of Remedial Actions under a Voluntary Response Action Plan dated October 21, 2015 and recorded in said Registry in Book 32701, Page 105.

23. Declaration of Environmental Covenant granted by Ocean Gateway Garage LLC to the Maine Department of Environmental Protection dated October 26, 2015 and recorded in said Registry of Deeds in Book 32701, Page 114.

FOR SOURCE OF TITLE, reference is hereby made to the Quitclaim Deed of Shipyard Brewing Company, LLC to Ocean Gateway Garage LLC dated September 29, 2006 recorded in the Cumberland County Registry of Deeds in Book 24419, Page 111.

IN WITNESS WHEREOF, Ocean Gateway Garage LLC has executed, acknowledged and delivered this instrument this 18<sup>th</sup> day of November, 2015.

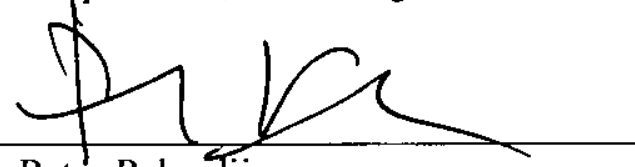
OCEAN GATEWAY GARAGE LLC

By: Riverwalk Venture LLC, Its Manager

By: Intercontinental Fund IV Ocean Gateway LLC, Its Manager

By: Intercontinental Real Estate Investment Fund IV LLC, Its Manager

By: Intercontinental Real Estate Corporation, Its Manager

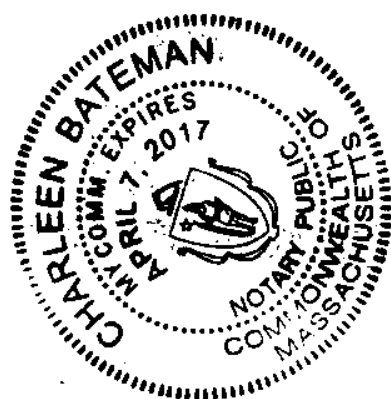
By:   
Peter Palandjian  
Its President and Treasurer

  
Witness

COMMONWEALTH OF MASSACHUSETTS

Suffolk, ss.

On this 18<sup>th</sup> day of November, 2015, before me, the undersigned notary public, personally appeared Peter Palandjian, President and Treasurer of Intercontinental Real Estate Corporation, proved to me through satisfactory evidence of identification, which was a Massachusetts driver's license, to be the person whose name is signed on the foregoing instrument, and acknowledged to me that he signed it voluntarily for its stated purpose and as the free act and deed of said Intercontinental Real Estate Corporation and in its stated capacities for each of Intercontinental Real Estate Investment Fund IV LLC, Intercontinental Fund IV Ocean Gateway LLC, Riverwalk Venture LLC and Ocean Gateway Garage LLC.



  
Notary Public

Received  
Recorded Register of Deeds  
Nov 20, 2015 02:35:33P  
Cumberland County  
Nancy A. Lane

## **7. Evidence State and/or Federal Permits**

## **Evidence of State and/or Federal Permits**

**No State or Federal permits are anticipated as part of this project due to the City's delegated review authority over the stormwater component. See attached Stormwater Management Plan, Exhibit #16.**

**No State or Federal permits are anticipated as part of this project due to the City's delegated review authority over traffic component. See attached Traffic Plans and narratives, Exhibit #14.**



## **8. Summary of Compliance with Zoning Requirements**

## **Summary of Compliance with Zoning Requirements:**

### **DIVISION 15.1**

#### **B-6 Eastern Waterfront Mixed Zone**

##### **Sec. 14-269. Permitted uses.**

*The following uses are permitted in the B-6 zone:*

*(a) Commercial:*

- 1. Professional, business and general offices; **N/A***
  - 2. Restaurants and other eating and drinking establishments, except that no drinking establishments as defined in section 14-47 that are located east of Waterville Street shall be permitted within fifty feet (50') of Fore Street, and provided that restaurants that are located east of Waterville Street and within fifty feet (50') of Fore Street must meet the following requirements:
    - a. The hours of operation shall be limited to between 5:00 a.m. and 11:00 p.m. each day; and*
    - b. Food service and consumption are the primary function of the restaurant;*  
**Applicable – Hotel lounge / bar space on 1<sup>st</sup> floor, fronting on Thames Street***
- 3. Hotels and inns limited to no more than 150 rooms; **N/A – 180 rooms on floors 2-6 per the current Form Based Code***
  - 4. Craft and specialty shops, including the on premises production of handcrafted goods; **N/A***
  - 5. Retail and retail service establishments, excluding those with gas pumps;*
  - 6. Theatres; **N/A***
  - 7. Banking services, excluding vehicular drive-up services; **N/A***
  - 8. Cabinet and carpentry shops; **N/A***
  - 9. Personal services; **N/A***
  - 10. Business services; **N/A***
  - 11. Offices of business trades people; **N/A***
  - 12. Miscellaneous repair services, excluding all types of automotive repair except for automobile repair and service establishments; **N/A***
  - 13. Telecommunication and broadcast and receiving facilities, except as prohibited in section 14-271 (prohibited uses); In addition, building mounted telecommunications antennas, discs, transmitting and receiving equipment and the like shall adhere to the following criteria. Such roof-mounted equipment shall be: **N/A**
    - a. No taller than 15 feet above the highest structural steel of the building roof; and*
    - b. Set back no less than 15 feet from the building perimeter; and*
    - c. Integrated into the architecture of the building in placement, form, color, and material so as to screen or camouflage such equipment from public view.**
- 14. Brew pubs and microbreweries without associated bottling facilities; and brewpubs and microbreweries with associated bottling facilities limited to 5,000 bottles per year output, except that no brew pubs or microbreweries that are located east of Waterville Street shall be permitted within fifty feet (50') of Fore Street;*
  - 15. Electronic data storage; **N/A***
  - 16. Marine products wholesaling and retailing; **N/A***
  - 17. Harbor and marine supplies and services, chandlery and ship supply; **N/A***
  - 18. Underground marine fuel storage provided that fuel storage structures shall be used solely for the purpose of fueling vessels; **N/A***

19. Bakeries, coffee roasters, and commercial kitchens with building footprints limited to fifteen thousand (15,000) square feet of contiguous building space. **Applicable, hotel kitchen**
20. Printing establishments. **N/A**

**(b) Residential: N/A**

1. Attached dwellings including row houses, two-family and multifamily dwellings;
2. Handicapped family units;
3. Combined living/working spaces, including but not limited to artist residences w/ studio space;
4. Mixed use residential and commercial structures.

**(c) Public: N/A**

1. Utility substations, including sewage collection and pumping stations, water pumping stations, transformer stations, telephone electronic equipment enclosures and other similar structures;
2. Landscaped pedestrian parks, plazas and other similar outdoor pedestrian spaces;
3. Pedestrian and multi-use trails;

**(d) Other: N/A**

1. Studios for artists, photographers and craftspeople including but not limited to, painters, sculptors, dancers, graphic artists and musicians;
2. Accessory uses customarily incidental and subordinate to the location, function and operation of permitted uses, except that parking lots shall not be considered a permitted accessory use and such parking is subject to the conditional use section of the B-6 zone.
3. Health clubs, martial arts and meditation facilities.
4. Intermodal transportation facilities.
5. Nursery schools, kindergartens, and daycare facilities or home babysitting services.
6. Private clubs or nonprofit social and recreational facilities, as defined in 14-47.
7. Educational facilities.
8. Temporary events, provided that all such events on a lot do not exceed a combined total of (60) days per year and that the total floor area utilized for such uses does not exceed seventy thousand (70,000) square feet at any one (1) time.
9. Museums and art galleries.

**e) Wind energy systems, as defined and allowed in Article X, Alternative Energy. N/A**

**Sec. 14-270. Conditional uses.**

*(a) The following uses shall be permitted as conditional uses in the B-6 zone as provided in 14-474 (conditional uses), provided that, notwithstanding section 14-474(a) or any other provision of this code, the planning board shall be substituted for the board of appeals as the reviewing authority:*

**(1) Commercial: N/A**

- a. Meeting and exhibition facilities limited to a total of 20,000 gross square feet of interior floor area.
- b. Wholesaling, providing the wholesale operation is associated with an onsite retail establishment and that the wholesaling component of the facility occupies a building footprint of less than 15,000 square feet.

**(2) Parking:**

- a. All surface parking lots shall meet the applicable conditions outlined below. **N/A**

- i. No surface parking lot shall be encumbered by lease or other use commitment exceeding a twenty-four month term.*
  - ii. Any such parking shall in its lease stipulate that developer/owner reserves the right to relocate said parking (to a parking structure) or convert surface parking to structured parking as long as the replacement parking is located a reasonable distance from the associated use.*
  - iii. Surface lots shall be laid out in a manner conducive to development of future buildings, and/or structured parking.*
- b. All structured parking, including multi-level parking garages shall meet the applicable conditions outlined below. **Applicable – all required parking shall be provided at Ocean Gateway Garage through long term leases obtained by applicant.***
  - i. Parking garages shall incorporate first floor retail space or other mixed use (an active use other than parking) along all street frontages unless the applicant requests from the planning board a waiver of this provision subject to the following criteria:*
  - ii. Waivers: the planning board may waive the requirement for first floor mixed use upon demonstration that the project meets one or more of the criteria listed under provisions a, b, and c below. Where the board allows a waiver of first floor mixed use, garages shall display architecture that enhances the pedestrian experience and disguises the parking use to the extent possible. Standards for waiving first floor mixed use:*
    - a. That the applicant demonstrates that steepness of grade or the character of the adjacent street will not support retail or first-floor mixed use in the foreseeable future.*
    - b. That the first floor of the garage is set back a minimum of 35 feet from the street right of way and its design does not provide an impediment for development of such space for mixed use in the future. Such space (between the garage and the street) shall, in the interim, not be used for surface parking.*
    - c. Where the applicant can demonstrate to the satisfaction of the Planning Board that a market for first floor mixed uses currently does not exist, the Planning Board may grant a waiver of this condition, provided that the structure of the garage is designed to accommodate retail and or mixed uses in the future. The Planning Board will need to find that on the street level deck of a proposed parking garage a minimum of twenty (20) feet horizontal distance of depth from the street and nine (9) feet finished floor to finished ceiling clearance could in future house retail and or mixed use. The applicant will further need to demonstrate that the garage design anticipates the future development of utilities and circulation necessary for non-parking uses. Where a parking garage fronts on more than one public street and where there is a existing change in grade elevation of over 5% across the footprint of the garage, the nine foot floor to ceiling requirement of this section only applies to the primary (higher traffic volume) street.*

**Sec. 14-272. Dimensional requirements.**

In addition to the provisions of article III, division 25 of City this Code, lots in the B-6 Eastern Waterfront Business Zone shall meet the following requirements:

(a) Minimum lot size: None. **Hotel lot: 28,540 sf (0.655 acres)**

(b) Minimum frontage: None. **Fore Street = +115'**

**Hancock Street = +225'**

**Thames Street = +115'**

(c) Yard dimensions:

1. Minimum yards in the B-6 zone:

Front setback: None required except as provided in 3. below:

**Fore Street: +/-1'**

**Hancock Street: <1'**

**Thames Street: +/-1'**

Side setback: None required. **N/A**

Rear setback: None required. **15'**

2. Maximum building setback from street line except for parking garages, public transportation facilities and provided in 3. below: 10 feet.

**Fore Street: 7.6'**

**Hancock Street: <1'**

**Thames Street: 7.1'**

a. For lots fronting on more than one street, the setback can be increased more than ten (10) feet if all of the following conditions are met: **N/A**

i. The increased setback occurs at the intersection of the streets;

ii. The increased setback area is the primary pedestrian entrance to the building;

iii. Seventy-five (75) percent of the total building wall length facing the abutting streets shall be setback no greater than ten (10) feet; and

iv. All building wall segments, which make up the increased setback shall be included in the calculation of the total building wall length noted in subsection iii above.

In addition, for any new construction on a lot abutting three or more streets, the maximum setback shall apply only to the two most major streets. (For purposes of this section, major street shall mean that street with the highest traffic volume or the greatest street width in comparison with the remaining streets).

3. View Corridors and Key Street Wall Development Notwithstanding sections 1. and 2.

above, new structures located in the blocks located south of Fore Street and north of Commercial Street and its extension, shall build to the key building envelopes shown on the B6 Building Height Overlay & Building Envelopes map .Buildings located in the easternmost key building envelope, shall not have a maximum front setback, and shall not be required to build to the key building envelope perimeter. Parking structures and the buildings for public transportation facilities may, however, set back beyond the key building envelopes (toward the interior of blocks), but may not occupy the land between the key building envelope and the street right of way.

(d) Minimum length of building wall required to be located along street frontage of lot (except that buildings located in the easternmost key building envelope, as shown on the B6 Building Height Overlay & Building Envelopes map, shall not be subject to this requirement).

i. 70% of lot street frontage; or

ii. 25% of building perimeter,

iii. For buildings fronting on two or more streets, the minimum building wall on one street may be decreased so long as the frontage is proportionally increased on other streets in so far that the building wall on the secondary street is not reduced to less than 25 feet.

(e) Maximum lot coverage: One hundred (100) percent. **70.2%**

(f) Maximum building height: 65 feet, or as otherwise governed by a Building Height Overlay map (for example, in the Eastern Waterfront). Building Height Overlay maps are found in the Planning and Development Department Office. **65'**

(g) Minimum building height: No new construction of any building shall have less than three (3) floors of habitable space above the average adjacent grade within twenty five (25) feet of any public street (except that buildings located in the easternmost key building envelope, as shown on the B6 Building Height Overlay & Building Envelopes map, shall not be subject to a minimum building height). This provision shall not apply to: **N/A**

i. Parking attendant booths,

ii. Information kiosks and ticketing booths,

iii. Parking garages,

iv. Public transportation facilities,

v. Additions to buildings existing as of December 8, 2004 provided that the cumulative additions since December 8, 2004 does not exceed 25% of the building footprint on December 8, 2004 except that such restriction shall not apply to those portions of the building addition that are constructed closer to the street line than the building footprint existing as of December 8, 2004,

vi. Buildings or building additions of less than 2,000 square feet footprint, on lots or available building sites of less than 2,000 square feet, vii. Utility substations, including sewage collection and pumping stations, water pumping stations, transformer stations, telephone electronic equipment enclosures and other similar structures, and

viii. Additions to and/or relocations of designated historic structures. Ord. 184-14/15, 6-1-2015

#### **Sec. 14-273 Performance standards.**

All new development in the B-6 Eastern Waterfront Business Zone shall comply with the following standards:

(a) Storage: Any storage of new materials, finished products, or related equipment must be suitably screened from the public way and from abutting properties by a solid fence at least five (6) feet in height. All waste shall be stored in covered containers that do not leak or otherwise permit liquids or solids to escape from the container. All food processing waste shall be stored within a completely enclosed structure and if not refrigerated shall be removed from the site in an enclosed container within forty-eight (48) hours of its generation. All enclosed and exterior areas shall be cleaned and sanitized on a regular basis. Outdoor storage of refuse or debris shall be in an appropriate container or located within a designated, screened area. **Applicable - there is a proposed interior, common receiving, delivery, and trash room which will be accessed from Hancock Street.**

(b) Noise:

1. Definitions:

a. Tonal sounds are defined as sound waves usually perceived as a hum or whine because their instantaneous sound pressure varies essentially as a simple sinusoidal function of time.

b. Impulse sounds are defined as sound events characterized by brief excursions of sound pressure, each with duration of less than one (1) second.

2. *Measurement: Sound levels shall be measured with a sound level meter with a frequency weighting network manufactured according to standards prescribed by the American National Standards Institute (ANSI) or its successor body. Measurements shall be made at all major lot lines of the site, at a height of at least four (4) feet above the ground surface. In measuring sound levels under this section, sounds with a continuous duration of less than sixty (60) seconds shall be measured by the maximum reading on a sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of sixty (60) seconds or more shall be measured on the basis of the energy average sound level over a period of sixty (60) seconds (LEQ1).*

3. *Maximum permissible sound levels: The maximum permissible sound level of any continuous, regular or frequent source of sound produced by an activity shall be as follows:*

a. *Sixty (60) dBA between the hours of 7:00 a.m. and 10:00 p.m.*

b. *Fifty (50) dBA between the hours of 10:00 p.m. and 7:00 a.m., as measured at or within the boundaries of any residential zone. In addition to the sound level standards established above, all uses located within this zone shall employ best practicable sound abatement techniques to prevent tonal sounds and impulse sounds or, if such tonal and impulse sounds cannot be prevented, to minimize the impact of such sounds in residential zones. **Applicable - all mechanical equipment will be located on the roof or in underground vaults. Cut sheets showing anticipated sound levels will be submitted once the equipment has been selected.***

4. *Exemptions:*

a. *Noises created by construction and maintenance activities between 7:00 a.m. and 10:00 p.m. are exempt from the maximum permissible sound levels set forth in subsection (a)3 of this section. Construction activities on a site abutting any residential use between the hours of 10:00 p.m. of one (1) day and 7:00 a.m. of the following day shall not exceed fifty (50) dBA.*

b. *The following uses and activities shall also be exempt from the requirements of subsection (a) 3 of this section:*

i. *The noises of safety signals, warning devices, emergency pressure relief valves, and any other emergency devices.*

ii. *Traffic noise on public roads or noise created by airplanes and railroads.*

iii. *Noise created by refuse and solid waste collection, provided that the activity is conducted between 6:00 a.m. and 7:00 p.m.*

iv. *Emergency construction or repair work by public utilities, at any hour.*

v. *Noise created by any temporary activities which are permitted by law and for which a license or permit has been granted by the city, including but not limited to parades, sporting events, fireworks displays, festivals, events and concerts.*

(c) *Vibration: Vibration inherently and recurrently generated shall be imperceptible without instruments at lot boundaries. **N/A***

(d) *Federal and state environmental regulations: All uses shall comply with federal and state environmental statutes and regulations regarding emissions into the air, except where provisions of this Code are more stringent. **All Federal and State environmental regulations will be met.***

(e) *Storage of vehicles: Outdoor storage of any unregistered automotive vehicle on the premises for more than ten (10) days, and outdoor storage of any used automotive tires on the premises shall not be permitted. **N/A***

*(f) Off-street parking and loading: Off street parking is required as provided in division 20 (off-street parking) of this article. Division 21 (off-street loading) of this article shall not apply.*

**Applicable – See Off-Street Parking section following.**

*(g) Shoreland and flood plain management regulations: Any lot or portion of a lot located in a shoreland zone as identified on the city shoreland zoning map or in a flood hazard zone shall be subject to the requirements of division 26 and/or division 26.5. **Applicable – See Shoreland Zone section following.***

*(h) Glare, radiation or fumes: Glare, radiation or fumes shall not be emitted to an obnoxious or dangerous degree beyond lot boundaries. **N/A***

*(i) Enclosure of uses: All uses shall be operated within a fully enclosed structure, except for those customarily operated in open air. **N/A***

*(j) Materials or wastes: Any permitted outdoor storage of materials shall be done in such a manner as to prevent the breeding and harboring of insects or vermin, to prevent the transfer of such materials from the site by natural causes or forces and to contain fumes, dust, or other materials which constitute a fire hazard. This storage shall be accomplished within enclosed containers or by one (1) or more of the following methods: raising materials above ground, separating materials, preventing stagnant water, or by some other means. Any areas used for permitted outdoor storage of materials shall be screened from view of any adjoining properties and public rights-of-way. No outdoor storage shall be permitted between the front of any building on the site and the street. **N/A***

*(k) Odor: Uses in the B-6 zone shall adhere to the odor regulations of the IL zone. **N/A***

*(l) Smoke: Discharges of smoke shall not exceed opacity percentage of forty (40) percent or number 2 on the ringelman chart. **N/A***

*(m) Discharge into sewers: No discharge shall be permitted at any point into any private sewage disposal system, or surface drain, or into the ground, of any materials in such a way or of such nature or temperature as to contaminate any water supply, or the harbor, or otherwise cause the emission of dangerous or objectionable elements, except in accordance with standards approved by the health authority or by the public works authority. **Applicable – all discharges into public sewer will be legal, permitted, and approved by the City.***

*(n) Lighting: All lighting shall be designed and installed with cut-off fixtures to direct illumination onto the site and to prevent illumination from such fixtures on neighboring properties and as otherwise governed by the site lighting standards of the City of Portland Technical Manual.*

**Applicable – all proposed interior property lighting will meet City standards. All roadway lighting will be City’s approved Eastern Waterfront or Commercial Street light fixtures/poles. Exterior hotel lighting will be submitted for Staff review/approval once the design has been completed.**



## DIVISION 20 OFF STREET PARKING

### Section 14-332 Uses requiring off-street parking.

*In all zones where off street parking is required the following minimum off-street parking requirements shall be provided. Except as provided in Section 14-332.1, 14-332.2 (exceptions) and 14-345 (fee in-lieu of parking) of this division, for the uses listed below the following minimum off-street parking requirements shall be provided and maintained in the case of new construction, alterations which increase the number of units, and changes of use:*

*(a) Residential structures:*

*1. For new construction, two, (2) parking spaces for each dwelling unit.*

**See attached Trip Generation and Parking Demand Analysis, Exhibit #14.**

*(c) Hotels: One (1) parking space for each four (4) guest rooms.*

**See attached Trip Generation and Parking Demand Analysis, Exhibit #14.**

*(h) Retail stores: One (1) parking space for each two hundred (200) square feet of first floor area in excess of two thousand (2,000) square feet not used for bulk storage and one (1) parking space for each seven hundred (700) square feet, or major fraction thereof, for each floor above the first floor not used for bulk storage. N/A*

*(i) Restaurants or establishments constructed and intended for the dispensing of food and drink as the principal activity: One (1) parking space for each one hundred fifty (fifteen) square feet, or major fraction thereof, of floor area not used for bulk storage or food preparation.*

**See attached Trip Generation and Parking Demand Analysis, Exhibit #14.**

### Section 14-332.1 Zone specific off-street parking exceptions and modifications.

*The off street parking requirements established for uses are hereby modified for the following zones according to the revisions as described below.*

*(h) B-6 Eastern Waterfront Mixed Use Zone: Off-street parking for all projects regardless of size shall be governed by 14-332.2(c) of this article. See below.*

### Sec. 14-332.2. Categorical exceptions and modifications to off-street parking requirements.

*Regardless of which zone a project of use is located, the following exceptions to the off-street parking requirements listed above in section 14-332 are additionally hereby established.*

*(c) Site plans over 50,000 square feet and projects in the B-6, B-7, and USM Overlay Zones: Where construction is proposed of new structures having a total floor area in excess of fifty thousand (50,000) square feet, the planning board shall establish the parking requirement for such structures. The parking requirement shall be determined based upon a parking analysis submitted by the applicant and upon the recommendation of the city transportation engineer.*

**This exception and modification applies to the proposed project. See attached Trip Generation and Parking Demand Analysis, Exhibit #14.**

### Section 14-332.3 Uses requiring off-street bicycle parking.

*In all zones where of-street motor vehicle parking is required, minimum off-street bicycle parking shall be provided and maintained.....as specified in Section 14 - 526(a) (2) (Site Plan Standards).*

**See attached Trip Generation and Parking Demand Analysis, Exhibit #14. This project will not provide on-site vehicle parking as it will be provided at Ocean Gateway Garage through long term leases obtained by the applicant, across Fore Street. Bicycle parking for ten bikes will be provided on-site as part of this project. See Site Plan.**

**DIVISION 26 SHORELAND REGULATIONS**  
**Section 14-449 Land Use Standards**

*(a) Principal and accessory structures: All principal and accessory structures shall be set back at least seventy-five (75) feet horizontal distance, from the normal high water line of water bodies..... except that in the following zones the setback shall be as indicated: W-PD Zone:*

*No setback required.*

**The project does not propose to locate any structures within the 75' of the normal high water line.**

*(b) Piers, docks, wharves, bridges and other structures and uses extending over below the normal high water line of a water body or within a wetland: New permanent structures, and expansions thereof, projecting into or over water bodies shall require a permit from the D.E.P.*

**N/A**

*(c) Clearing of vegetation.*

**The existing project site is completely void of any significant vegetation. It is only sparsely covered by grass and grass type weeds growing over a gravel surface.**

*(d) Erosion & Sedimentation Control:*

**Both temporary and permanent erosion and sedimentation control devices/application conforming to the current best management practices will be used. Please see attached sheet C1.2 Grading, Drainage, and Erosion Control Plan.**

*(e) Soils:*

**According to the Soil Survey of Cumberland County, published by the United States Department of Agriculture (1974); the project soils are generally cut/fill over marine clay. Also see Geotechnical Report, Exhibit #23.**

*(f) Water Quality:*

**No pollutants will be deposited into State waters as a result of this project. As part of this project the proposed stormwater system will ultimately tie into an existing City owned stormwater outfall which discharges into the Fore River; only after it filters through a crushed stone filter layer and is detained in the proposed underground chamber system.**

*(g) Archaeological Sites:*

**The project site has been completely disturbed by its past uses and the hotel site is not within the City's Historic District. However, the adjacent property does contain a building from the Grand Trunk Railroad complex and we understand it is a historic building. Deb Andrew's, Historic Preservation, felt the current project would not be considered abutting a historic structure, and this not under HP review. However, when the remaining lot is developed it would require HP review.**

*(h) Installation of Public Utility Service:*

**This is a pre-disturbed, vacant site that will require many new utility connections which are available to tie into in the adjacent streets. All applicable utility service companies will be contacted and worked with to install any necessary new services to both their and the City's standards. As part of this project it is proposed to tie the stormwater system into an existing City owned stormwater outfall that eventually discharges into the Fore River after going through a downstream defender and our private stormwater system.**

*(i) Essential Services:*

This is a pre-disturbed, vacant site. All applicable essential service companies and the City will be contacted and worked with to install any necessary new services.

*(j) Roads & Driveways:*

**Roads:** The project does not propose any new roads; instead it uses the adjacent established road network. The project proposes some adjustments to the road lanes, striping, and curb line along Fore Street and some curb line adjustments along Hancock Streets. New on-street parking is proposed for the portion of Fore Street from the Portland Water District Pump Station driveway to the intersection with Hancock Street. The street centerline will be shifted to the west to accommodate for the 8' on-street parking lane, single 12' outbound lane, and single 12' inbound lane. In conjunction to the lane shifting/restriping the project proposes to bump out the curb at the corner of Fore and Hancock Streets. This will provide a larger pedestrian space at the hotel entrance, provide definition and protection to cars parked on the street and makes the pedestrian crossing shorter and safer. All road improvements will occur outside the Shoreland Zone. All improvements will take place within the right-of-way or within the applicant's property.

**Internal Driveway:** The project calls for a single, 20' driveway which terminates at a one way cul-de-sac. The outermost portion of the loop is an 8' valet drop-off/pick-up zone; the middle portion is an 18' one-way, travel lane; and the inner most zone is a 10' radius landscaped island and 5' cobblestone buffer. This area has been designed for passenger and small delivery type vehicles. No portion of the drive or loop will be located within the Shoreland Zone.

*(k) Parking Areas:*

The project does not include any permanent or long term vehicle parking on-site, but it does include an area for short term valet drop-off/pick-up. No portion of the short term drop-off/pick-up will be located within the Shoreland Zone.

*(l) Septic Waste Disposal:*

New wastewater connections are a part of this project. New connections are proposed from the hotel and from the hotel kitchen space ( including a grease trap). Part of this application includes a waste water analysis application to be reviewed by the City staff. We will work closely with the City to determine best methods of handling waste water.

*(m) Stormwater runoff:*

The existing project site is a gravel surface. The proposed condition will contain less impervious area than the current site does, thus a reduction in stormwater runoff. A large portion of the internal driveway has been designed with a pervious paver system for stormwater treatment and storage. As part of this project it is proposed to tie the stormwater system into an existing City owned stormwater outfall that eventually discharges into the Fore River after going through a downstream defender and our private stormwater system.

*(n) Agriculture: Not Applicable.*

*(o) General site plan features:*

The applicant feels that the proposed project meets the intent of the Shoreland Zone regulations.



Attorneys at Law

TEN FREE STREET  
P.O. BOX 4510  
PORTLAND, MAINE 04112-4510  
(207) 775-7271 (Phone)  
(207) 775-7935 (Fax)

[www.jbgh.com](http://www.jbgh.com)

MERTON C. HENRY  
KENNETH M. COLE III  
NICHOLAS S. NADZO  
FRANK H. FRYE  
MICHAEL A. NELSON  
BRIAN C. BROWNE  
OF COUNSEL  
  
RAYMOND E. JENSEN  
(1908-2002)  
KENNETH BAIRD  
(1914-1987)  
M. DONALD GARDNER  
(1918-2003)

YORK COUNTY  
OFFICE  
11 MAIN STREET, SUITE 4  
KENNEBUNK, MAINE 04043  
(207) 985-4676 (Phone)  
(207) 985-4982 (Fax)

DAVID J. JONES  
RICHARD H. SPENCER, JR.  
LAWRENCE R. CLOUGH  
RONALD A. EPSTEIN  
WILLIAM H. DALE  
F. BRUCE SLEEPER  
DEBORAH M. MANN  
LESLIE E. LOWRY III  
PATRICIA M. DUNN  
MICHAEL J. QUINLAN  
R. LEE IVY

ROGER P. ASCH  
NATALIE L. BURNS  
SALLY J. DAGGETT  
ROY T. PIERCE  
BRENDAN P. RIELLY  
NICHOLAS J. MORRILL  
MARK A. BOWER  
CHARLES M. KATZ-LEAVY  
ALYSSA C. TIBBETTS  
J. CASEY MCCORMACK  
TUDOR N. GOLDSMITH

VIA EMAIL AND U.S. MAIL

April 5, 2016

Jennifer Thompson, Esq.  
Corporation Counsel's Office  
389 Congress Street  
Portland, Maine 04101

Re: Portland Norwich Group, LLC Site Plan Application-Fore Street/Hancock Street/Thames Street

Dear Jen:

I am writing to follow up on our meeting with Jeff Levine and Ara Aftandilian concerning Portland Norwich Group, LLC's pending site plan application to construct a hotel on Fore, Hancock and Thames Streets. As you know, the site was previously zoned B-6 Eastern Waterfront Mixed Zone but was included in the recent rezoning of the area to the India Street Form-Based Code Zone (ISFBC). The subject property is located in the Urban Transitional (UT) subdistrict. There are two specific issues that you asked me to address:

1. **Hancock Street Frontage.** Section 14-275.7(b) establishes the siting standards for the UT subdistrict. The application for the proposed hotel building does not meet the frontage standard established for that district. However, under the provisions of 1 M.R.S.A. § 302, any action or proceeding that is pending at the time of the passage of an amendment to an ordinance is not affected by that amendment if it has received a substantive review. The statute defines a "substantive review" as a review of an application "to determine whether it complies with the review criteria and other applicable requirements of law." (There is an exception for amendments that contain express language making them applicable to certain pending proceedings, as discussed in *City of Portland v. Fisherman's Wharf Associates II*, 541 A.2d 160, 164 (Me. 1988), but no such language was included in the adoption of the ISFBC.)

Because the application was submitted to the City and received a substantive review from the Planning Authority prior to the adoption of the ISFBC, the applicant is entitled to proceed with the application without having to revise it to meet the new ISFBC provisions. Compliance with the frontage requirement of the ISFBC would require a significant re-design of the building,

Jensen Baird  
Gardner Henry

April 5, 2016  
Page 2

as well as extensive changes to the interior of the building. In particular, the partitions required for additional building length create a difficult challenge for the hotel use. These changes would be adverse to Portland Norwich Group's pending application.

**2. Increase of number of hotel rooms.** Under the prior B-6 zoning, the number of hotel rooms was limited to 150 rooms (Section 14-269(a)(3)). The original application for the project was for 150 hotel rooms and 16 condominium dwelling units. There is no limitation on the allowed number of hotel rooms in the ISFBC, and dwelling units are also permitted. The application is being revised to provide 180 hotel rooms with no dwelling units. As a matter of zoning analysis on conformity, this revision is, essentially, changing the use of a portion of the project from one conforming use to another. This change is not adverse to the applicant's rights under its pending application and is therefore allowed under the Land Use Ordinance.

As we discussed at the recent meeting, except for the Hancock Street frontage issue discussed above, the revised proposal complies in all respects with the requirements of the ISFBC. Because Portland Norwich Group is entitled to use the B-6 Eastern Waterfront Mixed Use zone to protect it from application of the "frontage" standard, it is our opinion that the revised application is consistent and in conformity with the Land Use Ordinance and Maine law respecting pending proceedings.

I would be happy to discuss any questions or clarification on the matters discussed in this letter if that would be helpful.

Sincerely,



Natalie L. Burns

cc: Ara Aftandilian (via email)  
Jeff Levine (via email)  
Leslie E. Lowry, Esq.

## AVERAGE BUILDING HEIGHT CALCULATION

Project: AC Hotel  
 Address: Portland ME  
 Date: 5/16/2016

<u>Node</u>	<u>Grade</u>	<u>Spots</u>	<u>Distance (feet)</u>	<u>Average Grade</u>	<u>Weighted</u>
A	15.00				
		A-B	29.3	15.5	454.2
B	16.00				
		B-C	409.5	16.0	6,552.0
C	16.00				
		C-D	109.0	15.9	1,734.7
D	15.83				
		D-E	41.2	15.5	640.2
E	15.25				
		E-F	26.5	15.0	398.6
F	14.83				
		F-G	31.8	14.9	474.3
G	15.00				
		G-A	107.5	15.0	1,612.5
A	15.00				

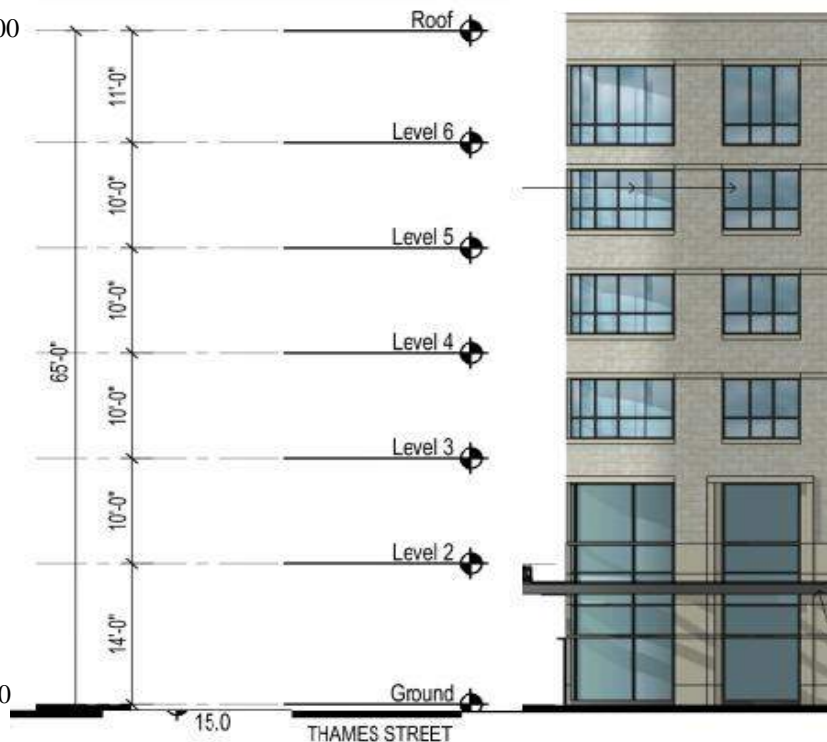
Total: 754.8 11,866.5

Average Grade: 15.72

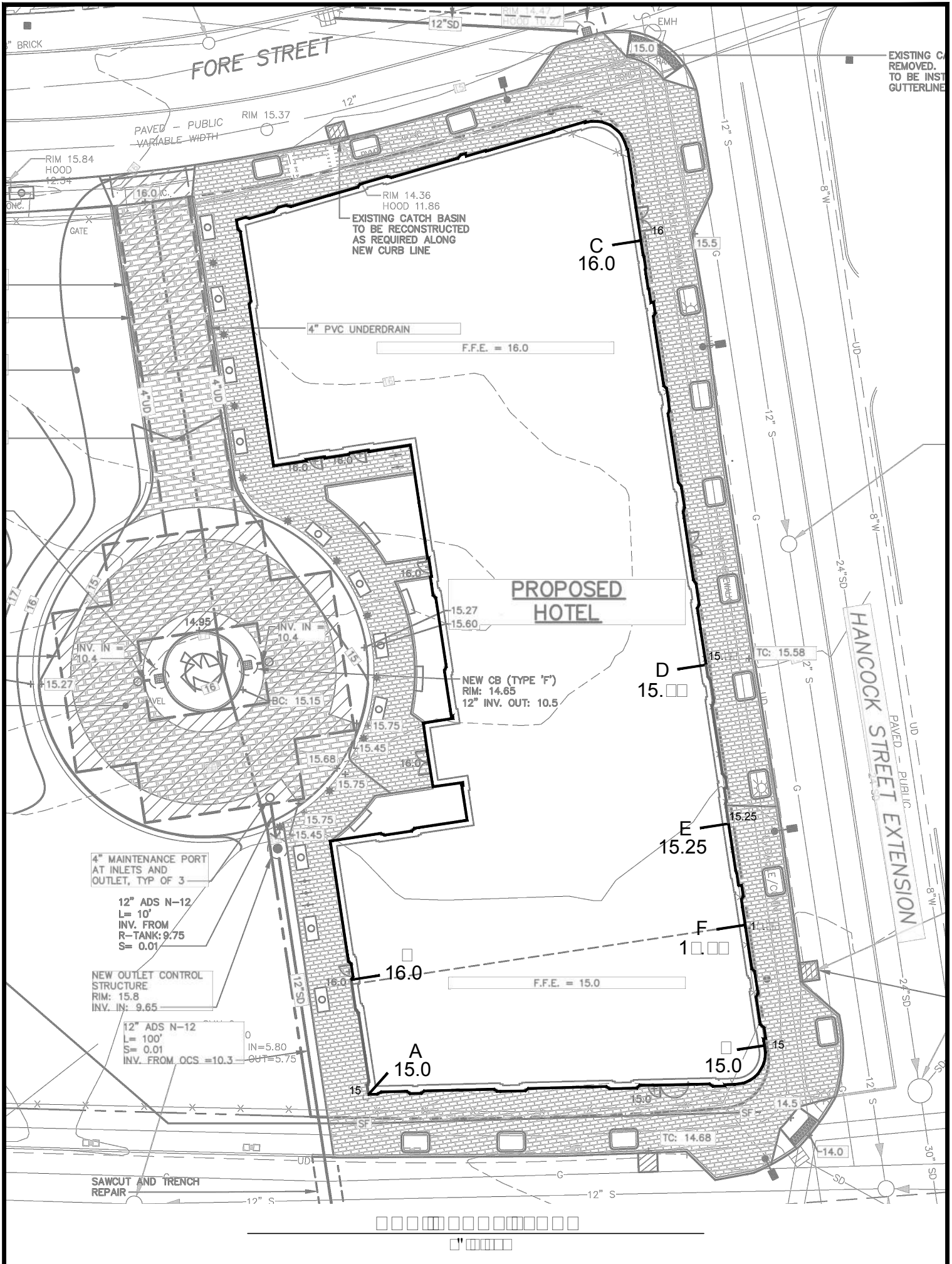
Highest Roof Beam Elev: 80.00

Building Height: 64.28

Highest Roof Beam Elev: 80.00



Lowest Finish Floor Elev: 15.00



EXISTING C  
REMOVED.  
TO BE INST  
GUTTERLINE

FORE STREET

HANCOCK STREET EXTENSION  
PAVED - PUBLIC

PROPOSED HOTEL

EXISTING CATCH BASIN  
TO BE RECONSTRUCTED  
AS REQUIRED ALONG  
NEW CURB LINE

F.F.E. = 16.0

NEW CB (TYPE 'F')  
RIM: 14.65  
12" INV. OUT: 10.5

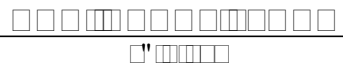
4" MAINTENANCE PORT  
AT INLETS AND  
OUTLET, TYP OF 3

12" ADS N-12  
L= 10'  
INV. FROM  
R-TANK: 9.75  
S= 0.01

NEW OUTLET CONTROL  
STRUCTURE  
RIM: 15.8  
INV. IN: 9.65

12" ADS N-12  
L= 100'  
S= 0.01  
INV. FROM OCS = 10.3

SAWCUT AND TRENCH  
REPAIR



## **9. Summary of Existing and Proposed Easements**



## **Summary of Proposed & Existing Easements**

**Existing easements, encumbrances, and other burdens:** There are no known on the subject property. See attached Existing Conditions / Boundary Survey and deed of property.

**Licenses:** Will be needed for the hotel's canopies/awnings along Hancock and Thames Streets, for the grease trap on Hancock Street, and for the sewer backwater valves on Hancock Street.

## **10. Written Requests for Waivers**

## **Written Requests for Waivers (updated May 18, 2016)**

The applicant will be seeking a waiver for the proposed driveway location.

The City of Portland Technical Manual Section 1.7, Subsection 1.7.2.7 (Location and spacing of driveways), third bullet states the following:

- Along arterial and collector streets, access driveways to corner lots shall be located a minimum of one hundred fifty (150) feet from the intersection of the projection of right-of-way lines to the center line of the driveway except as provided for hereinafter.

Since Fore Street is classified as a Collector Street, this requirement applies.

The proposed driveway measured as described above is approximately 120 feet rather than the required 150 feet. The proposed driveway location was determined based on allowable site frontage and positioning the driveway in the center of the frontage. This positioning locates the driveway approximately half way between Hancock Street and the accesses to the parking garage on the opposite side of the street and the Portland Water District driveway on the same side of the street. Thus allowing maximum separation between Hancock Street and two driveways.

Therefore, the applicant respectfully requests a waiver from the 150 feet of required separation as identified above.

-----

The applicant will be seeking a waiver from the asphalt driveway apron in non-historic districts.

The City Council's driveway apron material policy requires asphalt driveway aprons in non-historic districts.

The applicant feels that the proposed brick apron provides a more refined look (while being just as durable as asphalt) and fits with the surrounding better as both the Ocean Gateway Garage and Residence Inn have brick driveway aprons and the subject property is located adjacent to the Historic District.

## **11. Evidence of Financial Capacity**



September 24, 2015

David Leatherwood  
CEO and Managing Member  
Norwich Partners  
25 Foothill Street, Suite 1A  
Lebanon, NH 03766

Dear Mr. Leatherwood:

I am writing on behalf of Citizens Bank, N.A. ("Citizens") to express our interest in providing both construction and permanent financing for the proposed Portland Ocean Gateway AC Hotel to be developed by an affiliate of Norwich Partners. Based on information provided to date, we believe strongly in the location, the product, and the sponsorship and would look forward to continuing our successful working relationship with you in Portland. We understand that the loan amount would be in the range of \$30+/- million on total development costs of approximately \$46 million.

As you know, we recently financed the very successful Marriott Residence Inn Downtown Boston/Seaport project and the Envoy Hotel / Marriott Autograph Collection Seaport project with Norwich Partners. It would be a pleasure to continue our banking relationship in furtherance of this exciting project in Portland.

Yours very truly,

A handwritten signature in black ink, appearing to read "Philip Wadleigh".

Philip Wadleigh  
Senior Vice President

## **12. Evidence of Technical Capacity**

## **Evidence of Technical Capacity**

The applicant has assembled a highly qualified team of professionals for the preparation of this project. All members of this team have significant experience with this type of project and many have worked together on other similar projects. The project is being designed by a multi-disciplinary team of design professionals. All members of the design team have proven experience working on projects located in the city of Portland.

The applicant is the same development team as for the Residence Inn by Marriott on Fore Street that opened in 2009.

**Portland Norwich Group, LLC** **Applicant / Developer**  
2330 Palm Ridge Road #305  
Sanibel, FL 33957  
978-887-3640  
Contact: Ara Aftandilian

**Group One Partners, Inc.** **Architect**  
21 West Third Street  
Boston, MA 02127  
617-268-7000  
Contact: Rob Festa

**Carroll Associates** **Landscape Architect**  
217 Commercial Street, Suite 200  
Portland, ME 04101  
207-772-1552  
Contact: Pat Carroll / Matthew Phillips

**Ransom Consulting Engineers** **Consulting Engineer (Civil)**  
400 Commercial Street, Suite 404  
Portland, ME 04101  
207-772-2891  
Contact: Stephen Bradstreet / Maureen McGlone

**Gorrill-Palmer Consulting Engineers** **Consulting Engineer (Traffic)**  
15 Shaker Road  
Gray Road, ME 04039  
207-657-6910  
Contact: Randy Dunton / Don Ettinger

**Owen Haskell, Inc.** **Surveyor**  
390 US Route One, Unit 10  
Falmouth, ME 04105  
207-774-0424  
Contact: John Swan

**Jensen Baird Gardner Henry** **Attorney**  
10 Free Street  
PO Box 4510  
Portland, ME 04112-4510  
207-775-7271  
Contact: Lee Lowry



**13. Construction Management Plan**

## **Construction Management**

**As discussed with Planning - this item will be better addressed when the contractor is involved and building plans are being developed. It is requested that this item are required as conditions of approval prior to the issuance of a building permit or an advance site work approval. See enclosed email to Planning outlining the above.**

## **Matt Phillips**

---

**From:** Barry Stowe <barrys@opechee.com>  
**Sent:** Wednesday, March 16, 2016 12:20 PM  
**To:** Keith A Kelley  
**Cc:** aa.summit@prodigy.net; mphillips@carroll-assoc.com; hcd@portlandmaine.gov  
**Subject:** Planning Submission, AC Hotel

Hi Keith et al.

I spoke with Planning (specifically Nell Donaldson) regarding the construction management and fire/life safety plans. Planning understands these items will be better addressed when the contractor is involved and building plans are being developed. No need any waiver request or initial submittal. In the project narrative indicate a request for the fore mentioned plans to be required as conditions of approval prior to the issuance of a building permit or an advance site work approval. Also, this correspondence should be included in the AC Hotel submittal as confirmation Opechee understands these items will be required. Thanks

Best,

Barry Stowe

Opechee Construction Corporation  
11 Corporate Dr | Belmont | NH 03220  
P (603) 527-9090 | F (603) 527-9191

[barrys@opechee.com](mailto:barrys@opechee.com) | [www.opechee.com](http://www.opechee.com)

**14. Traffic Impact Study, Transportation Demand Management Plan, and Trip  
Generation and Parking Demands**

Relationships.  
Responsiveness.  
Results.



**Traffic Impact Study  
Portland Gateway  
Hotel Project  
Portland, Maine**

PREPARED FOR:

Ara Aftandilian  
Portland Norwich  
Group, LLC  
2330 Palm Ridge Road  
#305  
Sanibel, FL 33957

March 2016

SUBMITTED BY:

Gorrill Palmer  
707 Sable Oaks Drive  
Suite 30  
So. Portland, ME 04106  
207.772.2515



**Traffic Impact Study  
Portland Gateway Hotel  
Portland, Maine**

March 2016

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XI.	Parking	7
XII.	Pedestrian Accommodations	7
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***Appendix A***

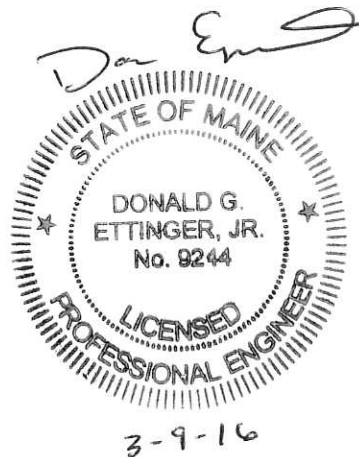
Site Location Map  
Turning Movement Diagrams

***Appendix B***

Capacity Analyses Results

***Appendix C***

MaineDOT Crash Data  
Trip Generation Calculations



## **I. Introduction**

This study examines the traffic impact of the development of the Portland Gateway hotel in Portland, Maine. The site is bounded by Fore Street, Hancock Street Extension, and Thames Street. The existing site has a building at 1 India Street which is proposed to remain. The proposed development consists of an upscale select service hotel with up to 180 rooms. This building is part of a larger development with three potential additional buildings, but only the hotel is being permitted at this time. There will be no on-site parking. The Portland Gateway Hotel plans to use the Ocean Gateway Garage and a valet service. Access to the site is via a new full movement driveway onto Fore Street.

The attached Figure 1 in Appendix A shows the location of the site.

## **II. Existing Traffic Volumes**

Morning and afternoon turning movement counts were completed on October 7, 2015 from 7:00 AM to 8:30 AM and again from 4:00 PM to 6:00 PM at the following intersections:

- Fore Street / India Street
- Commercial Street / India Street
- Hancock Street / Fore Street

The date, time, and locations of the counts were approved by the City prior to the counts. The results of these counts are shown on the attached Figure 2 in Appendix A.

## **III. Other Development**

Approved projects that are not yet opened as well as projects for which applications have been filed are required to be included in the predevelopment volumes for this project. Based on conversations with Nell Donaldson, Portland Planner, and the City's peer reviewer, the traffic from three developments should be included in the background traffic; a four story mixed use building at 185 Fore Street, a five story mixed use building at 16 Middle Street, and a four story housing development at 113 Newbury Street. The traffic from these three developments that is anticipated to impact this project is shown on the attached Figure 4 in Appendix A.

## **IV. Pre-Development Traffic Volumes**

The traffic volumes shown in Figure 2 were counted in October 2015. Traffic volumes are typically seasonally adjusted to approximate the 30<sup>th</sup> highest hour of the year using the weekly group mean factors published by the MaineDOT. The factors are specific to

the classification of the roadway; urban, arterial, recreational, or a mixture of the three. This seasonal adjustment resulted in an increase of 4.5%.

In addition to seasonally adjusting the traffic volumes, they are also increased by a yearly growth to approximate the build out year of the project. The proposed project is anticipated to be completed in 2016. MaineDOT traffic counts in the area show a decrease in traffic volumes during recent years. However; to be conservative we used a growth rate of one percent per year. This growth rate was approved at a preliminary workshop with the City and City's peer reviewer. The 2016 seasonally and annually adjusted volumes are shown on Figure 3 in Appendix A.

The annually and seasonally adjusted traffic volume has been combined with the approved other development ahead of this project in the approval process to yield the 2016 Predevelopment Design Hour Volumes (DHV) on the attached Figure 5 in Appendix A.

## V. Trip Generation

The proposed Portland Gateway hotel will have up to 180 rooms. The Institute of Transportation Engineers' publication *Trip Generation*, Seventh Edition, Land Use Code (LUC) 312 – Business Hotel was used to forecast the traffic to be generated by the site. The trip generation is summarized as follows:

- AM Peak Hour of adjacent street traffic: 104 trip ends (61 in / 43 out)
- PM Peak Hour of adjacent street traffic: 112 trip ends (67 in / 45 out)

A trip end is defined as a trip into or out of the site; thus a round trip is equal to two trip ends. The detailed trip generation calculations are attached.

Based on this forecast trip generation, a MaineDOT Traffic Movement Permit will be required since the trip generation is greater than 99 trip ends during a peak hour. The City of Portland has delegated review authority from MaineDOT so they will be able to review the Traffic Movement Permit Application at the City level.

## VI. Trip Composition and Assignment

We have assumed that all trips going to and from the site are primary trips made for the sole purpose of going to and from the site. The trip assignment has been based on the traffic counts at the study area intersection. The trip assignment is shown on the attached Figure 6 in Appendix A.



## VII. Post-Development Traffic Volume

The pre-development traffic volumes shown in Figure 5 have been combined with the traffic forecast for the project shown on Figure 6 to yield the 2016 Post-Development DHV shown on the attached Figure 7 in Appendix A.

## VIII. Capacity Analysis

GP completed capacity analyses for the three intersections discussed above using the Synchro/SimTraffic computer analysis software. Level of service rankings are similar to the academic ranking system where an 'A' is very good with little control delay and an 'F' represents very poor conditions. At an unsignalized intersection, if the level of service falls below a 'D', an evaluation should be made to determine if mitigation is warranted.

The following table summarizes the relationship between control delay and level of service.

**Level of Service Criteria for Unsignalized Intersections**

Level of Service	Control Delay per Vehicle (sec)
A	Up to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

The results of the capacity analyses are summarized as follows. The detailed analyses are included in Appendix B.

**Level of Service Summary**

Approach	Level of Service			
	AM Pre	AM Post	PM Pre	PM Post
India / Fore				
Fore EB	A	A	A	B
Fore WB	A	A	A	A
India SE	A	A	A	A
India NW	A	A	A	A
Commercial / India				
Commercial EB	A	A	A	A
Commercial WB	A	A	A	A
India SE	A	A	A	A
Fore / Hancock				
Fore NB	A	A	A	A
Fore SB	A	A	A	A
Hancock SE	A	A	A	A
Hancock NW	A	A	A	A

As the results indicate, the intersections are forecast to operate at high levels of service in both the predevelopment and postdevelopment conditions.

**IX. Sight Line Evaluation**

Both the City of Portland and Maine Department of Transportation have guidelines for sight distances. The City’s sight distance criteria is the same as MaineDOT. The basic sight line standards are as follows:

**Standards for Sight Distance**

Posted Speed (mph)	MaineDOT Sight Distance	City of Portland Sight Distance
25	200	200
30	250	250
35	305	305
40	360	360
45	425	425

MaineDOT and the City measure sight distance using the same methodology. GP has evaluated the available sight lines at the access to the site in accordance with MaineDOT / City Standards.

The evaluation method is as follows:

Driveway observation point:	10 feet off edge of traveled way
Height of eye at driveway:	3 ½ feet above pavement
Height of approaching vehicle:	4 ¼ feet above pavement

All speed limits in the immediate area are posted 25 mph. The following table summarizes the measured sight distances at the site driveway.

**Sight Distance Summary**

Approach	Sight Distance (ft)		
	Looking Left	Looking Right	MaineDOT / Portland Required
Exiting Driveway onto Fore Street	+250	+250	200

As shown in the table, the sight distances at the proposed site driveway meet the City and MaineDOT requirements.

## X. Crash Summary Data

GP obtained the crash data from MaineDOT for the period of 2012-2014, the most recent period available at the time this study was prepared. The crash data is included in Appendix C.

In order to evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met in order to be classified as an HCL.

1. A critical rate factor of 1.00 or more for a three-year period. (A Critical Rate Factor {CRF} compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a rate of less than average) and:
2. A minimum of eight crashes over the same three-year period.

Based on the crash data provided by MaineDOT there are two high crash locations within the study area. One is at the intersection of Fore Street with India Street and the other is Fore Street from India Street to Mountfort Street. To better evaluate the high crash locations and identify any correctable crash patterns, the police reports for these locations were requested from MaineDOT and collision diagrams were created (attached). The two locations are described in more detail as follows:

The intersection of Fore Street with India Street has a CRF of 2.48 and 10 crashes over the three-year period. It is a four legged intersection that is controlled by an all-way stop. Based on a review of the collision diagram there does not appear to be a clear and correctable crash pattern. Most of the collisions occurred because a driver failed to yield to another, ran a stop sign, or did not see the other vehicle. Field observations showed that in the northern corner of the intersection a fence with privacy screening blocked the line of sight of vehicles approaching the intersection from the east due to the location of the stop bars. We recommend the privacy screening be removed.

Fore Street from India Street to Mountfort Street has a CRF of 2.00 and 8 crashes over the three year period, five of which occurred at the intersection of Fore Street with Hancock Street. The intersection of Fore Street with Hancock Street is stop controlled, with stop signs on Hancock Street and free flowing traffic on Fore Street. Based on a review of the collision diagram there does not appear to be a clear and correctable crash pattern. Most collisions at the intersection of Hancock Street and Fore Street were caused by a driver failing to yield the right of way.

## **XI. Parking**

Parking for the facility will be provided at the adjacent Ocean Gateway parking garage. The site will provide a circular drop-off area in front of the Hotel.

## **XII. Pedestrian Accommodations**

The immediate area benefits from a complete sidewalk network of sidewalks to accommodate pedestrians and those who want to visit the site on foot. A Fore Street improvement plan will be provided as the project progresses through the approval process that is also planned to provide additional pedestrian accommodations such as ADA ramps.

## **XIII. Conclusions / Recommendations**

The following is a summary of the Conclusions / Recommendations:

1. The proposed Gateway hotel is forecast to generate 104 AM peak hour trip ends and 112 PM peak hour trip ends. This level of trip generation does require a MaineDOT traffic movement permit.
2. The capacity analysis results indicate the intersections are forecast to operate at high levels of service after the development is occupied.
3. The sight distances at the immediate access to the site exceed both City and MaineDOT requirements.
4. The MaineDOT crash data indicates that there are two high crash locations in the vicinity of the site; one at the intersection of India Street with Fore Street and the other on Fore Street from India Street to Mountfort Street. Based on a review of the collision diagrams, there are no clear and correctable crash patterns.
5. In our opinion, the proposed project will have minimal impact on the surrounding roadway network and the surrounding roadway network has the capacity to accommodate the proposed project.

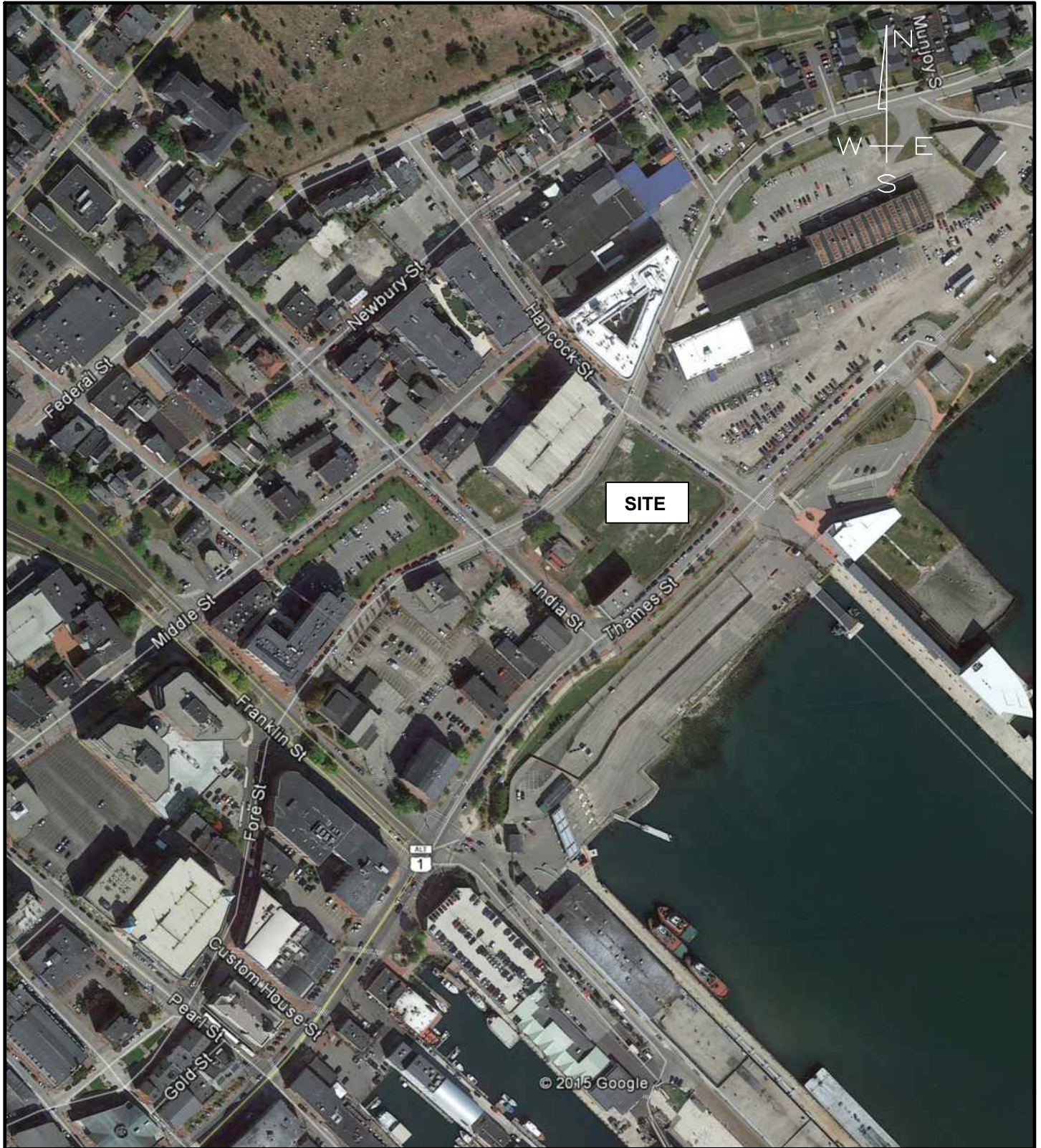
# *Appendix A*

Site Location Map

Turning Movement Diagrams

# Location Map

Figure No.

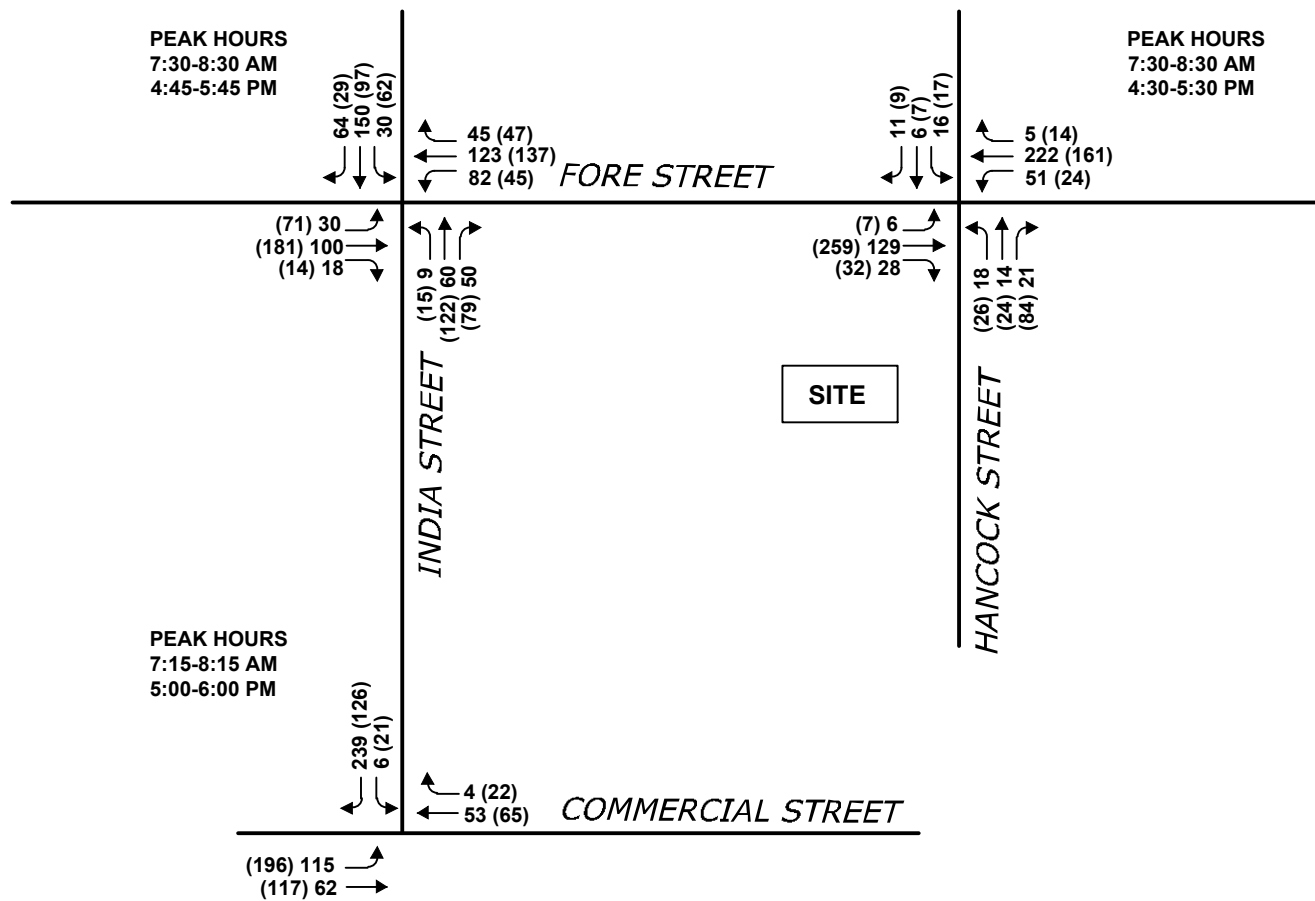
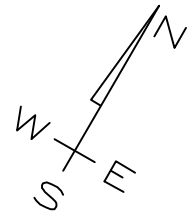


## PROPOSED GATEWAY HOTEL PORTLAND, MAINE

Design: ET      Scale: NONE  
Draft: LAN      Date: OCT 2015  
Checked: RED    File Name: 2969-TRAFF.dwg

# Raw Volumes

Figure No.



ALL COUNTS COLLECTED 10/7/15

Ⓢ = SIGNALIZED INTERSECTION

XX = AM PEAK HOUR  
(XX) = PM PEAK HOUR

## PROPOSED GATEWAY HOTEL PORTLAND, MAINE

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Draft: LAN Date: OCT 2015  
Checked: RED File Name: 2969-TRAFF.dwg

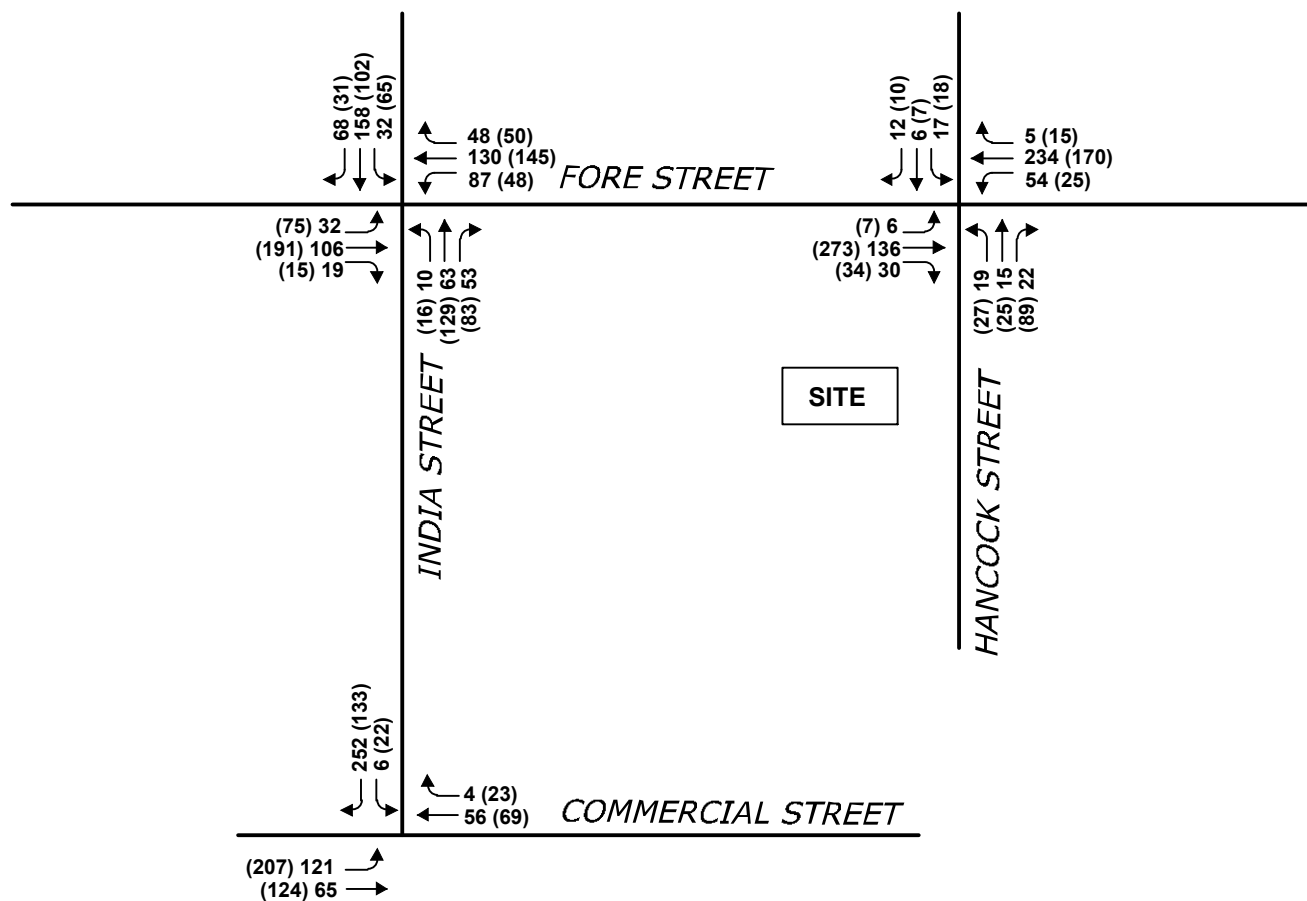
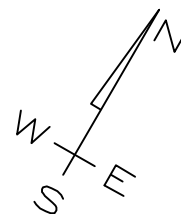


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# 2016 Adjusted Volumes

Figure No.



SEASONAL ADJUSTMENT:  $\frac{0.92}{0.88} = 1.045$

ANNUAL ADJUSTMENT: 1%/YEAR

Ⓢ = SIGNALIZED INTERSECTION

XX = AM PEAK HOUR  
(XX) = PM PEAK HOUR

## PROPOSED GATEWAY HOTEL PORTLAND, MAINE

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Draft: LAN      Date: OCT 2015  
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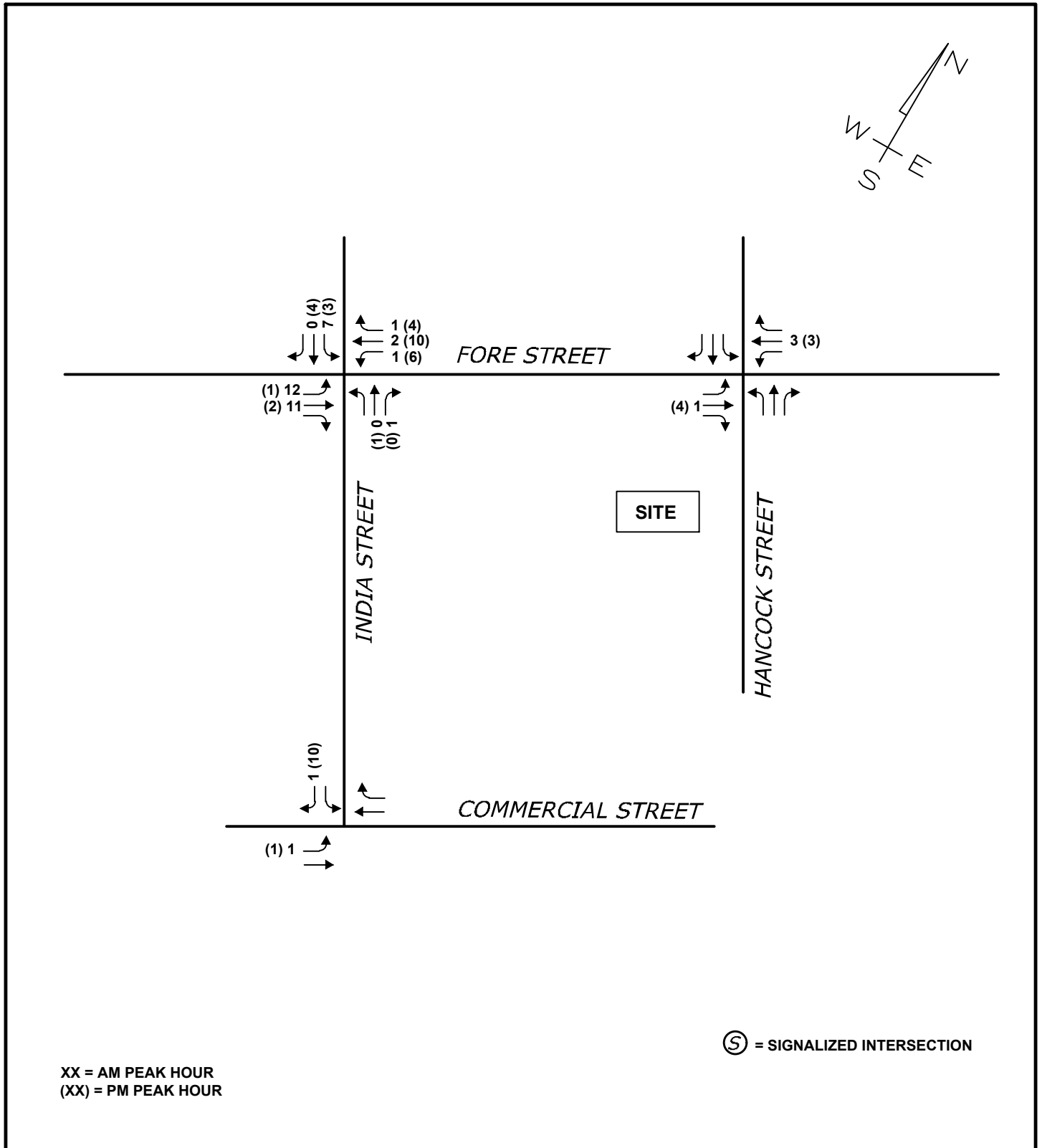
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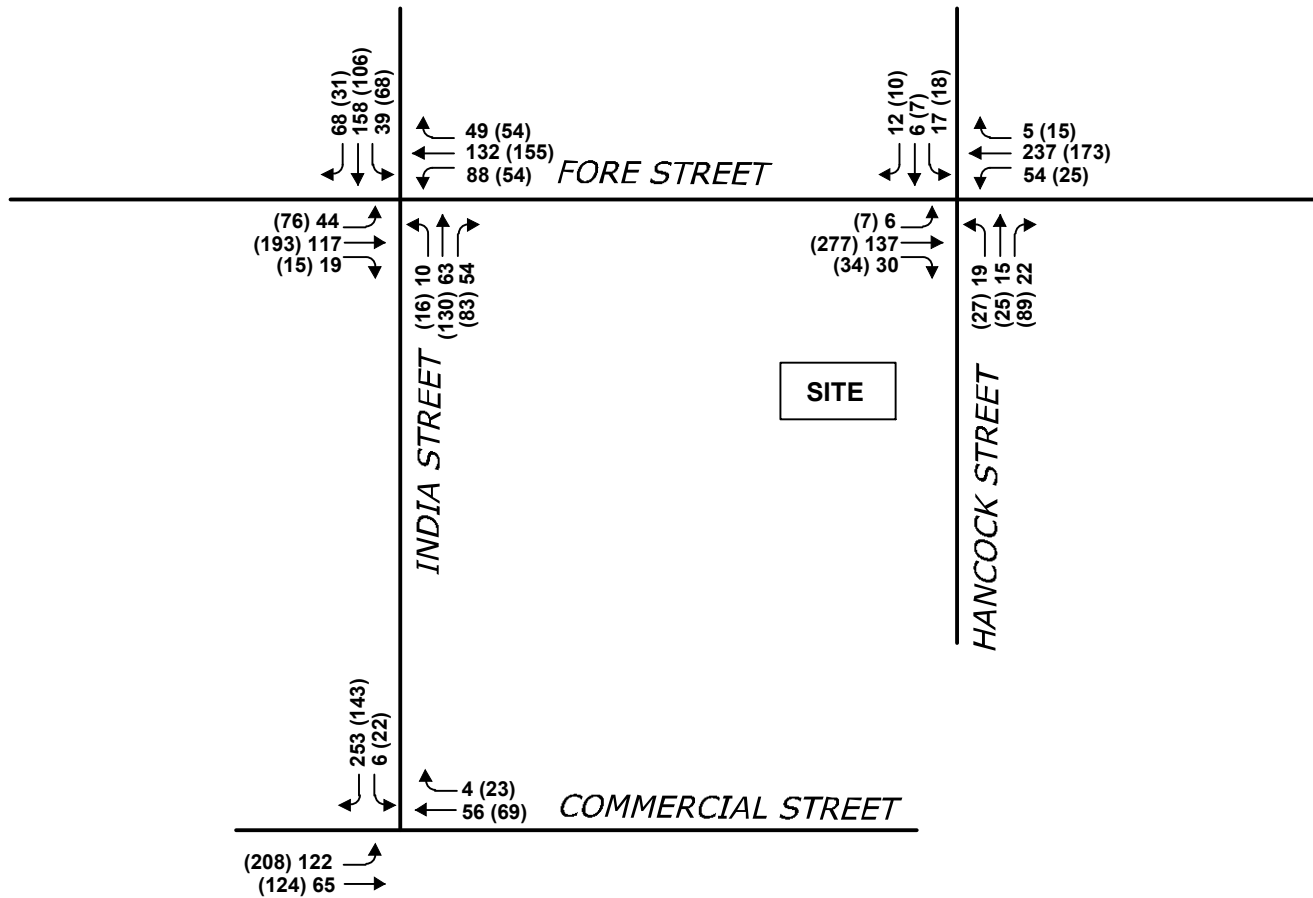
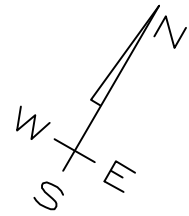
# Other Development

Figure No.



## PROPOSED GATEWAY HOTEL PORTLAND, MAINE

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Ⓢ = SIGNALIZED INTERSECTION

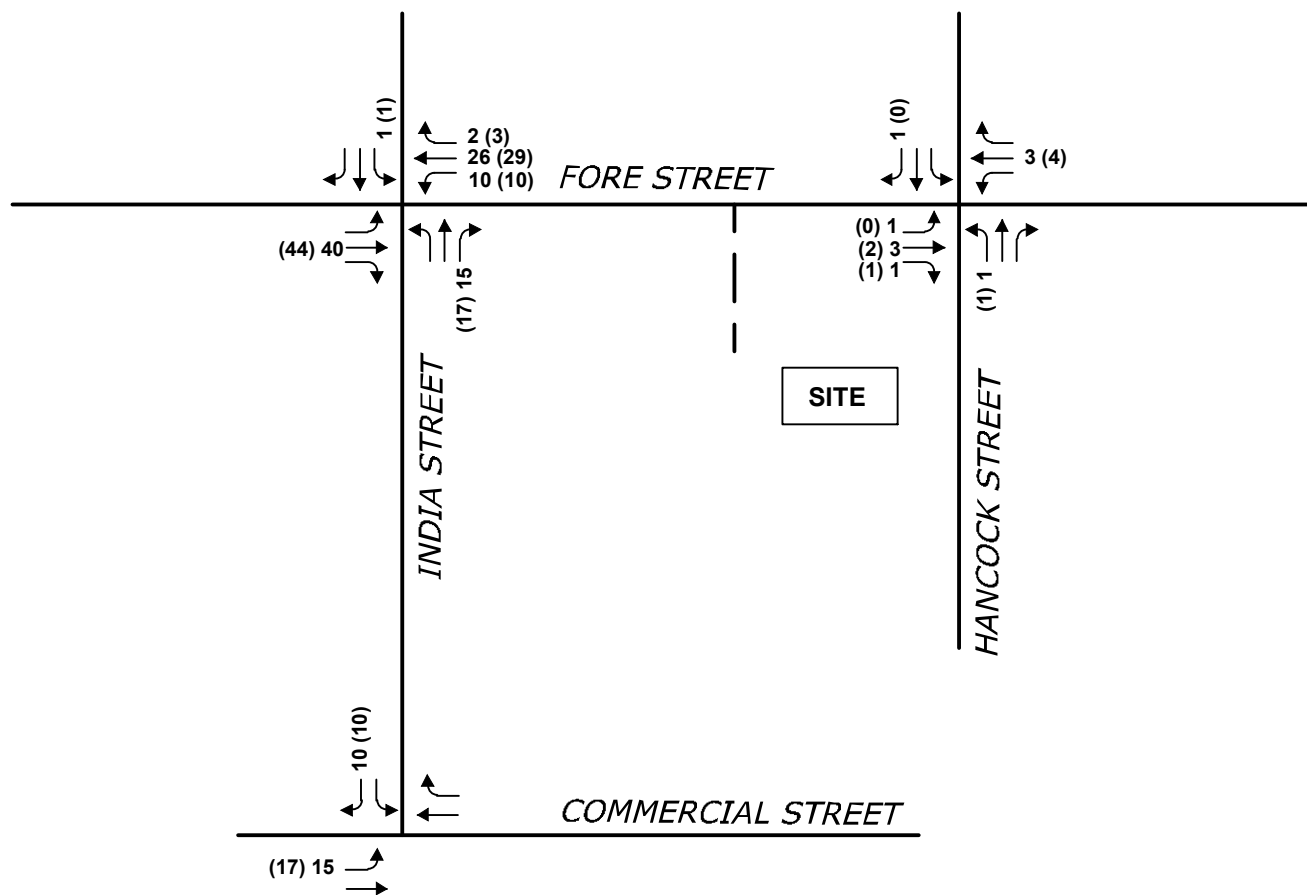
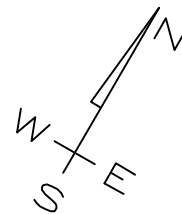
XX = AM PEAK HOUR  
(XX) = PM PEAK HOUR

## PROPOSED GATEWAY HOTEL PORTLAND, MAINE



# Trip Distribution and Assignment

Figure No.



	AM	PM
IN	61	67
OUT	43	45
<b>TOTAL</b>	<b>104</b>	<b>112</b>

XX = AM PEAK HOUR  
 (XX) = PM PEAK HOUR

Ⓢ = SIGNALIZED INTERSECTION

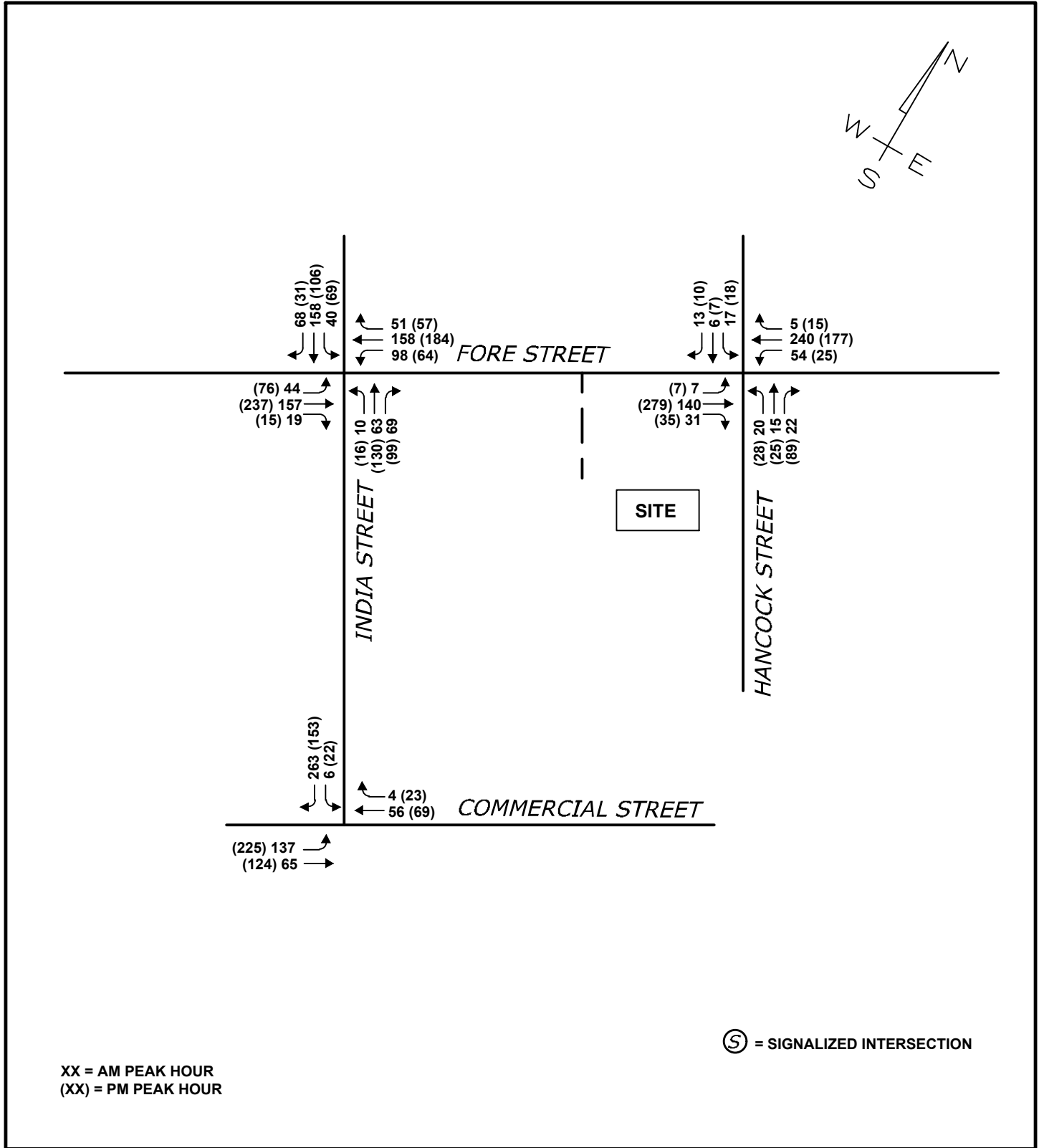
## PROPOSED GATEWAY HOTEL PORTLAND, MAINE

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## PROPOSED GATEWAY HOTEL PORTLAND, MAINE

# *Appendix B*

## Capacity Analysis Results

# Predevelopment

## Baseline

## Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1067	1040	1083	1072	1071	1065
Vehs Exited	1070	1041	1072	1078	1071	1064
Starting Vehs	14	10	8	13	11	10
Ending Vehs	11	9	19	7	11	10
Travel Distance (mi)	172	167	173	172	172	171
Travel Time (hr)	10.6	10.2	10.6	10.4	10.5	10.5
Total Delay (hr)	2.9	2.7	2.8	2.7	2.8	2.8
Total Stops	1457	1396	1457	1424	1446	1435
Fuel Used (gal)	8.9	8.6	8.9	8.8	8.8	8.8

## Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

## Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1067	1040	1083	1072	1071	1065
Vehs Exited	1070	1041	1072	1078	1071	1064
Starting Vehs	14	10	8	13	11	10
Ending Vehs	11	9	19	7	11	10
Travel Distance (mi)	172	167	173	172	172	171
Travel Time (hr)	10.6	10.2	10.6	10.4	10.5	10.5
Total Delay (hr)	2.9	2.7	2.8	2.7	2.8	2.8
Total Stops	1457	1396	1457	1424	1446	1435
Fuel Used (gal)	8.9	8.6	8.9	8.8	8.8	8.8

**Baseline****5: India Street & Fore Street Performance by approach**

Approach	EB	WB	SE	NW	All
Denied Del/Veh (s)	0.2	0.0	0.2	0.0	0.1
Total Del/Veh (s)	6.1	6.6	6.6	5.6	6.4

**6: Commercial Street/Thames Street & India Street Performance by approach**

Approach	EB	WB	SE	All
Denied Del/Veh (s)	0.3	0.1	0.0	0.1
Total Del/Veh (s)	5.3	5.3	4.7	5.0

**8: Fore Street & Hancock Street Performance by approach**

Approach	NB	SB	SE	NW	All
Denied Del/Veh (s)	0.0	0.3	0.1	0.1	0.2
Total Del/Veh (s)	1.4	0.8	5.5	6.0	1.7

**Total Network Performance**

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	9.2



**Baseline****Intersection: 5: India Street & Fore Street**

Movement	EB	WB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	67	108	110	74
Average Queue (ft)	28	56	53	34
95th Queue (ft)	55	89	85	54
Link Distance (ft)	330	332	192	221
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Intersection: 6: Commercial Street/Thames Street & India Street**

Movement	EB	WB	SE
Directions Served	LT	TR	LR
Maximum Queue (ft)	94	60	79
Average Queue (ft)	50	29	38
95th Queue (ft)	80	53	61
Link Distance (ft)	298	302	221
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 8: Fore Street & Hancock Street**

Movement	NB	SB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	22	58	39	68
Average Queue (ft)	2	10	14	27
95th Queue (ft)	13	40	33	54
Link Distance (ft)	332	210	220	205
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Network Summary**

Network wide Queuing Penalty: 0



**Baseline****Summary of All Intervals**

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1317	1414	1367	1364	1367	1367
Vehs Exited	1313	1415	1375	1364	1368	1366
Starting Vehs	12	14	12	11	13	9
Ending Vehs	16	13	4	11	12	8
Travel Distance (mi)	203	220	211	207	212	211
Travel Time (hr)	12.4	14.1	13.5	12.9	13.5	13.3
Total Delay (hr)	3.6	4.6	4.3	3.8	4.3	4.1
Total Stops	1680	1838	1784	1753	1786	1769
Fuel Used (gal)	10.5	11.7	11.3	10.8	11.1	11.1

**Interval #0 Information Seeding**

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

**Interval #1 Information Recording**

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1317	1414	1367	1364	1367	1367
Vehs Exited	1313	1415	1375	1364	1368	1366
Starting Vehs	12	14	12	11	13	9
Ending Vehs	16	13	4	11	12	8
Travel Distance (mi)	203	220	211	207	212	211
Travel Time (hr)	12.4	14.1	13.5	12.9	13.5	13.3
Total Delay (hr)	3.6	4.6	4.3	3.8	4.3	4.1
Total Stops	1680	1838	1784	1753	1786	1769
Fuel Used (gal)	10.5	11.7	11.3	10.8	11.1	11.1

**Baseline****5: India Street & Fore Street Performance by approach**

Approach	EB	WB	SE	NW	All
Denied Del/Veh (s)	0.3	0.1	0.2	0.0	0.2
Total Del/Veh (s)	8.8	7.5	7.4	7.6	7.9

**6: Commercial Street/Thames Street & India Street Performance by approach**

Approach	EB	WB	SE	All
Denied Del/Veh (s)	0.4	0.2	0.0	0.2
Total Del/Veh (s)	6.2	5.1	4.6	5.6

**8: Fore Street & Hancock Street Performance by approach**

Approach	NB	SB	SE	NW	All
Denied Del/Veh (s)	0.0	0.2	0.1	0.2	0.1
Total Del/Veh (s)	1.7	0.6	6.3	6.3	2.5

**Total Network Performance**

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	10.5

**Baseline****Intersection: 5: India Street & Fore Street**

Movement	EB	WB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	109	110	94	98
Average Queue (ft)	47	52	47	49
95th Queue (ft)	88	89	79	82
Link Distance (ft)	330	332	192	221
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Intersection: 6: Commercial Street/Thames Street & India Street**

Movement	EB	WB	SE
Directions Served	LT	TR	LR
Maximum Queue (ft)	108	60	70
Average Queue (ft)	63	36	34
95th Queue (ft)	98	54	52
Link Distance (ft)	298	302	221
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 8: Fore Street & Hancock Street**

Movement	NB	SB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	18	45	45	99
Average Queue (ft)	1	8	17	44
95th Queue (ft)	10	31	36	77
Link Distance (ft)	332	210	220	205
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Network Summary**

Network wide Queuing Penalty: 0



# Postdevelopment

## Baseline

## Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1183	1160	1180	1168	1146	1166
Vehs Exited	1189	1158	1177	1169	1151	1169
Starting Vehs	10	6	10	12	16	10
Ending Vehs	4	8	13	11	11	8
Travel Distance (mi)	182	183	184	180	181	182
Travel Time (hr)	11.3	11.2	11.4	11.3	11.3	11.3
Total Delay (hr)	3.2	3.2	3.3	3.2	3.3	3.2
Total Stops	1544	1542	1538	1532	1529	1537
Fuel Used (gal)	9.4	9.5	9.4	9.4	9.4	9.4

## Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

## Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1183	1160	1180	1168	1146	1166
Vehs Exited	1189	1158	1177	1169	1151	1169
Starting Vehs	10	6	10	12	16	10
Ending Vehs	4	8	13	11	11	8
Travel Distance (mi)	182	183	184	180	181	182
Travel Time (hr)	11.3	11.2	11.4	11.3	11.3	11.3
Total Delay (hr)	3.2	3.2	3.3	3.2	3.3	3.2
Total Stops	1544	1542	1538	1532	1529	1537
Fuel Used (gal)	9.4	9.5	9.4	9.4	9.4	9.4



**Baseline****5: Fore Street & India Street Performance by approach**

Approach	EB	WB	SE	NW	All
Denied Del/Veh (s)	0.2	0.0	0.3	0.0	0.2
Total Del/Veh (s)	7.2	7.3	7.3	5.9	7.0

**6: Commercial Street/Thames Street Performance by approach**

Approach	EB	WB	SE	All
Denied Del/Veh (s)	0.3	0.1	0.0	0.1
Total Del/Veh (s)	5.3	5.1	4.7	5.0

**8: Fore Street & Hancock Street Performance by approach**

Approach	NB	SB	SE	NW	All
Denied Del/Veh (s)	0.0	0.3	0.1	0.1	0.2
Total Del/Veh (s)	1.5	0.9	6.2	6.4	1.9

**Total Network Performance**

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	9.6

**Baseline****Intersection: 5: Fore Street & India Street**

Movement	EB	WB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	81	113	114	76
Average Queue (ft)	36	58	58	39
95th Queue (ft)	66	96	94	62
Link Distance (ft)	330	332	192	221
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Intersection: 6: Commercial Street/Thames Street**

Movement	EB	WB	SE
Directions Served	LT	TR	LR
Maximum Queue (ft)	98	59	70
Average Queue (ft)	53	29	39
95th Queue (ft)	84	52	61
Link Distance (ft)	298	302	221
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 8: Fore Street & Hancock Street**

Movement	NB	SB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	30	78	44	66
Average Queue (ft)	2	11	17	26
95th Queue (ft)	13	42	36	52
Link Distance (ft)	332	210	220	205
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Network Summary**

Network wide Queuing Penalty: 0



Baseline

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1441	1502	1464	1422	1460	1459
Vehs Exited	1448	1500	1471	1429	1450	1459
Starting Vehs	22	17	20	16	8	17
Ending Vehs	15	19	13	9	18	13
Travel Distance (mi)	220	229	226	220	223	224
Travel Time (hr)	14.1	15.2	14.9	14.4	14.6	14.6
Total Delay (hr)	4.5	5.1	4.9	4.8	4.8	4.8
Total Stops	1842	1932	1939	1852	1895	1891
Fuel Used (gal)	11.6	12.3	12.0	11.7	11.7	11.8

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1441	1502	1464	1422	1460	1459
Vehs Exited	1448	1500	1471	1429	1450	1459
Starting Vehs	22	17	20	16	8	17
Ending Vehs	15	19	13	9	18	13
Travel Distance (mi)	220	229	226	220	223	224
Travel Time (hr)	14.1	15.2	14.9	14.4	14.6	14.6
Total Delay (hr)	4.5	5.1	4.9	4.8	4.8	4.8
Total Stops	1842	1932	1939	1852	1895	1891
Fuel Used (gal)	11.6	12.3	12.0	11.7	11.7	11.8

**Baseline****5: India Street & Fore Street Performance by approach**

Approach	EB	WB	SE	NW	All
Denied Del/Veh (s)	0.3	0.1	0.2	0.0	0.2
Total Del/Veh (s)	10.6	9.3	8.3	8.4	9.3

**6: Commercial Street/Thames Street & India Street Performance by approach**

Approach	EB	WB	SE	All
Denied Del/Veh (s)	0.3	0.1	0.0	0.2
Total Del/Veh (s)	6.3	5.0	4.5	5.6

**8: Fore Street & Hancock Street Performance by approach**

Approach	NB	SB	SE	NW	All
Denied Del/Veh (s)	0.0	0.2	0.1	0.2	0.1
Total Del/Veh (s)	1.7	0.7	6.0	6.1	2.4

**Total Network Performance**

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	11.6

**Baseline****Intersection: 5: India Street & Fore Street**

Movement	EB	WB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	158	145	115	108
Average Queue (ft)	59	63	51	53
95th Queue (ft)	112	112	89	90
Link Distance (ft)	348	332	192	221
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Intersection: 6: Commercial Street/Thames Street & India Street**

Movement	EB	WB	SE
Directions Served	LT	TR	LR
Maximum Queue (ft)	116	60	59
Average Queue (ft)	63	34	33
95th Queue (ft)	98	52	49
Link Distance (ft)	298	302	221
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 8: Fore Street & Hancock Street**

Movement	NB	SB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	32	65	35	106
Average Queue (ft)	2	9	13	42
95th Queue (ft)	15	36	31	77
Link Distance (ft)	332	210	220	205
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Network Summary**

Network wide Queuing Penalty: 0



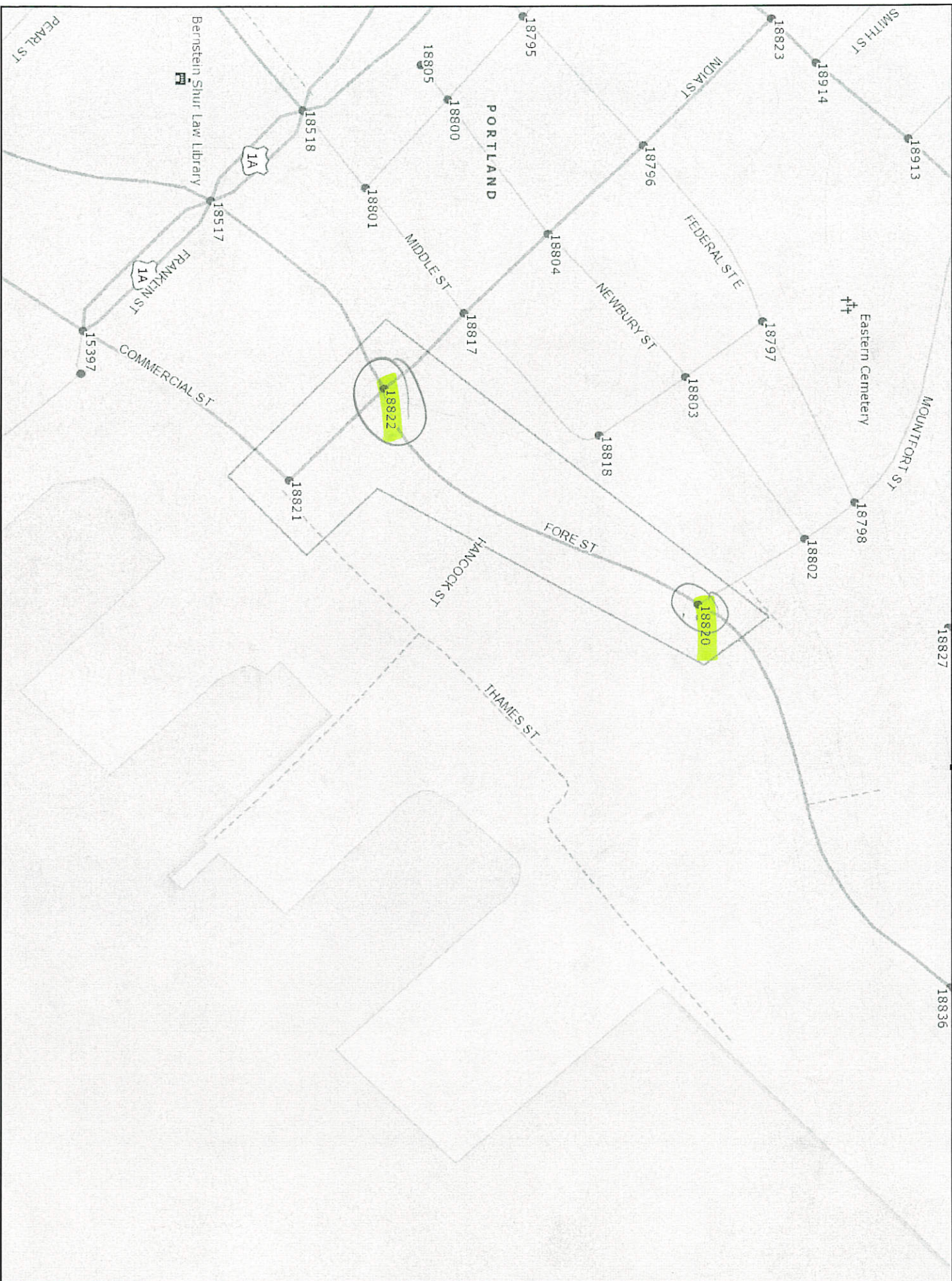
# *Appendix C*

MaineDOT Crash Data

Trip Generation Calculations



# Maine DOT Map



Map Generated on Friday, October 02, 2015 09:57:04 AM

The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch. Road names used on this map may not match official

Map Scale 1:3504

2969/A2

## Crash Summary Report

### Report Selections and Input Parameters

#### REPORT SELECTIONS

Crash Summary I       Section Detail       Crash Summary II       1320 Public       1320 Private       1320 Summary

#### REPORT DESCRIPTION

Fore & India

#### REPORT PARAMETERS

Year 2012, Start Month 1 through Year 2014 End Month: 12

Route: 0560286	Start Node: 18820 End Node: 18822	Start Offset: 0 End Offset: 0	<input type="checkbox"/> Exclude First Node <input checked="" type="checkbox"/> Exclude Last Node
Route: 0561000	Start Node: 18822 End Node: 18821	Start Offset: 0 End Offset: 0	<input type="checkbox"/> Exclude First Node <input checked="" type="checkbox"/> Exclude Last Node

## Crash Summary I

Nodes														
Node	Route - MP	Node Description	U/R	Total Crashes	K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
18820	0560286 - 0.28	Int of FORE ST, MOUNTFORT ST	2	0	0	0	0	0	0	0.0	1.900	0.00	0.41	0.00
											Statewide Crash Rate:	0.12		
18822	0561000 - 0.23	Int of FORE ST INDIA ST	2	10	0	0	0	2	8	20.0	3.428	0.97	0.39	2.48
											Statewide Crash Rate:	0.14		
Study Years: 3:00														
			NODE TOTALS:	10	0	0	0	2	8	20.0	5.328	0.63	0.34	1.86

# Crash Summary I

## Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF	
18820	18822	3106815	0 - 0.17	0560286 - 0.28	0.17	2	8	0	0	1	3	4	50.0	0.00310	859.01	430.44	2.00	
Int of FORE ST, MOUNTFORT ST				RD INV 05 60286											Statewide Crash Rate: 153.46			
18821	18822	3106816	0 - 0.06	0561000 - 0.23	0.06	2	0	0	0	0	0	0	0.0	0.00119	0.00	646.62	0.00	
Int of COMMERCIAL ST INDIA ST				RD INV 05 61000											Statewide Crash Rate: 190.85			
Study Years: 3.00					Section Totals:		0.23	8	0	0	1	3	4	50.0	0.00429	621.22	415.52	1.50
Grand Totals:					0.23		18	0	0	1	5	12	33.3	0.00429	1397.74	582.90	2.40	

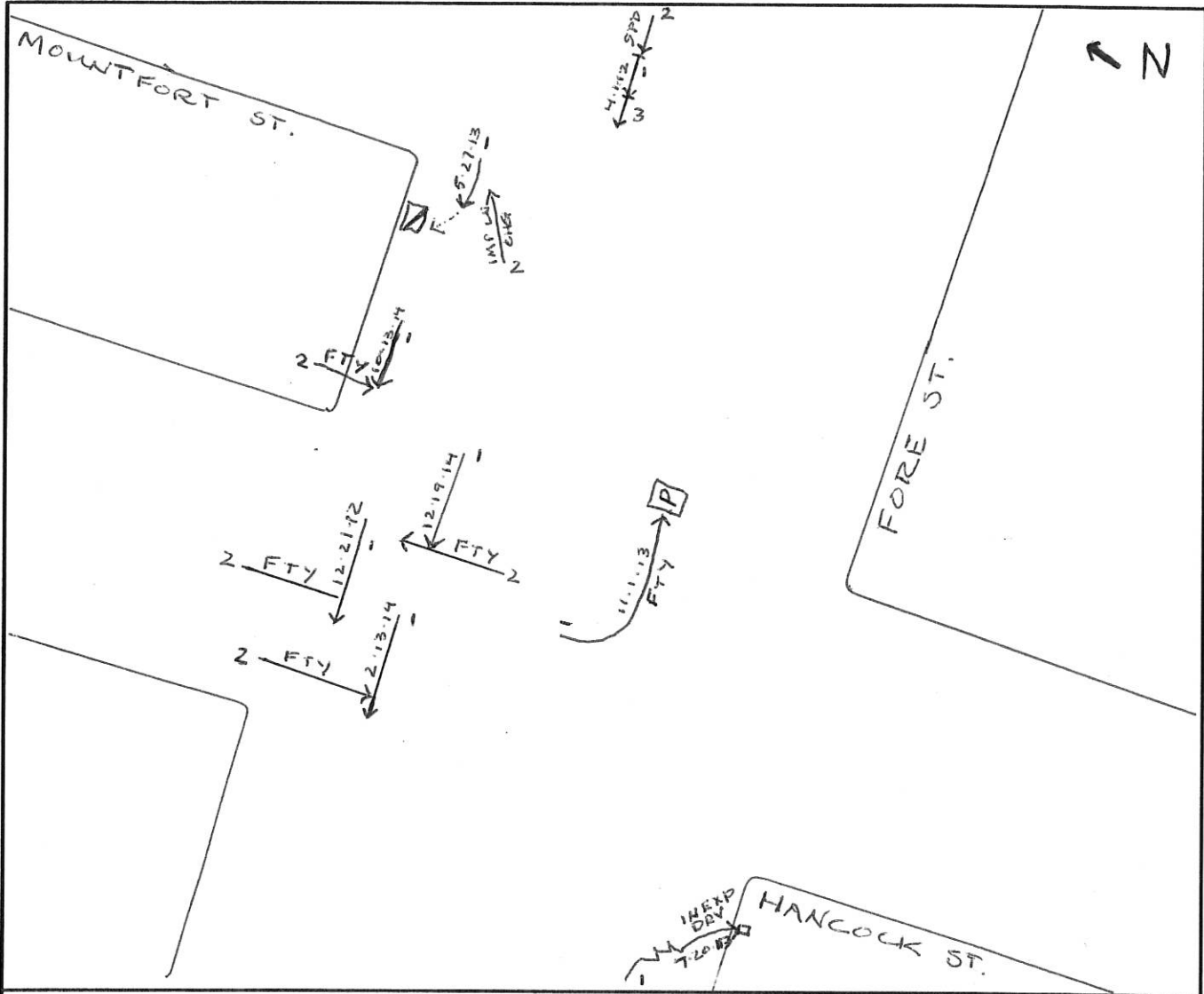
# COLLISION DIAGRAM

SHEET 1 OF 2

LOCATION Intersection of Fore Street & Hancock Street

TOWN Portland, Maine NODE NO(S) 18820 to 18822

YEARS REVIEWED 2012 - 2014 DATE PREPARED 11.30.2015



CRITICAL RATE FACTOR \_\_\_\_\_ EQUIV. PROP. DAMAGE ACC/YEAR \_\_\_\_\_ ACC/MEV \_\_\_\_\_

- LIGHT**
- |                         |                         |                          |
|-------------------------|-------------------------|--------------------------|
| 1. DAWN (MORNING)       | 2. DAYLIGHT             | 3. DUSK (EVENING)        |
| 4. DARK (ST. LIGHTS ON) | 5. DARK (NO ST. LIGHTS) | 6. DARK (ST. LIGHTS OFF) |
| 7. OTHER                |                         |                          |
- ROAD SURFACE**
- |                           |                          |                             |
|---------------------------|--------------------------|-----------------------------|
| 1. DRY                    | 2. WET                   | 3. SNOW/SLUSH-SANDED        |
| 4. ICE/PACKED SNOW-SANDED | 5. MUDDY                 | 6. DEBRIS                   |
| 7. OILY                   | 8. SNOW/SLUSH-NOT SANDED | 9. ICE-PKD. SNOW-NOT SANDED |
| 10. OTHER                 |                          |                             |
- APPARENT CONTRIBUTING FACTORS - HUMAN**
- |                                    |                                     |                                      |
|------------------------------------|-------------------------------------|--------------------------------------|
| 1. NO IMPROPER ACTION              | 2. FAIL TO YLD. RIGHT OF WAY        | 3. ILLEGAL UNSAFE SPEED              |
| 4. FOLLOW TOO CLOSE                | 5. DISREGARD TRAFFIC CONTROL DEVICE | 6. DRIVING LEFT OF CENTER-NO PASSING |
| 7. IMPROPER PASS-OVERTAKING        | 8. IMP. UNSAFE LANE CHANGE          | 9. IMP. PARKING START/STOP           |
| 10. IMPROPER TURN                  | 11. UNSAFE BACKING                  | 12. NO SIGNAL OR IMP. SIGNAL         |
| 13. IMPEDING TRAFFIC               | 14. DRIVER INATTENTION-DISTRACTION  | 15. DRIVER INEXPERIENCE              |
| 16. PEDEST. VIOLATION ERROR        | 17. PHYSICAL IMPAIRMENT             | 18. VISION OBSCURED-WINDSHIELD GLASS |
| 19. VISION OBSCURED-SUN/HEADLIGHTS | 20. OTHER VISION OBSCUREMENT        | 30. OTHER HUMAN VIOLATION FACTOR     |
| 31. HIT AND RUN                    | 51. UNKNOWN                         |                                      |
- VEHICULAR**
- |                                    |                            |                          |
|------------------------------------|----------------------------|--------------------------|
| 41. DEFECTIVE BRAKES               | 42. DEFECTIVE TIRE/FAILURE | 43. DEFECTIVE LIGHTS     |
| 44. DEFECTIVE SUSPENSION OR FACTOR | 45. DEFECTIVE STEERING     | 50. OTHER VEHICLE DEFECT |
| 51. UNKNOWN                        |                            |                          |

**SYMBOLS**

ANGLE	↓	PEDESTRIAN	→ [P]	FATAL ACCIDENT	●
BACKING	←←←	REAR END	→ →	VEHICLE (MOVING)	→
FIXED OBJECT	→	SIDE SWIPE	→ →	BICYCLE	--- [B]
HEAD ON	→ ←	TURNING MOVE	→ ↻	ANIMAL	--- [A]
OVERTURN	○	CHANGE LANE	→ ↻	SLED	--- [S]
PARKED VEHICLE	□	OUT OF CONTROL	→ ↻		

**WEATHER**

C = CLEAR	F = FOG	R = RAIN
SL = SLEET	S = SNOW	CL = CLOUDY
		XW = CROSS WINDS

**INJURIES**

K = FATAL	B = NON-INCAPACITATING
A = INCAPACITATING	C = POSSIBLE INJURY

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# COLLISION DIAGRAM

SHEET 2 OF 2

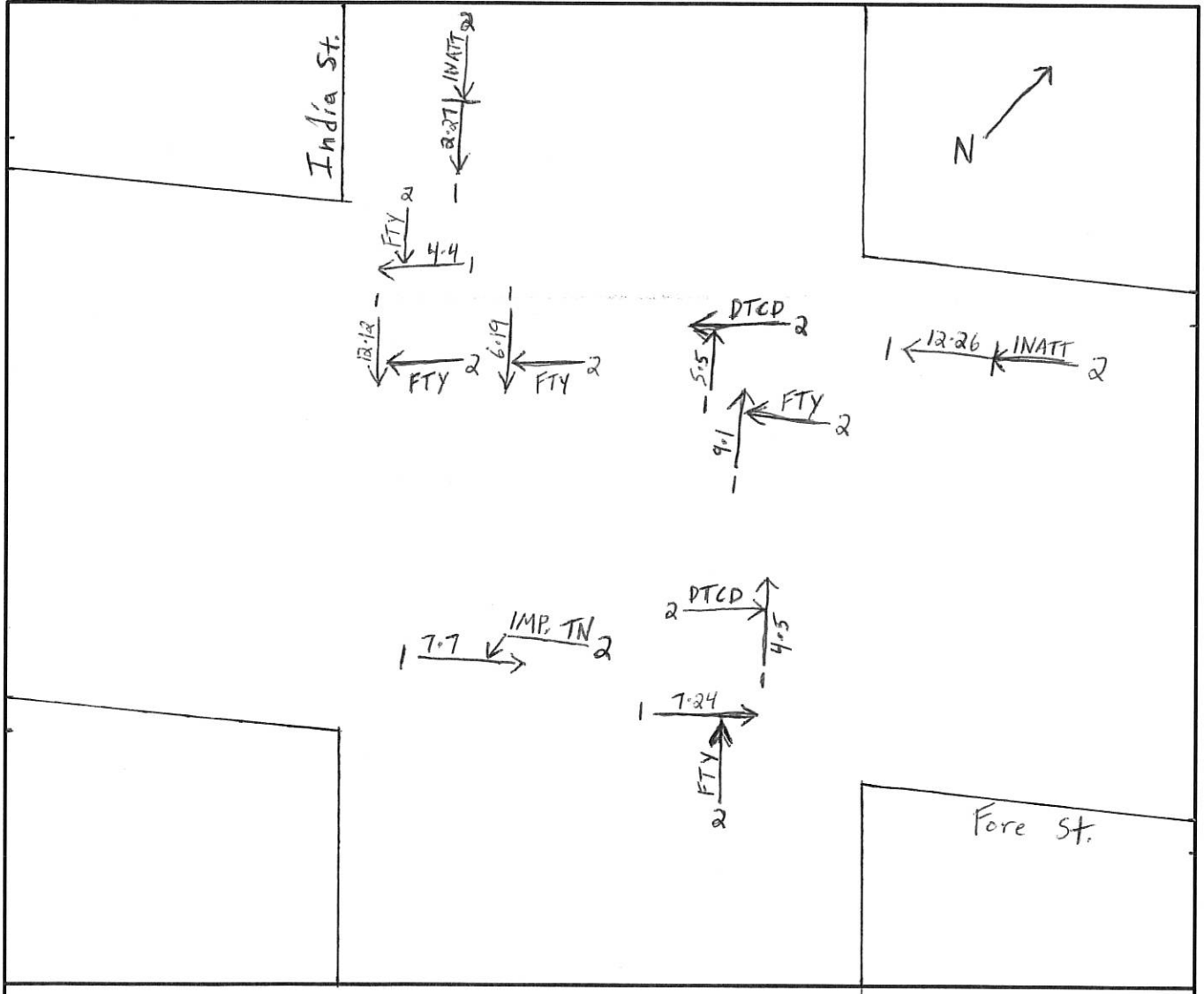
LOCATION Intersection of Fore Street & Hancock Street  
TOWN Portland NODE NO(S) 18820 to 18822  
YEARS REVIEWED 2012 - 2014 DATE PREPARED 11.30.2015

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
00781	04.01.12	02:55	-	-	-	+	4	1	3	
003253	12.21.12	16:53	-	-	-	2	4	2	2	
001534	05.27.13	12:40	-	-	-	1	2	1	8	
002062	07.20.13	10:29	-	-	-	-	2	1	15	Student Driver
003090	11.01.13	15:30	-	1	-	-	2	1	2	
000550	02.18.14	10:03	-	-	-	-	2	2	2	
003007	10.13.14	10:09	-	-	-	-	2	1	2	
003756	12.19.14	15:09	-	-	-	-	2	1	2	

# COLLISION DIAGRAM

SHEET 1 OF 2

LOCATION Fore St. + India St.  
 TOWN Portland NODE NO(S) 18822  
 YEARS REVIEWED 2012-2014 DATE PREPARED 11/25/15



CRITICAL RATE FACTOR \_\_\_\_\_ EQUIV. PROP. DAMAGE ACC/YEAR \_\_\_\_\_ ACC/MEV \_\_\_\_\_

- LIGHT**
- |                         |                         |                          |
|-------------------------|-------------------------|--------------------------|
| 1. DAWN (MORNING)       | 2. DAYLIGHT             | 3. DUSK (EVENING)        |
| 4. DARK (ST. LIGHTS ON) | 5. DARK (NO ST. LIGHTS) | 6. DARK (ST. LIGHTS OFF) |
| 7. OTHER                |                         |                          |
- ROAD SURFACE**
- |                           |                          |                             |
|---------------------------|--------------------------|-----------------------------|
| 1. DRY                    | 2. WET                   | 3. SNOW/SLUSH-SANDED        |
| 4. ICE/PACKED SNOW-SANDED | 5. MUDDY                 | 6. DEBRIS                   |
| 7. OILY                   | 8. SNOW/SLUSH-NOT SANDED | 9. ICE-PKD. SNOW-NOT SANDED |
| 10. OTHER                 |                          |                             |
- APPARENT CONTRIBUTING FACTORS - HUMAN**
- |                                      |                                     |                                  |
|--------------------------------------|-------------------------------------|----------------------------------|
| 1. NO IMPROPER ACTION                | 2. FAIL TO YLD. RIGHT OF WAY        | 3. ILLEGAL UNSAFE SPEED          |
| 4. FOLLOW TOO CLOSE                  | 5. DISREGARD TRAFFIC CONTROL DEVICE | 6. IMPROPER TURN                 |
| 7. DRIVING LEFT OF CENTER-NO PASSING | 8. IMP. UNSAFE LANE CHANGE          | 9. IMP. PARKING START/STOP       |
| 10. IMPROPER PASS-OVERTAKING         | 11. UNSAFE BACKING                  | 12. NO SIGNAL OR IMP. SIGNAL     |
| 13. IMPROPER TURN                    | 14. DRIVER INATTENTION-DISTRACTION  | 15. IMPEDING TRAFFIC             |
| 16. PEDEST. VIOLATION ERROR          | 17. PHYSICAL IMPAIRMENT             | 18. DRIVER INEXPERIENCE          |
| 19. WINDSHIELD GLASS                 | 20. VISION OBSCURED-SUN/HEADLIGHTS  | 21. VISION OBSCURED-             |
| 22. OTHER VISION OBSCUREMENT         | 23. OTHER HUMAN VIOLATION FACTOR    | 24. OTHER HUMAN VIOLATION FACTOR |
| 25. HIT AND RUN                      | 26. UNKNOWN                         | 27. UNKNOWN                      |
- VEHICULAR**
- |                                    |                            |                          |
|------------------------------------|----------------------------|--------------------------|
| 41. DEFECTIVE BRAKES               | 42. DEFECTIVE TIRE/FAILURE | 43. DEFECTIVE LIGHTS     |
| 44. DEFECTIVE SUSPENSION OR FACTOR | 45. DEFECTIVE STEERING     | 50. OTHER VEHICLE DEFECT |
|                                    | 51. UNKNOWN                |                          |

**SYMBOLS**

ANGLE	↓	PEDESTRIAN	→ P	FATAL ACCIDENT	●
BACKING	⇌	REAR END	→	VEHICLE (MOVING)	→
FIXED OBJECT	□	SIDE SWIPE	→	BICYCLE	--- B
HEAD ON	⇌	TURNING MOVE	↻	ANIMAL	--- A
OVERTURN	○	CHANGE LANE	↻	SLED	--- S
PARKED VEHICLE	□	OUT OF CONTROL	↻		

**WEATHER**

C = CLEAR	F = FOG	R = RAIN
SL = SLEET	S = SNOW	CL = CLOUDY
		XW = CROSS WINDS

**INJURIES**

K = FATAL	B = NON-INCAPACITATING
A = INCAPACITATING	C = POSSIBLE INJURY

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# COLLISION DIAGRAM

SHEET 2 OF 2

LOCATION Fore St. + India St.

TOWN Portland NODE NO(S) 18822

YEARS REVIEWED 2012 - 2014 DATE PREPARED 11/25/15

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
28529	4/4/12	9:19	—	—	—	—	2	1	2	
32068	7/7/12	14:30	—	—	—	—	2	1	10	
39611	9/1/12	11:36	—	—	—	—	2	1	2	
47032	12/12/12	11:04	—	—	—	—	2	1	2	
10953	5/5/13	20:45	—	—	—	1	4	1	5	
14824	6/19/13	7:58	—	—	—	—	2	1	2, 5	
6966	2/27/14	8:04	—	—	—	1	2	1	14	
10553	4/5/14	1:25	—	—	—	—	4	2	5	Hit + Run
20067	7/24/14	9:45	—	—	—	—	2	1	2	
36981	12/26/14	15:40	—	—	—	—	2	1	4, 14	



**GORRILL-PALMER  
CONSULTING ENGINEERS, INC.**

P.O. Box 1237  
GRAY, MAINE 04039  
(207) 657-6910  
FAX (207) 657-6912

JOB 2969

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CALCULATED BY ET DATE 3/3/16

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

SCALE \_\_\_\_\_

Business Hotel Luc 312 - ITE 7<sup>th</sup> Edition

180 rooms, assume all occupied

$$\text{AM Adj.} = 0.58 \times 180 = 104 \text{ trip ends (61 in, 43 out)}$$

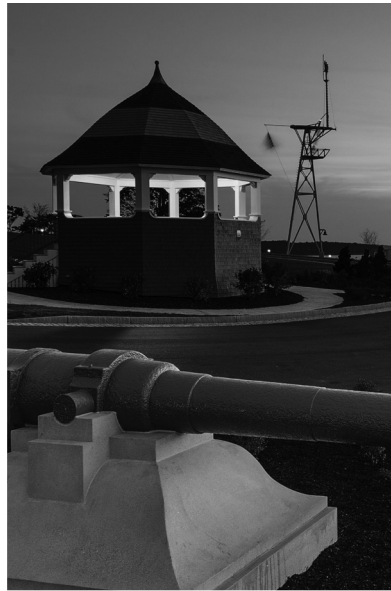
$$\text{AM Gen} = 0.56 \times 180 = 101 \text{ trip ends (55 in, 46 out)}$$

$$\text{PM Adj.} = 0.62 \times 180 = 112 \text{ trip ends (67 in, 45 out)}$$

$$\text{PM Gen} = 0.57 \times 180 = 103 \text{ trip ends (63 in, 40 out)}$$



Relationships.  
Responsiveness.  
Results.



**Traffic Permit  
Application  
Request for  
Scoping Meeting  
Portland Gateway  
Hotel Project  
Portland, Maine**

PREPARED FOR:  
Ara Aftandilian  
Portland Norwich  
2330 Palm Ridge Road  
#305  
Sanibel, Florida 33957

March 2016

SUBMITTED BY:  
Gorrill Palmer  
707 Sable Oaks Drive  
Suite 30  
So. Portland, ME 04106  
207.772.2515



707 Sable Oaks Drive, Suite 30  
South Portland, Maine 04106  
207.772.2515

March 16, 2016

Ms. Helen Donaldson  
City of Portland Planning Division  
389 Congress Street, 4<sup>th</sup> Floor  
Portland, Maine 04101

RE: Application for Traffic Movement Permit  
Portland Gateway Hotel Project  
Portland, Maine

Dear Ms. Donaldson,

Gorrill Palmer (GP) has been retained by Portland Norwich Group LLC to prepare this Traffic Movement Permit Application for the proposed Portland Gateway Hotel project located on Fore Street between India Street and Hancock Street in Portland, Maine.

We have attached the following information in support of this application:

- Three copies of sections 1-6
- Signed application form
- Notice of intent to file
- List of abutters
- \$1,000 application fee

Please contact our office with any questions regarding this application.

Sincerely,

Gorrill Palmer

A handwritten signature in blue ink, appearing to read 'Randy Dunton', written over a light blue horizontal line.

Randy Dunton, PE, PTOE  
Senior Engineer

Copy: Ara Aftandilian, Portland Norwich Group LLC  
Timothy Soucie, MaineDOT Region I Traffic Engineer

Department of Transportation  
Traffic Engineering Division  
16 State House Station  
Augusta, Maine 04333  
Telephone: 207-287-3775

FOR MDOT USE  
ID# \_\_\_\_\_ 12/99  
Total Fees: \_\_\_\_\_  
Date Received: \_\_\_\_\_

\*\*\*\*\*

**PERMIT APPLICATION – TRAFFIC  
TRAFFIC MOVEMENT PERMIT, 23 M.R.S.A. §704-A**

**Please type or print:**

This application is for (check all that apply): Traffic 100-200 PCE's   
Traffic 200 + PCE's

Name of Applicant: Portland Norwich Group LLC Attn: Mr. Ara Aftandilian

Address: 2330 Palm Ridge Rd #305, Sanibel FL 33957 Telephone: (978) 887-3640

Name of local contact or agent: Randy Dunton – Gorrill Palmer

Address: 707 Sable Oaks Drive, Suite 30, South Portland, ME 04106

Telephone: (207) 772-2515

Name and type of development: The development consists of a hotel up to 180 rooms

Location of development including road, street, or nearest route number: The site is located  
on Fore Street between India Street and Hancock Street.

City/Town/Plantation: Portland County: Cumberland Tax Maps: 019 Lots: B020

Do you want a consolidated review with DEP pursuant to 23 M.R.S.A. § 704-A (7)? No

Was this development started prior to obtaining a traffic permit? No

Is the project located in an area designated as a growth area (as defined in M.R.S.A. title 30-A, chapter 187)?

Yes X No \_\_\_\_\_

Is this project located within a compact area of an urban compact municipality? Yes X No \_\_\_\_\_

Is this development or any portion of the site currently subject to state or municipal enforcement action?

None Known

Existing DEP or MDOT permit number (if applicable): Delegated review is to the City

Name(s) DOT staff person(s) contacted concerning this application None

Name(s) of DOT staff person(s) present at the scoping meeting for 200+ applicants: \_\_\_\_\_

**To be held**

Department of Transportation  
Traffic Engineering Division  
16 State House Station  
Augusta, Maine 04333  
Telephone: 207-287-3775

FOR MDOT USE  
ID# \_\_\_\_\_  
Total Fees: \_\_\_\_\_  
Date Received: \_\_\_\_\_

**CERTIFICATION**

This person responsible for preparing this application and/or attaching pertinent site and traffic information hereto, by signing below, certifies that the applicant for traffic approval is complete and accurate to the best of his/her knowledge.

Signature: Randall Dunton

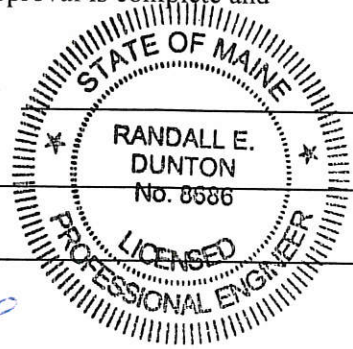
Name (print): Randall Dunton

Date: March 17, 2016

Re/Cert/Lic No.: \_\_\_\_\_

Engineer: \_\_\_\_\_

Other: \_\_\_\_\_



8686

If the signature below is not the applicant's signature, attach letter of agent authorization signed by applicant.

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

[Signature]  
Signature of applicant

3/10/16  
Date

HOLD TO LIGHT TO VIEW WATERMARK IN PAPER. HEAT SENSITIVE FIBER IMAGE DISAPPEARS WITH HEAT. DETECTION CIRCUIT REVEALS IN LOGS WHEN TESTED.

1948

**NORWICH PARTNERS OF SANIBEL LLC**

2330 PALM RIDGE RD UNIT 10 #305  
SANIBEL, FL 33957  
(603) 643-2206

**Bank of America.**



ACH R/T 063100277

63-4/630

EZShield™ Check Fraud  
Protection for Business

3/8/2016

PAY TO THE  
ORDER OF City of Portland

\$ \*\*1,000.00

One Thousand and 00/100\*\*\*\*\*

DOLLARS

City of Portland, Maine  
389 Congress Street  
Room 102  
PO Box 544  
Portland, ME 04112

MEMO

Traffic Permit Application Fee



*[Handwritten Signature]*  
\_\_\_\_\_  
AUTHORIZED SIGNATURE

⑈001948⑈ ⑆063000047⑆ 229023268927⑈

Security features. Details on back.



NORWICH PARTNERS OF SANIBEL LLC

City of Portland

Traffic Permit Application Fee

3/8/2016

1,000.00

1948

Norwich Partners of S Traffic Permit Application Fee

1,000.00

## NOTICE OF INTENT TO FILE

Please take notice that:

Portland Norwich Group LLC (Attn: Mr. Ara Aftandilian)  
2330 Palm Ridge Rd #305  
Sanibel, FL 33957

is intending to file a MaineDOT Traffic Permit application with the City of Portland (Delegated Review Authority) pursuant to the provisions of 23 M.R.S.A. §704 – A on or about March 16, 2016.

This application is for:

The development of the Portland Gateway Hotel Project in Portland, Maine. The proposed development is to include a hotel up to 180 rooms. The project is forecast to generate 104 and 112 AM and PM weekday peak hour trip ends respectively. The project is expected to open in 2016.

At the following location:

The site is located within the block defined by Fore Street, Hancock Street Extension, Thames Street, and India Street.

A request for a public hearing must be received by the City, in writing no later than 20 days after the application is found by the department to be complete and is accepted for processing. Public comment on the application will be accepted throughout the processing of the application.

The application will be filed for public inspection at the Department of Transportation's office in Scarborough (Region 1) during normal working hours. A copy of the application may also be seen at the municipal offices in Portland, Maine.

Written public comments may be sent to the following address: Attention Helen Donaldson, Planning Division, 389 Congress Street, Portland, Maine 04101.



Randall Dunton, P.E., PTOE  
Gorrill-Palmer Consulting Engineers, Inc.





Direct Abutters List  
Portland Gateway Hotel Project  
Map 019 – Lot B020  
JN 2969

**Map 019 Lot A008** (144 Fore Street)  
Jack Rabbit LLC  
222 St. John Street – Tower X  
Portland, ME 04102

**Map 019 Lot A014** (0 Hancock Street)  
City of Portland  
389 Congress Street  
Portland, ME 04101

**Map 019 Lot A015** (Tied to 001-A002)  
State of Maine  
16 State House Station  
Augusta, ME 04333-0016

**Map 019 B001** (1 India Street )  
GSB Corporation (Units 1 & 2)  
10 Wentworth Drive  
Gorham, ME 04038

**Map 019 B012** (176 India Street)  
Portland Water District  
PO Box 3553  
225 Douglass Street  
Portland, ME 04104-3553

**Map 020 Lot 010** (147 Fore Street)  
Chapin Realty LLC  
25 Foothill Street – Suite 1A  
Lebanon, NH 03766

**Map 020 Lot F001** (167 Fore Street)  
167 Fore Street LLC  
PO Box 910  
Westbrook, ME 04092-0910

**Map 020 Lot F023** (33 India Street)  
East India Land Company LLC  
86 Newbury Street  
Portland, ME 04101

**Map 029 Lot L003** (203 Fore Street)  
Chatham Portland DT LLC  
50 Cocoanut Row – Suite 211  
Palm Beach, FL 33480

**Map 029 Lot N009** (0 India Street)  
Russell E. Lerman  
PO Box 451  
Dover, NJ 07802

**Map 029 Lot N026** (1 Commercial Street)  
Casco Portland Partners LLC  
111 Commercial Street – Suite 300  
Portland, ME 04101

**Map 029 Lot N042** (0 India Street)  
Casco Portland Partners LLC  
111 Commercial Street – Suite 300  
Portland, ME 04101

## Section I Site and Traffic Information

### I.A. Site Description and Site Plan

The site is located on Fore Street between India Street and Hancock Street in Portland, Maine. The site is identified on City Tax Map 19, Lot B020. A proposed site plan is included in Attachment IA.

### I.B. Existing and Proposed Site Uses

The existing site has a building at 1 India Street which is proposed to remain. The proposed development consists of a hotel up to 180 rooms. This building is part of a larger development with three potential additional buildings, but only the hotel building is being permitted at this time. Vehicular access to the site will be via a full movement driveway onto Fore Street. There will be no on-site parking. The Portland Gateway Hotel plans to use the Ocean Gateway Garage and a valet service.

### I.C. Site Vicinity and Boundaries

The site is bordered by Fore Street, Hancock Street, and Thames Street. A site location map showing the development area is included in attachment IC to this section.

### I.D. Proposed Uses in the Vicinity of the Proposed Development

Approved projects that are not yet opened as well as projects for which applications have been filed are required to be included in the predevelopment volumes for this project. Based on conversations with Nell Donaldson, Portland Planner, and the City's peer reviewer, the traffic from three developments should be included in the background traffic; a four story mixed use building at 185 Fore Street, a five story mixed use building at 16 Middle Street, and a four story housing development at 113 Newbury Street. The traffic from these three developments that is anticipated to impact this project is shown on the attached Figure 4.

### I.E. Trip Generation

The proposed Portland Gateway Hotel will have up to 180 rooms. The Institute of Transportation Engineers' publication *Trip Generation*, Seventh Edition, Land Use Code (LUC) 312 – Business Hotel was used to forecast the traffic to be generated by the site.

The following is a summary of the trip generation that will need to be permitted:

- AM Peak Hour Adjacent Street: 104 trip ends
- PM Peak Hour Adjacent Street: 112 trip ends

A trip end is defined as a trip into or out of the site; thus a round trip is equal to two trip ends. Since the forecast traffic exceeds 99 trip ends during a peak hour, a Traffic Movement Permit is required. A copy of the trip generation calculations are included as an attachment to this section.

#### **I.F. Trip Distribution**

Based on ITE LUC 312 the following trip distribution is anticipated:

- AM Peak Hour Adjacent Street: 61 in / 43 out
- PM Peak Hour Adjacent Street: 67 in / 45 out

#### **I.G. Trip Composition and Assignment**

GP has assumed that all trips going to and from the site are primary trips made for the sole purpose of going to and from the site. The trip assignment has been based on the traffic counts at the study area intersections. The trip assignment is shown on the attached Figure 6.

#### **I.H. Attachments**

Attachment IA – Site Survey, Proposed Site Plan

Attachment IB – Trip Generation Calculations

Attachment IC – Site Location Map, Trip Assignment Diagram

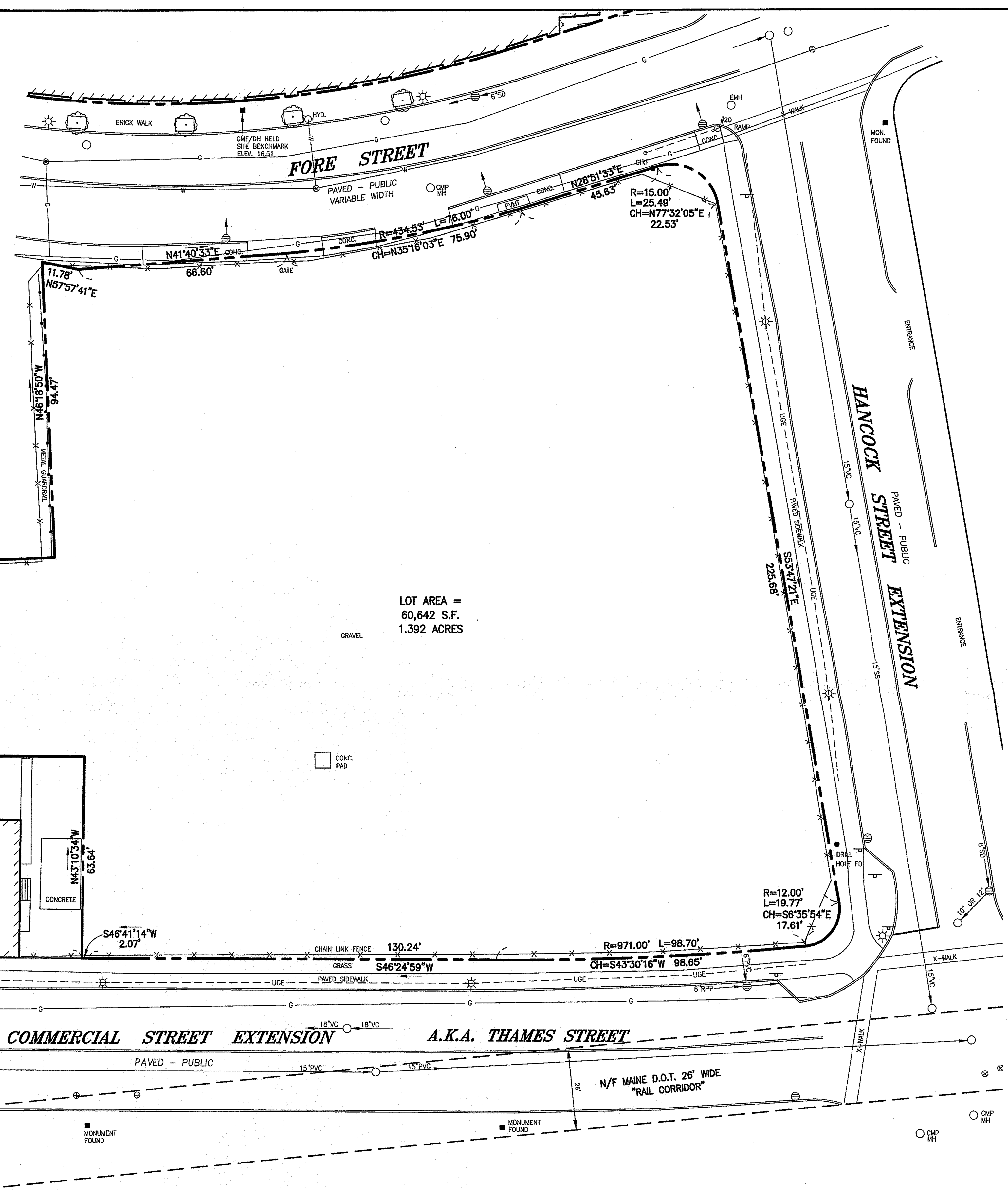
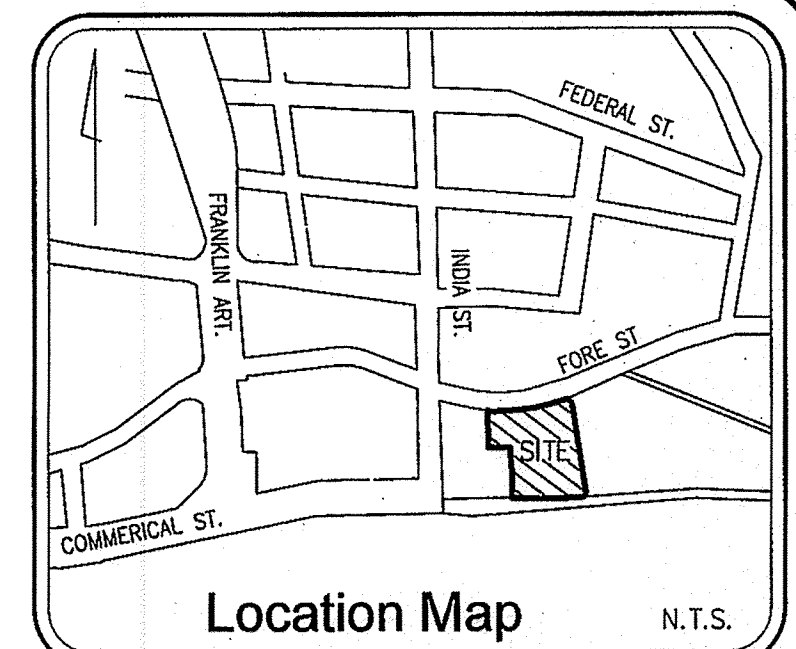
*Attachment 1A*  
Site Survey, Proposed Site Plan

**Plan References:**

1. RECORDING PLAT, OCEAN GATEWAY, COMMERCIAL STREET AND FORE STREET, PORTLAND, MAINE MADE FOR CITY OF PORTLAND AND STATE OF MAINE DATED AUGUST 4, 2004 BY OWEN HASKELL, INC. RECORDED IN PLAN BOOK 204 PAGE 622.
2. LAND TITLE SURVEY AND SUBDIVISION PLAN IN PORTLAND, MAINE, USA MADE FOR THE TRUST FOR PUBLIC LAND, THE CITY OF PORTLAND, THE MAINE DEPARTMENT OF TRANSPORTATION, THE CANADIAN NATIONAL RAILWAY COMPANY DATED FEBRUARY 19, 1993 REVISED THROUGH 10-20-94 BY OWEN HASKELL, INC. RECORDED IN PLAN BOOK 193 PAGE 187.
3. SUBDIVISION RECORDING PLAT ON ONE INDIA STREET, PORTLAND, MAINE MADE FOR RIVERWALK LLC, 25 INDIA STREET LLC, HANCOCK & MIDDLE, LLC, AND OCEAN GATEWAY LLC DATED MARCH 22, 2006 REVISED 04-13-06 BY OWEN HASKELL, INC. RECORDED IN PLAN BOOK 207 PAGE 54.
4. CONDOMINIUM PLAT "THE LONGFELLOW A CONDOMINIUM" ONE INDIA STREET, PORTLAND, MAINE MADE FOR LRAR LLC, THE DECLARANT AND OWNER OF RECORD, DATED SEPT. 20, 2006 REVISED 9-26-09 BY OWEN HASKELL, INC. RECORDED IN PLAN BOOK 206 PAGE 618.

**Notes:**

1. OWNER OF RECORD: LRAR LLC, 2 MARKET STREET, SUITE 500, PORTLAND, MAINE, C.C.R.D. BOOK 24191 PAGE 217, BOOK 23525 PAGE 166, BOOK 24419 PAGE 118.
2. PARCEL IS SHOWN AS LOTS 1 AND 20, BLOCK B ON THE CITY OF PORTLAND ASSESSORS MAP 19.
3. BEARINGS ARE GRID NORTH PER PLAN REFERENCE 1.



**COMMERCIAL ST.**  
PAVED - PUBLIC 100' WIDE

TM 19-B-12  
N/F  
PORTLAND WATER DISTRICT  
3870/101

LOT AREA =  
60,642 S.F.  
1.392 ACRES

**Survey Description:**

A CERTAIN PARCEL OR LAND SITUATED ON THE NORTHEASTERLY SIDE OF INDIA STREET AND THE SOUTHERLY SIDE OF FORE STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND, STATE OF MAINE BEING BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE NORTHEASTERLY SIDELINE OF INDIA STREET AT LAND NOW OR FORMERLY OF THE PORTLAND WATER DISTRICT, REFERENCE CUMBERLAND COUNTY REGISTRY OF DEEDS, BOOK 3870, PAGE 101;

THENCE N 43°-41'-10" E ALONG SAID PORTLAND WATER DISTRICT LAND A DISTANCE OF 119.66 FEET;

THENCE N 46°-18'-50" W ALONG SAID PORTLAND WATER DISTRICT LAND A DISTANCE OF 94.47 FEET TO THE SOUTHEASTERLY SIDELINE OF FORE STREET;

THENCE N 57°-57'-41" E ALONG SAID FORE STREET SIDELINE A DISTANCE OF 11.78 FEET;

THENCE N 41°-40'-33" E ALONG SAID FORE STREET SIDELINE A DISTANCE OF 66.60 FEET;

THENCE NORTHEASTERLY ALONG SAID FORE STREET SIDELINE ON A CURVE CONCAVE TO THE LEFT HAVING A RADIUS OF 434.53 FEET AN ARC DISTANCE OF 76.00 FEET, SAID CURVE HAVING A CHORD WHICH BEARS N 39°-16'-03" E A DISTANCE OF 75.90 FEET;

THENCE N 28°-51'-33" E ALONG SAID FORE STREET SIDELINE A DISTANCE OF 45.63 FEET TO THE SOUTHWESTERLY SIDELINE OF HANCOCK STREET EXTENSION;

THENCE EASTERLY ALONG SAID HANCOCK STREET EXTENSION AND ALONG A CURVE CONCAVE TO THE RIGHT HAVING A RADIUS OF 15.00 FEET AN ARC DISTANCE OF 25.49 FEET, SAID CURVE HAVING A CHORD WHICH BEARS N 77°-32'-05" E A DISTANCE OF 22.53 FEET;

THENCE S 53°-47'-21" E ALONG SAID HANCOCK STREET EXTENSION A DISTANCE OF 225.68 FEET;

THENCE SOUTHERLY ALONG SAID HANCOCK STREET EXTENSION AND ALONG A CURVE CONCAVE TO THE RIGHT HAVING A RADIUS OF 12.00 FEET AN ARC DISTANCE OF 19.77 FEET, SAID CURVE HAVING A CHORD WHICH BEARS S 6°-35'-54" E A DISTANCE OF 17.61 FEET TO THE NORTHWESTERLY SIDELINE OF COMMERCIAL STREET EXTENSION;

THENCE SOUTHWESTERLY ALONG COMMERCIAL STREET EXTENSION AND ALONG A CURVE CONCAVE TO THE RIGHT HAVING A RADIUS OF 971.00 FEET AN ARC DISTANCE OF 98.70 FEET, SAID CURVE HAVING A CHORD WHICH BEARS S 43°-30'-16" W A DISTANCE OF 98.65 FEET;

THENCE S 46°-24'-59" W ALONG SAID COMMERCIAL STREET EXTENSION A DISTANCE OF 130.24 FEET TO PROPERTY KNOWN AS ONE INDIA STREET CONDOMINIUM;

THENCE S 46°-41'-14" W ALONG SAID COMMERCIAL STREET EXTENSION A DISTANCE OF 2.07 FEET;

THENCE N 43°-10'-34" W ALONG THE "ONE INDIA STREET CONDOMINIUM" PROPERTY A DISTANCE OF 63.64 FEET;

THENCE S 46°-38'-39" W ALONG SAID "ONE INDIA STREET CONDOMINIUM" PROPERTY A DISTANCE OF 126.40 FEET TO THE NORTHEASTERLY SIDELINE OF INDIA STREET;

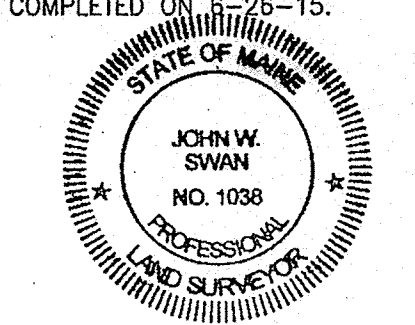
THENCE N 46°-24'-57" W ALONG SAID INDIA STREET SIDELINE A DISTANCE OF 57.09 FEET TO THE POINT OF BEGINNING CONTAINING 60,642 SF (1.39 ACRES).

**ALTA/ACSM Land Title Survey**  
on  
Fore Street and India Street  
Portland, Cumberland County, Maine  
Made for  
Portland Norwich Group, LLC

**Surveyor's Certification**

THIS IS TO CERTIFY TO SANFORD INSTITUTION FOR SAVINGS, CURTIS THAXTER LLC AND FIRST AMERICAN TITLE INSURANCE THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS N/A OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 6-28-15.

JOHN W. SWAN  
PROFESSIONAL LAND SURVEYOR NO. 1038  
IN THE STATE OF MAINE  
DATE OF PLAN: FEBRUARY 17, 2015  
REVISION DATE: OCTOBER 28, 2015



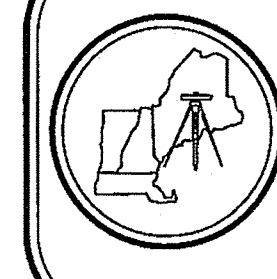
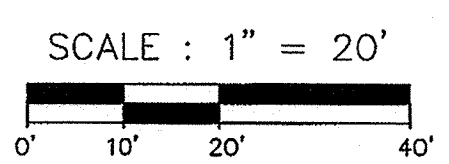
OHI JOB NO. 2015-021P

- Legend:**
- IRON PIPE OR ROD FND
  - GRANITE MONUMENT FND
  - WATER VALVE
  - GAS VALVE
  - HYDRANT
  - UTILITY POLE
  - MANHOLE
  - CATCH BASIN
  - LIGHT POLE
  - EM ELEC. OR GAS METER
  - CURB
  - FENCE
  - OVERHEAD WIRES
  - UNDERGRD ELEC.
  - TELEPHONE LINE
  - GAS LINE
  - WATER LINE
  - SANITARY SEWER
  - SIGN

**Flood Zone Note:**  
BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE C OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051 00014B, WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 1986 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

**Zoning Information:**  
THE PROPERTY LIES IN ZONE B-6 URBAN COMMERCIAL DISTRICT AND IS SUBJECT TO THE FOLLOWING DIMENSIONAL REQUIREMENTS:  
MINIMUM LOT SIZE: NONE  
MINIMUM FRONTAGE: NONE  
SETBACKS: FRONT: NONE REQUIRED  
SIDE: NONE REQUIRED  
REAR: NONE REQUIRED  
MAXIMUM FRONT YARD SETBACK: 10 FEET  
ADDITIONAL INFORMATION CAN BE FOUND IN THE CITY OF PORTLAND'S CODE OF ORDINANCES.

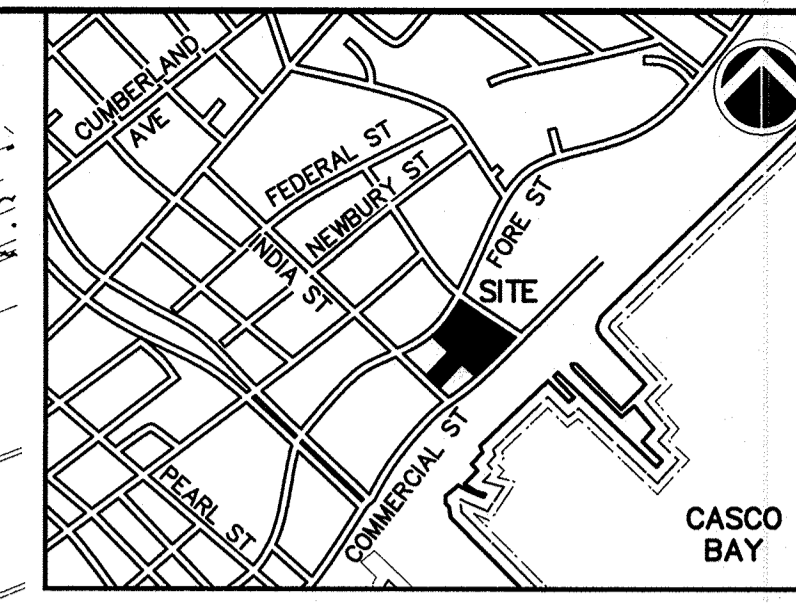
**Utility Note:**  
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION.



**OWEN HASKELL, INC.**  
PROFESSIONAL LAND SURVEYORS  
390 U.S. ROUTE ONE, UNIT 10  
FALMOUTH, MAINE 04105  
Tel. (207) 774-0424 www.owenhaskell.com



NORTH

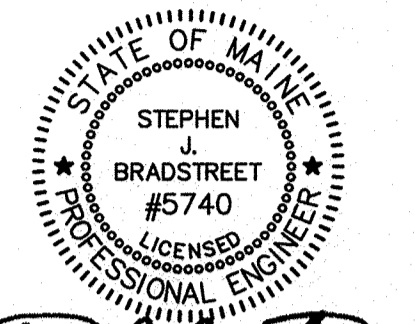


# PROPOSED AC HOTEL PORTLAND

FORE STREET /  
HANCOCK STREET /  
THAMES STREET  
PORTLAND, MAINE

Prepared for:

PORTLAND NORWICH GROUP, LLC.  
2330 PALM RIDGE ROAD #305  
SANIBEL, FLORIDA 33957



*Stephen J. Bradstreet*

CIVIL ENGINEER:  
STEPHEN J. BRADSTREET, PE #5740  
400 COMMERCIAL STREET, SUITE 404  
PORTLAND, ME 04101  
207-772-2891

### SPACE AND BULK STANDARDS

	REQUIRED	PROPOSED
HOTEL ROOMS	150	150
MINIMUM LOT SIZE	0 S.F.	28,540 S.F. (LOT 1)
ROAD FRONTAGE	0'	>228'
BUILDING SETBACKS (MIN./MAX.)		
FRONT	0'/10'	0'/10'
SIDE	0'/10'	0'/10'
REAR	0'	0'
BUILDING HEIGHT	65'	<65' (5 FLOORS)

ZONE: B-6 EASTERN WATERFRONT MIXED ZONE

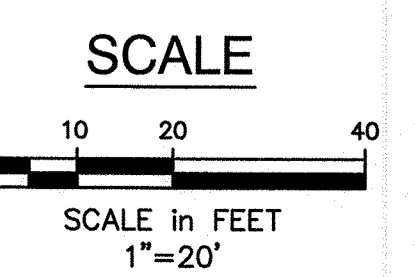
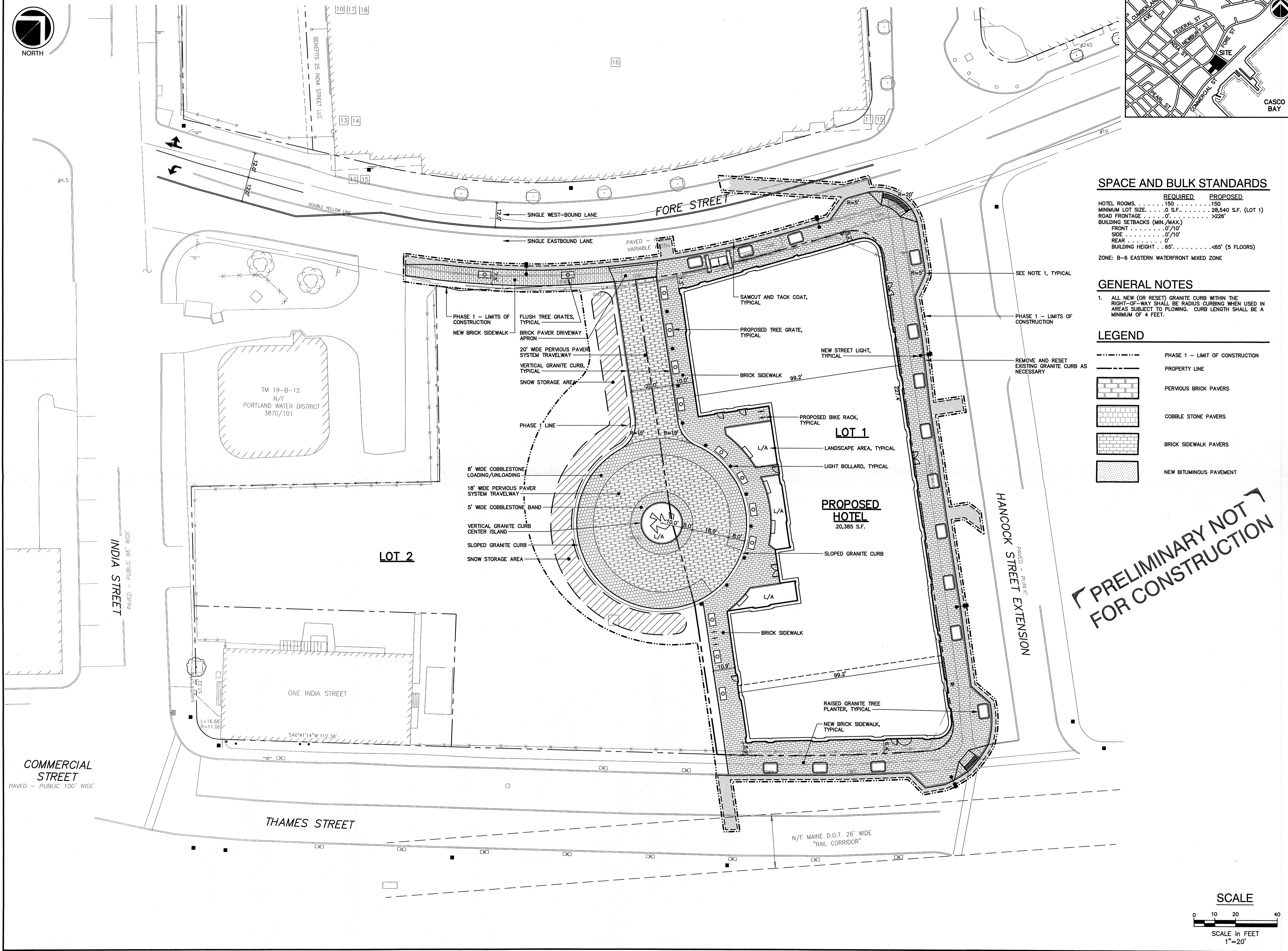
### GENERAL NOTES

- ALL NEW (OR RESET) GRANITE CURB WITHIN THE RIGHT-OF-WAY SHALL BE RADIUS CURBING WHEN USED IN AREAS SUBJECT TO FLOWING. CURB LENGTH SHALL BE A MINIMUM OF 4 FEET.

### LEGEND

	PHASE 1 - LIMIT OF CONSTRUCTION
	PROPERTY LINE
	PERVIOUS BRICK PAVERS
	COBBLE STONE PAVERS
	BRICK SIDEWALK PAVERS
	NEW BITUMINOUS PAVEMENT

**PRELIMINARY NOT FOR CONSTRUCTION**



## RANSOM

Consulting  
Engineers  
and Scientists

400 Commercial Street, Suite 404  
Portland, ME 04101  
Tel. (207) 772-2891  
Fax (207) 772-3248  
www.ransomenv.com

### SITE PLAN

C	FINAL SUBMISSION	03/15/16
B	PRELIMINARY SUBMISSION	09/29/15
A	CLIENT REVIEW	09/15/15
No.	Revision/Issue	Date

Design by:	Checked by:
MPM	SJB
Drawn by:	Approved by:
JAR	SJB

Project:	Date:
150.06094	AUGUST 2015

Sheet No: **C1.0**  
Sheet 4 of 17

# *Attachment 1B*

## Trip Generation Calculations

**GORRILL-PALMER  
CONSULTING ENGINEERS, INC.**

P.O. Box 1237  
GRAY, MAINE 04039  
(207) 657-6910  
FAX (207) 657-6912

JOB 2969

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CALCULATED BY ET DATE 3/3/16

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

SCALE \_\_\_\_\_

Business Hotel Luc 312 - ITE 7<sup>th</sup> Edition

180 rooms, assume all occupied

$$\text{AM Adj.} = 0.58 \times 180 = 104 \text{ trip ends (61 in, 43 out)}$$

$$\text{AM Gen} = 0.56 \times 180 = 101 \text{ trip ends (55 in, 46 out)}$$

$$\text{PM Adj.} = 0.62 \times 180 = 112 \text{ trip ends (67 in, 45 out)}$$

$$\text{PM Gen} = 0.57 \times 180 = 103 \text{ trip ends (63 in, 40 out)}$$



# *Attachment 1C*

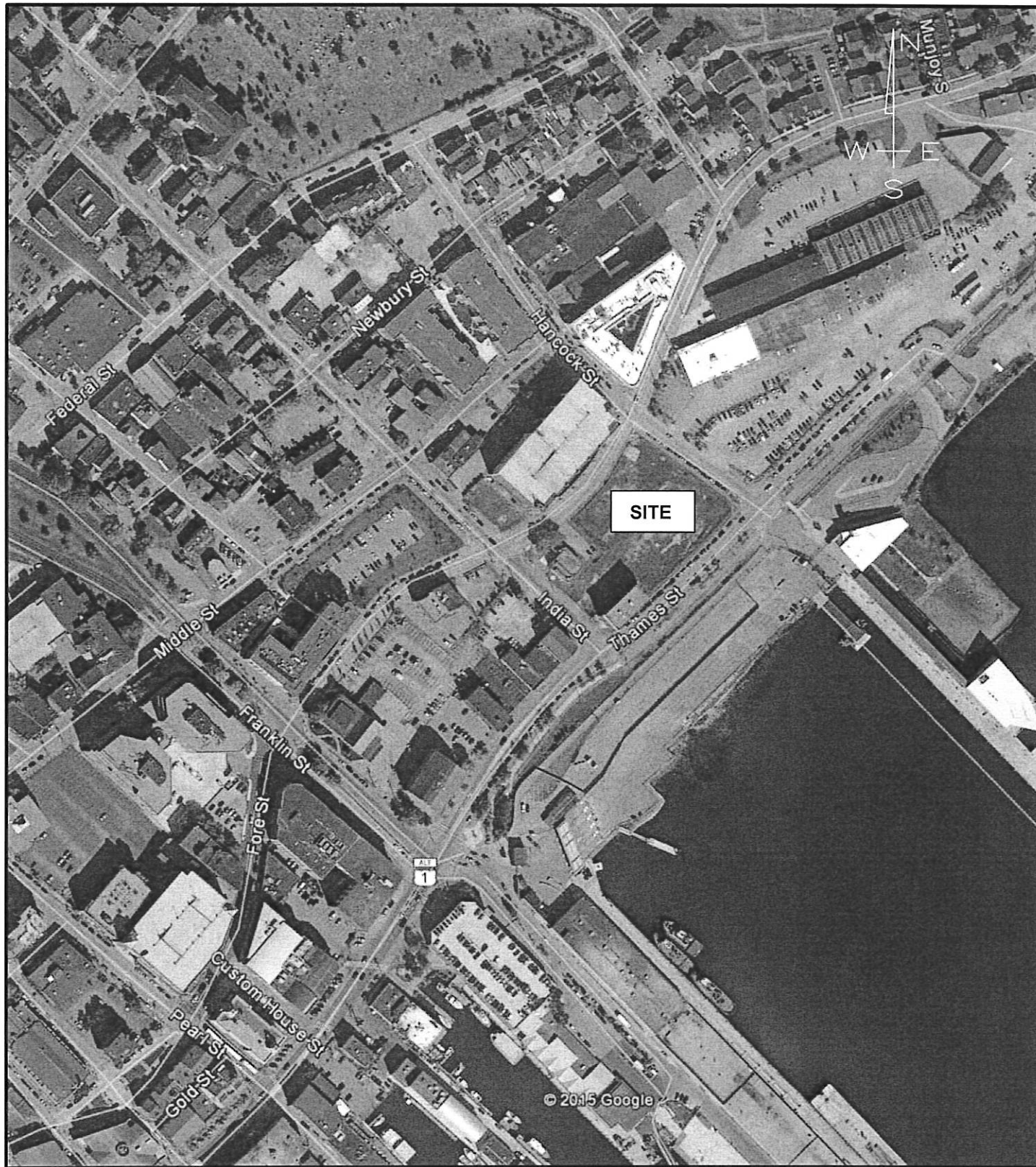
Site Location Map

Trip Assignment Diagrams

# Location Map

Figure No.

# 1



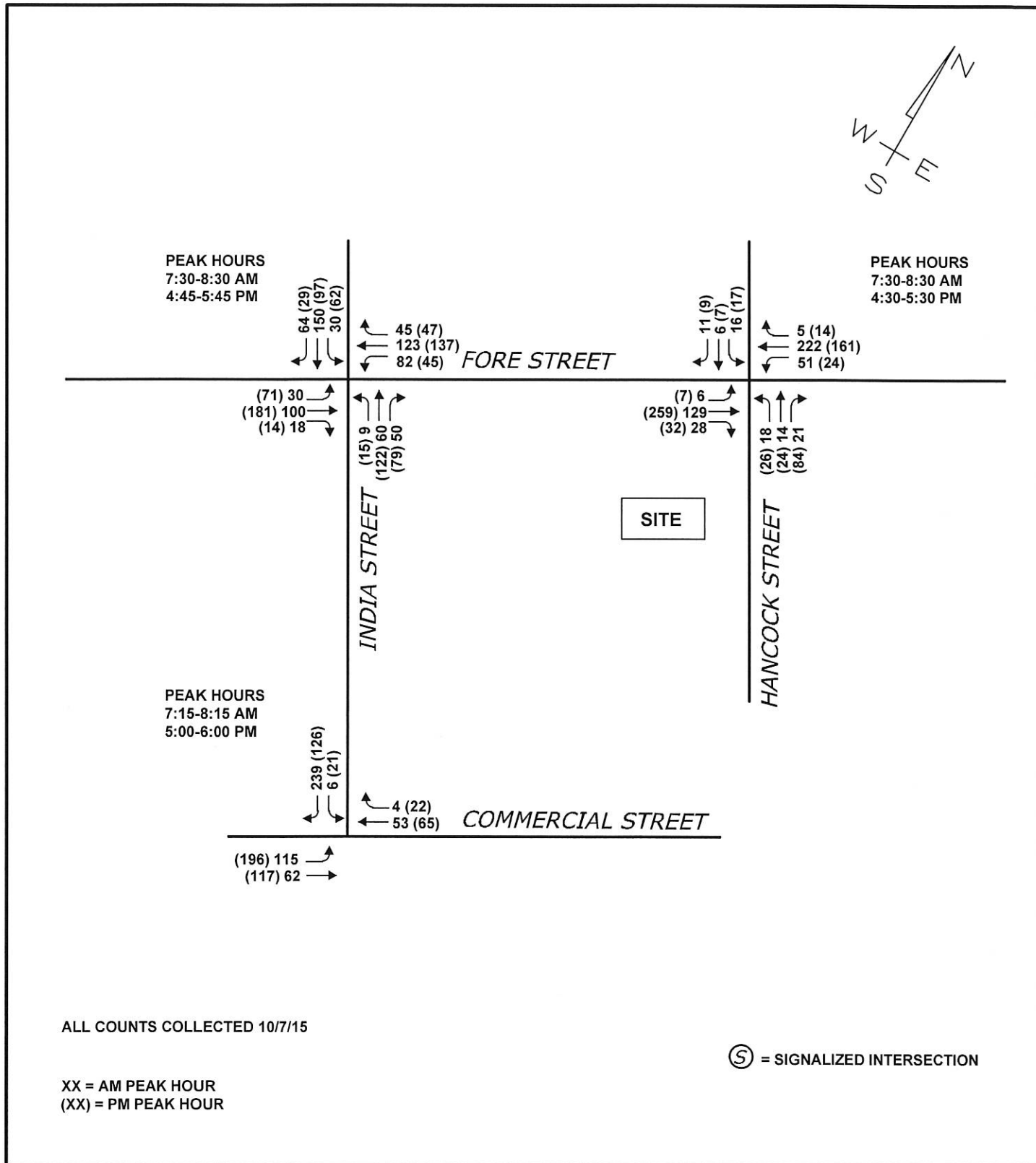
## PROPOSED GATEWAY HOTEL PORTLAND, MAINE

Design: ET      Scale: NONE  
Draft: LAN      Date: OCT 2015  
Checked: RED    File Name: 2969-TRAFF.dwg

# Raw Volumes

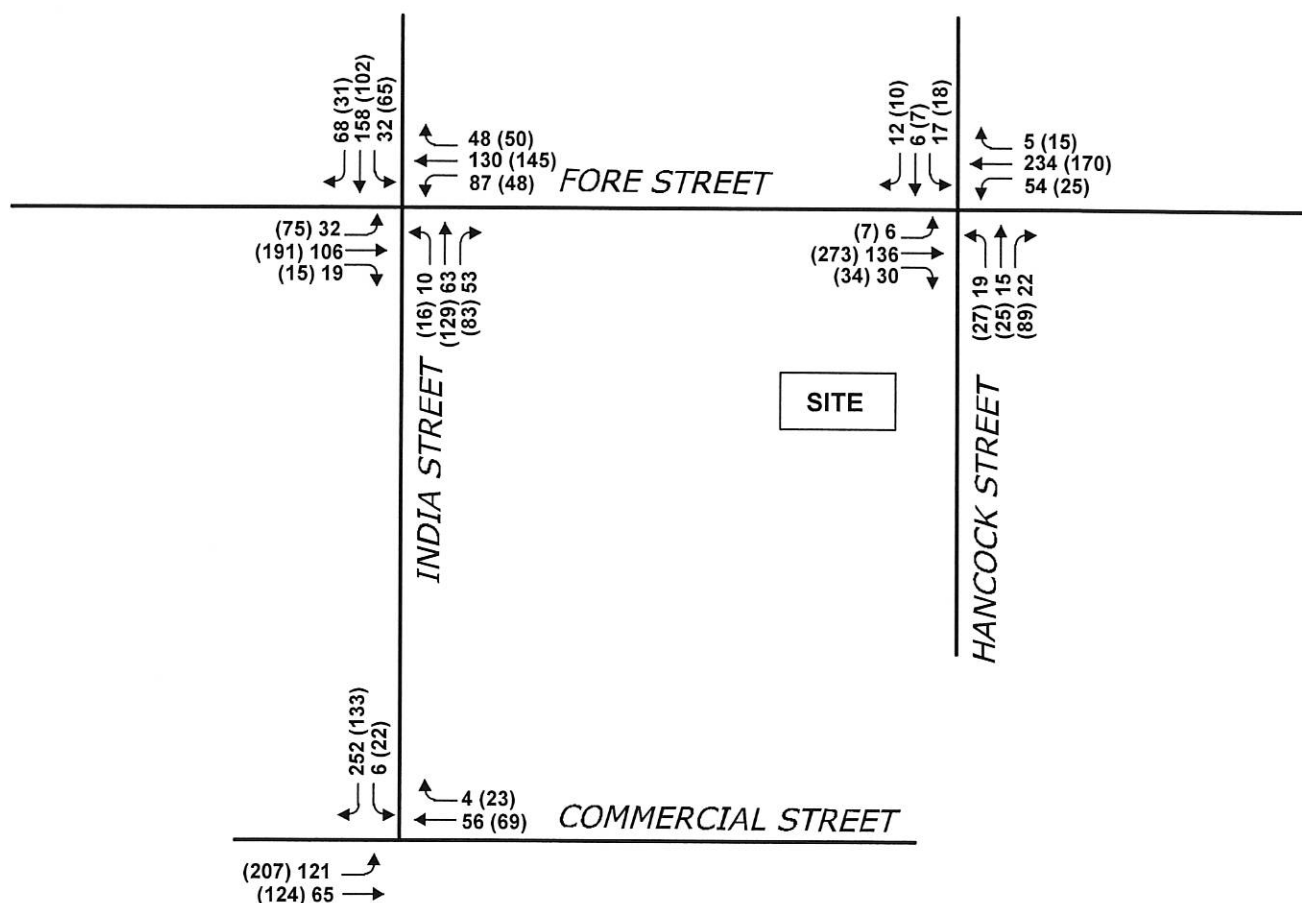
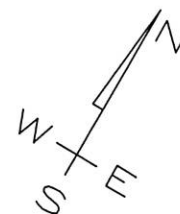
Figure No.

# 2



## PROPOSED GATEWAY HOTEL PORTLAND, MAINE

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 Draft: LAN      Date: OCT 2015  
 Checked: RED      File Name: 2969-TRAFF.dwg



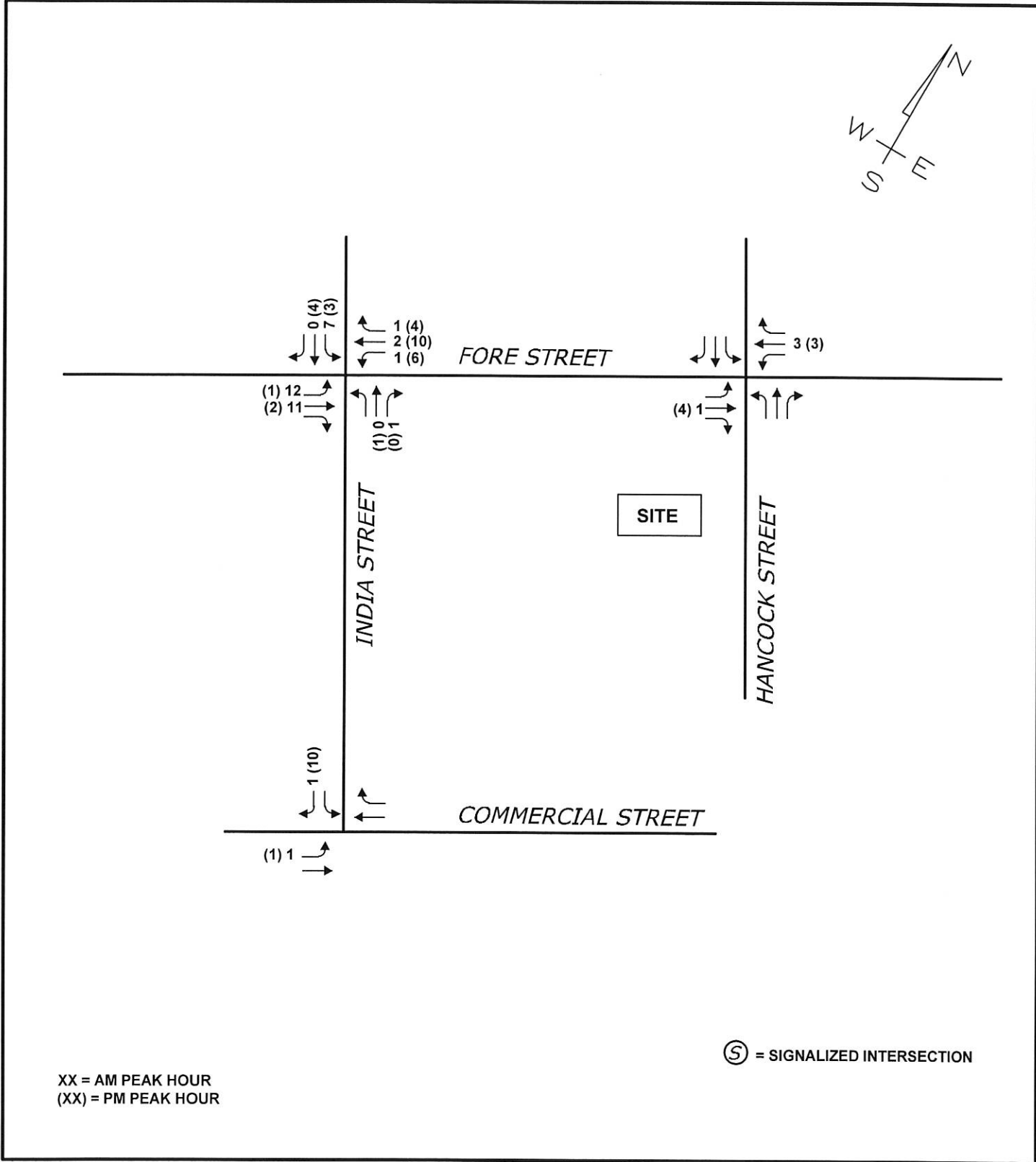
SEASONAL ADJUSTMENT:  $\frac{0.92}{0.88} = 1.045$

ANNUAL ADJUSTMENT: 1%/YEAR

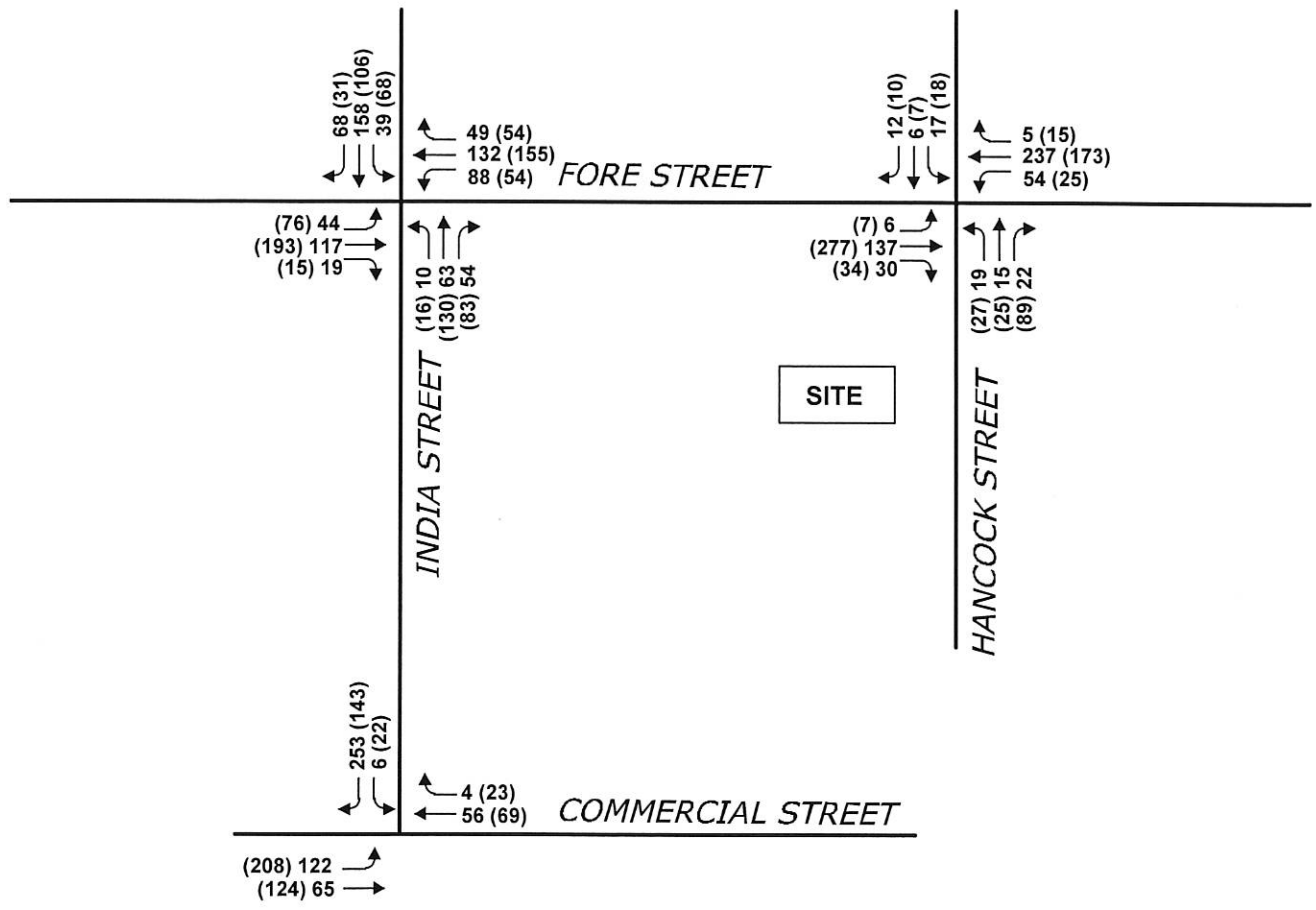
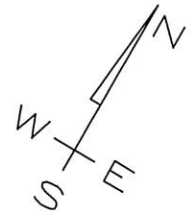
XX = AM PEAK HOUR  
(XX) = PM PEAK HOUR

Ⓢ = SIGNALIZED INTERSECTION

## PROPOSED GATEWAY HOTEL PORTLAND, MAINE



## PROPOSED GATEWAY HOTEL PORTLAND, MAINE



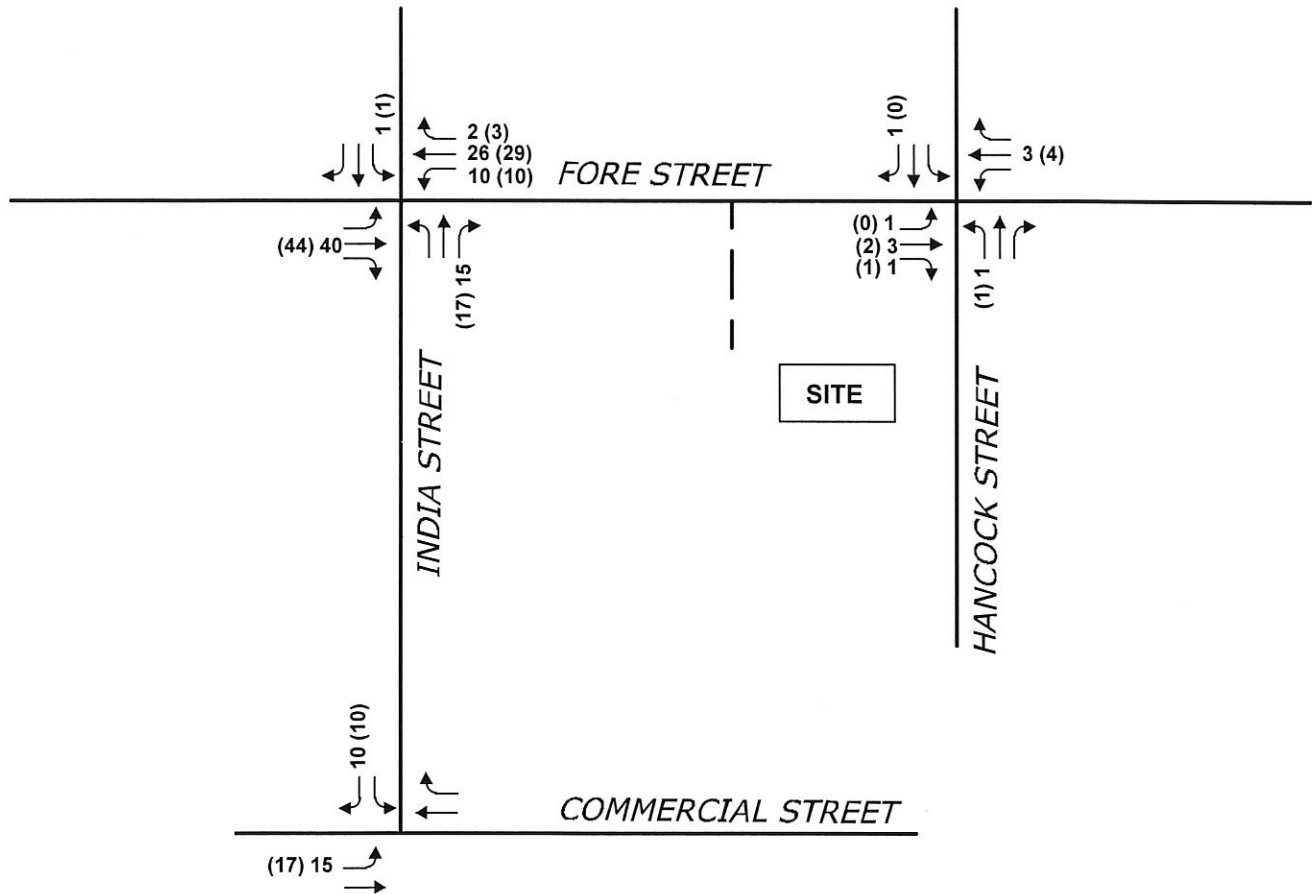
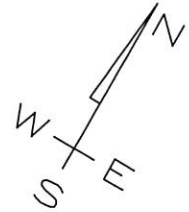
Ⓢ = SIGNALIZED INTERSECTION

XX = AM PEAK HOUR  
(XX) = PM PEAK HOUR

## PROPOSED GATEWAY HOTEL PORTLAND, MAINE

Design: ET      Scale: NONE  
 Draft: LAN      Date: OCT 2015  
 Checked: RED      File Name: 2969-TRAFF.dwg

# Trip Distribution and Assignment

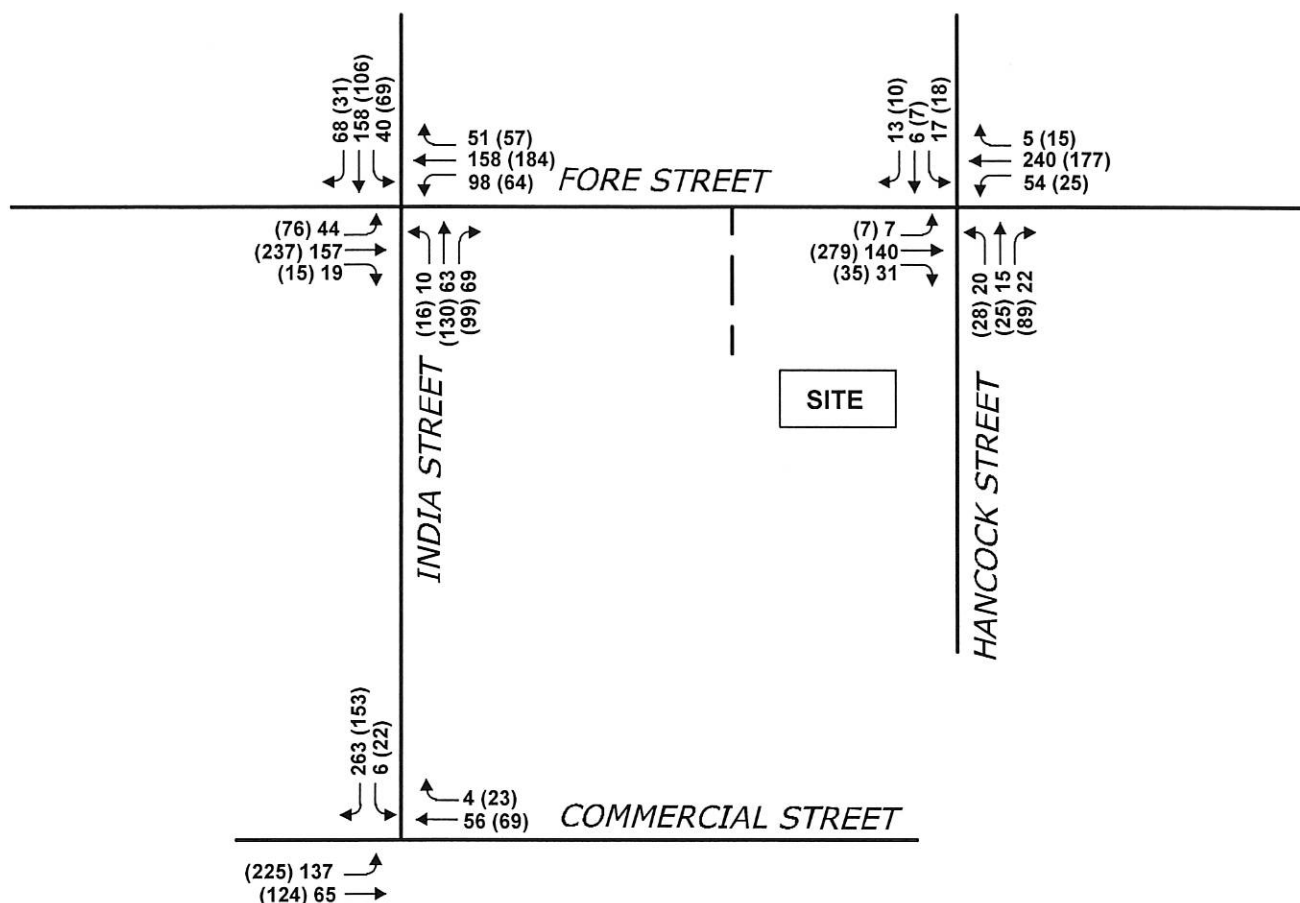


	AM	PM
IN	61	67
OUT	43	45
TOTAL	104	112

XX = AM PEAK HOUR  
(XX) = PM PEAK HOUR

Ⓢ = SIGNALIZED INTERSECTION

## PROPOSED GATEWAY HOTEL PORTLAND, MAINE



Ⓢ = SIGNALIZED INTERSECTION

XX = AM PEAK HOUR  
(XX) = PM PEAK HOUR

## PROPOSED GATEWAY HOTEL PORTLAND, MAINE

Design: ET      Scale: NONE  
Draft: LAN      Date: OCT 2015  
Checked: RED    File Name: 2969-TRAFF.dwg



## Section 2 Traffic Crashes

### 2.A. Crash Summary Data

Gorrill Palmer obtained the crash data from MaineDOT for the period of 2012-2014, the most recent period available.

In order to evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met in order to be classified as an HCL.

1. A critical rate factor of 1.00 or more for a three-year period. (A Critical Rate Factor {CRF} compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a rate of less than average) and;
2. A minimum of eight crashes over the same three-year period.

Based on the crash data provided by MaineDOT, there are two high crash locations within the study area. One is at the intersection of Fore Street with India Street and the other is Fore Street from India Street to Mountfort Street. To better evaluate the high crash locations and identify any correctable crash patterns, the police reports for these locations were requested from MaineDOT and collision diagrams were created (attached). The two locations are described in more detail as follows:

The intersection of Fore Street with India Street has a CRF of 2.48 and 10 crashes over the three-year period. It is a four legged intersection that is controlled by an all-way stop. Based on a review of the collision diagram there does not appear to be a clear and correctable crash pattern. Most of the collisions occurred because a driver failed to yield to another, ran a stop sign, or did not see the other vehicle. Field observations showed that in the northern corner of the intersection a fence with privacy screening blocked the line of sight of vehicles approaching the intersection from the east due to the location of the stop bars. We recommend the privacy screening be removed.

Fore Street from India Street to Mountfort Street has a CRF of 2.00 and 8 crashes over the three year period, five of which occurred at the intersection of Fore Street with Hancock Street. The intersection of Fore Street with Hancock Street is stop controlled, with stop signs on Hancock Street and free flowing traffic on Fore Street. Based on a review of the collision diagram there does not appear to be a clear and correctable crash pattern. Most collisions at the intersection of Hancock Street and Fore Street were caused by a driver failing to yield the right of way.

The crash history is provided in Attachment 2A.

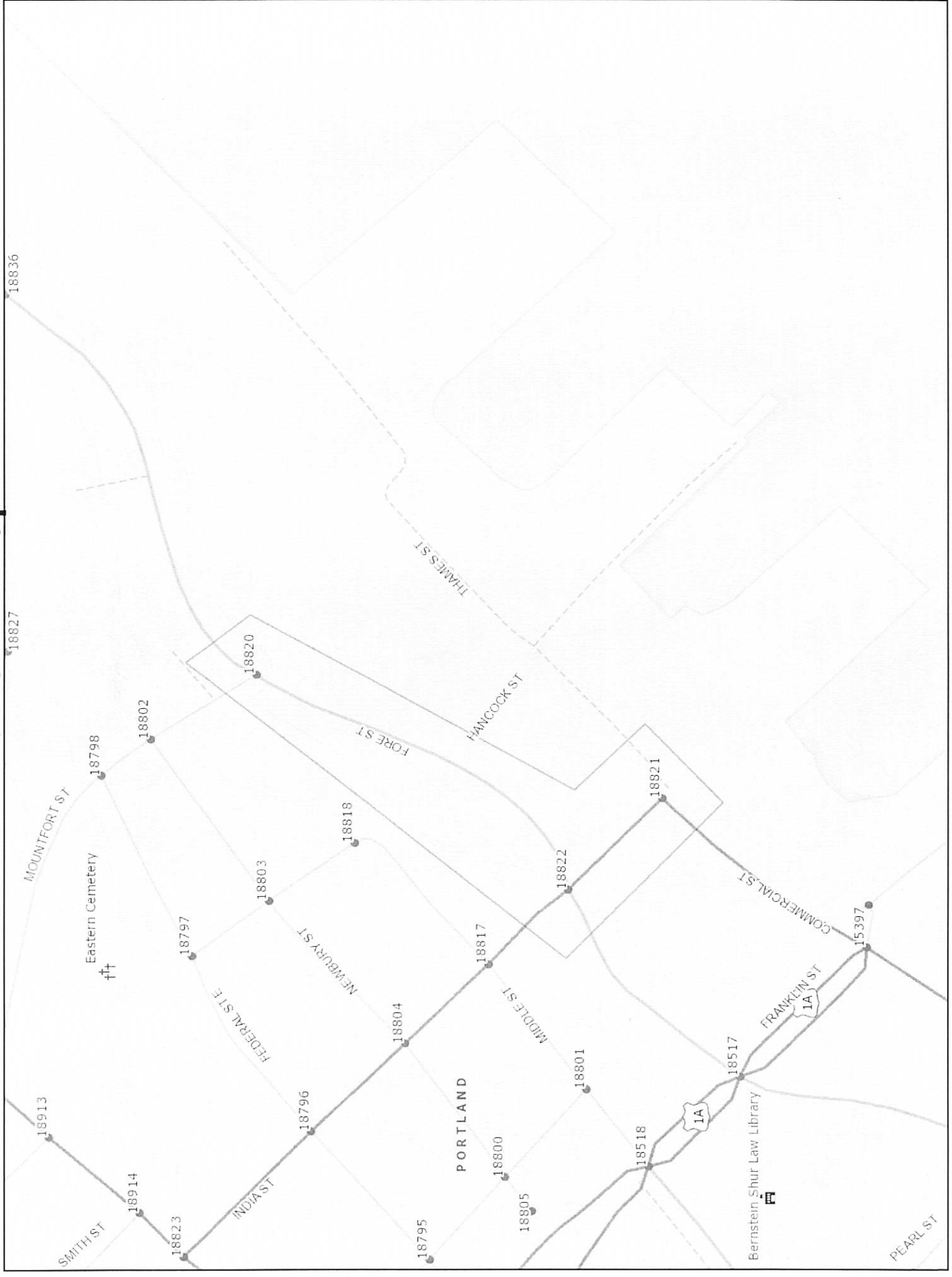
**2.B. Attachments**

Attachment 2A – Crash History, Collision Diagrams

# *Attachment 2A*

Crash History  
Collision Diagrams

# Maine DOT Map



# Crash Summary Report

## Report Selections and Input Parameters

REPORT SELECTIONS

Crash Summary I     Section Detail     Crash Summary II     1320 Public     1320 Private     1320 Summary

REPORT DESCRIPTION

Fore & India

REPORT PARAMETERS

Year 2012, Start Month 1 through Year 2014 End Month: 12

Route: 0560286

Start Node: 18820  
End Node: 18822

Start Offset: 0  
End Offset: 0

Exclude First Node  
 Exclude Last Node

Route: 0561000

Start Node: 18822  
End Node: 18821

Start Offset: 0  
End Offset: 0

Exclude First Node  
 Exclude Last Node

### Crash Summary I

**Nodes**

Node	Route - MP	Node Description	U/R	Total Crashes	K	A	B	C	PD	Injury	Percent Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
18820	0560286 - 0.28	Int of FORE ST, MOUNTFORT ST	2	0	0	0	0	0	0	0.0	1.900	0.00	0.41	0.00
18822	0561000 - 0.23	Int of FORE ST INDIA ST	2	10	0	0	0	2	8	20.0	3.428	0.97	0.39	2.48

Statewide Crash Rate: 0.12

Statewide Crash Rate: 0.14

Study Years: 3.00

**NODE TOTALS:** 10 0 0 0 0 2 8 20.0 5.328 0.63 0.34 1.86

# Crash Summary I

## Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section U/R Length	Total Crashes	K	A	B	C	PD	Injury Crashes	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
18820	18822	3106815 Int of FORE ST, MOUNTFORT ST	0 - 0.17	0560286 - 0.28 RD INV 05 60286	0.17	2	0	0	1	3	4	4	50.0	0.00310	859.01	430.44	2.00
18821	18822	3106816 Int of COMMERCIAL ST, INDIA ST	0 - 0.06	0561000 - 0.23 RD INV 05 61000	0.06	2	0	0	0	0	0	0	0.0	0.00119	0.00	646.62	0.00
<b>Section Totals:</b>																	
					0.23	8	0	0	1	3	4	4	50.0	0.00429	621.22	415.52	1.50
<b>Grand Totals:</b>																	
					0.23	18	0	0	1	5	12	12	33.3	0.00429	1397.74	582.90	2.40

Study Years: 3.00

# Crash Summary

## Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes			Crash Report	Crash Date	Crash Mile Point	Injury Degree		
						K	A	B					C	PD
18820	18822	3106815	0 - 0.17	0560286 - 0.28	8	0	0	1	3	4	2012-25405	04/01/2012	0.29	C
											2013-12679	05/27/2013	0.32	C
											2014-27535	10/13/2014	0.34	PD
											2013-27503	11/01/2013	0.37	B
											2012-48362	12/21/2012	0.37	C
											2014-5251	02/13/2014	0.37	PD
											2014-36077	12/19/2014	0.37	PD
18821	18822	3106816	0 - 0.06	0561000 - 0.23	0	0	0	0	0	0	2013-17702	07/20/2013	0.39	PD

**Totals:** 8 0 0 0 1 3 4



Maine Department Of Transportation - Traffic Engineering, Crash Records Section  
**Crash Summary II - Characteristics**

**Crashes by Day and Hour**

Day Of Week	Hour of Day												Un	Tot													
	AM						PM																				
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12		
SUNDAY	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
MONDAY	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEDNESDAY	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
THURSDAY	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
FRIDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	4
SATURDAY	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4
<b>Totals</b>	0	1	1	0	0	0	0	1	1	2	3	2	1	0	1	3	1	0	0	0	0	1	0	0	0	0	18

**Vehicle Counts by Type**

Unit Type	Total	Unit Type	Total
1-Passenger Car	25	23-Bicyclist	0
2-(Sport) Utility Vehicle	3	24-Witness	4
3-Passenger Van	1	25-Other	1
4-Cargo Van (10K lbs or Less)	1	<b>Total</b>	<b>41</b>
5-Pickup	4		
6-Motor Home	0		
7-School Bus	0		
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	0		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	1		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	1		

Maine Department Of Transportation - Traffic Engineering, Crash Records Section  
**Crash Summary II - Characteristics**

**Crashes by Driver Action at Time of Crash**

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	5	9	1	0	0	0	15
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	6	3	0	0	0	0	9
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	1	2	0	0	0	0	3
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	1	0	0	0	0	0	1
Improper Turn	1	0	0	0	0	0	1
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	1	0	0	0	0	0	1
Failed to Keep in Proper Lane	1	0	0	0	0	0	1
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	1	0	0	0	0	0	1
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	1	1	0	0	0	0	2
Unknown	0	0	0	0	0	0	0
<b>Total</b>	<b>18</b>	<b>15</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>34</b>

**Crashes by Apparent Physical Condition And Driver**

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	17	14	1	0	0	1	33
Physically Impaired or Handicapped	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	1	0	0	0	0	0	1
Other	0	1	0	0	0	0	1
<b>Total</b>	<b>18</b>	<b>15</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>35</b>

**Driver Age by Unit Type**

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	0	0	0	0	0	0
20-24	5	0	0	0	0	5
25-29	2	0	0	0	0	2
30-39	5	0	0	0	0	5
40-49	9	0	0	0	0	9
50-59	5	0	0	0	0	5
60-69	2	0	0	0	0	2
70-79	2	0	0	0	0	2
80-Over	4	0	0	0	0	4
Unknown	2	0	0	1	0	3
<b>Total</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>37</b>

## Crash Summary II - Characteristics

Most Harmful Event		Injury Data	
Most Harmful Event	Total	Severity Code	Number Of Injuries
1-Overturn / Rollover	0	K	0
2-Fire / Explosion	0	A	0
3-Immersion	0	B	1
4-Jackknife	0	C	5
5-Cargo / Equipment Loss Or Shift	0	PD	12
6-Fell / Jumped from Motor Vehicle	0	<b>Total</b>	<b>18</b>
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	1		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	30		
14-Parked Motor Vehicle	3		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post Pole or Support	0		
<b>Total</b>	<b>36</b>		<b>7</b>

Most Harmful Event		Injury Data	
Most Harmful Event	Total	Severity Code	Number Of Injuries
38-Other Fixed Object (wall, building, tunnel, etc.)	0		
39-Unknown	2		
40-Gate or Cable	0		
41-Pressure Ridge	0		
<b>Total</b>	<b>2</b>		<b>0</b>

Traffic Control Devices		Road Character	
Traffic Control Device	Total	Road Grade	Total
1-Traffic Signals (Stop & Go)	2	1-Level	15
2-Traffic Signals (Flashing)	0	2-On Grade	1
3-Advisory/Warning Sign	0	3-Top of Hill	0
4-Stop Signs - All Approaches	8	4-Bottom of Hill	2
5-Stop Signs - Other	5	5-Other	0
6-Yield Sign	0	<b>Total</b>	<b>18</b>
7-Curve Warning Sign	0		
8-Officer, Flagman, School Patrol	0		
9-School Bus Stop Arm	0		
10-School Zone Sign	0		
11-R.R. Crossing Device	0		
12-No Passing Zone	0		
13-None	3		
14-Other	0		
<b>Total</b>	<b>18</b>		

Traffic Control Devices		Light Condition	
Traffic Control Device	Total	Light Condition	Total
1-Traffic Signals (Stop & Go)	2	1-Daylight	14
2-Traffic Signals (Flashing)	0	2-Dawn	0
3-Advisory/Warning Sign	0	3-Dusk	0
4-Stop Signs - All Approaches	8	4-Dark - Lighted	4
5-Stop Signs - Other	5	5-Dark - Not Lighted	0
6-Yield Sign	0	6-Dark - Unknown Lighting	0
7-Curve Warning Sign	0	7-Unknown	0
8-Officer, Flagman, School Patrol	0	<b>Total</b>	<b>18</b>
9-School Bus Stop Arm	0		
10-School Zone Sign	0		
11-R.R. Crossing Device	0		
12-No Passing Zone	0		
13-None	3		
14-Other	0		
<b>Total</b>	<b>18</b>		

Maine Department Of Transportation - Traffic Engineering, Crash Records Section  
**Crash Summary II - Characteristics**

**Crashes by Year and Month**

Month	2012	2013	2014	Total
JANUARY	0	0	0	0
FEBRUARY	0	0	2	2
MARCH	0	0	0	0
APRIL	2	0	1	3
MAY	0	2	0	2
JUNE	0	1	0	1
JULY	1	1	1	3
AUGUST	0	0	0	0
SEPTEMBER	1	0	0	1
OCTOBER	0	0	1	1
NOVEMBER	0	1	0	1
DECEMBER	2	0	2	4
<b>Total</b>	<b>6</b>	<b>5</b>	<b>7</b>	<b>18</b>

Report is limited to the last 10 years of data.

## Crash Summary II - Characteristics

### Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End / Sideswipe	0	1	0	2	0	0	0	0	0	0	0	0	0	3
Head-on / Sideswipe	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Intersection Movement	0	0	0	8	0	4	0	0	0	0	0	0	0	12
Pedestrians	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	1	0	0	0	0	0	0	0	0	0	0	0	0	1
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>

# Crash Summary II - Characteristics

## Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
<b>Blowing Sand, Soil, Dirt</b>												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>Blowing Snow</b>												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>Clear</b>												
Dark - Lighted	2	0	0	0	0	0	0	0	0	0	0	2
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	13	0	0	0	0	0	0	0	0	0	0	13
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>Cloudy</b>												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

# Crash Summary II - Characteristics

## Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
<b>Fog, Smog, Smoke</b>												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>Other</b>												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>Rain</b>												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	2	2
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>Severe Crosswinds</b>												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Maine Department Of Transportation - Traffic Engineering, Crash Records Section  
**Crash Summary II - Characteristics**

**Crashes by Weather, Light Condition and Road Surface**

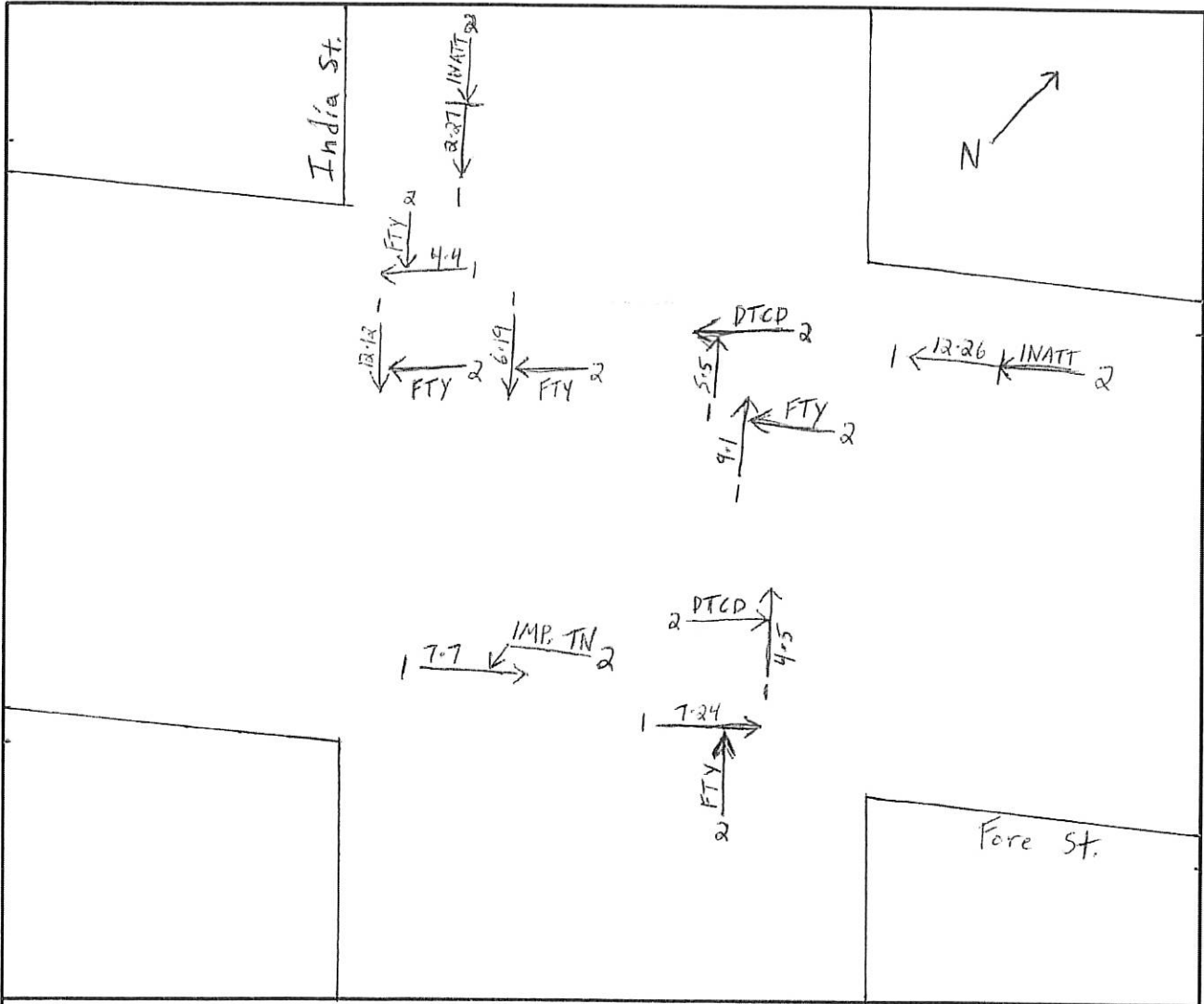
Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
<b>Sleet, Hail (Freezing Rain or Drizzle)</b>												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>Snow</b>												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>



# COLLISION DIAGRAM

SHEET 1 OF 2

LOCATION Fore St. + India St.  
 TOWN Portland NODE NO(S) 18822  
 YEARS REVIEWED 2012-2014 DATE PREPARED 11/25/15



CRITICAL RATE FACTOR \_\_\_\_\_ EQUIV. PROP. DAMAGE ACC/YEAR \_\_\_\_\_ ACC/MEV \_\_\_\_\_

- LIGHT**
- |                         |                         |                          |
|-------------------------|-------------------------|--------------------------|
| 1. DAWN (MORNING)       | 2. DAYLIGHT             | 3. DUSK (EVENING)        |
| 4. DARK (ST. LIGHTS ON) | 5. DARK (NO ST. LIGHTS) | 6. DARK (ST. LIGHTS OFF) |
| 7. OTHER                |                         |                          |
- ROAD SURFACE**
- |                           |                          |                             |
|---------------------------|--------------------------|-----------------------------|
| 1. DRY                    | 2. WET                   | 3. SNOW/SLUSH-SANDED        |
| 4. ICE/PACKED SNOW-SANDED | 5. MUDDY                 | 6. DEBRIS                   |
| 7. OILY                   | 8. SNOW/SLUSH-NOT SANDED | 9. ICE-PKD. SNOW-NOT SANDED |
| 10. OTHER                 |                          |                             |
- APPARENT CONTRIBUTING FACTORS - HUMAN**
- |                                      |                                     |                                      |
|--------------------------------------|-------------------------------------|--------------------------------------|
| 1. NO IMPROPER ACTION                | 2. FAIL TO YLD. RIGHT OF WAY        | 3. ILLEGAL UNSAFE SPEED              |
| 4. FOLLOW TOO CLOSE                  | 5. DISREGARD TRAFFIC CONTROL DEVICE | 6. IMPROPER PASS-OVERTAKING          |
| 7. DRIVING LEFT OF CENTER-NO PASSING | 8. IMP. UNSAFE LANE CHANGE          | 9. IMP. PARKING START/STOP           |
| 10. IMPROPER TURN                    | 11. UNSAFE BACKING                  | 12. NO SIGNAL OR IMP. SIGNAL         |
| 13. IMPEDING TRAFFIC                 | 14. DRIVER INATTENTION-DISTRACTION  | 15. DRIVER INEXPERIENCE              |
| 16. PEDEST. VIOLATION ERROR          | 17. PHYSICAL IMPAIRMENT             | 18. VISION OBSCURED-WINDSHIELD GLASS |
| 19. VISION OBSCURED-SUN/HEADLIGHTS   | 20. OTHER VISION OBSCUREMENT        | 21. OTHER HUMAN VIOLATION FACTOR     |
| 22. HIT AND RUN                      | 23. UNKNOWN                         |                                      |
- VEHICULAR**
- |                                    |                            |                          |
|------------------------------------|----------------------------|--------------------------|
| 41. DEFECTIVE BRAKES               | 42. DEFECTIVE TIRE/FAILURE | 43. DEFECTIVE LIGHTS     |
| 44. DEFECTIVE SUSPENSION OR FACTOR | 45. DEFECTIVE STEERING     | 50. OTHER VEHICLE DEFECT |
|                                    | 51. UNKNOWN                |                          |

**SYMBOLS**

ANGLE	↓	PEDESTRIAN	→ [P]	FATAL ACCIDENT	●
BACKING	←←←	REAR END	→ →	VEHICLE (MOVING)	→
FIXED OBJECT	→ [ ]	SIDE SWIPE	→ →	BICYCLE	--- [B]
HEAD ON	→ ←	TURNING MOVE	→ ↻	ANIMAL	--- [A]
OVERTURN	○	CHANGE LANE	→ ↻	SLED	--- [S]
PARKED VEHICLE	[ ]	OUT OF CONTROL	→ ~		

**WEATHER**

C = CLEAR	F = FOG	R = RAIN
SL = SLEET	S = SNOW	CL = CLOUDY
		XW = CROSS WINDS

**INJURIES**

K = FATAL	B = NON-INCAPACITATING
A = INCAPACITATING	C = POSSIBLE INJURY

S:\SHARED\COLLISION DIAGRAMS

# COLLISION DIAGRAM

SHEET 2 OF 2

LOCATION Fore St. + India St.

TOWN Portland

NODE NO(S) 18822

YEARS REVIEWED 2012 - 2014

DATE PREPARED 11/25/15

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
25529	4/4/12	9:19	-	-	-	-	2	1	2	
32068	7/7/12	14:30	-	-	-	-	2	1	10	
39611	9/1/12	11:36	-	-	-	-	2	1	2	
47032	12/12/12	11:04	-	-	-	-	2	1	2	
10953	5/5/13	20:45	-	-	-	1	4	1	5	
14824	6/19/13	7:58	-	-	-	-	2	1	2,5	
6966	2/27/14	8:04	-	-	-	1	2	1	14	
10553	4/5/14	1:25	-	-	-	-	4	2	5	Hit + Run
20067	7/24/14	9:45	-	-	-	-	2	1	2	
36981	12/26/14	15:40	-	-	-	-	2	1	4,14	

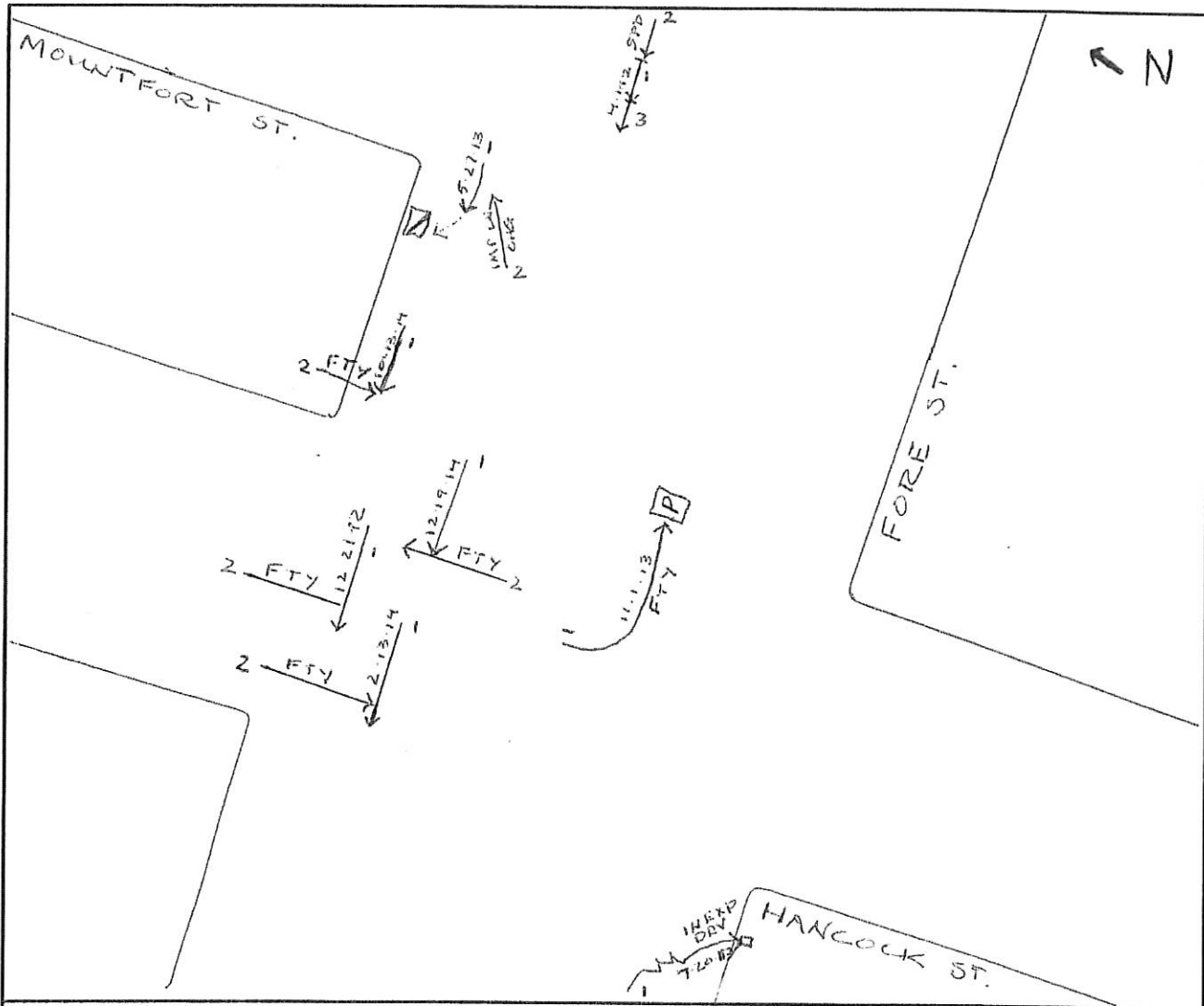
# COLLISION DIAGRAM

SHEET 1 OF 2

LOCATION Intersection of Fore Street & Hancock Street

TOWN Portland, Maine NODE NO(S) 18820 to 18822

YEARS REVIEWED 2012 - 2014 DATE PREPARED 11.30.2015



CRITICAL RATE FACTOR \_\_\_\_\_ EQUIV. PROP. DAMAGE ACC/YEAR \_\_\_\_\_ ACC/MEV \_\_\_\_\_

<p><b>LIGHT</b></p> <table border="0" style="width: 100%;"> <tr> <td>1. DAWN (MORNING)</td> <td>2. DAYLIGHT</td> <td>3. DUSK (EVENING)</td> </tr> <tr> <td>4. DARK (ST. LIGHTS ON)</td> <td>5. DARK (NO ST. LIGHTS)</td> <td>6. DARK (ST. LIGHTS OFF)</td> </tr> <tr> <td colspan="3">7. OTHER</td> </tr> </table> <p><b>ROAD SURFACE</b></p> <table border="0" style="width: 100%;"> <tr> <td>1. DRY</td> <td>2. WET</td> <td>3. SNOW/SLUSH-SANDED</td> </tr> <tr> <td>4. ICE/PACKED SNOW-SANDED</td> <td>5. MUDDY</td> <td>6. DEBRIS</td> </tr> <tr> <td>7. OILY</td> <td>8. SNOW/SLUSH-NOT SANDED</td> <td>9. ICE-PKD. SNOW-NOT SANDED</td> </tr> <tr> <td colspan="3">10. OTHER</td> </tr> </table> <p><b>APPARENT CONTRIBUTING FACTORS - HUMAN</b></p> <table border="0" style="width: 100%;"> <tr> <td>1. NO IMPROPER ACTION</td> <td>2. FAIL TO YLD. RIGHT OF WAY</td> <td>3. ILLEGAL UNSAFE SPEED</td> </tr> <tr> <td>4. FOLLOW TOO CLOSE</td> <td>5. DISREGARD TRAFFIC CONTROL DEVICE</td> <td>6. IMPROPER PASS-OVERTAKING</td> </tr> <tr> <td>7. DRIVING LEFT OF CENTER-NO PASSING</td> <td>8. IMP. UNSAFE LANE CHANGE</td> <td>9. IMP. PARKING START/STOP</td> </tr> <tr> <td>10. IMPROPER TURN</td> <td>11. UNSAFE BACKING</td> <td>12. NO SIGNAL OR IMP. SIGNAL</td> </tr> <tr> <td>13. IMPEDING TRAFFIC</td> <td>14. DRIVER INATTENTION-DISTRACTION</td> <td>15. DRIVER INEXPERIENCE</td> </tr> <tr> <td>16. PEDEST. VIOLATION ERROR</td> <td>17. PHYSICAL IMPAIRMENT</td> <td>18. VISION OBSCURED-WINDSHIELD GLASS</td> </tr> <tr> <td>19. VISION OBSCURED-SUN/HEADLIGHTS</td> <td>20. OTHER VISION OBSCUREMENT</td> <td>30. OTHER HUMAN VIOLATION FACTOR</td> </tr> <tr> <td>31. HIT AND RUN</td> <td>51. UNKNOWN</td> <td></td> </tr> </table> <p><b>VEHICULAR</b></p> <table border="0" style="width: 100%;"> <tr> <td>41. DEFECTIVE BRAKES</td> <td>42. DEFECTIVE TIRE/FAILURE</td> <td>43. DEFECTIVE LIGHTS</td> </tr> <tr> <td>44. DEFECTIVE SUSPENSION OR FACTOR</td> <td>45. DEFECTIVE STEERING</td> <td>50. OTHER VEHICLE DEFECT</td> </tr> <tr> <td colspan="3">51. UNKNOWN</td> </tr> </table>	1. DAWN (MORNING)	2. DAYLIGHT	3. DUSK (EVENING)	4. DARK (ST. LIGHTS ON)	5. DARK (NO ST. LIGHTS)	6. DARK (ST. LIGHTS OFF)	7. OTHER			1. DRY	2. WET	3. SNOW/SLUSH-SANDED	4. ICE/PACKED SNOW-SANDED	5. MUDDY	6. DEBRIS	7. OILY	8. SNOW/SLUSH-NOT SANDED	9. ICE-PKD. SNOW-NOT SANDED	10. OTHER			1. NO IMPROPER ACTION	2. FAIL TO YLD. RIGHT OF WAY	3. ILLEGAL UNSAFE SPEED	4. FOLLOW TOO CLOSE	5. DISREGARD TRAFFIC CONTROL DEVICE	6. IMPROPER PASS-OVERTAKING	7. DRIVING LEFT OF CENTER-NO PASSING	8. IMP. UNSAFE LANE CHANGE	9. IMP. PARKING START/STOP	10. IMPROPER TURN	11. UNSAFE BACKING	12. NO SIGNAL OR IMP. SIGNAL	13. IMPEDING TRAFFIC	14. DRIVER INATTENTION-DISTRACTION	15. DRIVER INEXPERIENCE	16. PEDEST. VIOLATION ERROR	17. PHYSICAL IMPAIRMENT	18. VISION OBSCURED-WINDSHIELD GLASS	19. VISION OBSCURED-SUN/HEADLIGHTS	20. OTHER VISION OBSCUREMENT	30. OTHER HUMAN VIOLATION FACTOR	31. HIT AND RUN	51. UNKNOWN		41. DEFECTIVE BRAKES	42. DEFECTIVE TIRE/FAILURE	43. DEFECTIVE LIGHTS	44. DEFECTIVE SUSPENSION OR FACTOR	45. DEFECTIVE STEERING	50. OTHER VEHICLE DEFECT	51. UNKNOWN			<p style="text-align: center;"><b>SYMBOLS</b></p> <table border="0" style="width: 100%;"> <tr> <td>ANGLE →</td> <td>PEDESTRIAN → [P]</td> <td>FATAL ACCIDENT ●</td> </tr> <tr> <td>BACKING →</td> <td>REAR END →</td> <td></td> </tr> <tr> <td>FIXED OBJECT → [ ]</td> <td>SIDE SWIPE →</td> <td>VEHICLE (MOVING) →</td> </tr> <tr> <td>HEAD ON →</td> <td>TURNING MOVE →</td> <td>BICYCLE - - - [B]</td> </tr> <tr> <td>OVERTURN →</td> <td>CHANGE LANE →</td> <td>ANIMAL - - - [A]</td> </tr> <tr> <td>PARKED VEHICLE [ ]</td> <td>OUT OF CONTROL →</td> <td>SLED - - - [S]</td> </tr> </table> <p><b>WEATHER</b></p> <table border="0" style="width: 100%;"> <tr> <td>C = CLEAR</td> <td>F = FOG</td> <td>R = RAIN</td> </tr> <tr> <td>SL = SLEET</td> <td>S = SNOW</td> <td>CL = CLOUDY</td> </tr> <tr> <td></td> <td></td> <td>XW = CROSS WINDS</td> </tr> </table> <p><b>INJURIES</b></p> <table border="0" style="width: 100%;"> <tr> <td>K = FATAL</td> <td>B = NON-INCAPACITATING</td> </tr> <tr> <td>A = INCAPACITATING</td> <td>C = POSSIBLE INJURY</td> </tr> </table>	ANGLE →	PEDESTRIAN → [P]	FATAL ACCIDENT ●	BACKING →	REAR END →		FIXED OBJECT → [ ]	SIDE SWIPE →	VEHICLE (MOVING) →	HEAD ON →	TURNING MOVE →	BICYCLE - - - [B]	OVERTURN →	CHANGE LANE →	ANIMAL - - - [A]	PARKED VEHICLE [ ]	OUT OF CONTROL →	SLED - - - [S]	C = CLEAR	F = FOG	R = RAIN	SL = SLEET	S = SNOW	CL = CLOUDY			XW = CROSS WINDS	K = FATAL	B = NON-INCAPACITATING	A = INCAPACITATING	C = POSSIBLE INJURY
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5. SHEET/ACCIDENT DIAGRAM/MS

# COLLISION DIAGRAM

SHEET 2 OF 2

LOCATION Intersection of Fore Street & Hancock Street  
TOWN Portland NODE NO(S) 18820 to 18822  
YEARS REVIEWED 2012 - 2014 DATE PREPARED 11.30.2015

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
00781	04.01.12	02:55	-	-	-	1	4	1	3	
003253	12.21.12	16:53	-	-	-	2	4	2	2	
001534	05.27.13	12:40	-	-	-	1	2	1	8	
002062	07.20.13	10:29	-	-	-	-	2	1	15	Student Driver
003090	11.01.13	15:30	-	1	-	-	2	1	2	
000550	02.18.14	10:03	-	-	-	-	2	2	2	
003007	10.13.14	10:09	-	-	-	-	2	1	2	
003756	12.19.14	15:09	-	-	-	-	2	1	2	

5 SHEETS COLLISION DIAGRAM.DWG

## Section 3 Development Entrances and Exits

### 3.A. Entrance and Exit Locations

Vehicular access to the site is via a full movement driveway onto Fore Street.

### 3.B. Plan View

Attachment IA of Section I shows the proposed site plan.

- Frontage Road – Fore Street
- Posted speed limit – 25 mph
- Sight lines – The posted speed limit on Fore Street is 25 mph, which requires a MaineDOT and City available sight distance of 200 feet. The available sight distance when exiting the site driveway exceeds 250 feet looking both left and right, so it exceeds both the City and MaineDOT requirements.

**Section 4**  
**Title, Right or Interest**

**4.A. Evidence of Title, Right, or Interest**

A copy of the Deed is included in Attachment 4A.

**4.B. Attachments**

Attachment 4A – Deed

# *Attachment 4A*

Deed

WARRANTY DEED

OCEAN GATEWAY GARAGE LLC, a Maine limited liability company with its principal place of business in Boston, County of Suffolk and Commonwealth of Massachusetts, for consideration paid, grants to PORTLAND NORWICH GROUP LLC, a Delaware limited liability company with its principal place of business in Sanibel, County of Lee and State of Florida, having a mailing address of 2330 Palm Ridge Road, # 305, Sanibel, FL 33957, WITH WARRANTY COVENANTS, the land, buildings, improvements and appurtenances thereof situated in Portland, County of Cumberland and State of Maine bounded and described as follows:

Parcel I – Development Parcel

MAINE REAL ESTATE TAX PAID

A certain parcel or land situated on the northeasterly side of India Street, the southerly side of Fore Street, the southwesterly side of Hancock Street Extension and the northwesterly side of Commercial Street Extension in the City of Portland, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the northeasterly sideline of India Street at land now or formerly of The Portland Water District, reference Book 3870, Page 101;

Thence N 43°-41'-10" E along said land a distance of 119.66 feet;

Thence N 46°-18'-50" W along said land a distance of 94.47 feet to the southeasterly sideline of Fore Street;

Thence N 57°-57'-41" E along said sideline a distance of 11.78 feet;

Thence N 41°-40'-33" E along said sideline a distance of 66.60 feet;

Thence northeasterly along a curve concave to the left having a radius of 434.53 feet an arc distance of 76.00 feet, said curve having a chord which bears N 35°-16'-03" E a distance of 75.90 feet;

Thence N 28°-51'-33" E along said sideline a distance of 45.63 feet to Hancock Street Extension;

Thence easterly along said Hancock Street Extension and along a curve concave to the right having a radius of 15.00 feet an arc distance of 25.49 feet, said curve having a chord which bears N 77°-32'-05" E a distance of 22.53 feet;

Thence S 53°-47'-21" E along said Hancock Street Extension a distance of 225.68 feet;



Thence southerly along said Hancock Street Extension and along a curve concave to the right having a radius of 12.00 feet an arc distance of 19.77 feet, said curve having a chord which bears S 6°-35'-54" E a distance of 17.61 feet;

Thence southwesterly along Commercial Street Extension and along a curve concave to the right having a radius of 971.00 feet an arc distance of 98.70 feet, said curve having a chord which bears S 43°-30'-16" W a distance of 98.65 feet;

Thence S 46°-24'-59" W along said Commercial Street Extension a distance of 130.24 feet;

Thence S 46°-41''-14" E along said Commercial Street Extension a distance of 2.07 feet to land shown on Amended Subdivision Plan Regarding The Longfellow, A Condominium and Adjacent Land of LRAR LLC dated January 30, 2015, recorded in said Registry in Plan Book 215, Page 369 (herein, the "Longfellow Property") (reference also being made to the First Amendment to Declaration of The Longfellow, A Condominium, recorded in said Registry in Book 32583, Page 232, and a Release Deed from GSB Corporation to LRAR LLC recorded in said Registry in Book 32583, Page 244);

Thence N 43°-10'-34" W along said Longfellow Property a distance of 63.64 feet;

Thence S 46°-38'-39" W along said Longfellow Property a distance of 126.40 feet to said India Street;

Thence N 46°-24'-57" W along said sideline a distance of 57.09 feet to the point of beginning.

The foregoing premises are conveyed herein subject to, and with the benefit of, all matters affecting such premises under the following instruments:

1. Easements and related rights described in the deed from Canadian National Railroad Company to the City of Portland, Maine dated August 30, 1993 and recorded in the Cumberland County Registry of Deeds in Book 10924, Page 84; as affected by the deed from LRAR LLC to the City of Portland dated December 27, 2006 and recorded in said Registry in Book 24709, Page 332, to the extent the foregoing may still affect the premises

2. Declaration of Covenants and Restrictions by and between Canadian National Railway Company and One India Street Associates acknowledged June 6, 1996 and recorded in the Cumberland County Registry of Deeds in Book 12565, Page 32, as affected by Declaration of One India Street Associates dated September 10, 1998 and recorded in said Registry in Book 14151, Page 258, as affected by a certain Declaration of Environmental Covenant granted by LRAR LLC to the Maine Department of Environmental Protection and joined in by GSB Corporation and Canadian National Railway Company dated August 21, 2015 and recorded in said Registry in Book 32544, Page 238.

3. Memorandum of Understanding by and between One India Street LLC and the City of Portland dated April 16, 2005 and recorded in the Cumberland County Registry of Deeds in Book 22673, Page 155, as affected by the deed from LRAR LLC to the City of Portland dated December 27, 2006 and recorded in said Registry in Book 24709, Page 332.

4. Such state of facts disclosed on ALTA/ACSM Land Title Survey on Fore Street and India Street, Portland, Maine Made for Portland Norwich Group, LLC by Owen Haskell, Inc. dated February 17, 2015, last revised October 28, 2015.

5. Rights and easements excepted and reserved in the deed from LRAR LLC to the City of Portland dated December 27, 2006 and recorded in said Registry in Book 24709, Page 332.

6. Easement Agreement granted by the City of Portland to LRAR LLC dated January 31, 2007 and recorded in said Registry of Deeds in Book 24811, Page 268.

7. License Agreement granted by the City of Portland to LRAR LLC dated January 31, 2007 and recorded in the Cumberland County Registry of Deeds in Book 24811, Page 278.

8. Easement Deed from the Portland Water District to LRAR LLC dated May 2, 2007 and recorded in said Registry in Book 25072, Page 79.

9. Easement Deed from the Portland Water District to LRAR LLC dated May 2, 2007 and recorded in said Registry in Book 25072, Page 83.

10. Commissioner's Certification of Completion of Remedial Actions under a Voluntary Response Action Plan dated July 16, 2015 and recorded in said Registry in Book 32544, Page 229

11. Declaration of Environmental Covenant granted by LRAR LLC to the Maine Department of Environmental Protection and joined in by GSB Corporation and Canadian National Railway Company dated August 21, 2015 and recorded in said Registry in Book 32544, Page 238.

FOR SOURCE OF TITLE, reference is hereby made to a Deed from LRAR LLC to the Grantor herein dated November 18, 2015, and recorded in said Registry in Book 32746, Page 285.

Parcel II – Ocean Gateway Garage

A certain parcel of land, together with the buildings and improvements thereon, situated on the northwesterly side of Fore Street in the City of Portland, County of Cumberland, and State of Maine, being shown as "Proposed Lot 3" on the Subdivision/Recording Plat On India Street and Fore Street, Portland, Maine, recorded in said Registry in Plan Book 207, Page 54, and bounded and described as follows:

Beginning on the northwesterly sideline of Fore Street at a point, said point bearing N 57° 57' 41" E along said sideline a distance of 63.85 feet from the intersection of said northwesterly sideline of Fore Street with the northeasterly sideline of India Street;

Thence N 48° 35' 31" W along land now or formerly of 25 India Street LLC a distance of 124.60 feet to land now or formerly of Micucci Brothers, reference Book 11090, Page 193;

Thence N 44° 40' 52" E along said land a distance of 116.57 feet;

Thence N 48° 38' 09" W along said land a distance of 9.95 feet;

Thence N 41° 27' 56" E along land now or formerly of Hancock & Middle LLC a distance of 153.97 feet;

Thence S 48° 33' 01" E along the southwesterly sideline of Hancock Street Extension a distance of 115.03 feet;

Thence southerly along a curve concave to the right having a radius of 15.00 feet an arc distance of 20.27 feet along said Hancock Street Extension to said northwesterly sideline of Fore Street, said curve having a chord which bears S 9° 51' 33" E a distance of 18.76 feet;

Thence S 28° 51' 33" W along said sideline a distance of 51.37 feet;

Thence southwesterly along said sideline and along a curve concave to the right having a radius of 384.90 feet an arc distance of 86.10 feet, said curve having a chord which bears S 35° 16' 03" W a distance of 85.92 feet;

Thence southwesterly along said sideline and along a curve concave to the right having a radius of 341.90 feet an arc distance of 97.07 feet, said curve having a chord which bears S 49° 48' 33" W a distance of 96.74 feet;

Thence S 57° 57' 41" W along said sideline a distance of 28.43 feet to the point of beginning, containing 37,626 square feet, more or less.

The foregoing premises are conveyed herein subject to, and with the benefit of, all matters affecting such premises under the following instruments:

1. Such state of facts as shown on survey entitled "ALTA/ACSM Land Title Survey on Fore Street and India Street, Portland, Cumberland County, Maine, made for Portland Norwich Group, LLC, prepared by Owen Haskell, Inc. dated February 17, 2015, revised October 28, 2015, Job No. 2015-021P.

2. State of Maine Department of Environmental Protection Maine Hazardous Waste Seepage and Solid Waste Management Act Findings of Fact and Order dated December 18, 1990 and recorded in said the Cumberland County Registry of Deeds in Book 9936, Page 205.

3. Declaration of Restrictive Covenant by Amdura Corporation dated as of March 9, 1992 and recorded in the Cumberland County Registry of Deeds in Book 9973, Page 122, as amended by Amended and Restated Declaration of Restrictive Covenant dated March 29, 2004 and recorded in said Registry in Book 21111, Page 26.

4. Easement Agreement granted by the City of Portland to Ocean Gateway Garage LLC dated January 31, 2007 and recorded in the said Registry in Book 24811, Page 264.

5. License Agreement granted by the City of Portland to Ocean Gateway Garage LLC dated January 31, 2007 and recorded in said Registry in Book 24811, Page 274.

6. Stack Easement granted by Ocean Gateway Garage LLC to Portland Water District dated May 2, 2007 and recorded in said Registry in Book 25071, Page 264.

7. Communications Equipment Agreement granted by Ocean Gateway Garage LLC to Portland Water District dated May 2, 2007 and recorded in said Registry in Book 25071, Page 267.

8. Easement reserved in the Quitclaim Deed with Covenant from Ocean Gateway Garage LLC to Hancock & Middle LLC dated May 25, 2007, and recorded in said Registry in Book 25165, Page 230.

9. License Agreement from the City of Portland to Ocean Gateway Garage LLC dated August 8, 2007 and recorded in said Registry in Book 25397, Page 266.

10. Subject to terms of Lease between Ocean Gateway Garage LLC and Chapin Realty LLC dated October 2007 and recorded in said Registry in Book 25688, Page 182.

11. Rights and easement granted by Ocean Gateway Garage LLC to Central Maine Power Company and Verizon New England, Inc. dated November 11, 2007 and recorded in said Registry in Book 25776, Page 76.

12. Rights and easement granted by Ocean Gateway Garage LLC to Northern Utilities, Inc. dated January 29, 2008 and recorded in said Registry in Book 25800, Page 225.

13. Landlord's Estoppel and Consent among Chapin Realty LLC, Ocean Gateway Garage LLC and Wells Fargo Bank National Association dated as of March 12, 2008 and recorded in said Registry in Book 25903, Page 261 as amended by Amended & Restated Landlord's Estoppel & Consent dated May 2011 and recorded in said Registry in Book 29002, Page 255 and further amended by Second Amended and Restated Landlord's Estoppel & Consent dated May 28, 2014 and recorded in said Registry in Book 31526, Page 277.

14. Abutter's Agreement between Ocean Gateway Garage LLC and Eight Middle Land Company LLC dated May 1, 2013 and recorded in said Registry in Book 30623, Page 318.

15. Abutter's Agreement between Ocean Gateway Garage LLC and East India Land Company LLC dated May 1, 2013 and recorded in said Registry in Book 30624, Page 21.
16. Subject to a life estate in a single unassigned parking space as set forth in Quitclaim Deed from Ocean Gateway Garage LLC to Fred M. Forsley dated May 1, 2013 and recorded in the Cumberland County Registry of Deeds in Book 30624, Page 59.
17. Subject to the terms of a certain Memorandum of Lease between Ocean Gateway Garage LLC and East India Land Company LLC dated as of May 1, 2013 and recorded in the Cumberland County Registry of Deeds in Book 30624, Page 39.
18. Subject to the terms of a certain Memorandum of Lease between Ocean Gateway Garage LLC and Eight Middle Land Company LLC dated as of May 1, 2013 and recorded in said Registry of Deeds in Book 30624, Page 41.
19. Rights and easements conveyed by deed from Ocean Gateway Garage LLC to 25 India Street LLC by deed dated as of May 25, 2007 and recorded in said Registry in Book 25165, Page 250, as affected or supplemented by a conveyance of easements by Joinder by Ocean Gateway Garage in a deed to East India Land Company LLC dated May 1, 2013, recorded in said Registry in Book 30624, Page 17.
20. Rights and easements conveyed by deed from Ocean Gateway Garage LLC to Hancock & Middle LLC by deed dated as of May 25, 2007, recorded in said Registry in Book 25165, Page 230, as affected or supplemented by a conveyance of easements by Ocean Gateway Garage by its Joinder in a deed from Hancock & Middle LLC to Eight Middle Land Company LLC, dated May 1, 2013, recorded in said Registry in Book 30623, Page 314.
21. Subject to the terms of a certain Memorandum of Parking Lease between Ocean Gateway Garage LLC and GSB Corporation dated September 9, 2015 and recorded in said Registry of Deeds in Book 32583, Page 247.
22. Commissioner's Certification of Completion of Remedial Actions under a Voluntary Response Action Plan dated October 21, 2015 and recorded in said Registry in Book 32701, Page 105.
23. Declaration of Environmental Covenant granted by Ocean Gateway Garage LLC to the Maine Department of Environmental Protection dated October 26, 2015 and recorded in said Registry of Deeds in Book 32701, Page 114.

FOR SOURCE OF TITLE, reference is hereby made to the Quitclaim Deed of Shipyard Brewing Company, LLC to Ocean Gateway Garage LLC dated September 29, 2006 recorded in the Cumberland County Registry of Deeds in Book 24419, Page 111.

IN WITNESS WHEREOF, Ocean Gateway Garage LLC has executed, acknowledged and delivered this instrument this 18<sup>th</sup> day of November, 2015.

OCEAN GATEWAY GARAGE LLC

By: Riverwalk Venture LLC, Its Manager

By: Intercontinental Fund IV Ocean Gateway LLC, Its Manager

By: Intercontinental Real Estate Investment Fund IV LLC, Its Manager

By: Intercontinental Real Estate Corporation, Its Manager

[Signature]  
Witness

By: [Signature]  
Peter Palandjian  
Its President and Treasurer

COMMONWEALTH OF MASSACHUSETTS

Suffolk, ss.

On this 18<sup>th</sup> day of November, 2015, before me, the undersigned notary public, personally appeared Peter Palandjian, President and Treasurer of Intercontinental Real Estate Corporation, proved to me through satisfactory evidence of identification, which was a Massachusetts driver's license, to be the person whose name is signed on the foregoing instrument, and acknowledged to me that he signed it voluntarily for its stated purpose and as the free act and deed of said Intercontinental Real Estate Corporation and in its stated capacities for each of Intercontinental Real Estate Investment Fund IV LLC, Intercontinental Fund IV Ocean Gateway LLC, Riverwalk Venture LLC and Ocean Gateway Garage LLC.



[Signature]  
Notary Public

Received  
Recorded Register of Deeds  
Nov 20, 2015 02:35:33P  
Cumberland County  
Nancy A. Lane

## Section 5 Public or Private Rights-of-Way

### 5.A. Public or Private Rights-of-Way

The site will have a full movement driveway onto Fore Street. No other accesses or public rights of way are anticipated.

## Section 6 Schedule

### 6.A. Schedule

The proposed project is assumed to be constructed and occupied by 2016.



**Driveway Capacity Analysis  
 Fore Street / Hancock Street All-Way Stop Analysis  
 Portland Gateway Hotel Project – Portland, ME  
 JN 2969**

**Date:** April 15, 2016  
**Subject:** Driveway Capacity and Fore / Hancock All-Way Stop Evaluation  
 Portland Gateway Hotel Project  
**To:** Ara Aftandilian, Nell Donaldson, Tom Errico  
**From:** Randy Dunton, Gorrill Palmer (JN 2969)

As requested at the April 5, 2016 Scoping Meeting for the Portland Gateway Hotel located in Portland, Maine, the following is an assessment of the operation of the site driveway / Fore Street intersection and the traffic control evaluation at the intersection of Fore Street / Hancock Street.

**Driveway Operation**

The proposed stop controlled site driveway is located on Fore Street, approximately 120 feet to the west of Hancock Street. Gorrill Palmer used Synchro/SimTraffic computer software to complete a capacity analysis for the site driveway. Level of service rankings are similar to the academic ranking system where an 'A' is very good with little control delay and an 'F' represents very poor conditions. The intersection was evaluated using both vehicles in and out of the driveway and the consideration of the valet service using the parking garage. The following table summarizes the relationship between control delay and level of service for unsignalized intersections:

**Level of Service Criteria for Unsignalized Intersections**

Level of Service	Control Delay per Vehicle (sec)
A	Less than 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

The results of the capacity analysis for the site driveway are summarized as follows:

**Level of Service Summary**

Approach	Level of Service	
	AM Postdevelopment	PM Postdevelopment
<b>Fore Street / Site Driveway</b>		
Site Driveway NB	A	A
Fore Street EB	A	A
Fore Street WB	A	A



As shown in the table, the site driveway is forecast to operate at high levels of service during both the AM and PM peak hours.

### **All-Way Stop Evaluation at Fore Street / Hancock Street**

At the April 5, 2016 Scoping Meeting the question was raised if the intersection of Fore Street / Hancock Street should be an all-way stop. The existing intersection is stop controlled, with stop signs on both Hancock Street approaches and marked crosswalks across the northbound and westbound approaches. The following is an evaluation of the intersection to determine if an all-way stop is warranted:

Source: Manual on Uniform Traffic Control Devices, Section 2B.07

Support: "Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrian, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal."

Criterion A: *"Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal."*

This intersection is not anticipated to require a traffic control signal, so **Criterion A is not met.**

Criterion B: *"Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions."*

As shown on the attached collision diagram, there were four collisions at this intersection, and three of those would be susceptible to correction by a multi-way stop. This is less than the required five crashes, so **Criterion B is not met.**

Criterion C: Minimum Volumes

1. *"The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and"*
2. *"The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but"*
3. *"If the 85<sup>th</sup>-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volumes warrants are 70 percent of the values provided in Items 1 and 2."*

The major street at this intersection is Fore Street and the minor street is Hancock Street.



1. The vehicular volume entering the intersection from Fore Street is 447 during the AM peak hour and 538 during the PM peak hour based on the 2016 Postdevelopment DHV. The peak hour volumes appear to meet the requirement, but since this Criterion is based on 8 hours of an average day, more information would be needed to make a final determination.
2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from Hancock Street is 103 during the AM peak hour and 210 during the PM peak hour based on the 2016 Postdevelopment DHV. Although this appears to meet the Criterion during the PM peak hour, the volumes for 8 hours of an average day are not expected to meet the Criterion.
3. The speed limit on Fore Street is 25 mph and the 85<sup>th</sup>-percentile speed does not exceed 40 mph, so this is not met.

Since both Items 1 and 2 must be met to warrant an all-way stop at the intersection, the traffic volumes **do not meet Criterion C.**

Based on this evaluation, none of the Criteria for an all-way stop are met for the intersection of Fore Street / Hancock Street, so an all-way stop is not required at this intersection.

## Baseline

## Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1231	1283	1274	1285	1179	1249
Vehs Exited	1235	1289	1268	1286	1180	1254
Starting Vehs	17	13	7	12	13	8
Ending Vehs	13	7	13	11	12	9
Travel Distance (mi)	185	196	190	192	178	188
Travel Time (hr)	11.7	12.4	12.1	12.3	11.3	12.0
Total Delay (hr)	3.3	3.5	3.5	3.5	3.2	3.4
Total Stops	1620	1722	1687	1693	1564	1656
Fuel Used (gal)	9.7	10.3	9.9	10.1	9.2	9.9

## Interval #0 Information Seeding

Start Time 6:57  
 End Time 7:00  
 Total Time (min) 3

Volumes adjusted by Growth Factors.  
 No data recorded this interval.

## Interval #1 Information Recording

Start Time 7:00  
 End Time 8:00  
 Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1231	1283	1274	1285	1179	1249
Vehs Exited	1235	1289	1268	1286	1180	1254
Starting Vehs	17	13	7	12	13	8
Ending Vehs	13	7	13	11	12	9
Travel Distance (mi)	185	196	190	192	178	188
Travel Time (hr)	11.7	12.4	12.1	12.3	11.3	12.0
Total Delay (hr)	3.3	3.5	3.5	3.5	3.2	3.4
Total Stops	1620	1722	1687	1693	1564	1656
Fuel Used (gal)	9.7	10.3	9.9	10.1	9.2	9.9

## Baseline

## 5: Fore Street &amp; India Street Performance by approach

Approach	EB	WB	SE	NW	All
Denied Del/Veh (s)	0.2	0.0	0.3	0.0	0.1
Total Del/Veh (s)	7.2	6.0	7.2	5.8	6.5

## 6: Commercial Street/Thames Street Performance by approach

Approach	EB	WB	SE	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.1
Total Del/Veh (s)	5.2	5.3	4.7	5.0

## 8: Fore Street &amp; Hancock Street Performance by approach

Approach	NB	SB	SE	NW	All
Denied Del/Veh (s)	0.0	0.3	0.1	0.2	0.2
Total Del/Veh (s)	0.3	0.8	5.4	5.4	1.3

## 11: Fore Street &amp; Site Driveway Performance by approach

Approach	NW	NE	SW	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	6.3	1.5	0.3	1.7

## Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	9.5

## Baseline

## Intersection: 5: Fore Street &amp; India Street

Movement	EB	WB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	109	124	118	72
Average Queue (ft)	36	54	56	38
95th Queue (ft)	76	95	93	60
Link Distance (ft)	330	160	191	219
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

## Intersection: 6: Commercial Street/Thames Street

Movement	EB	WB	SE
Directions Served	LT	TR	LR
Maximum Queue (ft)	92	59	70
Average Queue (ft)	51	30	39
95th Queue (ft)	79	53	60
Link Distance (ft)	298	302	219
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Intersection: 8: Fore Street &amp; Hancock Street

Movement	NB	SB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	34	66	39	74
Average Queue (ft)	2	11	14	28
95th Queue (ft)	16	42	33	57
Link Distance (ft)	112	210	220	205
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Baseline****Intersection: 11: Fore Street & Site Driveway**

Movement	NW	NE	SW
Directions Served	LR	TR	LT
Maximum Queue (ft)	98	4	25
Average Queue (ft)	39	0	1
95th Queue (ft)	69	3	12
Link Distance (ft)	105	160	112
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Network Summary**

Network wide Queuing Penalty: 0

## Baseline

## Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1466	1490	1540	1460	1447	1482
Vehs Exited	1465	1496	1534	1462	1446	1480
Starting Vehs	18	12	11	13	10	12
Ending Vehs	19	6	17	11	11	11
Travel Distance (mi)	229	231	233	227	223	229
Travel Time (hr)	14.8	15.3	15.5	15.0	14.5	15.0
Total Delay (hr)	4.7	5.0	5.1	4.9	4.7	4.9
Total Stops	1983	2015	2026	1951	1861	1967
Fuel Used (gal)	12.1	12.5	12.5	12.0	11.8	12.2

## Interval #0 Information Seeding

Start Time 6:57

End Time 7:00

Total Time (min) 3

Volumes adjusted by Growth Factors.

No data recorded this interval.

## Interval #1 Information Recording

Start Time 7:00

End Time 8:00

Total Time (min) 60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1466	1490	1540	1460	1447	1482
Vehs Exited	1465	1496	1534	1462	1446	1480
Starting Vehs	18	12	11	13	10	12
Ending Vehs	19	6	17	11	11	11
Travel Distance (mi)	229	231	233	227	223	229
Travel Time (hr)	14.8	15.3	15.5	15.0	14.5	15.0
Total Delay (hr)	4.7	5.0	5.1	4.9	4.7	4.9
Total Stops	1983	2015	2026	1951	1861	1967
Fuel Used (gal)	12.1	12.5	12.5	12.0	11.8	12.2



**Baseline****5: India Street & Fore Street Performance by approach**

Approach	EB	WB	SE	NW	All
Denied Del/Veh (s)	0.3	0.0	0.2	0.0	0.1
Total Del/Veh (s)	10.3	8.0	7.7	7.9	8.6

**6: Commercial Street/Thames Street & India Street Performance by approach**

Approach	EB	WB	SE	All
Denied Del/Veh (s)	0.4	0.1	0.0	0.2
Total Del/Veh (s)	6.2	4.9	4.4	5.5

**8: Fore Street & Hancock Street Performance by approach**

Approach	NB	SB	SE	NW	All
Denied Del/Veh (s)	0.0	0.2	0.1	0.2	0.1
Total Del/Veh (s)	0.3	0.7	6.1	6.2	2.0

**11: Fore Street & Site Driveway Performance by approach**

Approach	NW	NE	SW	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	8.8	1.7	0.4	2.4

**Total Network Performance**

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	11.5

## Baseline

## Intersection: 5: India Street &amp; Fore Street

Movement	EB	WB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	145	116	93	112
Average Queue (ft)	56	54	47	51
95th Queue (ft)	112	93	78	88
Link Distance (ft)	348	156	191	217
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

## Intersection: 6: Commercial Street/Thames Street &amp; India Street

Movement	EB	WB	SE
Directions Served	LT	TR	LR
Maximum Queue (ft)	111	55	65
Average Queue (ft)	64	32	33
95th Queue (ft)	94	48	48
Link Distance (ft)	298	302	217
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

## Intersection: 8: Fore Street &amp; Hancock Street

Movement	NB	SB	SE	NW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	59	39	92
Average Queue (ft)	1	8	16	42
95th Queue (ft)	11	34	33	72
Link Distance (ft)	114	210	220	204
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

**Baseline****Intersection: 11: Fore Street & Site Driveway**

Movement	NW	SW
Directions Served	LR	LT
Maximum Queue (ft)	95	36
Average Queue (ft)	41	2
95th Queue (ft)	70	15
Link Distance (ft)	138	114
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

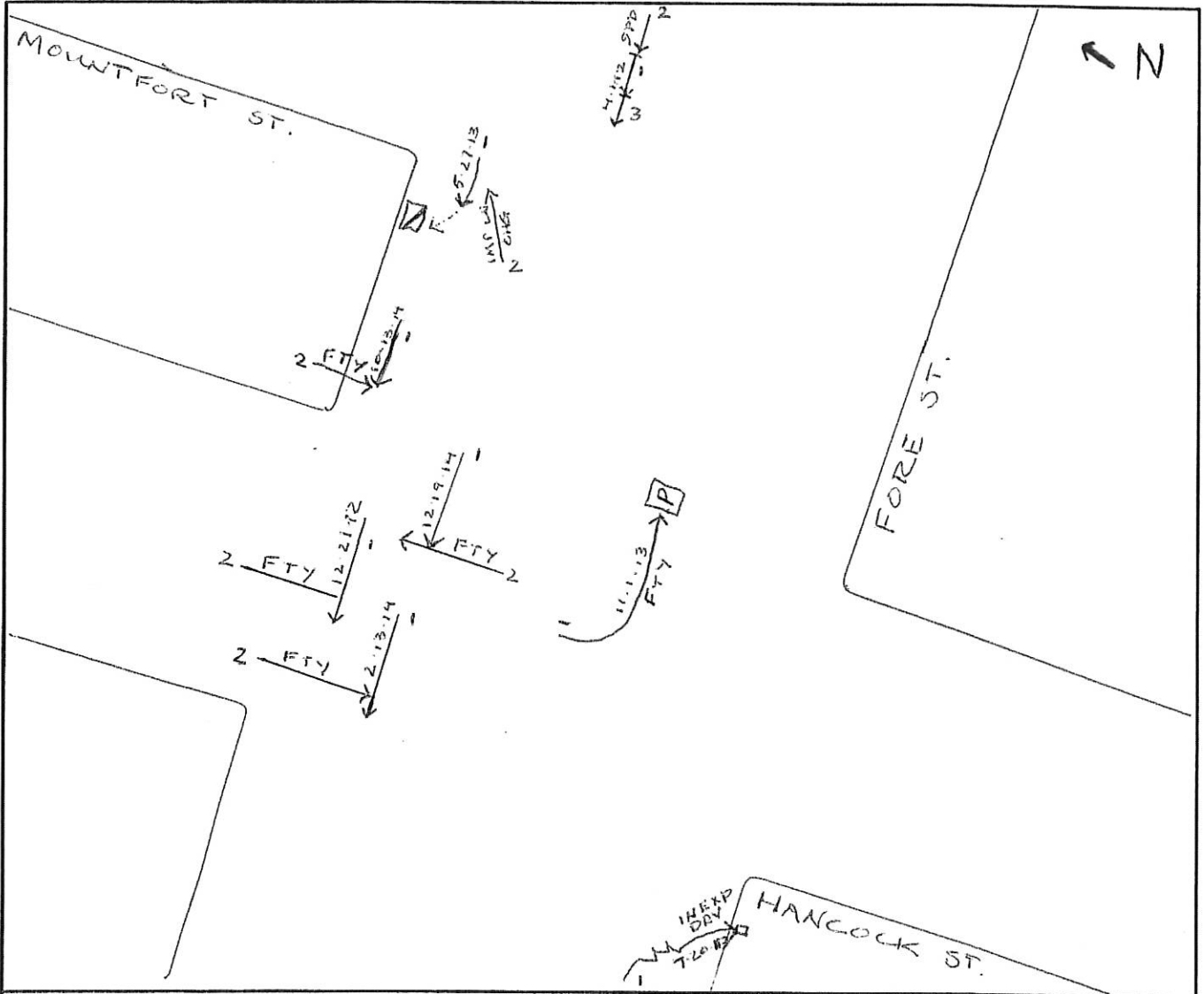
**Network Summary**

Network wide Queuing Penalty: 0

# COLLISION DIAGRAM

SHEET 1 OF 2

LOCATION Intersection of Fore Street & Hancock Street  
 TOWN Portland, Maine NODE NO(S) 18820 to 18822  
 YEARS REVIEWED 2012 - 2014 DATE PREPARED 11.30.2015

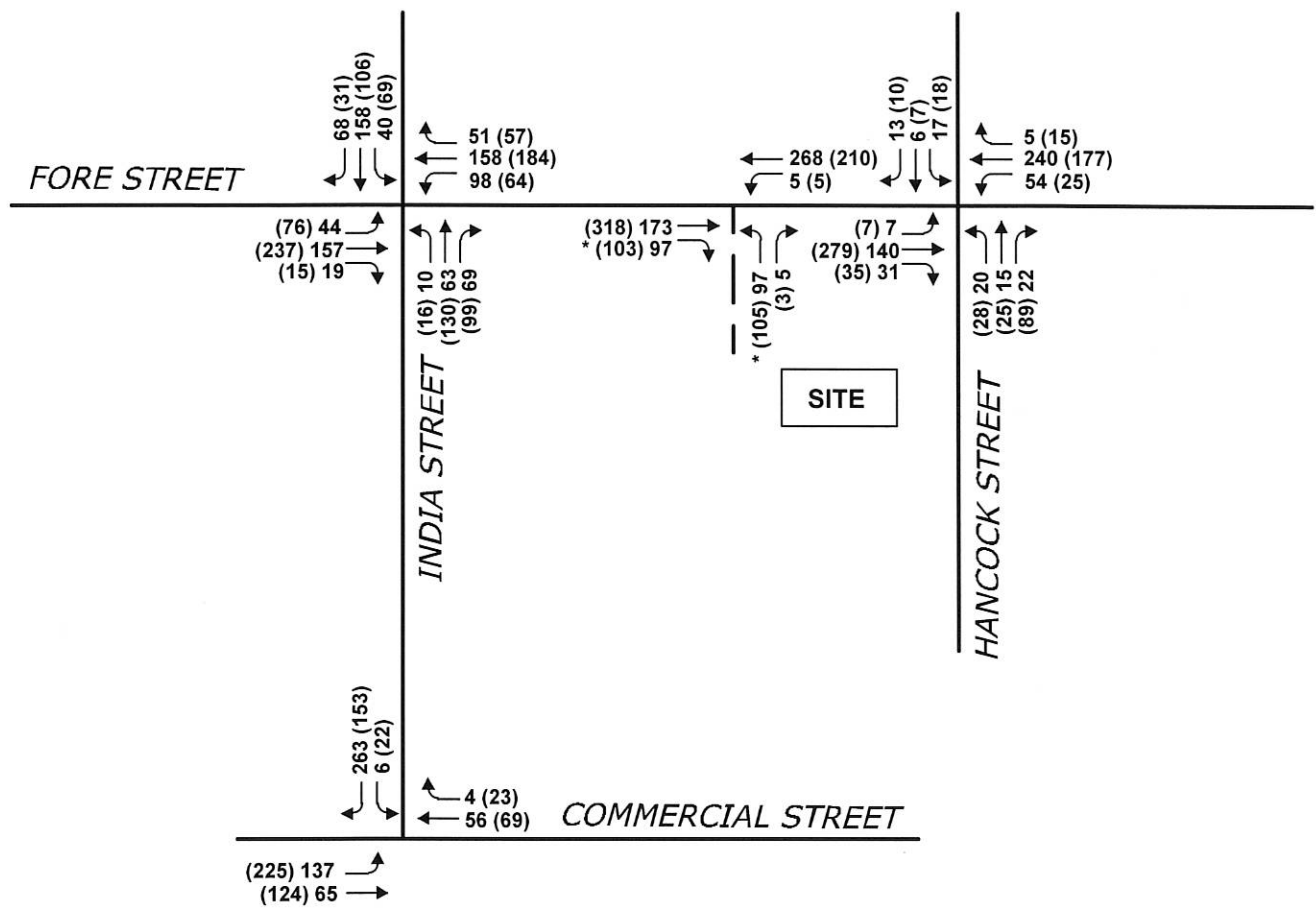
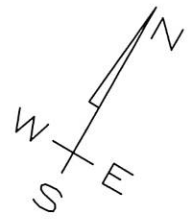


CRITICAL RATE FACTOR \_\_\_\_\_ EQUIV. PROP. DAMAGE ACC/YEAR \_\_\_\_\_ ACC/MEV \_\_\_\_\_

<p><b>LIGHT</b></p> <p>1. DAWN (MORNING)      2. DAYLIGHT      3. DUSK (EVENING)          4. DARK (ST. LIGHTS ON)      5. DARK (NO ST. LIGHTS)      6. DARK (ST. LIGHTS OFF)          7. OTHER</p> <p><b>ROAD SURFACE</b></p> <p>1. DRY      2. WET      3. SNOW/SLUSH-SANDED          4. ICE/PACKED SNOW-SANDED      5. MUDDY      6. DEBRIS          7. OILY      8. SNOW/SLUSH-NOT SANDED      9. ICE-PKD. SNOW-NOT SANDED          10. OTHER</p> <p><b>APPARENT CONTRIBUTING FACTORS - HUMAN</b></p> <p>1. NO IMPROPER ACTION      2. FAIL TO YLD. RIGHT OF WAY      3. ILLEGAL UNSAFE SPEED          4. FOLLOW TOO CLOSE      5. DISREGARD TRAFFIC CONTROL DEVICE          6. DRIVING LEFT OF CENTER-NO PASSING      7. IMPROPER PASS-OVERTAKING          8. IMP. UNSAFE LANE CHANGE      9. IMP. PARKING START/STOP      10. IMPROPER TURN          11. UNSAFE BACKING      12. NO SIGNAL OR IMP. SIGNAL      13. IMPEDING TRAFFIC          14. DRIVER INATTENTION-DISTRACTION      15. DRIVER INEXPERIENCE          16. PEDEST. VIOLATION ERROR      17. PHYSICAL IMPAIRMENT      18. VISION OBSCURED-WINDSHIELD GLASS          19. VISION OBSCURED-SUN/HEADLIGHTS          20. OTHER VISION OBSCUREMENT      30. OTHER HUMAN VIOLATION FACTOR          31. HIT AND RUN      51. UNKNOWN</p> <p><b>- VEHICULAR</b></p> <p>41. DEFECTIVE BRAKES      42. DEFECTIVE TIRE/FAILURE      43. DEFECTIVE LIGHTS          44. DEFECTIVE SUSPENSION OR FACTOR      45. DEFECTIVE STEERING      50. OTHER VEHICLE DEFECT          51. UNKNOWN</p>	<p style="text-align: center;"><b>SYMBOLS</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">ANGLE</td> <td style="width: 33%;">PEDESTRIAN</td> <td style="width: 33%;">FATAL ACCIDENT</td> </tr> <tr> <td>BACKING</td> <td>REAR END</td> <td></td> </tr> <tr> <td>FIXED OBJECT</td> <td>SIDE SWIPE</td> <td>VEHICLE (MOVING)</td> </tr> <tr> <td>HEAD ON</td> <td>TURNING MOVE</td> <td>BICYCLE</td> </tr> <tr> <td>OVERTURN</td> <td>CHANGE LANE</td> <td>ANIMAL</td> </tr> <tr> <td>PARKED VEHICLE</td> <td>OUT OF CONTROL</td> <td>SLED</td> </tr> </table> <p><b>WEATHER</b></p> <p>C = CLEAR      F = FOG      R = RAIN          SL = SLEET      S = SNOW      CL = CLOUDY          XW = CROSS WINDS</p> <p><b>INJURIES</b></p> <p>K = FATAL      B = NON-INCAPACITATING          A = INCAPACITATING      C = POSSIBLE INJURY</p>	ANGLE	PEDESTRIAN	FATAL ACCIDENT	BACKING	REAR END		FIXED OBJECT	SIDE SWIPE	VEHICLE (MOVING)	HEAD ON	TURNING MOVE	BICYCLE	OVERTURN	CHANGE LANE	ANIMAL	PARKED VEHICLE	OUT OF CONTROL	SLED
ANGLE	PEDESTRIAN	FATAL ACCIDENT																	
BACKING	REAR END																		
FIXED OBJECT	SIDE SWIPE	VEHICLE (MOVING)																	
HEAD ON	TURNING MOVE	BICYCLE																	
OVERTURN	CHANGE LANE	ANIMAL																	
PARKED VEHICLE	OUT OF CONTROL	SLED																	

8 SHEETS COLLISION DIAGRAM.DWG





\* INCLUDES TRAFFIC GOING TO AND FROM THE PARKING GARAGE

(S) = SIGNALIZED INTERSECTION

XX = AM PEAK HOUR  
(XX) = PM PEAK HOUR

## PROPOSED GATEWAY HOTEL PORTLAND, MAINE

**DRAFT**  
**Transportation Demand Management Plan**  
**Portland Gateway Hotel**  
**City of Portland, Maine**  
**March 2016**  
**JN 2969**

The Portland Norwich Group LLC provides this description of the proposed techniques of the Transportation Demand Management Plan for the proposed Portland Gateway Hotel located on the block defined by Fore Street, Hancock Street Extension, India Street, and Thames Street. This is in support of the City's transportation and environmental sustainability goals by encouraging and promoting bicycling, walking, and use of transit. The existing site has a building at 1 India Street which is proposed to remain. The proposed development is a hotel up to 180 rooms. There is no parking proposed on-site, only a circular drop-off area in front of the hotel. Parking for the hotel will be provided at the adjacent Ocean Gateway parking garage with valet service.

The site is located very close to Franklin Street, which is an access to I-295. It also has one bus stop adjacent to the site and several more within walking distance. The site is surrounded by a network of sidewalks. To reduce the impact of traffic during the peak hours of the adjacent street, the following is a description of the elements of the TDM Plan.

### **TDM Coordinator**

The Gateway Hotel will have a designated TDM Coordinator to administer the TDM Plan. The TDM Coordinator will be responsible for posting changes and updates to the METRO schedule, local UhaulCarShare information and car share information in the lobby, monitoring bike rack use, as well as providing other information relevant to promoting and encouraging the greater use of bicycling, walking, and bus-based transit.

### **Guest and Employee Survey**

The TDM Coordinator will be expected to promote interaction with the employees and guests staying at the hotel. In addition, the employees and guests can be surveyed to gain information on how the TDM Plan is working and suggestions to improve the Plan. The employees will be surveyed on a regular basis to gather thoughts and ideas on how to improve the TDM measures. In addition guests can be surveyed using cards left in their hotel rooms or using an online survey. The surveys will be electronically tabulated and will produce comparable data with each survey. The data will be used by employers and the TDM Coordinator to identify barriers to public transit, bicycle, and pedestrian transportation.



### *Parking and Trip Reduction Strategies*

The forecast trip generation for this project is 104 AM trip ends and 112 PM trip ends during the adjacent street peak hours of traffic. The forecast trip generation is based on ITE *Trip Generation*, Seventh Edition LUC - 312. The peak parking demand requirement for this development based on the City of Portland Ordinance is 45 vehicular parking spaces. Since the Hotel parking is provided in the Gateway Parking Garage, the Hotel will have to rent the spaces. The valet service is also an additional cost. As such, there is a monetary incentive for the Hotel to encourage other forms of transportation to reduce the number of spaces needed in the parking garage.

### *Education*

The TDM Coordinator will be responsible for providing information that includes; educational and promotional materials that identify the advantages and cost saving opportunities of using alternative transportation, promotion of the on-site bicycle racks, METRO stop schedules and stop locations in the area, information on the UHaulCarShare, and contact information for the TDM Coordinator.

### *METRO*

The site is closely situated to METRO Route 8, the Peninsula Loop, and is approximately a seven minute walk from a bus stop on Congress Street serving METRO Routes 1, 6, and 7. The bus schedules will be provided in the front lobby.

### *Bicycle Use*

The Gateway Hotel will provide on-site bicycle racks for 10 bicycles, based on the City Ordinance. The TDM Coordinator will monitor the bicycle rack use to identify if additional bike racks are warranted.

### *UHaulCarShare*

Maine is one of 21 states served by UHaulCarShare in the United States. In Portland the service provides a total of eight cars at seven locations. There is one UHaulCarShare vehicle located close to the site at 30 Commercial Street. This vehicle is available on an hourly or daily basis.

### *Airport Shuttle*

Since it is likely that many guests could be coming from the Portland Jetport, a van-based shuttle could be utilized to bring guests to or from the airport on a regular schedule.





### *Sidewalk Facilities*

One of the many benefits of being located in the downtown area is that sidewalks surround the proposed project encouraging walking to and from the site. The building will be accessed by a doors directly onto Fore Street and Thames Street, as well as doors at the center of the site, with sidewalks leading to both Fore and Thames Streets. In addition, a Fore Street improvement plan is being created to provide additional pedestrian accommodations such as ADA ramps.

### *Monitoring*

The TDM Coordinator will be responsible for monitoring the TDM Plan periodically over time and making adjustments to the plan when necessary. This monitoring will be through periodic surveys combined with direct observation and interaction with employees and guests. The observations will be compiled into a report that compares the results to the parking and trip reduction goals. The monitoring will be ongoing with update reports annually.

### *Incentives*

Incentives may be used by the hotel to encourage the employees and guests to reduce trip generation and parking demand, such as free or reduced price bus passes or coupons to restaurants and attractions within walking or bicycling distance.



**Preliminary  
Trip Generation and Parking Demands  
Portland Gateway Hotel Project – Portland, ME  
JN 2969**

**Date:** March 9, 2016  
**Subject:** Trip Generation and Parking Demand Summary  
Portland Gateway Hotel Project  
**To:** Ara Aftandilian  
**From:** Randy Dunton, Gorrill Palmer (JN 2969)

The following is a preliminary assessment of potential trip generation and parking demands for the proposed land uses in the Portland Gateway Hotel. The calculations are based on the Institute of Transportation Engineers' publication *Trip Generation*, Seventh Edition and the Portland City Ordinances. The assessment is for a Business Hotel of up to 180 rooms. The following is a summary of assumptions, trip generations, and parking demands:

**Trip Generation:**

*Assumptions:*

- 180 Rooms
- All Rooms Occupied

Based on these assumptions, the following trip generation was calculated:

- AM Peak Hour of the Generator: 101 trip ends
- AM Peak Hour of the Adjacent Street: 104 trip ends
- PM Peak Hour of the Generator: 103 trip ends
- PM Peak Hour of the Adjacent Street: 112 trip ends

Based on this forecast trip generation, a MaineDOT Traffic Movement Permit will be required since the trip generation is greater than 99 trip ends during a peak hour. The City of Portland has delegated review authority from MaineDOT so they will be able to review the Traffic Movement Permit Application at the City level.

**Parking Demand:**

The City of Portland Ordinance requires one parking space for every four rooms of a hotel. Based on the ordinance, the hotel would require 45 vehicular parking spaces.

*Bicycle Parking:*

Per City Ordinance, non-residential structures are required to provide bicycle accommodations in proportion to the vehicular parking. For residential structures 2 bicycle parking spaces are required for every 5 dwelling units and for non-residential structures 2 bicycle parking spaces are required for every



10 vehicle parking spaces. The Portland City Ordinance does not consider a hotel to be a residential building, so the bicycle parking is based on the non-residential structure requirement. Based on the ordinance, this project would require 10 bicycle parking spaces.

**Conclusions:**

This project is forecast to generate over 99 trip ends in a peak hour and will therefore require a MaineDOT Traffic Movement Permit. The Traffic Movement Permit Application can be reviewed and the permit issued by the City since they have delegated review authority. Based on the parking evaluation, this project is forecast to require approximately 45 vehicular parking spaces and 10 bicycle parking spaces to meet City ordinance.

It should be noted that this preliminary evaluation has not been reviewed by the City or their peer review engineer so is subject to change.

PARKING LEASE CAULCULATIONS  
AND LEASE AGREEMENT

5/9/16

Ocean Gateway Garage  
Portland, Maine

Total Number of Spaces 720

<u>CURRENT LEASES</u>	<u>Number of Spaces</u>
CIEE	145
Residence Inn	140
BayHouse	<u>13</u>
	298

<u>FUTURE/POTENTIAL LEASES</u>	<u>Number of Spaces</u>	
CIEE	145	
Residence Inn	100	
Portland Gateway Development Site	400	
One India Street (GSB)	24	
BayHouse	20	
185 Fore (Residential)	44	
18 Middle (Office)	<u>140</u>	
	873	121%

PARKING LEASE

THIS PARKING LEASE (the "Parking Lease") is entered into as of the 20 day of November, 2015 (the "Effective Date"), by and between 167 Fore Street LLC, a Maine limited liability company ("Owner") and Portland Norwich Group LLC, a Delaware limited liability company ("Tenant").

WITNESSETH:

WHEREAS, Owner owns a parcel of land of approximately thirty-seven thousand (37,000) square feet in area located at 161 Fore Street in the City of Portland, County of Cumberland, State of Maine, as further described in Exhibit A attached hereto and made a part hereof (the "Garage Parcel") on which is located the Ocean Gateway Garage, a parking garage containing approximately seven hundred twenty (720) spaces (the "Garage"); and

WHEREAS, Owner and Tenant desire to enter into this Parking Lease for the purpose of setting forth the specific terms and conditions of that certain arrangement for parking associated with the development and use by Tenant of a parcel of land, approximately 1.34 acres in area, located across from the City of Portland's Ocean Gateway Marine Terminal in Portland, Maine, on and between Fore Street, Hancock Street, and Commercial Street Extension, as more particularly described in Exhibit B attached hereto and made a part hereof (the "Development Parcel"); and

WHEREAS, Tenant may develop and construct hotel, office, retail, residential, and/or other lawful facilities on the Development Parcel and shall use the Parking Spaces, as defined below, for owners, tenants, renters, licensees, invitees, employees, and transient users of, the Development Parcel or any portion thereof (collectively, and as so defined, "Qualified Parkers").

NOW, THEREFORE, for good and valuable consideration including the mutual covenants and agreements herein, the receipt of which is hereby acknowledged, the parties hereby agree as follows:

1. Use of Parking Spaces.

(a) Commencing as of the Rent Commencement Date, as defined in Section 3 of this Parking Lease, Owner hereby leases to Tenant the right to use up to 400 parking spaces in the Garage subject to and limited by the following terms and conditions: (i) The parking spaces must be drawn down by Tenant in accordance with Tenant's Draw Down Notice, as defined in Section 1(e) of this Parking Lease, and (ii) The maximum number of parking spaces subject to being drawn down by Tenant's Draw Down Notice shall be the lesser of (x) 400 parking spaces, and (y) the minimum number plus one of parking spaces required by the City of Portland for the development of the Development Parcel in accordance with permitted zoning and land use ordinances and regulations for such Development Parcel (as so drawn down by Tenant's Draw Down Notice, the "Parking Spaces"). All such parking in the Garage shall be in accordance with and subject to the terms and conditions below and such reasonable rules and regulations

established from time to time by Owner governing the leasing and use of parking spaces by parkers generally in the Garage. Tenant understands and agrees that, in accordance with customary garage operations and management practices, specific parking spaces are not reserved or dedicated for Tenant or the Qualified Parkers, and the availability of any specific parking space is not guaranteed. The Parking Spaces are intended for use for automobile, motorcycle, van and SUV parking by the Qualified Parkers only, not for the parking of any large commercial trucks or other commercial vehicles or recreational vehicles, nor are the Parking Spaces to be used for vehicle storage.

(b) Owner shall make available to Tenant one (1) parking access card for each space designated in Tenant's Draw Down Notice, or, in lieu of parking access cards, such parking codes or other "keys" or means of convenient 24-hour access as shall be available from time to time, which shall in turn be made available to Tenant's Qualified Parkers using the Parking Spaces.

(c) It is understood and agreed that these spaces shall be for Tenant's Qualified Parkers only. The Parking Spaces may not be sublet or their use assigned, transferred or loaned to any person or entity who is not a Qualified Parker.

(d) The Parking Spaces shall be solely for the benefit of the Development Parcel and any portions thereof, and no other properties. This Parking Lease shall be not be assignable, in whole or in part, except in connection with the sale of the Development Parcel or in connection with the sale of any portion thereof. The Parking Spaces do not constitute estates in the land of Owner, but Owner shall take commercially reasonable steps necessary to ensure that Tenant's leasing rights are respected by any successor owner or mortgagee of the Garage.

(e) For Tenant to draw down Parking Spaces as contemplated in Section 1(a)(i) of this Parking Lease, Tenant shall give Owner not less than one (1) year's prior written notice of its intention to draw down a specific number of Parking Spaces, such number of Parking Spaces drawn down to be subject to the maximum number of Parking Spaces specified in this Parking Lease. Tenant's written draw down notice to Owner for the Parking Spaces ("Tenant's Draw Down Notice") shall specify a date when Tenant shall take possession of the Parking Spaces specified in Tenant's Draw Down Notice, which date shall be no later than ten (10) years following the Effective Date; accordingly, Tenant's right to draw down the allowable number of Parking Spaces must be exercised with respect to this Parking Lease within eight (8) years of the Effective Date.

(f) Notwithstanding anything to the contrary set forth herein, Tenant shall have the right to discontinue the use of some or all of the drawn down Parking Spaces (the "Discontinued Spaces") upon written notice to Owner to be given not less than one hundred eighty (180) days prior to such discontinuance, in which case Tenant shall no longer be required to pay rent as to said Discontinued Spaces. Tenant shall have no right to draw down any of the Parking Spaces as to which it has exercised its discontinuance right under this Section 1(f) and the Discontinued Spaces shall be no longer be available to Tenant under this Parking Lease. Notwithstanding the foregoing, however, in the event that Tenant is not in need of all currently drawn down Parking Spaces but does not wish to permanently discontinue the use thereof, Tenant shall have the right to permit the use of such Parking Spaces by third parties so long as (i) Tenant provides prior notice thereof to

Owner and Owner does not advise Tenant, within thirty (30) days following such notice, that Owner intends to use said Parking Spaces during the period of Tenant's non-use thereof, (ii) Tenant provides Owner with the names, license plate numbers and contact information for such temporary users, and (iii) any payments to Tenant by said third party users do not exceed the rent for such Parking Spaces paid by Tenant to Owner. In the event that Owner elects to use said Parking Spaces during Tenant's period of non-use thereof (x) Tenant's obligation to pay rent for said Parking Spaces hereunder shall be suspended while said Parking Spaces are used by Owner, and (y) Tenant may commence reuse of said Parking Spaces upon not less than thirty (30) days' notice to Owner.

(g) Tenant shall have the right, upon not less than one (1) year's written notice to Owner, to terminate this Parking Lease, in which case all related rights and obligations of Owner and Tenant hereunder shall cease and shall be of no further force and effect except for such obligations as shall by their express terms, survive termination of this Parking Lease.

2. Deposits. There shall be no deposit required under this Parking Lease, but Tenant shall pay to Owner customary fees and charges imposed by Owner for lost cards or replacement cards and/or reimbursement for out-of-pocket expenses arising therefrom.

3. Term. The initial term of this Parking Lease (the "Initial Term") shall be thirty (30) years from the Effective Date, with rent payments under Section 5 below commencing at the end of the applicable notice period specified in the initial Tenant Draw Down Notice (the "Rent Commencement Date"). Provided that Tenant is not in default hereunder at the time of extension, the Initial Term may be extended, upon nine (9) months written notice prior to the expiration of the Initial Term, for an additional thirty (30) year term (the "First Option Term"). Provided that Tenant is not in default hereunder at the time of extension, the First Option Term may be extended, upon nine (9) months written notice prior to the expiration of the First Option Term, for an additional thirty (30) year term (the "Second Option Term"). The Initial Term and any extension(s) thereof as provided in this Parking Lease is referred to herein as the "Term."

4. Monthly Rent.

(a) The monthly rent for each Parking Space shall be no more than the Average Monthly Parking Rate (as adjusted annually during the Term and during the Option Term or Terms by Owner) for month-to-month parking spaces located in the following parking lots located in Portland, Maine: (i) Ocean Gateway Parking Garage; (ii) Custom House Parking Garage; and (iii) Casco Bay Ferry Terminal Garage, provided that if at any time during the Term the monthly rate for each Parking Space is increased by more than twenty percent (20%) during any twelve (12) month period, Tenant may terminate this Lease upon one hundred eighty (180) days written notice to Owner.

(b) In the event that the Average Monthly Parking Rate is not ascertainable, the rent shall be based upon the fair market value of covered parking spaces in the Portland, Maine "Old Port" area (i.e., the area bounded by Congress Street, Franklin Street, the water and Temple/Union Street).



(c) The Average Monthly Parking Rate shall be set at the Rent Commencement Date and may be increased on June 1<sup>st</sup> of each year of the Term, provided, however, that Owner shall deliver to Tenant not less than thirty (30) days prior written notice of any increase in such rate.

5. Payment. Beginning on the Rent Commencement Date, Tenant shall pay Owner the amount due for the Parking Spaces by one check or wire transfer to be received by Owner in advance on or before the first day of each month at Owner's address hereinafter set forth or to such other address as may be designated by Owner in writing to Tenant from time to time. If the Rent Commencement Date does not fall on the first day of the month, then pro-rated rent for the first partial month shall be due on the Rent Commencement Date.

6. Late Payment. If the monthly payment for the Parking Spaces is not received by Owner by the first day of each calendar month or on the next business day if the first day of the month falls on a weekday or legal holiday, Tenant shall pay Owner (a) all unpaid amounts due with respect to the Parking Spaces, and (b) a late payment charge in the amount of five percent (5%) of the monthly payment for the Parking Spaces. Notwithstanding the foregoing, Tenant shall not be required to make any late payment charge for the first past due payment event in any twelve (12) month period if such past due payment is otherwise paid within fifteen (15) days of written notice from Owner of such non-payment. If there is more than one such late payment event in a twelve (12) month period, Tenant shall pay Owner the late payment charges set forth in this Section 6 for such additional events. In the event that the payment of any amounts due from Tenant is not received by Owner within thirty (30) days of delivery of written notice from Owner to Tenant of such non-payment, then Owner shall have each and every remedy provided by law including the right to immediately terminate this Parking Lease and evict Tenant in a forcible entry and detainer ("FED") action for non-payment of rent, provided that if there is any dispute regarding the amount of rent due or whether rent has been paid on time, then any FED action shall only be started after arbitration as provided in Section 15 below. Unless the matter is submitted to arbitration, Owner shall also be entitled to a reimbursement of its reasonable attorneys' fees incurred in such FED action. By way of clarification, if there is a dispute over the amount of rent due or whether rent was timely paid, it shall be handled under Section 15 below.

7. Registration of Vehicles. All vehicles utilizing Parking Spaces shall be registered with Owner on forms provided to Tenant by Owner. No fees or charges shall be assessed for the registration of vehicles. Tenant agrees to exercise reasonable efforts to keep a current log of names of users and license numbers for employees using Parking Spaces and, if requested by Owner, provide updated copies of the log to Owner for inspection.

8. Intentionally Omitted.

9. Insufficient Parking Spaces. Owner agrees to use commercially reasonable good faith efforts to ensure that there are sufficient parking spaces available in the Garage to satisfy the rights of Tenant hereunder. In the event there exists insufficient parking spaces in the Garage to meet the requirements of this Parking Lease at any time Tenant exercises its rights to use parking spaces hereunder, Owner shall be obligated to terminate a sufficient number of monthly tenant-at-will parkers in the Garage within thirty (30) days thereafter as shall, in Owner's reasonable judgment, ensure the regular availability of sufficient parking spaces to meet such requirements of

Tenant hereunder. If Tenant or any person entitled to a Parking Space hereunder is unable to find a parking space in the Garage during allowable Parking Times, Tenant shall notify the Owner of the Garage, or Owner's garage manager as designated from time to time by Owner, within two (2) hours thereof (if between 9:00 AM and 5:00 PM) or if after 5:00 PM then by 10:00 AM on the day after Tenant or any person entitled to a Parking Space hereunder is unable to find a parking space in the Garage, following which Tenant shall be entitled to a credit against the next month's parking fee in an amount equal to the hourly parking rate at the Garage times eight (8) for each day that an employee of Tenant is unable to find a parking space, unless Owner can reasonably establish and document that a parking space was available in the Garage. The credits against parking fees set forth in this section do not relieve Owner of its obligation to use commercially reasonable good faith efforts to ensure that sufficient spaces are available, as provided herein. In the event Owner is not able to satisfy its obligations under this Section 9 by terminating a sufficient number of monthly tenant-at-will parking patrons within the aforesaid thirty (30) days, the parties shall immediately commence good faith negotiations to reach a mutually satisfactory resolution to the issue of insufficient parking spaces within thirty (30) days.

10. Maintenance and Repair of Garage. Subject to the provisions of Section 13 below, Owner shall maintain the Garage in good condition and repair and suitable for the safe parking of vehicles. Owner shall not be deemed in default in any of its obligations under this Parking Lease during any period in which all or any significant portion of the Garage is closed to all parkers for required maintenance and repairs, provided that except in cases of emergency Owner provides Tenant with seven (7) days written notice of such closing of all or any significant portion of the Garage (i.e., more than 75 spaces at any one time), or for any other reasons beyond the control of Owner. Owner shall use commercially reasonable efforts to undertake such maintenance and repair during such times as shall, in the reasonable judgment of Owner, minimally interfere with parking in the Garage. If such maintenance shall cause the Parking Spaces or some significant portion thereof to be unavailable for three (3) or more consecutive days, Tenant shall be entitled to a pro rata credit against the monthly parking fee to the extent of any adverse impact of the availability of the parking spaces demised under this Lease. In the event Owner is not able to satisfy its obligations under this Section 10 within the aforesaid time frame, the parties shall immediately commence good faith negotiations to reach a mutually satisfactory resolution to the issue of available parking spaces within thirty (30) days.

11. Insurance. Each party shall maintain or cause to be maintained commercial general liability insurance, the form of which and amount of coverage to be reasonably acceptable to the other party but at any rate not less than \$2,000,000 combined single limit. Each party further agrees to maintain such insurance with acceptable coverage limits during the term of this Parking Lease following the Rent Commencement Date. Each party shall be listed as an additional insured on the other's liability policy to the extent possible so long as doing so does not result in an increase in the premium under said policies.

12. Damage to Vehicles or Personal Property. Owner shall not be responsible for any damage or loss to vehicles or personal property belonging to any person using any of the Parking Spaces, except for such damage or loss resulting from the gross negligence or willful misconduct of Owner, its employees, agents or independent contractors.

13. Cessation of Garage Business. Owner shall not be deemed in default in any of its obligations under this Parking Lease in the event Owner temporarily ceases to operate the Garage, or any portion thereof, due to events beyond the control of Owner, which events may include without limitation, acts of government, embargoes, fire, flood, explosions, hurricanes, tornadoes, acts of God, terrorism or public enemy, strikes, labor disputes, vandalism, commotion, riots, or any similar events which, in the reasonable judgment of Owner, make use of the Garage impossible or impractical. If there is a Casualty Event (as defined below) Owner shall have the right to elect whether or not to rebuild or restore the Garage within 120 days of the Casualty Event. If Owner elects to rebuild or restore the Garage, then this Parking Lease shall remain in effect except that Tenant's obligation to pay rent shall abate pro-rata so long as some or all of the Parking Spaces are not available. If Owner elects not to rebuild or restore the Garage, then this Parking Lease shall terminate upon notice thereof from Owner to Tenant. If Owner elects to rebuild or restore the Garage, or if there is damage to the Garage that does not rise to the level of a Casualty Event, Owner agrees to use diligent good faith efforts to complete the reconstruction or restoration within a reasonable period of time. Notwithstanding the foregoing, Owner agrees that if there is a Casualty Event, Owner shall rebuilding or restore the Garage if the insurance proceeds are not otherwise claimed by Owner's lender under any mortgage on the Garage or if such proceeds are otherwise not available to Owner through no fault of Owner. As used herein, a "Casualty Event" shall occur if (i) there is substantial destruction of the Garage which leaves the use of the Garage impossible or impractical in the reasonable judgment of Owner, or (ii) Owner notifies Tenant that the City of Portland or a licensed engineer has determined that the Garage is structurally unsound or unsafe requiring the cessation of parking in the Garage. Upon such termination of this Parking Lease by either Owner or Tenant, all rights and obligations of Owner and Tenant hereunder shall cease and shall be of no further force and effect except for such obligations as shall by their express terms, survive termination of this Parking Lease, subject to compliance with Section 14 below. Tenant shall remain liable to Owner for payments due Owner accrued and unpaid up to the date of said termination.

14. Compliance with Terms and Conditions: Indemnity. Tenant shall be responsible for ensuring that the use of the Garage by its employees complies with the terms and conditions of this Parking Lease and such other reasonable rules and regulations as are established from time to time by Owner governing the use of the Garage generally by parking patrons. Tenant hereby agrees to indemnify and hold harmless Owner from any claim, costs, liability and expense including, but not limited to, reasonable attorneys' fees and expenses, arising from or attributable to Tenant's or its guest's or employee's use of the Garage hereunder or attributable to Tenant's acts or failure to act pursuant to its obligations under this Lease except to the extent resulting from the gross negligence or willful misconduct of Owner, its employees, agents or independent contractors. This agreement to indemnify shall survive termination of this Parking Lease. Owner hereby agrees to indemnify and hold harmless Tenant from any claim, costs, liability and expense including, but not limited to, reasonable attorneys' fees and expenses, arising from or attributable to Owner's acts or failure to act pursuant to its obligations under this Lease except to the extent resulting from the gross negligence or willful misconduct of Tenant, its employees, agents or independent contractors. This agreement to indemnify shall survive termination of this Parking Lease.

15. Disputes.

(a) Subject to the provisions of this Parking Lease, any controversy, claim or cause of action arising out of or relating to this Agreement shall be finally settled by arbitration by an arbitrator in accordance with the Commercial Arbitration Rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. The arbitrator shall have the power to grant equitable remedies in addition to imposing monetary damages. Arbitration shall be held in Portland, Maine, or such other location as the parties agree. The arbitration shall include (i) a provision that the prevailing party in such arbitration shall recover his or her costs of arbitration and reasonable attorneys' fees from the other party and (ii) the amount of such costs and fees. All arbitration under this Section 15 shall be final, binding and conclusive.

(b) Notwithstanding Subsection 15(a) above, if any party believes it necessary to seek injunctive relief or a provisional remedy (such as forcible entry and detainer or an attachment or trustee process), such party may file a civil action in any court having jurisdiction for such foreclosure, injunctive relief or provisional remedy. The arbitration procedures specified in Subsection 15(a) above, however, shall apply to the determination of the merits of any monetary claim or defense, and the court proceeding shall extend no further than to provide a kind of relief or remedy not readily available under the procedures set forth in Subsection 15(a) above.

(c) Tenant and Owner for themselves, their heirs, successors, and assigns hereby knowingly, willingly and voluntarily waive any and all rights such party may have to a trial by jury in any FED action or proceeding brought by Owner or Owner's successors and/or assigns based upon or related to the provisions of this Parking Lease. Owner and Tenant hereby agree that any such FED action or proceeding shall be heard before a single judge of the appropriate District Court or a single justice of the appropriate Superior Court.

16. Estoppel Certificate. At any time, and from time to time, upon the written request of Owner or any mortgagee, Tenant within ten (10) days of the date of such written request agrees to execute and deliver to Owner and/or such mortgagee, without charge and in a form reasonably satisfactory to Owner, Tenant, and/or such mortgagee, a written statement: (i) ratifying this Lease; (ii) confirming the commencement and expiration dates of the term of this Lease; (iii) certifying that Tenant is in occupancy of the Leased Premises, and that the Lease is in full force and effect and has not been modified, assigned, supplemented or amended except by such writings as shall be stated and agreeing not to amend, modify or cancel this Lease without mortgagee's written consent; (iv) certifying that all conditions and agreements under this Lease to be satisfied or performed by Owner have been satisfied and performed except as shall be stated; (v) certifying that Owner is not in default under the Lease and there are no defenses or offsets against the enforcement of this Lease by Owner, or stating the defaults and/or defenses claimed by Tenant; (vi) reciting the amount of advance rent, if any, paid by Tenant and the date to which such rent has been paid and agrees not to prepay rent more than ten (10) days in advance; (vii) reciting the amount of security deposit deposited with Owner, if any; and (viii) any other information which Owner or the mortgagee shall reasonably require. Owner agrees, upon written request of Tenant or Tenant's lender, to execute and deliver, without charge, an estoppel certificate addressing items (i), (iii), (iv) (but addressing Tenant's performance), (v) (but addressing Tenant's performance), (vi) and (vii) above.

17. Subordination. Tenant agrees that, except as hereinafter provided, this Parking Lease is, and all of Tenant's rights hereunder are and shall always be, subject and subordinate to any mortgages or ground leases of the Garage pursuant to which Owner has or shall retain the right of possession of the Garage or security instruments ("Mortgages") that may hereafter be placed upon the Garage and to all advances made or to be made thereunder and to the interest thereon, and all renewals, replacements, modifications, consolidations, or extensions thereof; provided that so long as Tenant is in full compliance with the terms and provisions of this Parking Lease (with all defaults, if any, fully and timely cured within applicable grace periods), any such mortgagee, ground lessor or purchaser at a foreclosure sale shall recognize Tenant in accordance with the terms hereof; provided further that if the holder of any such Mortgages ("Mortgagee") or if the purchaser at any foreclosure sale or at any sale under a power of sale contained in any Mortgage shall at its sole option so request, Tenant shall attorn to, and recognize such Mortgagee or purchaser, as the case may be, as Owner under this Parking Lease for the balance then remaining of the term of this Parking Lease, subject to all terms of this Parking Lease, and that the aforesaid provisions shall be self-operative and no further instrument or document shall be necessary unless required by any such Mortgagee or purchaser. Should Owner or any Mortgagee or purchaser desire confirmation of either such subordination or such attornment, as the case may be, Tenant upon written request, and from time to time, shall execute and deliver without charge and in commercially reasonable form satisfactory to Tenant, Owner, and the Mortgagee or the purchaser all instruments and/or documents that may be requested to acknowledge such subordination and/or agreement to attorn, in recordable form. In the event either party fails to execute and deliver the instruments and documents as provided for in this Section 17, the parties hereto shall immediately commence good faith negotiations to reach a mutually satisfactory resolution to the issue within thirty (30) days. In the event that the parties fail to come to agreement within such thirty (30) day period, either party may submit the dispute to resolution by arbitration as provided in this Parking Lease.

18. No Assignment by Tenant. This Parking Lease may not be assigned, transferred, encumbered or conveyed, or hypothecated (a "Transfer"), in whole or in part, by Tenant to any other person or entity, under any circumstances, except to a purchaser, lessee, mortgagee, condominium association, and/or other transferee, of all or any portion of the Development Parcel. In the event of a Transfer of any portion of the Development Parcel, upon Tenant's request, Owner agrees to enter into a separate agreement (including, without limitation, a separate lease agreement) with each such transferee to effectuate and memorialize the allocation of Tenant's rights under this Parking Lease, provided (a) each such agreement is on terms substantially similar to the terms of this Parking Lease, and (b) the total number of parking spaces allocated pursuant to all such agreements does not exceed the maximum number of spaces permitted under this Parking Lease.

19. Miscellaneous.

(a) This Parking Lease and the rights and obligations hereunder shall be binding upon, and inure to the benefit of, the parties and their successors and assigns. In the event that Owner sells the Garage to a third party, upon the assignment and assumption of this Parking Lease by the third party, Owner shall have no further obligations hereunder for any period of time following the assignment and assumption.

(b) Except as otherwise provided herein, any notice relating in any way to this Parking Lease shall be in writing and shall be either hand delivered or sent by registered or certified mail, return receipt requested, addressed as follows:

To Tenant: Portland Norwich Group LLC  
Attention: David Leatherwood  
2330 Palm Ridge Road #305  
Sanibel, FL 33957

With a copy to: Diane M. McDermott, Esquire  
Holland & Knight LLP  
10 St. James Avenue  
Boston, MA 02116

To Owner: 167 Fore Street LLC  
865 Spring Street  
P. O. Box 910  
Westbrook, ME 04092-0910

With a copy to: Charles E. Miller, Esquire  
Bernstein Shur  
100 Middle Street, 6<sup>th</sup> Fl  
P.O. Box 9729  
Portland, ME 04104-5029

and such notice shall be deemed delivered upon the earlier of actual receipt, one day after deposit with a recognized overnight courier or three days after deposit in the U.S. mails as set forth above or, in the case of hand delivery, when received in person with a written acknowledgement of receipt. Either party may, by such manner of notice, substitute persons or addresses for notice other than those listed above and also add persons or addresses for notices to lenders or their counsel.

(c) All section headings in the Parking Lease are for convenience of reference only and are of no independent legal significance.

(d) This Parking Lease may not be modified, waived or amended except in a writing signed by the parties hereto. No waiver of any breach or term hereof shall be effective unless made in writing signed by the party having the right to enforce such a breach and no such waiver shall be construed as a waiver of any subsequent breach. No course of dealing or delay or omission on the part of any party in exercising any right or remedy shall operate as a waiver thereof or otherwise be prejudicial thereto.

(e) Any and all prior and contemporaneous discussions, undertakings, agreements and understandings of the parties are merged in this Parking Lease, which alone fully and completely expresses their entire agreement with respect to this Parking Lease.

(b) Except as otherwise provided herein, any notice relating in any way to this Parking Lease shall be in writing and shall be either hand delivered or sent by registered or certified mail, return receipt requested, addressed as follows:

To Tenant: Portland Norwich Group LLC  
Attention: David Leatherwood  
2330 Palm Ridge Road #305  
Sanibel, FL 33957

With a copy to: Diane M. McDermott, Esquire  
Holland & Knight LLP  
10 St. James Avenue  
Boston, MA 02116

To Owner: 167 Fore Street LLC  
24 Carroll Street  
Falmouth, ME 04105

With a copy to: Robert E. Stevens, Esquire  
Curtis Thaxter  
One Canal Plaza, Suite 1000  
Portland, ME 04112-7320

and such notice shall be deemed delivered upon the earlier of actual receipt, one day after deposit with a recognized overnight courier or three days after deposit in the U.S. mails as set forth above or, in the case of hand delivery, when received in person with a written acknowledgement of receipt. Either party may, by such manner of notice, substitute persons or addresses for notice other than those listed above and also add persons or addresses for notices to lenders or their counsel.

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(e) Any and all prior and contemporaneous discussions, undertakings, agreements and understandings of the parties are merged in this Parking Lease, which alone fully and completely expresses their entire agreement with respect to this Parking Lease.

(f) If any part of any term or provision of this Parking Lease shall be held or deemed to be invalid, inoperative or unenforceable to any extent by a court of competent jurisdiction, such

circumstance shall in no way affect any other term or provision of this Parking Lease, the application of such term or provision in any other circumstances, or the validity or enforceability of this Parking Lease.

(g) The language used in this Parking Lease shall be deemed to be the language chosen by the parties to express their mutual intent and no rule of strict construction shall be applied against either party. Without limiting the generality of the foregoing, the language in all parts of this Parking Lease shall in all cases be construed as a whole according to its fair meaning, strictly neither for nor against any party hereto, and without implying a presumption that the terms thereof shall be more strictly construed against one party by reason of the rule of construction that a document is to be construed more strictly against the person who drafted the same. It is hereby agreed that the representatives of both parties have participated in the preparation hereof.

(h) This Parking Lease may be simultaneously executed in any number of counterparts, each of which when so executed and delivered shall be an original, but such counterparts shall constitute one and the same instrument.

(i) This Parking Lease may not be recorded but a Memorandum hereof containing such information as is required by 33 M.R.S.A. § 201 may be recorded by either party. Owner agrees to execute and have acknowledged and delivered to Tenant for recording at the Cumberland County Registry of Deeds, such a Memorandum, if tendered by Tenant.

(j) This Parking Lease shall be governed by and construed and enforced in accordance with the laws in effect in the State of Maine.

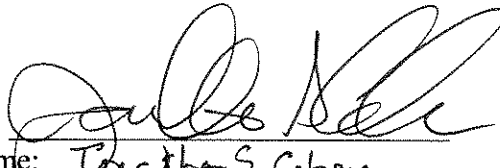
[Signatures Located on Following Page]



IN WITNESS WHEREOF, the undersigned have caused this Parking Lease to be executed by their duly authorized representatives as of the Effective Date.

OWNER:

167 FORE STREET LLC,  
a Maine limited liability company

By:   
Name: Jonathan S. Cohen  
Its: Manager

TENANT:

PORTLAND NORWICH GROUP LLC,  
a Delaware limited liability company

By: \_\_\_\_\_  
Name: David Leatherwood  
Its: Duly authorized signatory

IN WITNESS WHEREOF, the undersigned have caused this Parking Lease to be executed by their duly authorized representatives as of the Effective Date.


OWNER:

167 FORE STREET LLC,  
a Maine limited liability company

By: \_\_\_\_\_  
Name:  
Its:

TENANT:

PORTLAND NORWICH GROUP LLC,  
a Delaware limited liability company

By:   
Name: David Leatherwood  
Its: Duly authorized signatory

## EXHIBIT A

### Description of Garage Parcel

A certain parcel of land, together with the buildings and improvements thereon, situated on the northwesterly side of Fore Street in the City of Portland, County of Cumberland, and State of Maine, being shown as "Proposed Lot 3" on the Subdivision/Recording Plat On India Street and Fore Street, Portland, Maine, recorded in said Registry in Plan Book 207, Page 54, and bounded and described as follows:

Beginning on the northwesterly sideline of Fore Street at a point, said point bearing N 57° 57' 41" E along said sideline a distance of 63.85 feet from the intersection of said northwesterly sideline of Fore Street with the northeasterly sideline of India Street;

Thence N 48° 35' 31" W along land now or formerly of 25 India Street LLC a distance of 124.60 feet to land now or formerly of Micucci Brothers, reference Book 11090, Page 193;

Thence N 44° 40' 52" E along said land a distance of 116.57 feet;

Thence N 48° 38' 09" W along said land a distance of 9.95 feet;

Thence N 41° 27' 56" E along land now or formerly of Hancock & Middle LLC a distance of 153.97 feet;

Thence S 48° 33' 01" E along the southwesterly sideline of Hancock Street Extension a distance of 115.03 feet;

Thence southerly along a curve concave to the right having a radius of 15.00 feet an arc distance of 20.27 feet along said Hancock Street Extension to said northwesterly sideline of Fore Street, said curve having a chord which bears S 9° 51' 33" E a distance of 18.76 feet;

Thence S 28° 51' 33" W along said sideline a distance of 51.37 feet;

Thence southwesterly along said sideline and along a curve concave to the right having a radius of 384.90 feet an arc distance of 86.10 feet, said curve having a chord which bears S 35° 16' 03" W a distance of 85.92 feet;

Thence southwesterly along said sideline and along a curve concave to the right having a radius of 341.90 feet an arc distance of 97.07 feet, said curve having a chord which bears S 49° 48' 33" W a distance of 96.74 feet;

Thence S 57° 57' 41" W along said sideline a distance of 28.43 feet to the point of beginning, containing 37,626 square feet, more or less.

EXHIBIT B

Description of Development Parcel

A certain parcel or land situated on the northeasterly side of India Street, the southerly side of Fore Street, the southwesterly side of Hancock Street Extension and the northwesterly side of Commercial Street Extension in the City of Portland, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the northeasterly sideline of India Street at land now or formerly of The Portland Water District, reference Book 3870, Page 101;

Thence N 43°-41'-10" E along said land a distance of 119.66 feet;

Thence N 46°-18'-50" W along said land a distance of 94.47 feet to the southeasterly sideline of Fore Street;

Thence N 57°-57'-41" E along said sideline a distance of 11.78 feet;

Thence N 41°-40'-33" E along said sideline a distance of 66.60 feet;

Thence northeasterly along a curve concave to the left having a radius of 434.53 feet an arc distance of 76.00 feet, said curve having a chord which bears N 35°-16'-03" E a distance of 75.90 feet;

Thence N 28°-51'-33" E along said sideline a distance of 45.63 feet to Hancock Street Extension;

Thence easterly along said Hancock Street Extension and along a curve concave to the right having a radius of 15.00 feet an arc distance of 25.49 feet, said curve having a chord which bears N 77°-32'-05" E a distance of 22.53 feet;

Thence S 53°-47'-21" E along said Hancock Street Extension a distance of 225.68 feet;

Thence southerly along said Hancock Street Extension and along a curve concave to the right having a radius of 12.00 feet an arc distance of 19.77 feet, said curve having a chord which bears S 6°-35'-54" E a distance of 17.61 feet;

Thence southwesterly along Commercial Street Extension and along a curve concave to the right having a radius of 971.00 feet an arc distance of 98.70 feet, said curve having a chord which bears S 43°-30'-16" W a distance of 98.65 feet;

Thence S 46°-24'-59" W along said Commercial Street Extension a distance of 130.24 feet;

Thence S 46°-41'-14" E along said Commercial Street Extension a distance of 2.07 feet to land shown on Amended Subdivision Plan Regarding The Longfellow, A Condominium and Adjacent Land of LRAR LLC dated January 30, 2015, recorded in said Registry in Plan Book 215, Page 369 (herein, the "Longfellow Property") (reference also being made to the First Amendment to Declaration of The Longfellow, A Condominium, recorded in said Registry in Book 32583, Page 232, and a Release Deed from GSB Corporation to LRAR LLC recorded in said Registry in Book 32583, Page 244);

Thence N 43°-10'-34" W along said Longfellow Property a distance of 63.64 feet;

Thence S 46°-38'-39" W along said Longfellow Property a distance of 126.40 feet to said India Street;

Thence N 46°-24'-57" W along said sideline a distance of 57.09 feet to the point of beginning.



## **15. Summary of Significant Natural Features**

## **Summary of Significant Natural Features**

The project site is a vacant, previously developed (former industrial rail-yard) urban site that largely consists of a gravel surface over fill material and marine clay. Much of the site is covered with a weedy type growth. There are no significant plant species, communities, or specimens within the site.

There are no significant natural features on the site.

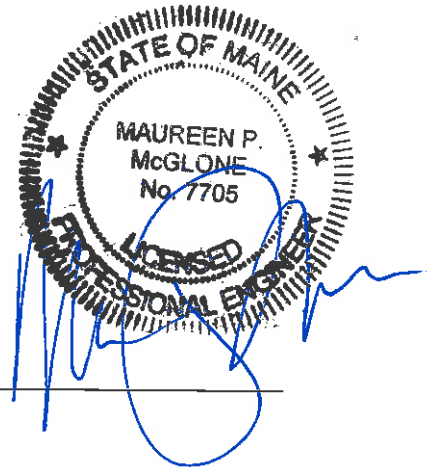


## **16. Stormwater Management Plan and Calculations**

# AC Hotels Stormwater Management Narrative

Date: September 28, 2015; Revised 3/15/16  
To: City of Portland  
From: Maureen P. McGlone, P.E.  
Peer Review: Stephen J. Bradstreet, P.E.  
Location: Hancock and Fore Streets, Portland, Maine

---



## List of Appendices:

- Appendix A: Pre-and Post-Development Stormwater Plans
- Appendix B: Pre Development Hydro CAD Calculations
- Appendix C: Post Development Hydro CAD Calculations
- Appendix D: Water Quality Calculations
- Appendix E: Stormwater Inspection and Maintenance Report

## Existing Conditions:

The site is a 60,654 SF (1.39 acres) acre parcel that is bordered by Fore Street, Hancock Street, Thames Street and India Street. The site's topography is generally flat and slopes from the south to the north and drains into catch basins on Fore Street, Hancock Street and Thames Street. The parcel is currently vacant, but has historical use as a rail yard for shipping and was most recently being utilized as a staging area for several construction projects completed in the surrounding area. The entire parcel is considered impervious with concrete pads or gravel surfaces.

Stormwater runoff from the existing parcel (Sub-catchment 1) flows in two directions. A portion flows toward the intersection of Fore Street and Hancock Street to a closed drainage system. The remaining area appears to flow to the intersection of Thames Street and Hancock Street to the same closed drainage system. The closed drainage system discharges to the ocean adjacent to the Ocean Gateway terminal building after first going through a Downstream Defender treatment system, which primarily removes suspended solids from the stormwater.

## Proposed Development:

The applicant, Portland Norwich Group, LLC proposes to construct a 6 story hotel/retail/residential condominium building. The building will have hotel conference rooms and common areas as well as the retail space on the first floor along with kitchen area and storage. The second through fifth floors will house 150 hotel rooms, while the sixth floor is anticipated to house 16 condominium units. Future

City of Portland

development on the remaining property is anticipated to consist of multiple structures for retail/office/residential use, with landscaped areas and walking paths.

With the addition of landscaped areas, it is anticipated that the proposed development will decrease the site's overall impervious area. The non-impervious area will be a combination of landscaped planting areas or lawn.

**Stormwater Management – Basic Standards:**

Erosion and sedimentation control measures are detailed within the design plans. Good housekeeping practices will be in accordance with Maine DEP Best Management Practices. A post construction stormwater management plan is provided in Appendix A. Stormwater BMP inspection and maintenance requirements are provided in Appendix B.

**Stormwater Management - Quality:**

The existing site is currently all gravel and basically an impervious site. Per Chapter 500, there is no requirement for treatment for a redevelopment project on this parcel. However, the applicant has chosen to provide permeable pavers with a filter system for the treatment of surface runoff in the driveway and dropoff area. The discharge from the filter system will be collected in subsurface storage tanks (R-tank system currently proposed) which will subsequently enter the closed storm drainage system in Thames Street.

The site's impervious area will be reduced with the addition of landscaped areas, however with the proposed surface water treatment the stormwater quality would improve greatly over the existing condition. It is anticipated that this additional treatment provided will be used to provide water quality credits to offset the City's new stormwater fee.

**Stormwater Management - Quantity:**

The pervious paver filter system proposed included subsurface storage of treated surface water runoff. Additionally, it is anticipated that the roof drains from the proposed structures will be connected to the subsurface system to provide additional detention prior to discharge to the storm drain system within Thames Street. It is anticipated that this additional treatment provided will be used to provide water quantity credits to offset the City's new stormwater fee.

**Hydraulic Analysis:**

Stormwater runoff calculations for quantity were made using the HydroCAD 10.0 computer program, which is based on the Soil Conservation Service's TR-20 methodology. Runoff hydrographs are generated based on a standard Type III 24 hour storm.

Five storm events were modeled as follows:

## City of Portland

1. 1" storm: The 1" storm event was analyzed to simulate a heavy weather event that would typically happen multiple times over a given year and may impact the CSO frequency and volume.
2. 1.6" storm: The 1.6" storm event was analyzed to simulate a heavy weather event that would typically happen multiple times over a given year and may impact the CSO frequency and volume.
3. 2-year frequency flood event: 3.1" rainfall
4. 10-year frequency flood event: 4.6" rainfall
5. 25-year frequency flood event: 5.8" rainfall
6. 100-year frequency flood event: 8.1" rainfall

Runoff Curve numbers were determined based on land coverage and soil type based on a geotechnical report generated by Haley and Aldrich in May, 2007. Soils were typically urban fill underlain by organic material, sand and soft clays to rock. Due to the size of the lot and the land coverage, a minimum time of concentration (Tc) of 6 minutes was set in the HydroCAD model.

Peak runoff flow rates and runoff volumes are provided for a single analysis point, which represents the discharge to the closed system and are identified on the Pre and Post-Development plans. The analysis point shows a significant reduction in runoff rates with the same volume.

Peak runoff rates and runoff volumes for the above analysis points and storm events are tabulated in the following tables. Pre- and Post-Development plans (SWP1.0 and SWP2.0) can be found in [Appendix A](#). HydroCAD calculations can be found in [Appendices B & C](#). Water quality calculations can be found in [Appendix D](#) and the Inspection and Maintenance Report can be found in [Appendix E](#).

Storm Event	PRE-Development Peak Runoff RATES cubic feet per second (CFS)
1" Storm	1.00
1.6" Storm	1.85
2 Year Frequency Storm	3.94
10 Year Frequency Storm	6.00
25 Year Frequency Storm	7.63
100 Year Frequency Storm	10.74

Storm Event	POST-Development Peak Runoff RATES cubic feet per second (CFS)
1" Storm	0.51
1.6" Storm	0.98
2 Year Frequency Storm	2.24
10 Year Frequency Storm	3.07
25 Year Frequency Storm	3.65
100 Year Frequency Storm	5.02

Storm Event	PRE-Development Peak Runoff VOLUME acre feet (AF) volume of water 1' deep over one acre
1" Storm	.07
1.6" Storm	0.13
2 Year Frequency Storm	0.29
10 Year Frequency Storm	0.45
25 Year Frequency Storm	0.58
100 Year Frequency Storm	0.82

Storm Event	POST-Development Peak Runoff VOLUME acre feet (AF) volume of water 1' deep over one acre)
1" Storm	0.08
1.6" Storm	0.14
2 Year Frequency Storm	0.31
10 Year Frequency Storm	0.48

City of Portland

<b>25 Year Frequency Storm</b>	0.62
<b>100 Year Frequency Storm</b>	0.88

**APPENDIX A**

Pre- and Post- Development Stormwater Plans

City of Portland  
Hancock/Thames/Fore Street  
Portland, Maine

**Ransom Consulting, Inc.**  
Project 151.06094

Site:

ROSE AC OTEL

FORE STREET  
ANCOC STREET  
T. JAMES STREET  
PORTLAND, MAINE

Prepared for:

ORTLAND NOR LLC  
RO LLC  
200 ALM RD E ROAD  
05  
SAN ELLI FL 95

400 Commercial Street, Suite 404  
Portland, ME 04101  
Tel. (207) 772-2881  
Fax (207) 772-3248  
www.ransoment.com

RE-DEVELOPMENT  
LAN

PRELIMINARY SUBMISSION 09/29/15

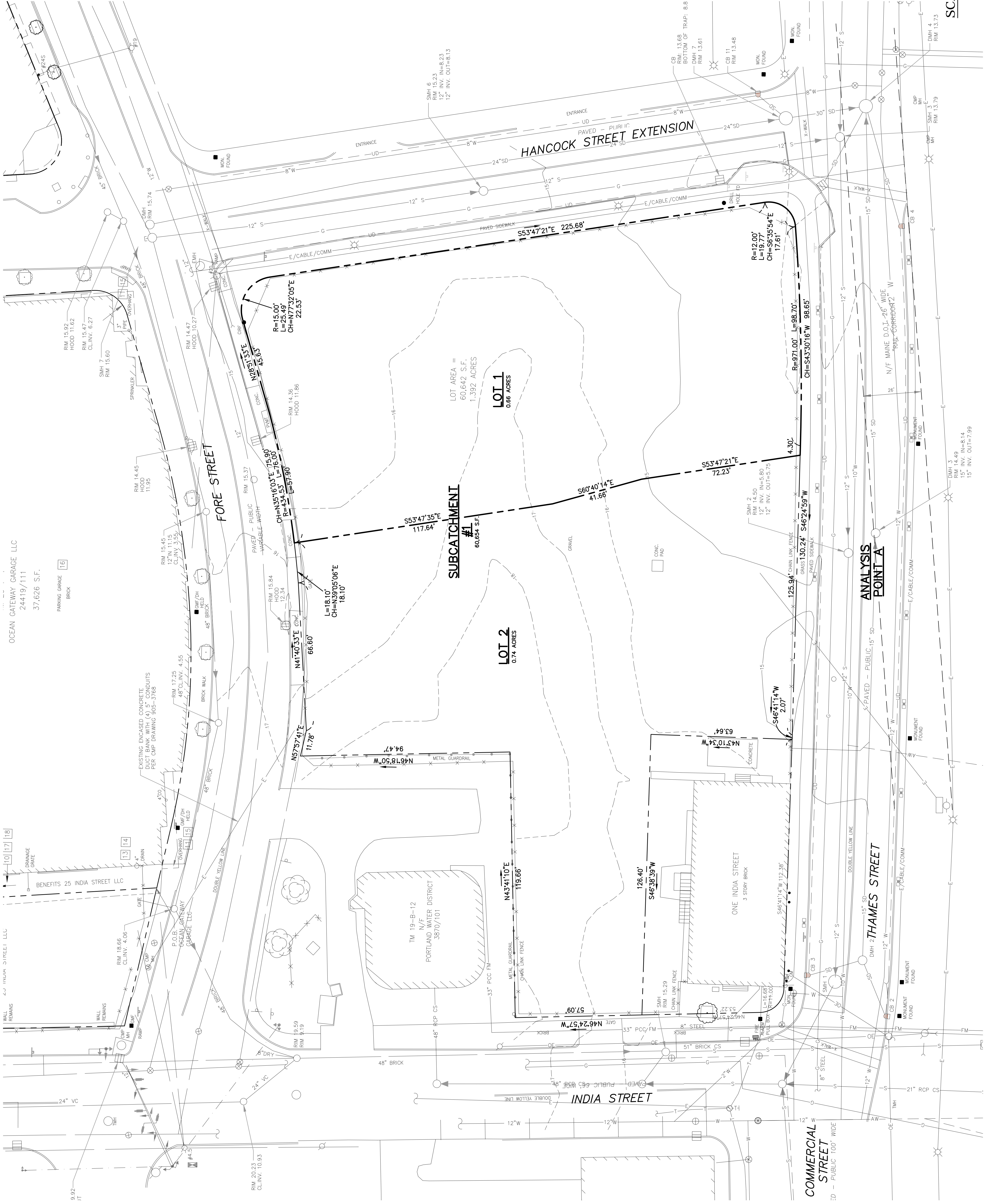
No.	Revision/Issue	Date
A	PRELIMINARY SUBMISSION	09/29/15

Design by:	Checked by:	Date
MPM	SUB	

Drawn by:	Approved by:	Date
JAR	SUB	

Project:	Date:
150.06094	AUGUST 2015

Sheet No: **S** 1.0  
Sheet 1 of 2



OCEAN GATEWAY GARAGE LLC  
24419/111  
37,626 S.F.  
PARKING GARAGE BRICK

BENEFITS 25 INDIA STREET LLC

P.O.B. OCEAN GATEWAY GARAGE LLC

TM 19-B-12  
N/F  
PORTLAND WATER DISTRICT  
3870/101

ONE INDIA STREET  
3 STORY BRICK

INDIA STREET  
PUBLIC 60' WIDE

COMMERCIAL STREET  
PUBLIC 100' WIDE

THAMES STREET  
PUBLIC 100' WIDE

ANALYSIS POINT A

SCALE





Site:  
 PROPOSED AC HOTEL  
 FORE STREET  
 ANCOCK STREET  
 THAMES STREET  
 PORTLAND, MAINE

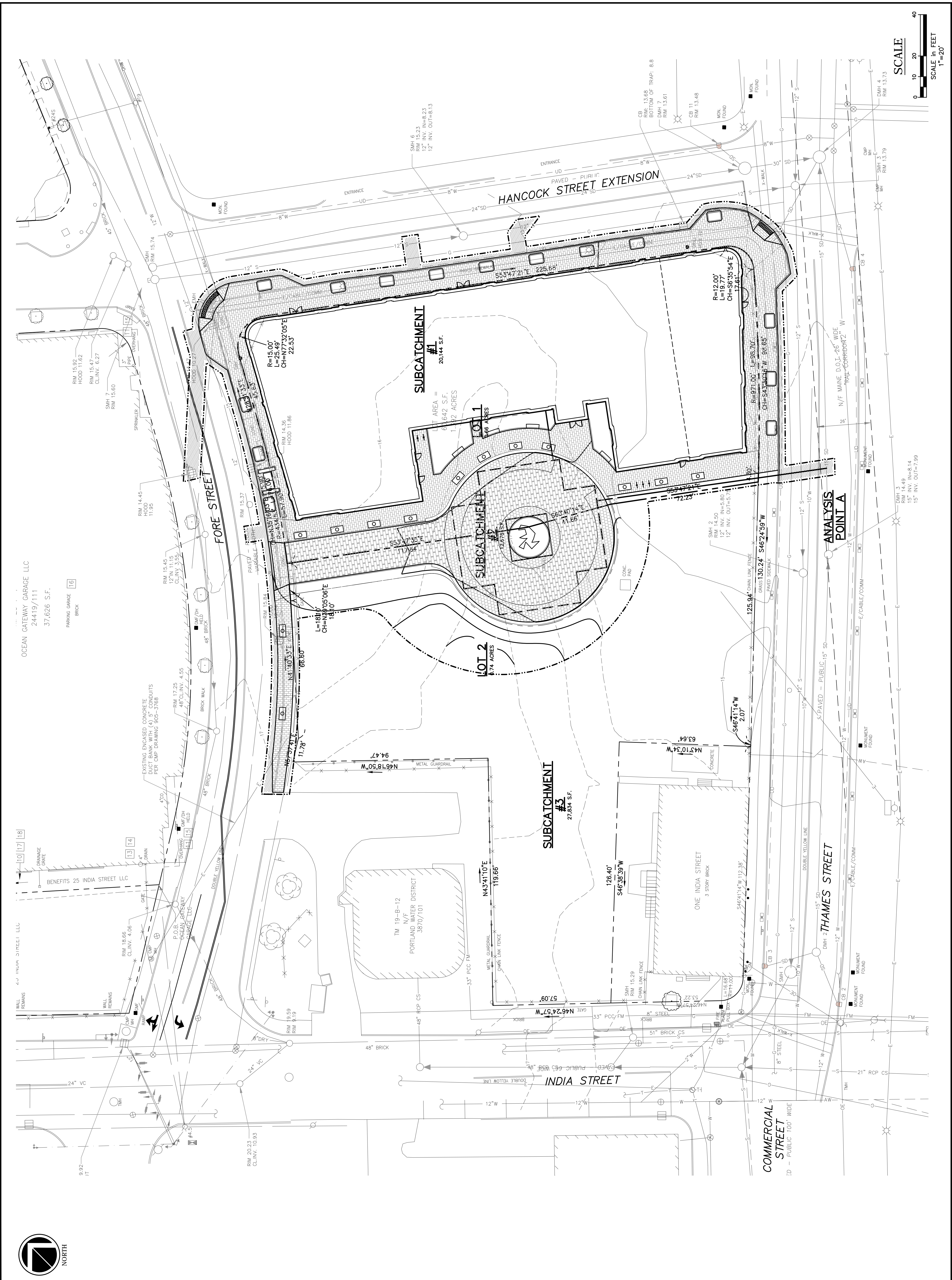
Prepared for:  
 PORTLAND NORTH LLC  
 200 ALM RD  
 PORTLAND, ME 04101  
 SAN ELLIOTT

ANSONOM  
 Consulting Engineers and Scientists  
 400 Commercial Street, Suite 404  
 Portland, ME 04101  
 Tel. (207) 772-2881  
 Fax (207) 772-3248  
 www.ansonom.com

COST-DEVELOPMENT  
 PLAN

No.	Revision/Issue	Date
B	FINAL SUBMISSION	03/15/16
A	PRELIMINARY SUBMISSION	09/29/15

Design by:	Checked by:	Date
MFM	SUB	
Drawn by:	Approved by:	
JAR	SUB	
Project:	Date:	
150.06094	AUGUST 2015	
Sheet No:		
S	2.0	



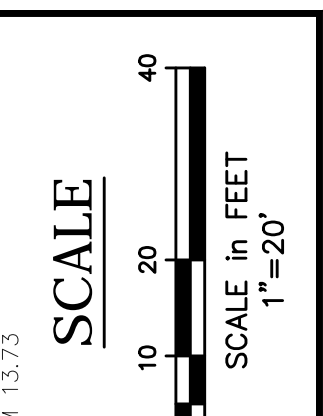
OCEAN GATEWAY GARAGE LLC  
 24419/111  
 37,626 S.F.  
 PARKING GARAGE  
 BRICK

BENEFITS 25 INDIA STREET LLC

42 INDIA STREET LLC

TM 19-B-12  
 N/F  
 PORTLAND WATER DISTRICT  
 3870/101

COMMERCIAL STREET  
 10' - PUBLIC 100' WIDE

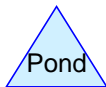
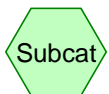
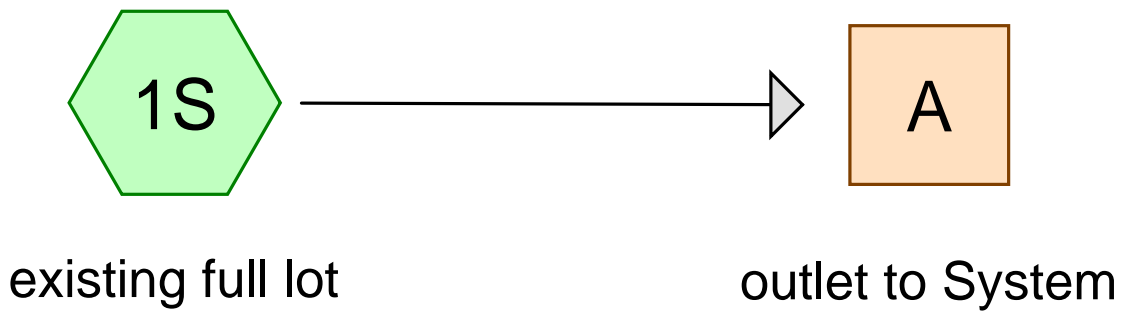


**APPENDIX B**

Pre Development Hydro CAD Calculations

City of Portland  
Hancock/Thames/Fore Street  
Portland, Maine

**Ransom Consulting, Inc.**  
Project 151.06094



**existing site**

Prepared by Ransom Consulting

HydroCAD® 10.00-12 s/n 05121 © 2014 HydroCAD Software Solutions LLC

Printed 3/16/2016

Page 2

**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
1.392	96	Gravel parking, HSG B (1S)
<b>1.392</b>	<b>96</b>	<b>TOTAL AREA</b>

**existing site**

Prepared by Ransom Consulting

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Page 3

**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.392	HSG B	1S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
<b>1.392</b>		<b>TOTAL AREA</b>

**existing site**

Prepared by Ransom Consulting

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Printed 3/16/2016

Page 4

**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.392	0.000	0.000	0.000	1.392	Gravel parking	1S
<b>0.000</b>	<b>1.392</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>1.392</b>	<b>TOTAL AREA</b>	

**existing site**

Prepared by Ransom Consulting

HydroCAD® 10.00-12 s/n 05121 © 2014 HydroCAD Software Solutions LLC

AC Hotel Portland

Type III 24-hr 1-inch Rainfall=1.00"

Printed 3/16/2016

Page 5

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1S: existing full lot**

Runoff Area=60,654 sf 0.00% Impervious Runoff Depth>0.59"  
Tc=6.0 min CN=96 Runoff=1.00 cfs 0.069 af

**Reach A: outlet to System**

Inflow=1.00 cfs 0.069 af  
Outflow=1.00 cfs 0.069 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.069 af Average Runoff Depth = 0.59"**  
**100.00% Pervious = 1.392 ac 0.00% Impervious = 0.000 ac**

**existing site**

Prepared by Ransom Consulting

HydroCAD® 10.00-12 s/n 05121 © 2014 HydroCAD Software Solutions LLC

AC Hotel Portland  
Type III 24-hr 1-inch Rainfall=1.00"

Printed 3/16/2016

Page 6

**Summary for Subcatchment 1S: existing full lot**

Runoff = 1.00 cfs @ 12.09 hrs, Volume= 0.069 af, Depth> 0.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 1-inch Rainfall=1.00"

Area (sf)	CN	Description
* 60,654	96	Gravel parking, HSG B
60,654		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Reach A: outlet to System**

Inflow Area = 1.392 ac, 0.00% Impervious, Inflow Depth > 0.59" for 1-inch event

Inflow = 1.00 cfs @ 12.09 hrs, Volume= 0.069 af

Outflow = 1.00 cfs @ 12.09 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



**existing site**

Prepared by Ransom Consulting

HydroCAD® 10.00-12 s/n 05121 © 2014 HydroCAD Software Solutions LLC

AC Hotel Portland  
Type III 24-hr 1.6-inch Rainfall=1.60"

Printed 3/16/2016

Page 7

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1S: existing full lot**

Runoff Area=60,654 sf 0.00% Impervious Runoff Depth>1.12"  
Tc=6.0 min CN=96 Runoff=1.85 cfs 0.130 af

**Reach A: outlet to System**

Inflow=1.85 cfs 0.130 af  
Outflow=1.85 cfs 0.130 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.130 af Average Runoff Depth = 1.12"**  
**100.00% Pervious = 1.392 ac 0.00% Impervious = 0.000 ac**

**existing site**

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AC Hotel Portland

Type III 24-hr 1.6-inch Rainfall=1.60"

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**Summary for Subcatchment 1S: existing full lot**

Runoff = 1.85 cfs @ 12.09 hrs, Volume= 0.130 af, Depth > 1.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 1.6-inch Rainfall=1.60"

Area (sf)	CN	Description
* 60,654	96	Gravel parking, HSG B
60,654		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Reach A: outlet to System**

Inflow Area = 1.392 ac, 0.00% Impervious, Inflow Depth > 1.12" for 1.6-inch event

Inflow = 1.85 cfs @ 12.09 hrs, Volume= 0.130 af

Outflow = 1.85 cfs @ 12.09 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

**existing site**

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Type III 24-hr 2-year Rainfall=3.10"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1S: existing full lot**

Runoff Area=60,654 sf 0.00% Impervious Runoff Depth>2.50"  
Tc=6.0 min CN=96 Runoff=3.94 cfs 0.290 af

**Reach A: outlet to System**

Inflow=3.94 cfs 0.290 af  
Outflow=3.94 cfs 0.290 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.290 af Average Runoff Depth = 2.50"**  
**100.00% Pervious = 1.392 ac 0.00% Impervious = 0.000 ac**

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**Summary for Subcatchment 1S: existing full lot**

Runoff = 3.94 cfs @ 12.09 hrs, Volume= 0.290 af, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
* 60,654	96	Gravel parking, HSG B
60,654		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Reach A: outlet to System**

Inflow Area = 1.392 ac, 0.00% Impervious, Inflow Depth > 2.50" for 2-year event

Inflow = 3.94 cfs @ 12.09 hrs, Volume= 0.290 af

Outflow = 3.94 cfs @ 12.09 hrs, Volume= 0.290 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 10-year Rainfall=4.60"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1S: existing full lot**

Runoff Area=60,654 sf 0.00% Impervious Runoff Depth>3.89"  
Tc=6.0 min CN=96 Runoff=6.00 cfs 0.451 af

**Reach A: outlet to System**

Inflow=6.00 cfs 0.451 af  
Outflow=6.00 cfs 0.451 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.451 af Average Runoff Depth = 3.89"**  
**100.00% Pervious = 1.392 ac 0.00% Impervious = 0.000 ac**

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**Summary for Subcatchment 1S: existing full lot**

Runoff = 6.00 cfs @ 12.09 hrs, Volume= 0.451 af, Depth> 3.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
* 60,654	96	Gravel parking, HSG B
60,654		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Reach A: outlet to System**

Inflow Area = 1.392 ac, 0.00% Impervious, Inflow Depth > 3.89" for 10-year event

Inflow = 6.00 cfs @ 12.09 hrs, Volume= 0.451 af

Outflow = 6.00 cfs @ 12.09 hrs, Volume= 0.451 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 25-year Rainfall=5.80"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1S: existing full lot**

Runoff Area=60,654 sf 0.00% Impervious Runoff Depth>4.99"  
Tc=6.0 min CN=96 Runoff=7.63 cfs 0.579 af

**Reach A: outlet to System**

Inflow=7.63 cfs 0.579 af  
Outflow=7.63 cfs 0.579 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.579 af Average Runoff Depth = 4.99"**  
**100.00% Pervious = 1.392 ac 0.00% Impervious = 0.000 ac**

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**Summary for Subcatchment 1S: existing full lot**

Runoff = 7.63 cfs @ 12.09 hrs, Volume= 0.579 af, Depth > 4.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
* 60,654	96	Gravel parking, HSG B
60,654		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Reach A: outlet to System**

Inflow Area = 1.392 ac, 0.00% Impervious, Inflow Depth > 4.99" for 25-year event

Inflow = 7.63 cfs @ 12.09 hrs, Volume= 0.579 af

Outflow = 7.63 cfs @ 12.09 hrs, Volume= 0.579 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



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AC Hotel Portland  
Type III 24-hr 100-year Rainfall=8.10"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1S: existing full lot**

Runoff Area=60,654 sf 0.00% Impervious Runoff Depth>7.10"  
Tc=6.0 min CN=96 Runoff=10.74 cfs 0.824 af

**Reach A: outlet to System**

Inflow=10.74 cfs 0.824 af  
Outflow=10.74 cfs 0.824 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.824 af Average Runoff Depth = 7.10"**  
**100.00% Pervious = 1.392 ac 0.00% Impervious = 0.000 ac**

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**Summary for Subcatchment 1S: existing full lot**

Runoff = 10.74 cfs @ 12.09 hrs, Volume= 0.824 af, Depth> 7.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=8.10"

Area (sf)	CN	Description
* 60,654	96	Gravel parking, HSG B
60,654		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Reach A: outlet to System**

Inflow Area = 1.392 ac, 0.00% Impervious, Inflow Depth > 7.10" for 100-year event

Inflow = 10.74 cfs @ 12.09 hrs, Volume= 0.824 af

Outflow = 10.74 cfs @ 12.09 hrs, Volume= 0.824 af, Atten= 0%, Lag= 0.0 min

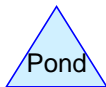
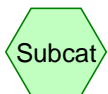
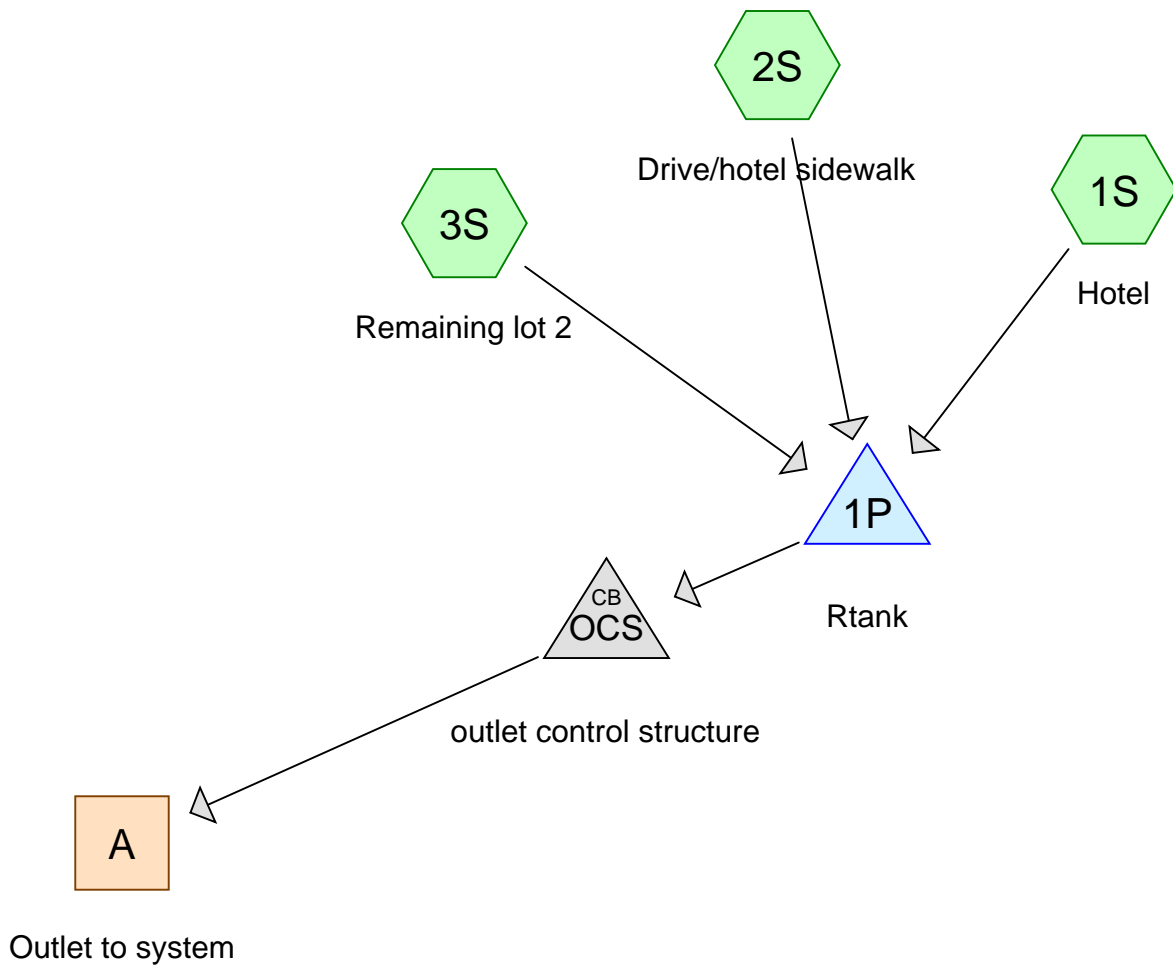
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

**APPENDIX C**

Post Development Hydro CAD Calculations

City of Portland  
Hancock/Thames/Fore Street  
Portland, Maine

**Ransom Consulting, Inc.**  
Project 151.06094



**proposed site**

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**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
0.264	98	(2S)
0.639	96	(3S)
0.027	61	landscaped beds (2S)
0.462	98	roof (1S)
<b>1.392</b>	<b>96</b>	<b>TOTAL AREA</b>

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**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
1.392	Other	1S, 2S, 3S
<b>1.392</b>		<b>TOTAL AREA</b>

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**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	0.903	0.903		2S, 3S
0.000	0.000	0.000	0.000	0.027	0.027	landscaped beds	2S
0.000	0.000	0.000	0.000	0.462	0.462	roof	1S
<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>1.392</b>	<b>1.392</b>	<b>TOTAL AREA</b>	

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**Pipe Listing (all nodes)**

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	9.75	9.65	10.0	0.0100	0.010	12.0	0.0	0.0



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AC Hotel Portland  
Type III 24-hr 1-inch Rainfall=1.00"

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Time span=0.50-24.00 hrs, dt=0.05 hrs, 471 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment1S: Hotel** Runoff Area=20,144 sf 100.00% Impervious Runoff Depth>0.79"  
Tc=6.0 min CN=98 Runoff=0.40 cfs 0.030 af

**Subcatchment2S: Drive/hotel sidewalk** Runoff Area=12,676 sf 90.68% Impervious Runoff Depth>0.56"  
Tc=6.0 min CN=95 Runoff=0.19 cfs 0.014 af

**Subcatchment3S: Remaining lot 2** Runoff Area=27,834 sf 0.00% Impervious Runoff Depth>0.63"  
Tc=6.0 min CN=96 Runoff=0.46 cfs 0.034 af

**Reach A: Outlet to system** Inflow=0.51 cfs 0.076 af  
Outflow=0.51 cfs 0.076 af

**Pond 1P: Rtank** Peak Elev=10.16' Storage=761 cf Inflow=1.05 cfs 0.078 af  
12.0" Round Culvert n=0.010 L=10.0' S=0.0100 '/' Outflow=0.51 cfs 0.076 af

**Pond OCS: outlet control structure** Peak Elev=11.83' Inflow=0.51 cfs 0.076 af  
Outflow=0.51 cfs 0.076 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.078 af Average Runoff Depth = 0.67"**  
**47.84% Pervious = 0.666 ac 52.16% Impervious = 0.726 ac**

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AC Hotel Portland  
Type III 24-hr 1-inch Rainfall=1.00"

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**Summary for Subcatchment 1S: Hotel**

Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.030 af, Depth> 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 1-inch Rainfall=1.00"

Area (sf)	CN	Description
* 20,144	98	roof
20,144		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Subcatchment 2S: Drive/hotel sidewalk**

Runoff = 0.19 cfs @ 12.09 hrs, Volume= 0.014 af, Depth> 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 1-inch Rainfall=1.00"

Area (sf)	CN	Description
* 11,494	98	
* 1,182	61	landscaped beds
12,676	95	Weighted Average
1,182		9.32% Pervious Area
11,494		90.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment 3S: Remaining lot 2**

Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.034 af, Depth> 0.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 1-inch Rainfall=1.00"

Area (sf)	CN	Description
* 27,834	96	
27,834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

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AC Hotel Portland

Type III 24-hr 1-inch Rainfall=1.00"

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**Summary for Reach A: Outlet to system**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 0.65" for 1-inch event  
 Inflow = 0.51 cfs @ 12.26 hrs, Volume= 0.076 af  
 Outflow = 0.51 cfs @ 12.26 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

**Summary for Pond 1P: Rtank**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 0.67" for 1-inch event  
 Inflow = 1.05 cfs @ 12.09 hrs, Volume= 0.078 af  
 Outflow = 0.51 cfs @ 12.26 hrs, Volume= 0.076 af, Atten= 52%, Lag= 10.3 min  
 Primary = 0.51 cfs @ 12.26 hrs, Volume= 0.076 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 10.16' @ 12.26 hrs Surf.Area= 3,124 sf Storage= 761 cf

Plug-Flow detention time=40.8 min calculated for 0.076 af (98% of inflow)  
 Center-of-Mass det. time=28.4 min ( 833.4 - 805.1 )

Volume	Invert	Avail.Storage	Storage Description
#1A	9.75'	1,948 cf	<b>43.37'W x 72.03'L x 3.42'H Field A</b> 10,669 cf Overall - 5,799 cf Embedded = 4,870 cf x 40.0% Voids
#2A	10.00'	5,509 cf	<b>ACF R-Tank HD 1.5 x 870 Inside #1</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 30 Rows of 29 Chambers
		7,457 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	9.75'	<b>12.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.75' / 9.65' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.51 cfs @ 12.26 hrs HW=10.16' (Free Discharge)  
 ↑**1=Culvert** (Barrel Controls 0.51 cfs @ 2.44 fps)

**Summary for Pond OCS: outlet control structure**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 0.65" for 1-inch event  
 Inflow = 0.51 cfs @ 12.26 hrs, Volume= 0.076 af  
 Outflow = 0.51 cfs @ 12.26 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.51 cfs @ 12.26 hrs, Volume= 0.076 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

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Type III 24-hr 1-inch Rainfall=1.00"

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Peak Elev= 11.83' @ 12.26 hrs

Flood Elev= 100.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	12.25'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Primary	11.75'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600
#3	Primary	11.50'	<b>6.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600
#4	Primary	9.75'	<b>1.0" Vert. Orifice/Grate X 2.00</b> C= 0.600

**Primary OutFlow** Max=0.42 cfs @ 12.26 hrs HW=11.83' (Free Discharge)

- 1=Sharp-Crested Rectangular Weir( Controls 0.00 cfs)
- 2=Orifice/Grate (Orifice Controls 0.08 cfs @ 0.92 fps)
- 3=Orifice/Grate (Orifice Controls 0.27 cfs @ 2.16 fps)
- 4=Orifice/Grate (Orifice Controls 0.08 cfs @ 6.88 fps)

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Type III 24-hr 1.6-inch Rainfall=1.60"

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Time span=0.50-24.00 hrs, dt=0.05 hrs, 471 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

<b>Subcatchment1S: Hotel</b>	Runoff Area=20,144 sf 100.00% Impervious	Runoff Depth>1.38"
	Tc=6.0 min CN=98	Runoff=0.68 cfs 0.053 af
<b>Subcatchment2S: Drive/hotel sidewalk</b>	Runoff Area=12,676 sf 90.68% Impervious	Runoff Depth>1.10"
	Tc=6.0 min CN=95	Runoff=0.36 cfs 0.027 af
<b>Subcatchment3S: Remaining lot 2</b>	Runoff Area=27,834 sf 0.00% Impervious	Runoff Depth>1.19"
	Tc=6.0 min CN=96	Runoff=0.85 cfs 0.063 af
<b>Reach A: Outlet to system</b>		Inflow=0.98 cfs 0.141 af
		Outflow=0.98 cfs 0.141 af
<b>Pond 1P: Rtank</b>	Peak Elev=10.36' Storage=1,300 cf	Inflow=1.89 cfs 0.143 af
	12.0" Round Culvert n=0.010 L=10.0' S=0.0100 '/'	Outflow=0.98 cfs 0.141 af
<b>Pond OCS: outlet control structure</b>	Peak Elev=12.00'	Inflow=0.98 cfs 0.141 af
		Outflow=0.98 cfs 0.141 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.143 af Average Runoff Depth = 1.23"**  
**47.84% Pervious = 0.666 ac 52.16% Impervious = 0.726 ac**

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Type III 24-hr 1.6-inch Rainfall=1.60"

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**Summary for Subcatchment 1S: Hotel**

Runoff = 0.68 cfs @ 12.09 hrs, Volume= 0.053 af, Depth> 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 1.6-inch Rainfall=1.60"

Area (sf)	CN	Description
* 20,144	98	roof
20,144		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Subcatchment 2S: Drive/hotel sidewalk**

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.027 af, Depth> 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 1.6-inch Rainfall=1.60"

Area (sf)	CN	Description
* 11,494	98	
* 1,182	61	landscaped beds
12,676	95	Weighted Average
1,182		9.32% Pervious Area
11,494		90.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment 3S: Remaining lot 2**

Runoff = 0.85 cfs @ 12.09 hrs, Volume= 0.063 af, Depth> 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 1.6-inch Rainfall=1.60"

Area (sf)	CN	Description
* 27,834	96	
27,834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

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Type III 24-hr 1.6-inch Rainfall=1.60"

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**Summary for Reach A: Outlet to system**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 1.22" for 1.6-inch event  
Inflow = 0.98 cfs @ 12.24 hrs, Volume= 0.141 af  
Outflow = 0.98 cfs @ 12.24 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

**Summary for Pond 1P: Rtank**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 1.23" for 1.6-inch event  
Inflow = 1.89 cfs @ 12.09 hrs, Volume= 0.143 af  
Outflow = 0.98 cfs @ 12.24 hrs, Volume= 0.141 af, Atten= 48%, Lag= 8.8 min  
Primary = 0.98 cfs @ 12.24 hrs, Volume= 0.141 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 10.36' @ 12.24 hrs Surf.Area= 3,124 sf Storage= 1,300 cf

Plug-Flow detention time= 33.9 min calculated for 0.141 af (98% of inflow)  
Center-of-Mass det. time= 24.8 min ( 813.8 - 788.9 )

Volume	Invert	Avail.Storage	Storage Description
#1A	9.75'	1,948 cf	<b>43.37'W x 72.03'L x 3.42'H Field A</b> 10,669 cf Overall - 5,799 cf Embedded = 4,870 cf x 40.0% Voids
#2A	10.00'	5,509 cf	<b>ACF R-Tank HD 1.5 x 870 Inside #1</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 30 Rows of 29 Chambers
		7,457 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	9.75'	<b>12.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.75' / 9.65' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.98 cfs @ 12.24 hrs HW=10.36' (Free Discharge)  
↑**1=Culvert** (Barrel Controls 0.98 cfs @ 2.78 fps)

**Summary for Pond OCS: outlet control structure**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 1.22" for 1.6-inch event  
Inflow = 0.98 cfs @ 12.24 hrs, Volume= 0.141 af  
Outflow = 0.98 cfs @ 12.24 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.98 cfs @ 12.24 hrs, Volume= 0.141 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

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Type III 24-hr 1.6-inch Rainfall=1.60"

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Peak Elev= 12.00' @ 12.24 hrs

Flood Elev= 100.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	12.25'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Primary	11.75'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600
#3	Primary	11.50'	<b>6.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600
#4	Primary	9.75'	<b>1.0" Vert. Orifice/Grate X 2.00</b> C= 0.600

**Primary OutFlow** Max=0.84 cfs @ 12.24 hrs HW=12.00' (Free Discharge)

- 1=Sharp-Crested Rectangular Weir( Controls 0.00 cfs)
- 2=Orifice/Grate (Orifice Controls 0.40 cfs @ 1.60 fps)
- 3=Orifice/Grate (Orifice Controls 0.37 cfs @ 2.93 fps)
- 4=Orifice/Grate (Orifice Controls 0.08 cfs @ 7.15 fps)



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Type III 24-hr 2-year Rainfall=3.10"

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Time span=0.50-24.00 hrs, dt=0.05 hrs, 471 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment1S: Hotel** Runoff Area=20,144 sf 100.00% Impervious Runoff Depth>2.87"  
Tc=6.0 min CN=98 Runoff=1.36 cfs 0.110 af

**Subcatchment2S: Drive/hotel sidewalk** Runoff Area=12,676 sf 90.68% Impervious Runoff Depth>2.55"  
Tc=6.0 min CN=95 Runoff=0.80 cfs 0.062 af

**Subcatchment3S: Remaining lot 2** Runoff Area=27,834 sf 0.00% Impervious Runoff Depth>2.65"  
Tc=6.0 min CN=96 Runoff=1.81 cfs 0.141 af

**Reach A: Outlet to system** Inflow=2.24 cfs 0.310 af  
Outflow=2.24 cfs 0.310 af

**Pond 1P: Rtank** Peak Elev=10.81' Storage=2,528 cf Inflow=3.97 cfs 0.313 af  
12.0" Round Culvert n=0.010 L=10.0' S=0.0100 '/' Outflow=2.24 cfs 0.310 af

**Pond OCS: outlet control structure** Peak Elev=12.31' Inflow=2.24 cfs 0.310 af  
Outflow=2.24 cfs 0.310 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.313 af Average Runoff Depth = 2.70"**  
**47.84% Pervious = 0.666 ac 52.16% Impervious = 0.726 ac**

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Type III 24-hr 2-year Rainfall=3.10"

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**Summary for Subcatchment 1S: Hotel**

Runoff = 1.36 cfs @ 12.09 hrs, Volume= 0.110 af, Depth&gt; 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
* 20,144	98	roof
20,144		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Subcatchment 2S: Drive/hotel sidewalk**

Runoff = 0.80 cfs @ 12.09 hrs, Volume= 0.062 af, Depth&gt; 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
* 11,494	98	
* 1,182	61	landscaped beds
12,676	95	Weighted Average
1,182		9.32% Pervious Area
11,494		90.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment 3S: Remaining lot 2**

Runoff = 1.81 cfs @ 12.09 hrs, Volume= 0.141 af, Depth&gt; 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
* 27,834	96	
27,834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

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Type III 24-hr 2-year Rainfall=3.10"

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**Summary for Reach A: Outlet to system**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 2.67" for 2-year event  
Inflow = 2.24 cfs @ 12.21 hrs, Volume= 0.310 af  
Outflow = 2.24 cfs @ 12.21 hrs, Volume= 0.310 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

**Summary for Pond 1P: Rtank**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 2.70" for 2-year event  
Inflow = 3.97 cfs @ 12.09 hrs, Volume= 0.313 af  
Outflow = 2.24 cfs @ 12.21 hrs, Volume= 0.310 af, Atten= 44%, Lag= 7.6 min  
Primary = 2.24 cfs @ 12.21 hrs, Volume= 0.310 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 10.81' @ 12.21 hrs Surf.Area= 3,124 sf Storage= 2,528 cf

Plug-Flow detention time=27.2 min calculated for 0.310 af (99% of inflow)  
Center-of-Mass det. time=21.0 min ( 790.6 - 769.6 )

Volume	Invert	Avail.Storage	Storage Description
#1A	9.75'	1,948 cf	<b>43.37'W x 72.03'L x 3.42'H Field A</b> 10,669 cf Overall - 5,799 cf Embedded = 4,870 cf x 40.0% Voids
#2A	10.00'	5,509 cf	<b>ACF R-Tank HD 1.5 x 870 Inside #1</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 30 Rows of 29 Chambers
		7,457 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	9.75'	<b>12.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.75' / 9.65' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.23 cfs @ 12.21 hrs HW=10.81' (Free Discharge)  
↑**1=Culvert** (Inlet Controls 2.23 cfs @ 2.84 fps)

**Summary for Pond OCS: outlet control structure**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 2.67" for 2-year event  
Inflow = 2.24 cfs @ 12.21 hrs, Volume= 0.310 af  
Outflow = 2.24 cfs @ 12.21 hrs, Volume= 0.310 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.24 cfs @ 12.21 hrs, Volume= 0.310 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

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Type III 24-hr 2-year Rainfall=3.10"

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Peak Elev= 12.31' @ 12.21 hrs

Flood Elev= 100.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	12.25'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Primary	11.75'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600
#3	Primary	11.50'	<b>6.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600
#4	Primary	9.75'	<b>1.0" Vert. Orifice/Grate X 2.00</b> C= 0.600

**Primary OutFlow** Max=2.10 cfs @ 12.21 hrs HW=12.31' (Free Discharge)

- 1=Sharp-Crested Rectangular Weir(Weir Controls 0.21 cfs @ 0.82 fps)
- 2=Orifice/Grate (Orifice Controls 1.31 cfs @ 2.61 fps)
- 3=Orifice/Grate (Orifice Controls 0.50 cfs @ 3.99 fps)
- 4=Orifice/Grate (Orifice Controls 0.08 cfs @ 7.65 fps)

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Type III 24-hr 10-year Rainfall=4.60"

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Time span=0.50-24.00 hrs, dt=0.05 hrs, 471 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment1S: Hotel** Runoff Area=20,144 sf 100.00% Impervious Runoff Depth>4.36"  
Tc=6.0 min CN=98 Runoff=2.03 cfs 0.168 af

**Subcatchment2S: Drive/hotel sidewalk** Runoff Area=12,676 sf 90.68% Impervious Runoff Depth>4.02"  
Tc=6.0 min CN=95 Runoff=1.24 cfs 0.098 af

**Subcatchment3S: Remaining lot 2** Runoff Area=27,834 sf 0.00% Impervious Runoff Depth>4.13"  
Tc=6.0 min CN=96 Runoff=2.75 cfs 0.220 af

**Reach A: Outlet to system** Inflow=3.07 cfs 0.482 af  
Outflow=3.07 cfs 0.482 af

**Pond 1P: Rtank** Peak Elev=11.31' Storage=3,874 cf Inflow=6.02 cfs 0.486 af  
12.0" Round Culvert n=0.010 L=10.0' S=0.0100 ' /' Outflow=3.07 cfs 0.482 af

**Pond OCS: outlet control structure** Peak Elev=12.41' Inflow=3.07 cfs 0.482 af  
Outflow=3.07 cfs 0.482 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.486 af Average Runoff Depth = 4.19"**  
**47.84% Pervious = 0.666 ac 52.16% Impervious = 0.726 ac**

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Type III 24-hr 10-year Rainfall=4.60"

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**Summary for Subcatchment 1S: Hotel**

Runoff = 2.03 cfs @ 12.09 hrs, Volume= 0.168 af, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
* 20,144	98	roof
20,144		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Subcatchment 2S: Drive/hotel sidewalk**

Runoff = 1.24 cfs @ 12.09 hrs, Volume= 0.098 af, Depth> 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
* 11,494	98	
* 1,182	61	landscaped beds
12,676	95	Weighted Average
1,182		9.32% Pervious Area
11,494		90.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment 3S: Remaining lot 2**

Runoff = 2.75 cfs @ 12.09 hrs, Volume= 0.220 af, Depth> 4.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
* 27,834	96	
27,834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

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**Summary for Reach A: Outlet to system**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 4.15" for 10-year event  
Inflow = 3.07 cfs @ 12.23 hrs, Volume= 0.482 af  
Outflow = 3.07 cfs @ 12.23 hrs, Volume= 0.482 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

**Summary for Pond 1P: Rtank**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 4.19" for 10-year event  
Inflow = 6.02 cfs @ 12.09 hrs, Volume= 0.486 af  
Outflow = 3.07 cfs @ 12.23 hrs, Volume= 0.482 af, Atten= 49%, Lag= 8.8 min  
Primary = 3.07 cfs @ 12.23 hrs, Volume= 0.482 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 11.31' @ 12.23 hrs Surf.Area= 3,124 sf Storage= 3,874 cf

Plug-Flow detention time=25.2 min calculated for 0.482 af (99% of inflow)  
Center-of-Mass det. time=20.2 min ( 780.3 - 760.0 )

Volume	Invert	Avail.Storage	Storage Description
#1A	9.75'	1,948 cf	<b>43.37'W x 72.03'L x 3.42'H Field A</b> 10,669 cf Overall - 5,799 cf Embedded = 4,870 cf x 40.0% Voids
#2A	10.00'	5,509 cf	<b>ACF R-Tank HD 1.5 x 870 Inside #1</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 30 Rows of 29 Chambers
		7,457 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	9.75'	<b>12.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.75' / 9.65' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.07 cfs @ 12.23 hrs HW=11.30' (Free Discharge)  
↑**1=Culvert** (Inlet Controls 3.07 cfs @ 3.90 fps)

**Summary for Pond OCS: outlet control structure**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 4.15" for 10-year event  
Inflow = 3.07 cfs @ 12.23 hrs, Volume= 0.482 af  
Outflow = 3.07 cfs @ 12.23 hrs, Volume= 0.482 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.07 cfs @ 12.23 hrs, Volume= 0.482 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

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Type III 24-hr 10-year Rainfall=4.60"

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Peak Elev= 12.41' @ 12.23 hrs

Flood Elev= 100.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	12.25'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Primary	11.75'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600
#3	Primary	11.50'	<b>6.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600
#4	Primary	9.75'	<b>1.0" Vert. Orifice/Grate X 2.00</b> C= 0.600

**Primary OutFlow** Max=2.97 cfs @ 12.23 hrs HW=12.41' (Free Discharge)

- 1=Sharp-Crested Rectangular Weir(Weir Controls 0.84 cfs @ 1.31 fps)
- 2=Orifice/Grate (Orifice Controls 1.52 cfs @ 3.03 fps)
- 3=Orifice/Grate (Orifice Controls 0.53 cfs @ 4.26 fps)
- 4=Orifice/Grate (Orifice Controls 0.09 cfs @ 7.79 fps)



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Type III 24-hr 25-year Rainfall=5.80"

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Time span=0.50-24.00 hrs, dt=0.05 hrs, 471 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment1S: Hotel** Runoff Area=20,144 sf 100.00% Impervious Runoff Depth>5.56"  
Tc=6.0 min CN=98 Runoff=2.57 cfs 0.214 af

**Subcatchment2S: Drive/hotel sidewalk** Runoff Area=12,676 sf 90.68% Impervious Runoff Depth>5.21"  
Tc=6.0 min CN=95 Runoff=1.58 cfs 0.126 af

**Subcatchment3S: Remaining lot 2** Runoff Area=27,834 sf 0.00% Impervious Runoff Depth>5.32"  
Tc=6.0 min CN=96 Runoff=3.50 cfs 0.284 af

**Reach A: Outlet to system** Inflow=3.65 cfs 0.620 af  
Outflow=3.65 cfs 0.620 af

**Pond 1P: Rtank** Peak Elev=11.74' Storage=5,056 cf Inflow=7.65 cfs 0.624 af  
12.0" Round Culvert n=0.010 L=10.0' S=0.0100 '/ Outflow=3.65 cfs 0.620 af

**Pond OCS: outlet control structure** Peak Elev=12.47' Inflow=3.65 cfs 0.620 af  
Outflow=3.65 cfs 0.620 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.624 af Average Runoff Depth = 5.38"**  
**47.84% Pervious = 0.666 ac 52.16% Impervious = 0.726 ac**

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Type III 24-hr 25-year Rainfall=5.80"

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**Summary for Subcatchment 1S: Hotel**

Runoff = 2.57 cfs @ 12.09 hrs, Volume= 0.214 af, Depth&gt; 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	20,144	98	roof
	20,144		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Subcatchment 2S: Drive/hotel sidewalk**

Runoff = 1.58 cfs @ 12.09 hrs, Volume= 0.126 af, Depth&gt; 5.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	11,494	98	
*	1,182	61	landscaped beds
	12,676	95	Weighted Average
	1,182		9.32% Pervious Area
	11,494		90.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment 3S: Remaining lot 2**

Runoff = 3.50 cfs @ 12.09 hrs, Volume= 0.284 af, Depth&gt; 5.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	27,834	96	
	27,834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

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**Summary for Reach A: Outlet to system**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 5.34" for 25-year event  
Inflow = 3.65 cfs @ 12.25 hrs, Volume= 0.620 af  
Outflow = 3.65 cfs @ 12.25 hrs, Volume= 0.620 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

**Summary for Pond 1P: Rtank**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 5.38" for 25-year event  
Inflow = 7.65 cfs @ 12.09 hrs, Volume= 0.624 af  
Outflow = 3.65 cfs @ 12.25 hrs, Volume= 0.620 af, Atten= 52%, Lag= 9.9 min  
Primary = 3.65 cfs @ 12.25 hrs, Volume= 0.620 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 11.74' @ 12.25 hrs Surf.Area= 3,124 sf Storage= 5,056 cf

Plug-Flow detention time=24.7 min calculated for 0.619 af (99% of inflow)  
Center-of-Mass det. time=20.3 min ( 775.4 - 755.1 )

Volume	Invert	Avail.Storage	Storage Description
#1A	9.75'	1,948 cf	<b>43.37'W x 72.03'L x 3.42'H Field A</b> 10,669 cf Overall - 5,799 cf Embedded = 4,870 cf x 40.0% Voids
#2A	10.00'	5,509 cf	<b>ACF R-Tank HD 1.5 x 870 Inside #1</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 30 Rows of 29 Chambers
		7,457 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	9.75'	<b>12.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.75' / 9.65' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.65 cfs @ 12.25 hrs HW=11.74' (Free Discharge)  
↑**1=Culvert** (Inlet Controls 3.65 cfs @ 4.64 fps)

**Summary for Pond OCS: outlet control structure**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 5.34" for 25-year event  
Inflow = 3.65 cfs @ 12.25 hrs, Volume= 0.620 af  
Outflow = 3.65 cfs @ 12.25 hrs, Volume= 0.620 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.65 cfs @ 12.25 hrs, Volume= 0.620 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

**proposed site**

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AC Hotel Portland  
Type III 24-hr 25-year Rainfall=5.80"

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Peak Elev= 12.47' @ 12.25 hrs

Flood Elev= 100.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	12.25'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Primary	11.75'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600
#3	Primary	11.50'	<b>6.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600
#4	Primary	9.75'	<b>1.0" Vert. Orifice/Grate X 2.00</b> C= 0.600

**Primary OutFlow** Max=3.59 cfs @ 12.25 hrs HW=12.47' (Free Discharge)

- 1=Sharp-Crested Rectangular Weir(Weir Controls 1.32 cfs @ 1.53 fps)
- 2=Orifice/Grate (Orifice Controls 1.63 cfs @ 3.25 fps)
- 3=Orifice/Grate (Orifice Controls 0.55 cfs @ 4.42 fps)
- 4=Orifice/Grate (Orifice Controls 0.09 cfs @ 7.88 fps)

**proposed site**

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AC Hotel Portland  
Type III 24-hr 100 year Rainfall=8.10"

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Time span=0.50-24.00 hrs, dt=0.05 hrs, 471 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment1S: Hotel** Runoff Area=20,144 sf 100.00% Impervious Runoff Depth>7.86"  
Tc=6.0 min CN=98 Runoff=3.59 cfs 0.303 af

**Subcatchment2S: Drive/hotel sidewalk** Runoff Area=12,676 sf 90.68% Impervious Runoff Depth>7.50"  
Tc=6.0 min CN=95 Runoff=2.23 cfs 0.182 af

**Subcatchment3S: Remaining lot 2** Runoff Area=27,834 sf 0.00% Impervious Runoff Depth>7.62"  
Tc=6.0 min CN=96 Runoff=4.93 cfs 0.406 af

**Reach A: Outlet to system** Inflow=5.02 cfs 0.885 af  
Outflow=5.02 cfs 0.885 af

**Pond 1P: Rtank** Peak Elev=13.08' Storage=7,353 cf Inflow=10.75 cfs 0.890 af  
12.0" Round Culvert n=0.010 L=10.0' S=0.0100 '/ Outflow=5.02 cfs 0.885 af

**Pond OCS: outlet control structure** Peak Elev=12.55' Inflow=5.02 cfs 0.885 af  
Outflow=5.02 cfs 0.885 af

**Total Runoff Area = 1.392 ac Runoff Volume = 0.890 af Average Runoff Depth = 7.67"**  
**47.84% Pervious = 0.666 ac 52.16% Impervious = 0.726 ac**

**proposed site**

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AC Hotel Portland  
Type III 24-hr 100 year Rainfall=8.10"

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**Summary for Subcatchment 1S: Hotel**

Runoff = 3.59 cfs @ 12.09 hrs, Volume= 0.303 af, Depth> 7.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=8.10"

Area (sf)	CN	Description
* 20,144	98	roof
20,144		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**Summary for Subcatchment 2S: Drive/hotel sidewalk**

Runoff = 2.23 cfs @ 12.09 hrs, Volume= 0.182 af, Depth> 7.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=8.10"

Area (sf)	CN	Description
* 11,494	98	
* 1,182	61	landscaped beds
12,676	95	Weighted Average
1,182		9.32% Pervious Area
11,494		90.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, Direct</b>

**Summary for Subcatchment 3S: Remaining lot 2**

Runoff = 4.93 cfs @ 12.09 hrs, Volume= 0.406 af, Depth> 7.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100 year Rainfall=8.10"

Area (sf)	CN	Description
* 27,834	96	
27,834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, direct</b>

**proposed site**

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AC Hotel Portland  
Type III 24-hr 100 year Rainfall=8.10"

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**Summary for Reach A: Outlet to system**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 7.63" for 100 year event  
Inflow = 5.02 cfs @ 12.26 hrs, Volume= 0.885 af  
Outflow = 5.02 cfs @ 12.26 hrs, Volume= 0.885 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

**Summary for Pond 1P: Rtank**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 7.67" for 100 year event  
Inflow = 10.75 cfs @ 12.09 hrs, Volume= 0.890 af  
Outflow = 5.02 cfs @ 12.26 hrs, Volume= 0.885 af, Atten= 53%, Lag= 10.3 min  
Primary = 5.02 cfs @ 12.26 hrs, Volume= 0.885 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs  
Peak Elev= 13.08' @ 12.26 hrs Surf.Area= 3,124 sf Storage= 7,353 cf

Plug-Flow detention time=24.3 min calculated for 0.885 af (99% of inflow)  
Center-of-Mass det. time=20.5 min ( 769.4 - 748.9 )

Volume	Invert	Avail.Storage	Storage Description
#1A	9.75'	1,948 cf	<b>43.37'W x 72.03'L x 3.42'H Field A</b> 10,669 cf Overall - 5,799 cf Embedded = 4,870 cf x 40.0% Voids
#2A	10.00'	5,509 cf	<b>ACF R-Tank HD 1.5 x 870 Inside #1</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 30 Rows of 29 Chambers
		7,457 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	9.75'	<b>12.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.75' / 9.65' S= 0.0100 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=5.02 cfs @ 12.26 hrs HW=13.07' (Free Discharge)  
↑**1=Culvert** (Inlet Controls 5.02 cfs @ 6.39 fps)

**Summary for Pond OCS: outlet control structure**

Inflow Area = 1.392 ac, 52.16% Impervious, Inflow Depth > 7.63" for 100 year event  
Inflow = 5.02 cfs @ 12.26 hrs, Volume= 0.885 af  
Outflow = 5.02 cfs @ 12.26 hrs, Volume= 0.885 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.02 cfs @ 12.26 hrs, Volume= 0.885 af

Routing by Stor-Ind method, Time Span= 0.50-24.00 hrs, dt= 0.05 hrs

**proposed site**

Prepared by Ransom Consulting

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AC Hotel Portland  
Type III 24-hr 100 year Rainfall=8.10"

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Peak Elev= 12.55' @ 12.26 hrs

Flood Elev= 100.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	12.25'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#2	Primary	11.75'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600
#3	Primary	11.50'	<b>6.0" W x 3.0" H Vert. Orifice/Grate</b> C= 0.600
#4	Primary	9.75'	<b>1.0" Vert. Orifice/Grate X 2.00</b> C= 0.600

**Primary OutFlow** Max=4.59 cfs @ 12.26 hrs HW=12.55' (Free Discharge)

- 1=Sharp-Crested Rectangular Weir(Weir Controls 2.15 cfs @ 1.80 fps)
- 2=Orifice/Grate (Orifice Controls 1.77 cfs @ 3.55 fps)
- 3=Orifice/Grate (Orifice Controls 0.58 cfs @ 4.63 fps)
- 4=Orifice/Grate (Orifice Controls 0.09 cfs @ 8.00 fps)



**APPENDIX D**

Water Quality Calculations

City of Portland  
Hancock/Thames/Fore Street  
Portland, Maine

Objective: Determine Water Quality Treatment

Existing site is entirely gravel based on past practices and aerial photography with a few concrete pads scattered around the site. Considered impervious

Existing site = 60,654 sf. (lots 1 & 2)

Since existing site is currently impervious, there are no additional treatment requirements; however a treatment system will be used beneath the pervious pavers w/in the Drive/turn around.

Assume these are B soils based on H:A report

Pervious pavers and a filter system are being used within the driveway and turnaround at building

Currently the hotel building Roof Runoff will not be treated, but will discharge directly to the R-tank storage system.

The remaining impervious area is assumed to discharge to the pervious paver system. Note that in the future, Roofs of proposed structures will discharge directly to the R-Tank system.

Additionally, the landscaped areas adjacent to the hotel building are within a raised bed, this area is assumed to be left untreated.

Area of pavers required for full treatment of runoff = 20% of area

After Phase 1 construction:

Total (pre-existing):	60,654 sf	
- building untreated	- 20,144 sf	(subcatch 1)
- landscaped untreated	- 1,182 sf	(subcatch 2)
	<u>39,328 sf</u>	remaining w/in sub 2 & sub 3

$39,328 \text{ sf} \times 0.2 = 7,866 \text{ sf}$  of pavers required for full treatment of remaining impervious.

Area of pervious pavers/filter = 2896.6 sf

Area of pervious pavers (drive) = 1603.4 sf

$\frac{4500 \text{ sf}}{0.2} = 22,500 \text{ sf}$

possible treatment

$\frac{22,500}{60,654} = 37\%$  of site being treated vs. 0%

$\frac{22,500}{39,320} = 57\%$  of site remain after Ph. 1

Byfield, Massachusetts 978-465-1822  
Providence, Rhode Island 401-433-2160  
Portsmouth, New Hampshire 603-436-1490  
Portland, Maine 207-772-2891  
Hamilton, New Jersey 609-584-0090

PROJECT NO. 151.06094 SITE Act Hotel  
SHEET NO. 3 OF 3  
CALCULATED BY MPM DATE 3/13/10  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
SCALE N/A

Proposed Development of Lot 2 includes  
3 buildings totalling approximately 20595sf.  
Assuming the Roof runoff from each will be  
Piped directly to the R-tank system

$39,328 - 20595 \text{ sf} = 18733 \text{ sf}$  of area will  
drain to pervious pavers.

**APPENDIX E**

Stormwater Inspection and Maintenance Report

City of Portland  
Hancock/Thames/Fore Street  
Portland, Maine

# AC Hotel Stormwater System Inspection and Maintenance Report

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## **Inspection and Maintenance Contract:**

Long-term inspection and maintenance by a DEP approved stormwater maintenance inspector shall be regularly provided under a five-year binding inspection and maintenance contract that must be renewed prior to contract expiration. A legal agreement shall be established with responsibility for inspection and maintenance and should list specific maintenance responsibilities (including timetables) as well as provide for funding for the long-term inspection and maintenance. Debris and sediment buildup shall be removed from the paver system as needed.

## **Inspection schedule:**

During the first year of operation, filtration BMPs shall be inspected twice annually and following major storm events. Thereafter, the filter should be inspected every six months to ensure that it is draining within 48 hours following a 1-inch storm. Additionally, a storm that fills the system to overflow should be monitored to confirm it drains in no less than 36 hours and within 60 hours.

## **R-Tank Stormwater Detention:**

Inspection and Maintenance of the R-Tank shall be in accordance with the manufacturer's recommended practices to provide the performance required by the design. The R-Tank system includes inspection ports and maintenance ports, each of which has a cover at the surface. A visual inspection of all ports should be used to determine the depth of sediments deposited in the R-Tank system. The system should be back-flushed once the sediment accumulation has reached the manufacturer's limits. Once removed, sediment-laden water must be disposed of properly.

**Manmade Pervious Surfaces:**

Long-term inspection and maintenance by a DEP approved stormwater maintenance inspector shall be regularly provided under a five-year binding inspection and maintenance contract that must be renewed prior to contract expiration. Maintenance criteria for manmade pervious surfaces are as follows:

- Debris and sediment buildup shall be removed from the paver system using a vac truck as needed and shall be disposed properly.
- Remove sediment when the surface infiltration rates of more than 75% of the surface area fall below 10% of the post-installation verified surface infiltration rate.
- Remove sediment when surface ponding remains for more than 24 hours after the storm event in an area larger than 10 square feet.
- Restrain vehicles with muddy wheels from accessing pervious pavement areas.
- Limit salt use for deicing and do not use sand.
- Remove leaves and organic debris in the fall.
- Sweep, vacuum and/or pressure wash pavement twice annually at a minimum.

## **17. Summary of Project's Consistency with Related City Master Plans**



## **Summary of Project's Consistency with Related City Master Plans**

All portions of the proposed site plan have, to the best of our knowledge, been designed so as to be consistent / compliant with City approved Master Plans including *"A Master Plan for Redevelopment of the Eastern Waterfront"* and with off premises infrastructure, including sewer and stormwater, streets, trails, pedestrian and bicycle network, environmental management or other public facilities.

## **18. Utility Capacity to Serve Letters**



## Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

April 22, 2016

Ransom Consulting, Inc.  
404 Commercial Street, Suite 404  
Portland ME 04101

Attn: Maureen P. McGlone, P.E.  
Re: AC Hotel – Fore/Hancock Streets  
Ability to Serve with PWD Water

Dear Ms. McGlone:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on March 15, 2016. Based on the information provided, we can confirm that the District will be able to serve the proposed project as further described in this letter.

### Conditions of Service

The following conditions of service apply:

- A 6-inch fire service and a 4-inch domestic service may be installed on Fore Street. The domestic service may be tapped off the fire service line in Fore Street. Both services will require a separate shutoff valve located 6 inches inside the street line.
- Per our discussion with you on 4/13/16, the District is anticipating renewing the water mains on Fore and India Streets in the relatively near future. It would be beneficial to configure the service connection to the proposed hotel and adjacent proposed buildings to minimize future service interruptions. The District will work with you on configuration alternatives.
- Water District approval of water infrastructure plans will be required for the project prior to construction. As your project progresses, we advise that you submit any preliminary design plans to MEANS for review of the water main and water service line configuration. We will work with you to ensure that the design meets our current standards.

### Existing Site Service

According to District records, the project parcel is not served by water service. However, the parent parcel is served by an existing 8" fire service and 6" domestic service installed in 2006 from Thames Street.



### Water System Characteristics

According to District records, there is an 12-inch diameter cast iron water main (1884) on the southeast side of Fore Street, a 12-inch ductile iron water main (2006) on the southeast side of Thames Street, an 8-inch ductile iron water main (2006) on the northeast side of Hancock Street and a public fire hydrant located across Fore Street from the site. Recent flow data is not available in this area. The most recent static pressure reading was 110 psi on September 3, 2015.

### Public Fire Protection

You have not indicated whether this project will include the installation of new public hydrants to be accepted into the District water system. It is your responsibility to contact the Portland Fire Department to ensure that this project is adequately served by existing and/or proposed hydrants.

### Domestic Water Needs

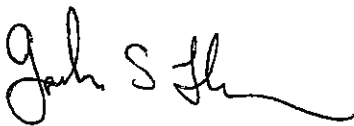
The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project. Based on the high water pressure in this area, we recommend that you consider the installation of pressure reducing devices that comply with state plumbing codes.

### Private Fire Protection Water Needs

You have indicated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Please share these results with your sprinkler system designer so that they can design the fire protection system to best fit the noted conditions. If the data is out of date or insufficient for their needs, please contact MEANS to request a hydrant flow test and we will work with you to get more complete data.

If the District can be of further assistance in this matter, please let us know.

Sincerely,  
Portland Water District

A handwritten signature in black ink, appearing to read "Gordon Johnson". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Gordon Johnson P.E.  
Engineering Services Manager



Helen Donaldson &lt;hcd@portlandmaine.gov&gt;

---

**Wastewater Water Application Approval for AC Hotel - 134 Fore St**

1 message

**David Margolis-Pineo** <dmp@portlandmaine.gov>

Fri, Mar 25, 2016 at 3:48 PM

To: aa.summit@prodigy.net, Maureen McGlone &lt;maureen.mcglone@ransomenv.com&gt;

Cc: Jeff Levine &lt;jlevine@portlandmaine.gov&gt;, Barbara Barhydt &lt;bab@portlandmaine.gov&gt;, John Emerson

&lt;jwe@portlandmaine.gov&gt;, Nancy Gallinaro &lt;neg@portlandmaine.gov&gt;, Benjamin Pearson

&lt;bnp@portlandmaine.gov&gt;, Rachel Smith &lt;rms@portlandmaine.gov&gt;, Scott Firmin &lt;sfirmin@pwd.org&gt;, Jean Fraser

&lt;jf@portlandmaine.gov&gt;, Helen Donaldson &lt;hcd@portlandmaine.gov&gt;, Shukria Wiar

&lt;shukriaw@portlandmaine.gov&gt;, Rick Knowland &lt;rwk@portlandmaine.gov&gt;

March 25, 2016

ARA Aftandilian [aa.summit@prodigy.net](mailto:aa.summit@prodigy.net) - Portland Norwich Group

2330 Palm Ridge Road

Sanibel, FL 33957

**RE: Capacity to Handle Wastewater Flows From 158 Fore St – AC Hotel, Bar/Lounge and Breakfast Area**

Dear Portland Norwich Group:

The Department of Public Services, which includes the Water Resource Division, has reviewed and determined that the downstream sewers from 158 Fore Street has the capacity to convey the estimated 22,780 gallons per day of wastewater which will be generated from the proposed hotel, bar/lounge and breakfast area. It is realized that the submitted application is for 150 rental room and the Capacity Application has accounted for 180 room in anticipation of a zoning change to allow an addition 30 rooms.

It is understood that no sources of stormwater runoff, roof drainage, or any other non-contaminated water shall be introduced to the wastewater collection system from this development.

If the City can be of further assistance, please call me at 874-8850 or 400-6695.

Sincerely,

**CITY OF**

**PORTLAND**

*David Margolis-Pineo*

David Margolis-Pineo

Deputy City Engineer

**Anticipated Wastewater Flows from the Proposed AC Hotel and Bar/Lounge**

Hotel: 180 Bedroom w/ breakfast @ 100 gpd/room plus 5 gpd/person (2) =  
19,800 gpd

Two meeting room w/ 50 seats @ 5 gpd/seat =  
250 gpd

40 employees @ 12 gpd/ employee =  
480 gpd

150 seat Bar/Lounge @ 15 gpd/seat =  
2,250 gpd

**Total = 22,780 gpd**

CC: Jeffrey Levine, Director, Department of Planning and Urban Development, City of Portland

Barbara Barhydt, Development Review Services Mgr., Dep't. of Planning and Urban Development, City of Portland

Nell Donaldson, Department of Planning and Urban Development, City of Portland

## **19. Summary of Solid Waste Generation and Management**

## **Summary of Solid Waste Generation & Proposed Management**

All hotel waste (including room, bar/lounge/kitchen, etc.) will be stored in appropriate trash/recycling containers internally in a central trash / receiving room located on the Hancock Street side of the building. These containers will be serviced by an independent solid waste contractor, on a regular basis, via doors that provide access to Hancock Street.

All waste generated from the site preparation and general site work will be collected and sorted/separated on-site until they are removed and disposed of properly, off-site, by a private contractor.

All construction waste will be collected and sorted/separated on-site and managed by the general contractor.



## **20. Fire Safety Plan and Code Summary**

## **Fire Safety Plan and Code Summary**

**As discussed with Planning - these items will be better addressed when the contractor is involved and building plans are being developed. It is requested that these items are required as conditions of approval prior to the issuance of a building permit or an advance site work approval. See attached email with Planning outlining this understanding.**



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 **ARA AFTANDILIAN,  
PORTLAND NORWICH GROUP, LLC.,  
PO BOX 394, TOPSFIELD MA 01983 978.887.3640**
- 2.
3. Name address, telephone number of architect **ROB FESTA, GROUP ONE PARTNERS, INC., 21 WEST 3RD ST., BOSTON, MA 02127, 617.268.7000**
4. Proposed uses of any structures [NFPA and IBC classification]
5. **180 ROOM HOTEL**
6. Square footage of all structures [total and per story]  
**FOOTPRINT = 20,040 + TOTAL SF = 108,960 SF**
7. Elevation of all structures  
**ELEVATION = +/-16' + +/- 15'**
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 **ACROSS FORE STREET AT OCEAN GATEWAY PARKING GARAGE, IN FRONT OF 144 FORE STREET, AND AT OCEAN GATEWAY TERMINAL**
10. Water main[s] size and location **12" MAIN IN FORE STREET AND 10" MAIN IN THAMES STREET**
11. Access to all structures [min. 2 sides] **YES, ACCESS TO ALL SIDES VIA STREETS AND DRIVEWAY**
12. A code summary shall be included referencing NFPA 1 and all fire department. Technical standards. **SEE ATTACHED EXHIBIT #20**

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

## **Matt Phillips**

---

**From:** Barry Stowe <barrys@opechee.com>  
**Sent:** Wednesday, March 16, 2016 12:20 PM  
**To:** Keith A Kelley  
**Cc:** aa.summit@prodigy.net; mphilips@carroll-assoc.com; hcd@portlandmaine.gov  
**Subject:** Planning Submission, AC Hotel

Hi Keith et al.

I spoke with Planning (specifically Nell Donaldson) regarding the construction management and fire/life safety plans. Planning understands these items will be better addressed when the contractor is involved and building plans are being developed. No need any waiver request or initial submittal. In the project narrative indicate a request for the fore mentioned plans to be required as conditions of approval prior to the issuance of a building permit or an advance site work approval. Also, this correspondence should be included in the AC Hotel submittal as confirmation Opechee understands these items will be required. Thanks

Best,

Barry Stowe

Opechee Construction Corporation  
11 Corporate Dr | Belmont | NH 03220  
P (603) 527-9090 | F (603) 527-9191

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## **21. Summary of Conformity with Applicable Design Standards**

## **Summary of Conformity with Applicable Design Standards**

Design Standards contained within Site Plan Standards (Section 14-526) of the Land Use Ordinance and (Section G) of the Design Manual apply to this project located in the B6 – Eastern Waterfront Mixed Use Zone.

### **SECTION 14-526 – SITE PLAN STANDARDS**

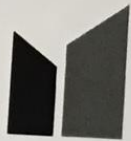
**RESPONSE:** To the best of our knowledge the proposed site plan adheres to the standards outlined in Section 14-526, except for the areas where a waiver is being requested. See Exhibit 10, Request for Waivers from Site Plan or Technical Standards.

### **(G) EWPZ EASTERN WATERFRONT PORT ZONE AND B6 EASTERN WATERFRONT MIXED USE ZONE:**

**(1) STANDARD.** Eastern Waterfront design standards: All major and minor development reviewed under the provisions of the eastern waterfront zones shall be designed to support the development of this urban neighborhood as a dense, mixed-use, pedestrian friendly neighborhood.

**RESPONSE:** The proposed site plan was designed with the above standards in mind. The hotel is only the first component to occur on this vacant land. The hotel is the backbone of the development and will anchor the block. Its 180 rooms and accommodations will provide the needed critical mass to add density and energy to the area. While the hotel is a single use the future plans (on the adjacent lot) call for mixed use (including residential, office, and retail). The current site plan calls for wide sidewalks and pedestrian ways which will connect to abutting streets and through the project making the site permeable and friendly to pedestrians.





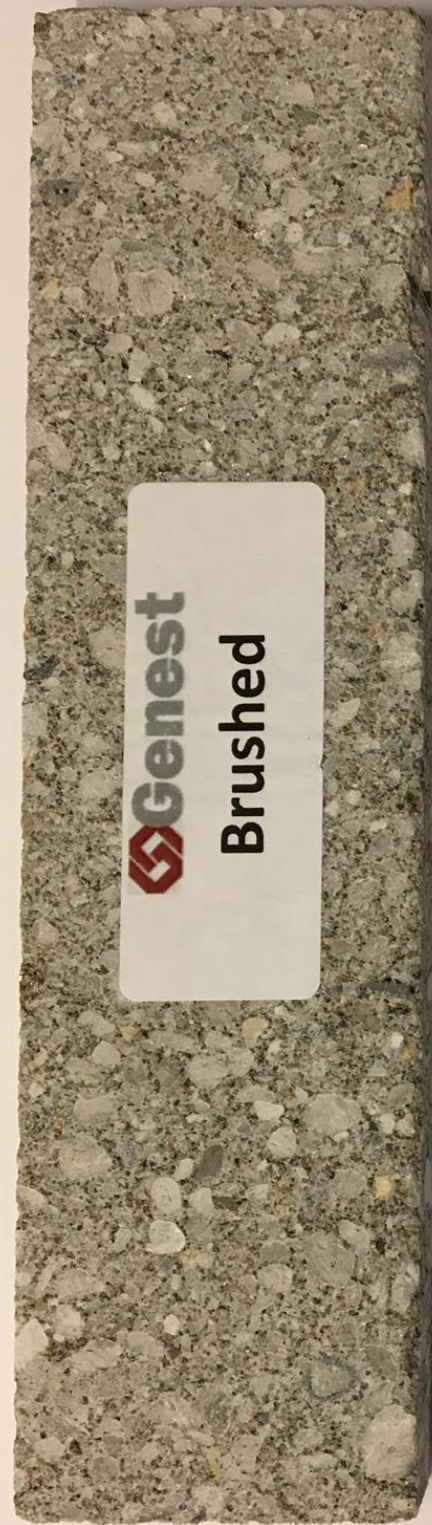
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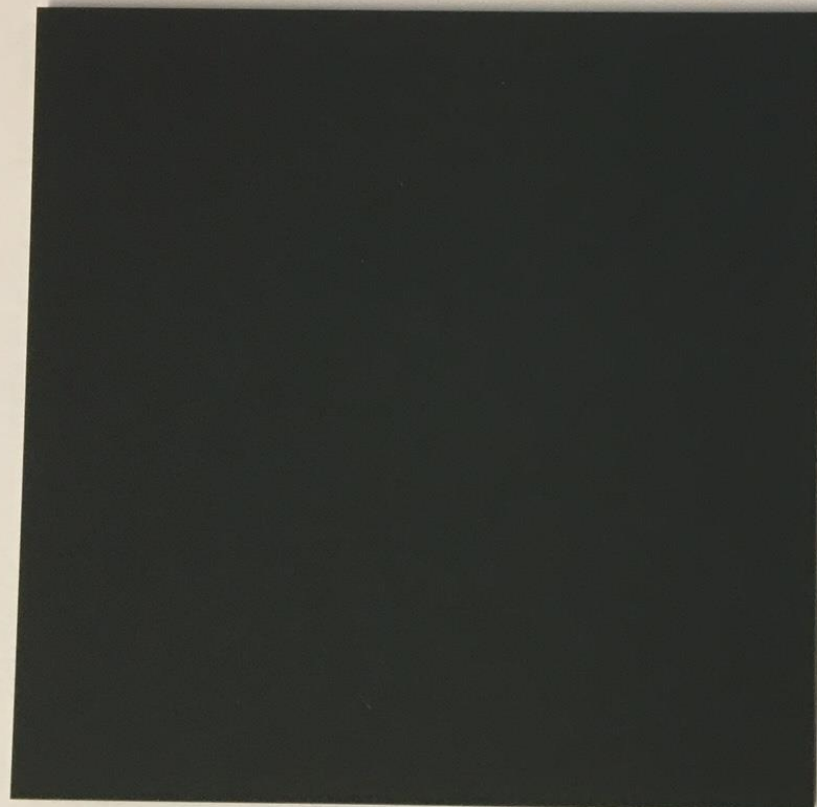




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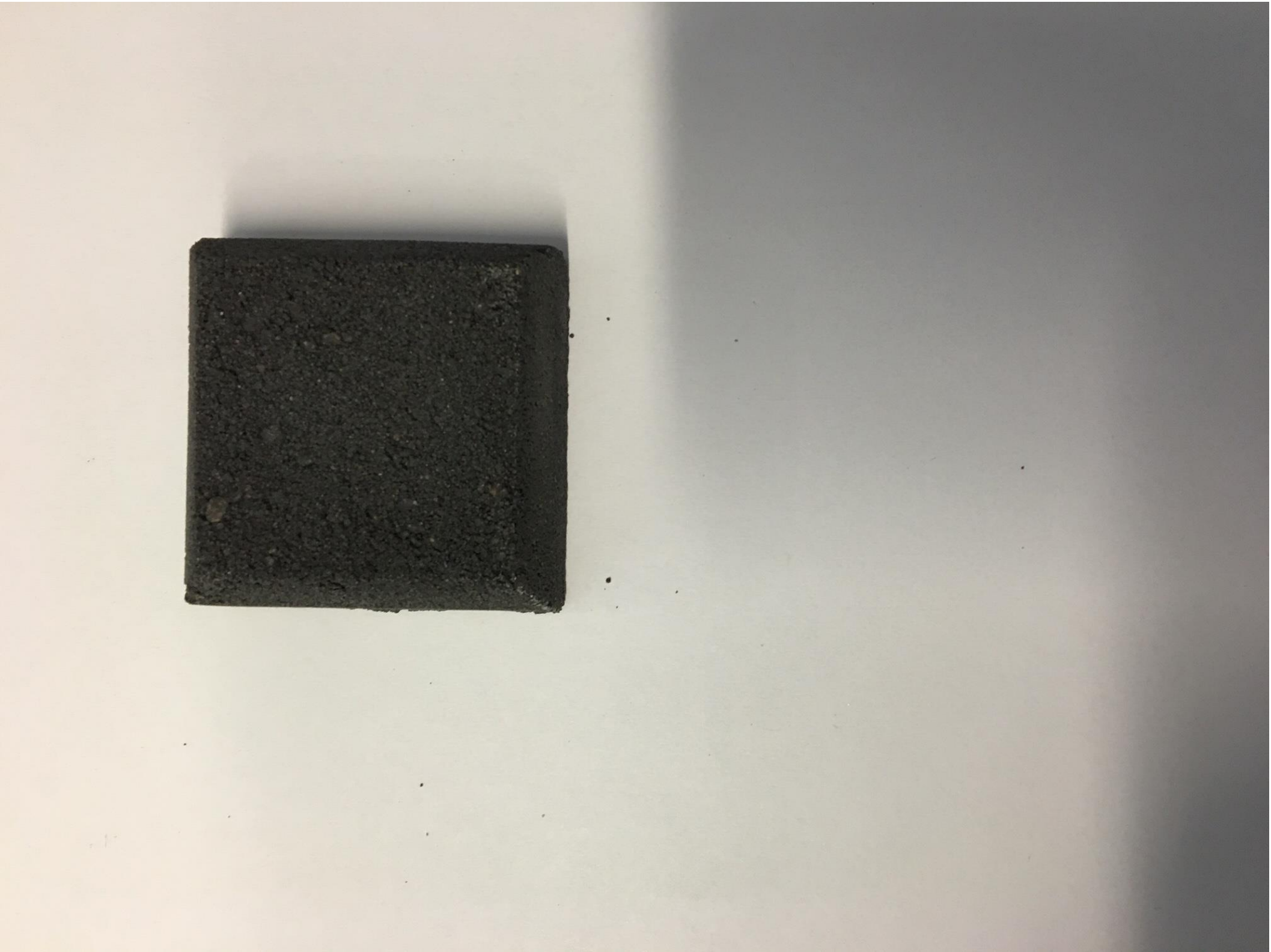


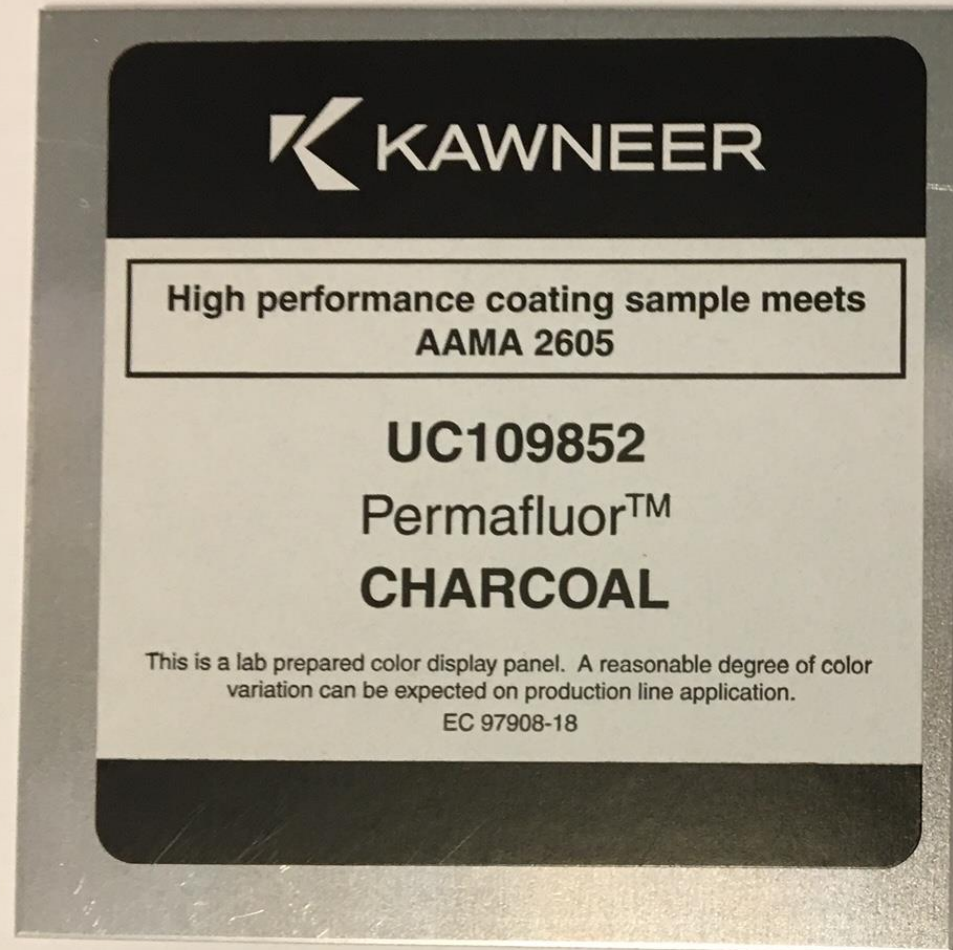
Project Name: \_\_\_\_\_

Approval: \_\_\_\_\_

Date: \_\_\_\_\_

Fairview Architectural LLC | 68 E Dudleytown Rd | Bloomfield CT 06002





## **22. Manufacturer's Verification of Equipment Meeting Emission Requirements**

## **Manufacturer's Verification of Equipment Meeting Emission Requirements**

At this point in the hotel design process it is too early to have specific equipment selected. As the construction management company works through the hotel's design development and specific equipment (manufacturers and models) is specified cut sheets will be submitted to Staff for review and approval.



## **23. Geotechnical Report**

**REPORT ON SUBSURFACE EXPLORATIONS AND  
GEOTECHNICAL ENGINEERING RECOMMENDATIONS  
THE WATERMARK  
PORTLAND, MAINE**

by

**Haley & Aldrich, Inc.  
Portland, Maine**

for

**Riverwalk, LLC  
Portland, Maine**

**File No. 30322-000  
16 May 2007**

Haley & Aldrich  
75 Washington Avenue  
Suite 203  
Portland, ME 04101-2617  
Tel: 207.482.4600  
Fax: 207.775.7666  
HaleyAldrich.com



16 May 2007  
File No. 30322-000

Riverwalk, LLC  
2 Market Street, Suite 500  
Portland, Maine 04101

Attention: Mr. Drew Swenson  
Manager

Subject: Report on Subsurface Explorations and  
Geotechnical Engineering Recommendations  
THE WATERMARK  
Portland, Maine

Ladies and Gentlemen:

This report summarizes our evaluation of subsurface explorations and provides our recommendations for geotechnical design and construction of the subject project located at India and Fore Streets in Portland, Maine. Our study was undertaken in accordance with our proposal dated 23 September 2005 and your subsequent authorization.

We have coordinated our work with the following project team members:

- |   |                                    |                     |
|---|------------------------------------|---------------------|
| ■ | Intercontinental Real Estate Corp. | Owner               |
| ■ | Riverwalk, LLC                     | Owner               |
| ■ | Gilbane Building Co.               | General Contractor  |
| ■ | The Architectural Team, Inc.       | Architect           |
| ■ | McNamara/Salvia, Inc.              | Structural Engineer |
| ■ | Woodard & Curran                   | Civil Engineer      |
| ■ | AHA Consulting Engineers           | MEP Engineer        |

## SUMMARY

We recommend that the proposed structure be supported using a combination of precast prestressed concrete piles driven to bearing in/on the underlying bedrock and conventional spread footings bearing directly on a prepared and approved bedrock surface. We recommend that an underslab and perimeter foundation drainage system be installed beneath the below grade portion of the building and adjacent to the perimeter below grade foundation walls. We

also recommend that the lowest level floor slabs be designed as soil supported slabs-on-grade. A temporary excavation support system will be required to construct the below grade portion of the new structure.

To insure the recommendations stated herein are incorporated into the design as intended, we recommend that Haley & Aldrich be involved in preparing the geotechnical Contract Documents, reviewing geotechnical related submittals, and performing on-site monitoring of the geotechnical aspects of construction in the field on behalf of the Owner. Specific recommendations for foundation design and construction are presented below.

### **ELEVATION DATUM**

The project elevation datum and elevations referenced herein are in feet and reference Portland City Datum (PCD). Portland City Datum relates to the National Geodetic Vertical Datum of 1929 (NGVD 29) as follows:

$$\text{Elevation in feet (PCD)} = \text{Elevation in ft (NGVD 29)} + 0.02 \text{ ft}$$

### **SITE LOCATION, EXISTING SITE CONDITIONS & PREVIOUS USE**

The general location of the project site is shown on Figure 1, Project Locus. For the purposes of this report, we will refer to Fore Street as the west boundary, India Street as the south boundary, Hancock Street Extension the north boundary and Commercial Street Extension as the east boundary. A three-story brick building (Grand Trunk Building) is present in the southeast corner of the site, at the intersection of Commercial and India Streets. An existing wastewater pump station operated by the Portland Water District (PWD Pump Station) is located at the southwest corner of the site. The site is currently being used as a parking lot; the majority of which is gravel but with some exposed bituminous and concrete surfaces. Two single-story, prefabricated metal buildings were present in the southeast portion of the site, adjacent to the Grand Trunk Building, and were demolished in April 2007. The site is relatively flat with site grades ranging from El. 14 along Commercial Street Extension to El. 18 along India Street.

The parcel was previously occupied by the Canadian National Railways Grand Trunk Railway System and operated as such until the mid-1980s. During operation the parcel formerly housed a circular round house in the northwest portion of the site and a large passenger depot running parallel with the present Commercial Street Extension (circa 1886 through 1896) and later became a rail yard used for shipping (circa 1909 to 1980). Historical Sanborn Maps of the site are provided for informational purposes in Appendix E. Abandoned foundations from structures that formerly occupied the site will likely be encountered during construction. These potential obstructions may include, but are not limited to granite blocks, wood piles, concrete slabs, railroad rails, footings, pile caps and grade beams. Refer to subsequent sections of this

report for additional information.

## **PROPOSED DEVELOPMENT**

Based on the current site development plans and details provided by The Architectural Team, Inc. (TAT) we understand that the development will include a six-story, above-grade structure comprised of both residential and retail space. The proposed building will contain one level of below grade parking. The main portion of the structure measures approximately 240 ft by 215 ft in plan dimension with a townhouse wing extending roughly 120 ft to the south, between the Grand Trunk Building and the PWD Pump Station.

The finished floor elevation (FFE) of the below grade parking level is currently planned at approximately El. 4. Vehicular access to the below grade parking area is planned at the southwest corner of the site, off of Fore Street, between column lines 8 and 9. Based on discussions with TAT the entrance ramp will consist of a structural slab (i.e., the ramp will not be constructed as a slab-on-grade supported by earth fill).

The FFE for the ground floor residential/retail space varies across the building footprint and is currently planned as follows: El. 15 along Commercial Street Extension and El. 17 along Fore Street with the difference being made up along Hancock Street Extension (location not yet determined). The proposed elevation of the inner courtyard area will be approximately El. 16. The first floor level of the townhouse wing also varies; El. 17 for the unit furthest from India Street, El. 17.5 for the next three units to the south and El. 18.8 for the unit closest to India Street.

Bay spacing varies throughout the building footprint but is typically on the order of 25 ft by 30 ft in plan dimension. Design column loads (axial compression) were provided by McNamara/Salvia, Inc. (MacSal) and range from 500 to 700 kips (1,000 lbs = 1 kip) for the interior columns and 250 kips in the courtyard area. Maximum column loads (axial compression) for the townhouse wing will be approximately 400 kips. Based on discussions with MacSal, it is our understanding that axial uplift loads at specific column locations are negligible and will be resisted using the dead weight of the footings/pile caps, and that maximum lateral column loads will be 100 kips, with a maximum total lateral load for the building equal to 1,000 kips.

## **SUBSURFACE EXPLORATIONS**

### **General**

Multiple subsurface exploration programs were undertaken in and around the area proposed for the subject project. Test borings were drilled in the vicinity of the site for design of the PWD Pump Station by Northern New England Test Boring Company of Portland, Maine in 1975.

Test borings were drilled at the site by Maine Test Borings, Inc. (MTB) of Brewer, Maine in 2005 and 2007 for design the subject project. Haley & Aldrich personnel were present to monitor the drilling (2005 and 2007) and to document the soil, rock and groundwater conditions encountered at each test boring location. Test boring locations are shown on Figure 2 and test boring logs are provided in Appendices A (1975) and B (2005 and 2007), respectively.

In general, soil samples were obtained by driving a 24-in. long, 1-3/8-in. inside diameter (ID) split- spoon sampler with a 140-lb weight dropped 30 in. The number of hammer blows required to advance the sampler for each 6-in. interval was recorded and is provided on the test boring logs. The SPT N-value is the total number of the hammer blows required to advance the sampler through the middle 12-in. of the 24-in. sampling interval and is referred to herein.

#### 1975 Subsurface Explorations

Previous explorations were conducted as part of the PWD Pump Station project. A total of five test borings, designated B5-19 through B5-23, were advanced to depths ranging from 16.5 to 47.9 ft below ground surface (BGS). Three test borings (B5-19, B5-20 and B5-21A) were advanced between 9.4 and 15 ft into bedrock.

#### 2005 and 2007 Subsurface Explorations

A preliminary phase subsurface exploration program was undertaken in October 2005 to define general subsurface conditions to allow for a preliminary assessment of foundation alternatives for the proposed commercial/retail building. A total of thirteen test borings, designated HA05-11 through HA05-23A, were advanced to depths ranging from 5 to 79 ft BGS.

In-situ vane shear tests were conducted within the glaciomarine clay deposit in test borings HA05-12, HA05-14 and HA05-15. Vane shear tests were performed to provide information on the shear strength and compressibility characteristics of the glaciomarine clay deposit at the site. Strength and compressibility characteristics of the deposit are discussed later in this report. In addition, two, 2-1/2 in. ID undisturbed tube samples were obtained from test borings HA05-11 and HA05-13. Results of the vane shear tests are summarized in Table II and can be found on the test boring logs provided in Appendix B.

Three groundwater observation wells were installed in completed boreholes HA05-11, HA05-14 and HA05-17 in order to facilitate monitoring of the groundwater levels. The three wells were screened in the near surface soils to determine the static water levels at the site.

Due to the extreme variability in subsurface conditions encountered across the site during the preliminary phase boring program, it was necessary to conduct a design phase subsurface exploration program. The primary purpose of this program was to help determine the likely

foundation conditions at specific column locations within the “transition zone” between shallow bedrock areas and thicker clay areas at the site. The program was undertaken in March 2007 and consisted of fourteen test borings, designated HA07-101 through HA07-113, that were drilled from depths ranging from 6.7 to 67.0 ft BGS. Test borings were advanced using steel casing, hollow stem augers or solid stem augers depending on the depth and purpose of each boring. Some test borings were advanced to refusal using a rod probe. This process consisted of driving a solid-stem, 2-in. diameter rod (with a 300-lb hammer dropping 18 in.), through the soil overburden to refusal at depth. Please note that only a few soil samples were collected (and SPT “N-values” recorded) during this program. Test boring HA07-101 was drilled approximately 8 ft into bedrock using a diamond tipped core barrel. The test borings were typically backfilled with the drill spoils upon completion.

In addition, one exploratory test pit was excavated at the northwest corner of the existing Grand Trunk Building to inspect the condition of the foundation wall and to determine the foundation type and bearing level. Detailed test pit sketches and photographs are provided in Appendix B.

## **SUBSURFACE CONDITIONS**

### **Soil/Bedrock Conditions**

The subsurface conditions encountered at the site consisted of the following geologic units presented in increasing depth below ground surface: bituminous concrete/portland cement concrete, miscellaneous fill, glaciomarine deposit (sand), organic deposit, glaciomarine deposit (clay), glaciomarine deposit (sand), glacial till and bedrock.

Bituminous Concrete/Portland Cement Concrete: A relatively thin layer of bituminous concrete and Portland cement concrete ranging from 1 to 5 in. thick was generally encountered at boring locations adjacent to Commercial Street Extension and in the central portion of the proposed building footprint. Additional concrete slabs are exposed at ground surface throughout the building footprint.

Miscellaneous Fill: The Portland waterfront has a long history of filling. Fill was encountered in each test boring at the site and generally ranged in thickness from 5 to 20 ft. The thickness of fill was typically less than 10 ft within the limits of the proposed townhouses (Column Lines 1 through 6) and within the limits of the residential/retail space (Column Lines 6 through 13) adjacent to the existing Grand Trunk Building. The thickness of fill generally increases to as much as about 20 ft to the west (Fore St.) and to the north (Hancock St. Ext.). Large obstructions were encountered within the fill at several test boring locations throughout the proposed building footprint (at locations shown on Figure 2; designated with “OB”). The material generally consisted of sand, gravel, brick and concrete fragments and miscellaneous construction rubble, and was medium dense to very dense with SPT N-values ranging from 2

to greater than 100 blows per foot (bpf). The majority of fill soils will be excavated during construction, assuming a finish floor elevation of El. 4 and a foundation bearing level of El. -1.5 in the below grade parking area.

Organic Deposit: Organic soil was encountered in test borings drilled in the central and northeastern portions of the site. The material was encountered at or below El. -4 and generally ranged in thickness from 4 to 6 ft. The deposit consisted of dark brown to gray, organic SILT (ML) and was typically soft to very stiff with SPT N-values ranging from 4 to 15 bpf. Where encountered, the deposit was typically overlain by a thin layer of glaciomarine sand. This material was most likely former harbor bottom sediment deposited prior to site filling.

Glaciomarine Deposit (clay): Glaciomarine clay was generally encountered in test borings drilled in the western and northern thirds of the building footprint. The deposit generally increases in thickness from south to north and east to west, and ranged between 23 and 44 ft thick. The upper 5 to 8 ft of the deposit consisted of olive gray lean CLAY (CL) and was typically medium stiff to very stiff with SPT N-values ranging from 9 to 23 bpf (referred to herein as the clay "crust"). The remainder of the deposit consisted of very soft to stiff, gray lean CLAY (CL) with SPT N-values ranging from weight of rods (WOR) to 9 bpf. The undrained shear strength of the clay typically ranged from 1,000 to 2,000 pounds per square foot (psf) in the clay crust, and from 400 to 1,000 psf in the clay below the crust.

Glaciomarine Deposit (sand):

Shallow deposits of glaciomarine sand were encountered in test borings generally in the central and northeast portions of the site. The deposit was typically encountered between El. 4.5 to El. -7 and ranged in thickness from 2 to 5 ft. Where encountered, the sand was underlain by the organic deposit. Deeper deposits of glaciomarine sand were encountered beneath glaciomarine clay sporadically across the site (in test borings HA05-12, HA05-13 and HA07-106). The deposit was encountered from El. -34 to El. -44 and ranged in thickness from 4 to 7 ft. The material consisted of either gray, silty SAND (SM) or poorly graded SAND (SP). The shallow deposit was typically medium dense to dense with SPT N-values ranging from 11 to in excess of 50 bpf, while the deeper deposit was generally loose to medium dense with SPT N-values ranging from 7 to 16 bpf.

Glacial Till: Glacial till was encountered beneath the glaciomarine clay and/or glaciomarine sand in test borings located in the north and northeastern portions of the building footprint. Where encountered, the elevation of the top of the deposit varied greatly from El. 1 to El. -38.5 and ranged in thickness from 1 ft to greater than 17 ft (HA05-13). The deposit was typically medium dense to very dense with SPT N-values ranging from 11 to greater than 50 bpf.



Bedrock: Bedrock was encountered and sampled at multiple test boring locations throughout the proposed building footprint. Within the limits of the townhouse wing the bedrock surface was generally encountered between El. 8.5 and El. 10.5, approximately 6 to 9 ft BGS. Within the limits of the proposed residential/retail space the bedrock surface varies significantly (see Figure 2 for top of rock elevations in each boring at the site). For example, along S-line the bedrock surface slopes down from south to north from El. 8 at the Grand Trunk Building to El. -59 at Hancock St. Extension (see Figure 4). In general, the bedrock surface drops steeply to the north between column lines 20 and 23. Along 8-line, the bedrock surface drops from east to west from El. 6.4 at G-line to El. -18 at C-line (see Figure 5).

The encountered bedrock is described as hard to moderately hard, fresh to slightly weathered SCHIST. Rock quality designation (RQD) is a common parameter that is used to aid in assessing the competency of sampled bedrock. RQD is defined as the sum of the lengths of pieces of recovered rock core greater than 4 in. in length, divided by the total length of the recovered rock core. RQD values for the bedrock encountered at the site typically ranged from between 50 and 75 percent and are shown on the test boring logs in Appendix B.

Subsurface profiles illustrating interpreted geologic conditions, determined from test boring data, were developed at several locations throughout the building footprint as follows:

- Figure 3 – Subsurface Profile A-A, between the PWD Pump Station and the Grand Trunk Building
- Figure 4 – Subsurface Profile B-B, along R-Line
- Figure 5 – Subsurface Profile C-C, along Column Line 8 between B-Line and G-Line

### Groundwater Conditions

As previously mentioned, three groundwater monitoring wells were installed within the footprint of the proposed structure; one adjacent to Fore Street, one adjacent to India Street and one near the future intersection between Hancock and Commercial Streets. A summary of measured water levels is provided below.

Well Location (Test Boring No.)	Approximate Groundwater Levels
Adjacent to Fore Street (HA05-11)	El. 6.5 to El. 7.2
Intersection of Commercial & Hancock Street Extensions (HA05-14)	El. 4.7 to El. 6.3
Adjacent to India Street (HA05-17)	El. 4.3 to El. 5.3

Water levels were measured at times corresponding to local high and low tides to determine the tidal influence on the static groundwater levels at the site. Based on the measurements, it is our opinion that the water levels at the site are not substantially influenced by tidal fluctuations in Casco Bay. Please note that the elevations shown in the table above are approximate and

were determined based on interpolating between ground surface contours provided by Woodard & Curran.

Groundwater levels can be expected to fluctuate, subject to seasonal variation, precipitation, local soil conditions, topography, leakage into and out of sewers, storm drains and other below-grade structures, and other factors. Groundwater levels encountered during construction may differ from those observed in the test borings or observation wells. Observation well installation and groundwater monitoring reports are included in Appendix C.

**LABORATORY TESTING**

A laboratory testing program was undertaken to classify the in-situ fill soils in order to help assess its reuse potential during site development. The laboratory testing program consisted of five grain size analyses, as summarized below.

Test Boring (Sample No.)	Sample Depth	Percent Gravel	Percent Sand (course/med/fine)	Percent Fines <sup>1</sup>	USCS Classification
HA05-11 (S1)	0.0-2.0	15.0	64.0 (12.0/27.0/25.0)	21.0	SM
HA05-13 (S2 & S3)	2.0-6.0	29.0	62.0 (8.0/27.0/27.0)	9.0	SP-SM
HA05-14 (S2)	2.0-4.0	13.0	75.0 (8.0/39.0/28.0)	12.0	SP-SM
HA05-19 (S1 & S2)	0.5-4.5	15.0	76.0 (8.0/37.0/31.0)	9.0	SW-SM
HA05-21 (S2 & S3)	2.0-6.0	16.0	72.0 (11.0/35.0/26.0)	12.0	SP-SM

Note: <sup>1</sup> refers to the percentage of soil particles finer than the No. 200 (0.075 mm) sieve

The results of the laboratory testing program are included in Appendix D. The potential for reusing these soils as common and/or compacted granular fill at the site is discussed in the Construction Considerations section of this report.

**GEOTECHNICAL ENGINEERING RECOMMENDATIONS**

This section, intended primarily for members of the design team responsible for design of the structures and preparation of contract documents, provides geotechnical recommendations for foundation design of the proposed structure. In general, design and construction of the proposed development should be completed in accordance with the requirements of the 2003 International Building Code (IBC). Recommendations provided herein refer to provisions in the IBC and relate to the subject project only.

## **Foundation Systems**

Based on the proposed site development (basement FFE of El. 4, foundation bearing level of approximately El.-1.5 and design column loads provided by MacSal) foundation units will bear on bedrock or will extend through overburden soils, developing the required support in/on the underlying bedrock (depending on column location). Initial analyses were performed to assess the feasibility of supporting a portion of the building (area bound by 6-line and 20-line between A-line and E-line) with spread footings bearing on naturally deposited glaciomarine clay. Although technically feasible, Intercontinental preferred to support this portion of the building on piles to minimize the impact of potential differential settlement in the structural design of the building superstructure. As a result, we recommend that a combination of spread footings bearing on bedrock and end bearing piles be used to support the proposed structure. Both are discussed separately, below. A summary of recommended foundation support on a column by column basis is provided in Table III. We anticipate that approximately 45 percent of the columns will be supported using spread footing foundations. The anticipated transition between spread footings and pile foundations is shown graphically on Figure 2.

### Footings

The townhouse wing and a portion of the residential/retail space that lies within "Foundation Design Zone A" (see Figure 2) will be supported by reinforced concrete footings bearing directly on competent bedrock. We recommend that the in-situ fill soils present within the townhouse wing, generally between G-line and N-line from 1-line to 6-line be over-excavated in order for the foundations to bear directly on bedrock. Based on the level of the bedrock encountered in this area, we estimate that the foundations for the townhouse wing will bear between El. 3 and El. 10.

Based on our discussions with MacSal and a proposed lowest level floor slab at El. 4 within the residential/retail portion of the building, it is our understanding that the footings would ideally bear at approximately El.-1.5. As a result, it will be necessary to remove up to 12 ft of bedrock to construct the footing foundations in the southeast portion of the basement footprint (generally bound by F-line and T-line between 6-line and 13-line).

Based on the condition of the bedrock encountered within "Foundation Design Zone A", we recommend that spread footing foundations be designed using an allowable bearing pressure equal to 30 tons per square foot (tsf) with a minimum footing width of 3 ft. We anticipate resulting elastic settlements will be less than ¼-in. Based on discussions with MacSal, we understand that this amount of settlement is acceptable.

### Pile Foundations

It is our opinion, based on the subsurface conditions and the range in design loads, that a

variety of pile types (e.g., steel H-piles and precast, prestressed concrete (PPC) piles) are technically feasible. However, based on recent contractor bids for the adjacent Ocean Gateway Parking Garage project, we recommend that PPC piles be used for this project based on the current market economics. Recognizing that the cost of installation of the various pile types fluctuates, the final pile selection may change based on pile availability and economics at the time the project goes out to bid.

We recommend that columns within "Foundation Design Zone B" be supported on 100-ton capacity, 12-inch square, PPC piles driven to practicable refusal in/on the underlying bedrock. PPC piles should be designed in accordance with the IBC and current standards of the Joint Committee of AASHTO and the Precast/Prestressed Concrete Institute (PCI) using a minimum 5,000 psi compressive strength concrete. In addition, we recommend the piles be equipped with a 1 ½-in. thick steel bottom plate and appropriate spiral steel reinforcement in the upper portion of the pile for seismic connection at the pile cap.

We anticipate that piles may advance up to 1 ft into the bedrock prior to achieving end bearing. Based on this, a proposed basement finish floor elevation of El. 4 and an average, assumed pile cut-off level equal to El. 0, pile lengths should vary between 20 and 70 ft. We anticipate that piles at columns J-19 and L-19 will be slightly shorter, on the order of 10 to 15 ft in length. Based on these pile lengths, we anticipate that some pile splicing will be needed for the piles installed in the northern portion of the building footprint, generally between column lines 20 and 23.

The piles should be installed to a minimum ultimate geotechnical capacity equal to the design capacity multiplied by 2.25 (225 tons). The installation/driving criterion for the piles is a function of pile hammer selected by the Contractor to install the piles. This criterion should be determined by the Contractor's engineer (using wave equation analysis; WEAP) and reviewed/approved by Haley & Aldrich prior to construction. The requirements of this analysis will be outlined in the pile specification. The installation/driving criterion provided by the Contractor will determine the number of hammer blows required to drive the pile over the final 6 in. of driving, which will result in the pile achieving the required minimum ultimate geotechnical capacity (2.25 x pile design capacity). If abrupt refusal is encountered, driving should be terminated when the pile penetration is less than ½-in. for 10 consecutive hammer blows.

It is our opinion that dynamic pile testing could be used in lieu of a static pile load test. Dynamic testing is more cost effective than static load testing, provides reliable pile capacity information and is accepted by the IBC. The dynamic testing will: 1.) verify that the pile ultimate capacity is achieved; 2.) confirm the bearing capacity value for rock used in the pile design; and 3.) confirm that the stresses in the pile do not exceed allowable limits during driving as specified by the IBC. We recommend that the Contractor monitor the installation of approximately 3 to 5 percent of the production piles (i.e., indicator piles) using the Case-Goble

Pile Driving Analyzer (PDA) equipment. In addition, CAPWAP analysis should be performed on a select number of the indicator piles installed during the PDA testing program. Use of dynamic testing alone will likely require approval from the City of Portland building official. Please note that installation of driven piles is a vibration and noise producing activity. If the potential vibration and noise caused by driving piles is not acceptable to City of Portland officials, then the use of alternative foundation units may become a more feasible option.

### **Frost Protection**

Bottoms of exterior footings bearing on rock should be founded a minimum of 3 ft below the lowest adjacent ground surface exposed to freezing. Bottoms of interior footings in heated areas should be founded a minimum of 2 ft below the top of the adjacent floor slab. Based on the proposed site development, we anticipate that all exterior footings and pile caps will bear at depths greater than 3 ft below finished grade (10 to 20 ft typical).

### **Ground Floor Slab**

We recommend that the ground floor slab for the townhouse wing and the below grade parking level in the residential/retail portion of the structure both be designed as a soil-supported, concrete slab-on-grade. The ground floor slab for the townhouse wing should bear on a minimum of 12 in. of compacted granular fill (CGF). We recommend that the slab for the below grade parking level bear directly on crushed stone placed as part of the underslab drainage system (see below). All previous construction debris (e.g., foundation walls, slabs, footings and underground utilities) should be removed from within the building limits prior to construction.

### **Resistance of Lateral Building Loads**

We recommend that structure lateral loads (maximum 1,000 kips) be resisted by passive earth pressures acting against foundation walls, footings, pile caps and grade beams. The net passive resistance (passive minus active) provided by the fill surrounding foundation walls, grade beams and pile caps can be calculated using an equivalent fluid weight (triangular distribution) of 300 pounds per cubic foot (pcf). This value assumes that granular backfill is free-draining and is placed and compacted in lifts. If the backfill is not systematically compacted, an equivalent fluid unit weight of 250 pcf should be used. The top of the assumed passive zone should be 1 ft below the ground surface unless it is confined by a slab or bituminous concrete.

As discussed with MacSal, we anticipate that passive earth pressures acting on the below grade portions of foundation walls will be adequate to provide resistance for the design maximum building lateral loading condition (1,000 kips). A minimum factor of safety for sliding equal to 2.0 should be achieved for resistance of permanent lateral loads.

### **Lateral Earth Pressures on Below-Grade Foundation Walls**

We recommend that exterior below-grade foundation walls retaining soil on one side and restrained at the top should be designed for static lateral earth pressures using an equivalent fluid unit weight of 60 pcf. Cantilever walls (i.e., walls that are free to rotate at the top) should be designed using an equivalent fluid unit weight of 40 pcf. These fluid weights assume a free-draining granular backfill is placed adjacent to the wall (with moist unit weight equal to 120 pcf) and that a perimeter foundation drain system is installed as recommended herein (i.e., no unbalanced hydrostatic pressures exist; “drained condition”). In particular, we anticipate that below grade portions of foundation walls will need to be designed to permanently resist lateral earth pressures up to approximately El. 18.

### **Seismic Design Considerations**

We recommend that the structure be designed in accordance with the seismic requirements of the latest edition of the IBC as outlined below. Due to the nature and thickness of overburden soils and the depth to bedrock specifically in the northern and eastern portions of the site, we recommend the site be considered “Site Class D”. In addition, we recommend the following values be used by MacSal to determine the design spectral response acceleration parameters ( $S_{Ds}$  and  $S_{D1}$ ) and to calculate the base shear for purposes of seismic design.

- Mapped Spectral Response Accelerations for Short Periods:  $S_s = 0.368 g$
- Mapped Spectral Response Accelerations for 1-second Periods:  $S_1 = 0.098 g$
- Site Coefficient for Short Periods:  $F_a = 1.506$
- Site Coefficient for 1-second Periods:  $F_v = 2.40$

Please note that “g” refers to acceleration due to gravity.

We do not consider the soils present at this site to be liquefaction susceptible.

### **Foundation Drainage System**

Due the proximity of the static groundwater levels (El. 5 to El. 7) to the anticipated level of the basement floor slab (El. 4), we recommend that a foundation drainage system be installed to protect the slab from hydrostatic pressures and groundwater infiltration.

The system should include underslab drains installed below the level of the lowest level floor slab in the basement area. The system should consist of non-woven filter fabric placed on the prepared, approved rock/soil subgrade, a minimum 12 in. thick layer of ¾-in. crushed stone placed above the fabric, with a network of 4 in. diameter perforated PVC or corrugated HDPE drain pipe (laid flat) embedded mid-height in the crushed stone layer. We estimate that the invert of the pipes would be approximately 12 in. below the finish floor elevation (estimated

El. 3).

The system should also include perimeter drains installed along the backfilled (exterior) side of below-grade building foundation walls where the interior floor level is below the exterior finished grades (likely along Commercial Street Extension, Hancock Street Extension, Fore Street and along 6-line). The drain should consist of a 4-in. diameter continuous perforated PVC or HDPE drain pipe (laid flat), surrounded by a minimum of 6-in. of  $\frac{3}{4}$ -in. crushed stone and a non-woven, 4-oz. filter/separation fabric, placed outside of the foundation wall. Pipe perforations should be oriented downward. The invert of the drain pipe should be positioned above the bearing level of footings/pile caps/grade beams, and at least 12 in. below the adjacent floor slab surface. Per the requirements of the IBC, the perimeter drain (including the pipe, crushed stone and filter fabric) should extend a minimum of 12 in. beyond the outside edge of the footing/pile cap. We recommend that free draining granular backfill be placed within the space between the outside of the foundation walls and the temporary support of excavation system.

Ideally, perimeter and underslab drain pipes should be installed at roughly the same invert elevation. The underslab and perimeter drain pipes should be connected by constructing "wall-through" or "box-out" penetrations at discrete locations in the foundation wall. It will be necessary to install sump pit(s) with pumps to discharge the effluent from the system to the local storm drain system. Based on our groundwater seepage estimates, the pumps should be capable of pumping 20 gallons per minute (gpm). We have discussed this magnitude of seepage with AHA, and they will design their pump systems to accommodate this anticipated flow (likely using 50 gpm capacity pumps). The sump pit should be equipped with dual pumps with alternating cycles, and a back up power system. The sump pit could be constructed either inside the building, or outside of the building adjacent to the foundation wall.

Pipe cleanouts should be provided at system corners (for both perimeter and underslab drain piping) to allow for future maintenance.

As an additional measure, surface runoff should be directed away from the building. In general, the finished ground surface immediately around the building should be sloped downward away from the structure to divert surface runoff. To limit surface water infiltration into the drainage system, it is recommended that the upper 8 in. of backfill within 10 ft of the building, in unpaved areas, consist of topsoil or other soil having low permeability.

We will provide a foundation drainage plan along with the appropriate drain system details for inclusion in the contract documents once the location and elevations of the footings, pile caps, grade beams, and below slab utilities are finalized. The location and invert level of the drains, pipe cleanouts, wall through penetrations and connection to the storm drain system will be coordinated with AHA, MacSal and Woodard & Curran.

### **Dampproofing/Waterproofing**

Waterproofing of walls and floor slabs for the below-grade portions of the building above the invert level of the foundation drain system is not needed.

In general, we recommend that dampproofing and insulation be placed on the outside face of foundation walls where the adjacent interior space is below the level of the exterior ground surface, in accordance with the IBC Code.

The base slab of the elevator pit(s) (top of slab at El. 0) should either be designed to resist hydrostatic uplift loads based on a groundwater level at El. 4, or should be permanently drained. If the slab is designed to resist uplift loads, we recommend that the walls and slab for the elevator pit(s) be waterproofed. If the slab is not designed to resist uplift loads, an underslab drainage system should be constructed beneath the pit slab(s). The system should consist of a minimum of 6 in. of crushed stone placed over a separation geotextile fabric (e.g., Mirafi 140N). The drain system should provide a discharge outlet for the water collected in the system (e.g., connection to the storm drain system or a sump inside/outside the building).

Based on the anticipated use of the below grade space, we do not consider the installation of vapor barriers necessary below the lowest level floor slab in the garage area.

### **Sidewalks**

Brick sidewalks proposed around the exterior of the buildings should be supported on a minimum of 1.5 ft of CGF. The surficial fill soils at the site are considered to be moderately frost susceptible. The purpose of placing free-draining granular soil below the sidewalks is to help control the potential for frost induced post-construction differential heaving and cracking.

### **CONSTRUCTION CONSIDERATIONS**

The primary purpose of this section is to comment on items related to excavation, earthwork, foundation installation, dewatering and related geotechnical aspects of proposed construction. This section is written primarily for the geotechnical engineer having responsibility for preparation of geotechnical related plans and specifications. Prospective contractors should evaluate the potential for construction problems on the basis of their own knowledge and experience in the Portland, Maine area, and on the basis of similar projects in other localities, taking into account their proposed construction methods, procedures, equipment and personnel.

Please note that the construction considerations provided below relate to the subject project only.



**Demolition**

Two single story, prefabricated metal buildings were present in the southeast portion of the site, adjacent to the Grand Trunk Building. The structures were demolished as part of the Ocean Gateway Parking Garage construction (by MC Hall). Gravel, bituminous and concrete is exposed at ground surface on the remainder of the site. We recommend that this material is removed prior to construction. Large obstructions were encountered within the fill at several test boring locations throughout the proposed building footprint (at locations shown on Figure 2). Additional information will be provided in the Contract Documents.

**Temporary Excavation Support System**

Based on the anticipated elevation of the bottom of footings and pile caps/grade beams within the below grade portion of the building (approximately El. -1.5), existing site grades adjacent to the proposed basement excavation and the proximity of the property lines relative to the location of the proposed basement area, an excavation support system will be required to construct the below grade portion of the proposed building. Based on subsurface soil, rock and groundwater conditions at the site, we anticipate that the most cost effective excavation support system will consist of the following:

Excavation Support System Location	Approx. System Length (lf)	Approx. Max. Height of Retained Soil (ft)	Anticipated Excavation Support System
from N-2 to G-1 and from G-1 to G-5	160	15	permanent drilled-in soldier piles and lagging
from G-5 to G-6 and from G-6 to D-6	85	20	temporary drilled-in soldier piles and lagging
from D-6 to B-6 and from B-6 to A-23	265	20	temporary steel sheetpiling
from A-23 to T-23	250	20	temporary steel sheetpiling
from T-23 to U-20 and from U-20 and R-20	120	20	temporary steel sheetpiling
from R-20 to R-10 and from R-10 to T-10	140	NA	open cut; sloped excavation
from T-10 to T-7	65	10*	temporary drilled-in soldier piles and lagging
from T-7 to M-7, M-7 to M-6, and M-6 to G-6	110	NA	open cut; sloped excavation

Note: \* approximately 10 to 15 ft of bedrock will need to be removed in this area below the bottom of the soldier pile and lagging wall.

Please note that the maximum height of retained soil shown above is based on footings, pile caps/grade beams bearing at El. -1.5. Also note that anticipated support of excavation system assumes no disturbance to the new sidewalk areas adjacent to Hancock and Commercial Street Extensions.

Based on discussions between the project team and PWD, permanent support of excavation will be required along G-line (east of the PWD property line) and along 1-line (adjacent to India Street) in order to prevent potential damage to the townhouse wing as a result of future maintenance/upgrade work by PWD on the 33-in. force main. We anticipate that support of excavation systems retaining greater than 15 ft of soil will require internal bracing. The steel sheeting system will aid in cutting off lateral groundwater flow into the excavation. The excavation support system will be designed by the Contractor's engineer as part of the submittal process based on the design requirements outlined in the project specifications.

Please note that Northeast Utilities will be performing vacuum excavation to determine the as-built location and invert elevations of the existing 4 in. diameter that runs along Fore Street adjacent to the western edge of the proposed building. Proper protection/support of this line during construction will be addressed once the vacuum excavation is completed and the results published. We anticipate that this field work will be completed by the end of May 2007.

## **Excavation**

### Soil

Excavation will be required for general site grading, and for construction of the building foundations, elevator pits, and underground utilities. We anticipate that excavation of as much as 20 ft BGS will be required to reach the proposed foundation bearing level in the below grade portion of the building.

Based on the proposed site development, we anticipate that between 7 and 14 ft of fill will need to be excavated within the townhouse footprint so that the footings can be supported directly on the underlying bedrock.

We expect that excavation of the in-situ soils (mostly fill and marine deposits) can be accomplished using normal earth-moving equipment. Obstructions will likely be encountered during excavation in the in-situ fill soils. The nature and extent of underground obstructions will likely not become apparent until excavation begins. We recommend that the contract documents require the contractor to include a contingency/line item for obstruction removal in their earthwork bid.

Prior to placing fill within the footprint of the new building, we recommend that all topsoil, debris and organic matter encountered at the subgrade level be removed.

### Bedrock

Based on the anticipated bearing level of the spread footings (El. -1.5), we anticipate that up to 12 ft of bedrock will need to be removed in order to construct the foundations in the southeast

portion of the basement area (see Table III). The area requiring bedrock removal is generally bound by F-line and T-line between 6-line and 12-line.

Based on our review of the bedrock encountered in the test borings and our experience with similar bedrock types in the Portland area, we anticipate that approximately 4,000 cubic yards of bedrock (in-place volume) will have to be removed using controlled drilling/blasting techniques in lieu of the conventional equipment (hoe-ramming).

We recommend that a pre-construction survey of the existing PWD Pump Station be completed prior to the start of construction. The purpose of the survey is to inspect the site area and existing adjacent buildings in order to identify potentially vibration sensitive structures, equipment and/or utilities. The survey will also aid in determining limiting vibration criteria that should be established to protect the existing structures, equipment and/or utilities. A geotechnical instrumentation program consisting of crack gages, vertical monitoring points and seismographs may be warranted to monitor the existing structures, equipment and/or adjacent utilities during construction.

### **Dewatering**

Based on recently measured groundwater levels at the site, we anticipate that dewatering during construction of the basement area, including excavation for footings, pile caps, grade beams and elevator pits, will be required. We anticipate that partial use of a steel sheetpile support of excavation system will cutoff the majority of lateral groundwater flow into the excavation. As a result, we expect that dewatering could be performed using open sumps and temporary ditches within the excavation. Sumps should be provided with filters suitable to prevent pumping of fine grained soil particles. Rainwater or snowmelt should be directed away from exposed soil bearing surfaces.

Dewatering and discharge of dewatering effluent should be performed in accordance with all applicable local, state and federal regulations. Dewatering discharge should be recharged on site if possible. However, due to the size of the site and the relatively shallow depth to water, we anticipate that on-site recharge will not be feasible and that dewatering discharge will need to be directed to the local storm drain system. Sedimentation tanks and other treatment methods may be required for legal disposal of the effluent into the storm drain system.

### **Pile Load Testing Program**

We anticipate that the PCC piles will be driven to practicable refusal in/on bedrock. Therefore, we believe that dynamic testing can be used and implemented in lieu of a static load test. A minimum of 3 to 5 percent of the total number of piles should be pre-selected for monitoring during installation with a pile driving analyzer (PDA) to evaluate hammer system efficiencies, driving stresses in the pile and pile capacities. The selected piles should be allowed to stand a minimum of 24 hours after completion of initial driving and should then be

re-driven (restrike) while being monitored with the PDA to assess the set-up/relaxation characteristics of the rock. If the results of a PDA/CAPWAP analysis show that the minimum safety factor of 2.25 has been achieved using the driving criteria established by the WEAP analysis, then this driving criteria would be used to install the remainder of the production piles without the use of PDA, and would be considered sufficient "evidence" that the piles have developed the required design capacity. The indicator piles should be driven at production pile locations prior to the production driving in order to assist with establishing pile lengths. Additional construction considerations relative to pile installation, including driving criteria will be included in the pile specification.

### **Pile Installation**

We anticipate that the site will be initially cut down and that the majority of the piles will be installed from a prepared working surface approximately 15 to 20 ft BGS (approximately El. -2). The contractor will be responsible for stabilizing the soil subgrade and establishing a adequate working surface for pile installation (e.g., placing a lift of crushed stone).

It is possible that obstructions (i.e., boulders) could be encountered in the naturally deposited glacial till soils during pile installation.

Full-time monitoring of pile installation should be performed by a geotechnical engineer in accordance with the requirements of the IBC code.

As previously stated, pile driving is a noise and vibration inducing activity. We recommend that seismographs be used to monitor vibrations and noise levels during pile driving and other vibration inducing activities (e.g., controlled drilling and blasting, hoe-ramming etc.).

### **Preparation and Protection of Bearing Surfaces**

In general, exposed subgrades should be examined in the field by a qualified geotechnical engineer to verify foundation bearing conditions. It may be necessary to over-excavate weak, disturbed or otherwise unacceptable soils (topsoil, debris and organic) using crushed stone, compacted granular fill (CGF) or concrete mudmats.

### **Footings**

Footings supporting the townhouse wing and a portion of the residential/retail space will bear on bedrock (see Figure 2, "Foundation Design Zone A"). After final excavation to competent bedrock, the exposed rock surface should be cleaned to remove any loose fragments or any exposed weathered zones before concrete is poured for the footings. The bedrock surface should be observed in the field by a qualified geotechnical engineer to confirm the assumed

foundation bearing conditions. Once the bearing surface has been properly cleaned and inspected, the foundation can be constructed.

The proposed foundation subgrade surfaces within the limits of residential/retail space should be relatively level. If the rock surface exposed within the limits of a foundation is steeper than 6 ft horizontal to 1 ft vertical (6H:1V), the rock surface should be benched or tapered to create a level bearing surface. Lean concrete may be used to backfill locally depressed areas if necessary. The lean concrete should have a minimum compressive strength of 2,000 psi.

#### Pile Caps/Grade Beams/Lowest Level Basement Slab

Assuming that the basement area will be excavated to approximately El. -2, we anticipate that in-situ fill and/or glaciomarine soils (clay or sand) will be present at subgrade level within about half the building footprint, specifically beneath the northern and western portions of the basement area (rock in the other areas). In general, we recommend that excavations be conducted in a manner that minimizes disturbance to the subgrade soils when excavating to bearing level. The following guidelines are recommended to protect subgrade soils:

- Make final excavations into natural bearing soils using smooth-bladed equipment to limit disturbance.
- Prevent water from accumulating on soil surfaces to reduce the possibility of soil disturbance. All filling and concreting of slabs, pile caps/grade beams and footings should be performed in-the-dry. Subgrades that become disturbed due to water infiltration should be re-excavated and stabilized. Subgrade stabilization is the responsibility of the Contractor; stabilization methods could include placement of a 2 to 3-in. thick lean concrete mud-mat or layer of crushed stone over approved subgrade.
- Do not permit temporary drainage trenches or other dewatering facilities to extend below the bearing level near pile caps/grade beams.
- Granular subgrade surfaces should be proofrolled with a self-propelled static roller or heavy hand-guided vibratory compactor until firm prior to placement of fill. To minimize disturbance, we recommend that glaciomarine soils (particularly clay) exposed at subgrade level not be proofrolled.
- To the extent possible, limit equipment traffic across the exposed soil bearing surfaces.

#### **Filling and Backfilling**

Placement and compaction of fills should not be conducted when air temperatures are low enough (approximately 30 degrees F., or below) to cause freezing of the moisture in the fill during or before placement. Fill materials should not be placed on snow, ice or uncompacted frozen soil. Compacted fill should not be placed on frozen soil. No fill should be allowed to freeze prior to compaction. At the end of each day's operations, the last lift of fill, after

compaction, should be rolled by a smooth-wheeled roller to eliminate ridges of uncompacted soil.

### **Compacted Granular Fill**

Compacted granular fill (CGF) should be placed after overexcavation down to top of rock beneath the townhouse wing, adjacent to pile caps and grade beams, beneath sidewalks and adjacent to foundation walls. We recommend this material consist of mineral bank-run sand and gravel, free of organic material, snow, ice, or other unsuitable materials. Additionally, the material should conform to the following gradation requirements:

Sieve Size	Percent Finer by Weight
6 in. <sup>1</sup>	100
No. 4	30-80
No. 40	10-50
No. 200	0-8

<sup>1</sup> - Cobbles or boulders having a size exceeding 2/3 of the loose lift Thickness should be removed prior to compaction.

Other materials could be acceptable for use as CGF. We recommend this be evaluated by the geotechnical engineer on a case-by-case basis.

In open areas, CGF should be placed in lift thicknesses not exceeding 12 in. loose measure (prior to compaction) and compacted using self-propelled vibratory rollers such as a BoMag BW-60S. In confined areas, CGF should be placed in lift thickness not exceeding 9 in. and compacted using as a large vibratory plate compactor or equivalent. A minimum of four systematic passes of the compaction equipment should be used to compact each lift.

### **Common Fill**

Common fill should consist of mineral sandy soil, free from organic matter, plastic, metal, wood, ice, snow or other deleterious material and should have the characteristic that it can be readily placed and compacted. Common fill imported to the site should conform to the following gradation requirements:

Sieve Size	Percent Finer by Weight
No. 40	0-80
No. 200	0-30

The largest particle size for common fill should not exceed 6 in. Silty common fill soils may require moisture control during placement and compaction. Common fill should be placed in maximum 12 in. thick loose lifts using compaction equipment as described above for CGF.

## **Reuse of Excavated On-Site Soils for Backfill**

### In-Situ Fill Material

Based on visual inspection of the fill samples and the results of laboratory grain size tests (see Appendix D), we believe that the in-situ fill soils are suitable for reuse as common fill in landscaped areas and could be reused as CGF adjacent to pile caps and grade beams, beneath sidewalks or adjacent to foundation walls. The in-situ fill soils could also be used as CGF to raise grades beneath the townhouse wing (outside the ZOI of the footings). Confirmation on the suitability of the excavated fill soils for reuse as common fill or CGF should be made in the field based on the following information: 1.) visual inspection of the soils once they are excavated and stockpiled; and 2.) the results of additional laboratory testing on the stockpiled soil (grain size and compaction). In-situ fill soils will likely need to be processed using a mechanical screen to eliminate oversize material, organic material, refuse and debris. This material should be able to achieve the minimum compaction requirements outlined below. It is possible that some of the excavated in-situ fill material may not be acceptable for reuse as common fill.

### Glaciomarine Soils

Glaciomarine sand and clay soils excavated during construction are not considered suitable for reuse as CGF. These materials may be used as common fill in landscaped areas if they can be placed and compacted adequately as stated herein.

### Bedrock

Rock generated from the excavation for the basement level could be reused as crushed stone or CGF adjacent to pile caps and grade beams, beneath slabs or adjacent to foundation walls. However, the rock will need to be processed to meet gradation requirements for use as fill materials as stated herein.

## **Compaction Requirements**

A summary of recommended compaction requirements is as follows:

<u>Location</u>	<u>Minimum Compaction Requirements</u>
Adjacent to pile caps & grade beams, beneath floor slab and adjacent to foundation walls	95 percent
Beneath sidewalks, parking areas and roadways	92 percent up to 3 ft below finished grade, 95 percent in the upper 3 ft
Landscaped areas	90 percent nominal compaction

Minimum compaction requirements refer to percentages of the maximum dry density determined in accordance with ASTM D1557.

### **Preparation of Contract Documents and Submittal Reviews**

The contract drawings and specifications should be written so that the requirements of the documents are consistent with the design intent of the geotechnical recommendations outlined herein. Haley & Aldrich is planning on working with the design team to prepare the specifications and contract drawings related to the following topics:

- Demolition
- Earthwork
- Construction Dewatering
- Temporary Lateral Support of Excavation
- Pile Installation and Testing
- Foundation Drainage System Plan and Details

The contract specifications will require the Contractor and the Contractor's engineer to perform analyses and submit results to the designers for review. The design team should be allowed to review the geotechnical-related submittals to ensure that the Contractor's analyses/submittals are in accordance with the intent of the design. This will enable us to observe compliance with the design concepts, assumptions and specifications, and to facilitate design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

### **Construction Monitoring**

The foundation and earthwork recommendations contained herein are based on the known and predictable behavior of a properly engineered and constructed foundation. Monitoring of the foundation construction is required to enable the geotechnical engineer to keep in contact with procedures and techniques used in construction, and to comply with Section 1808.2.10 of the IBC Code. Therefore, it is recommended that an individual representing the Owner (Owner's Rep.), qualified by geotechnical training and experience be present at the site to provide full-time monitoring during the earthwork and foundation construction activities listed below.

- Installation of the excavation support system.
- Excavation to subgrade levels and subgrade inspection prior to construction of pile caps, grade beams and footings.
- Placement and compaction testing of crushed stone, CGF and site fills.
- Dynamic testing of the indicator piles and review of the PDA results.
- Installation of the production piles.



- Installation of the foundation drainage system.
- Backfilling adjacent to foundation walls and beneath the building floor slabs.
- Inspection of the slab subgrade prior to construction of floor slab.

## **LIMITATIONS OF RECOMMENDATIONS**

This report is prepared for the exclusive use of Riverwalk, LLC relative to THE WATERMARK development in Portland, Maine. There are no intended beneficiaries other than Riverwalk, LLC., Haley & Aldrich shall owe no duty whatsoever to any other person or entity on account of the Agreement or the report. Use of this report by any person or entity other than Riverwalk, LLC for any purpose whatsoever is expressly forbidden unless such other person or entity obtains written authorization from Riverwalk LLC and from Haley & Aldrich. Use of this report by such other person or entity without the written authorization of Riverwalk LLC and Haley & Aldrich shall be at such other person's or entities sole risk, and shall be without legal exposure or liability to Haley & Aldrich.

Use of this Report by any person or entity, including by Riverwalk, LLC, for a purpose other than relative to THE WATERMARK project in Portland, Maine is expressly prohibited unless such person or entity obtains written authorization from Haley & Aldrich indicating that the Report is adequate for such other use. Use of this Report by any other person or entity for such other purpose without written authorization by Haley & Aldrich shall be at such person's or entities sole risk, and shall be without legal exposure or liability to Haley & Aldrich. The analyses and recommendations are based, in part, upon the data obtained from the referenced subsurface explorations. The nature and extent of variations between explorations may not become evident until construction. If variations then appear, it may be necessary to reevaluate the recommendations of this report.

The planned construction will be supported on or in the soil at the site and below grade structures may be close to or penetrate the design groundwater level for the project. Recommendations for foundation and/or floor drainage, moisture protection, and/or waterproofing have been included herein, when appropriate. These recommendations address the conventional geotechnical engineering-related aspects of design and construction and are not intended to provide an environment that would prohibit infestation of mold or other biological pollutants. Our work scope did not include the development of criteria or procedures to minimize the risk of mold or other biological pollutant infestations in or near any structure.

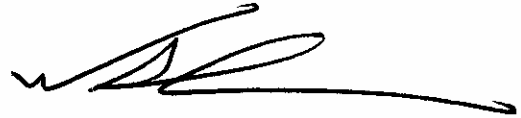
Riverwalk, LLC  
16 May 2007  
Page 24

We appreciate the opportunity to provide geotechnical engineering consulting services on this project. Please do not hesitate to call if you have any questions or comments.  
Sincerely yours,

HALEY & ALDRICH, INC.



Bryan C. Steinert  
Engineer

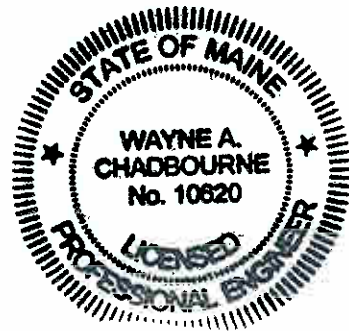


Wayne A. Chadbourne, P.E.  
Vice President

Attachments:

- Table I: Subsurface Explorations (2 pages)
- Table II: In-Situ Vane Shear Test Results
- Table III: Proposed Foundation Support (2 pages)
- Figure 1: Project Locus
- Figure 2: Site and Subsurface Exploration Location Plan
- Figure 3: Subsurface Profile A-A
- Figure 4: Subsurface Profile B-B
- Figure 5: Subsurface Profile C-C
- Figure 6: Legend and Notes
- Appendix A: Logs of 1975 PWD India St. Pump Station Test Borings
- Appendix B: Logs of Recent Test Explorations
- Appendix C: Observation Well Installation & Groundwater Monitoring Reports
- Appendix D: Laboratory Test Results
- Appendix E: Historic Sanborn Maps
- Appendix F: PWD Pump Station Record Drawings

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## REFERENCES

1. Report entitled, "Proposed India Street Pump Station – Wastewater Facilities Contract No. 5 – Portland, Maine," prepared by Haley & Aldrich, Inc., dated 9 October 1975.
2. "Report on Evaluation of Wall Movement, BIW Containment Structure, Portland, Maine," prepared by Haley & Aldrich, Inc., dated 31 March 1983.
3. "Geotechnical Data Report on Proposed Ocean Gateway Project, Commercial Street, Portland, Maine," prepared by Haley & Aldrich, Inc., dated 12 September 2003.
4. "Report on Subsurface Explorations and Foundation Design Recommendations, Eastern Waterfront Development, Proposed Parking Garage and Office Building, Portland, Maine," prepared by Haley & Aldrich, Inc., dated 8 November 2005.
5. "Foundation Drainage System, Proposed Longfellow Residences and Retail, Longfellow at Ocean Gateway, Portland, Maine," memorandum prepared by Haley & Aldrich, Inc., dated 12 April 2006.

**TABLE I**  
Subsurface Explorations  
THE WATERMARK  
Portland, Maine

Test Boring No. 1	Estimated Ground Surface Elevation <sup>2,3</sup>	Bituminous Concrete / Concrete	Topsoil	Fill	Glaciomarine Deposit (day)	Thickness of Strata (ft)				Approx. Elevation of Top of Bedrock <sup>3</sup>	Elevation of Bottom of Exploration <sup>3</sup>	
						Glaciomarine Deposit (sand)	Organic Deposit	Glaciomarine Deposit (day)	Glaciomarine Deposit (sand)			Glacial Till
HA05-11 (OW)	16.3	NE	NE	10.0	NE	NE	NE	24.3	NE	NE	-18.0	-24.1
HA05-12	15.3	NE	NE	15.0	NE	NE	NE	44.0	NE	8.5	-58.8	-63.8
HA05-13	16.5	NE	NE	19.0	NE	5.0	4.0	23.0	4.0	>17	-	-55.5
HA05-14 (OW)	14.5	NE	0.4	14.6	2.4	8.4	6.2	29.1	3.7	7.0	-57.3	-62.5
HA05-15	17.0	NE	NE	8.5	NE	NE	NE	26.0	NE	0.9	-18.4	-22.9
HA05-16	18.0	NE	NE	11.6	NE	NE	NE	NE	NE	NE	6.4	-1.5
HA05-17 (OW)	17.8	NE	NE	7.3	NE	NE	NE	NE	NE	NE	10.5	1.6
HA05-18	16.5	NE	NE	5.9	NE	NE	NE	NE	NE	NE	10.6	0.9
HA05-19A	15.4	0.1	NE	7.5	NE	NE	NE	NE	NE	NE	7.8	7.0
HA05-19B	15.4	0.1	NE	6.7	NE	NE	NE	NE	NE	NE	8.6	8.4
HA05-19C	15.4	0.1	NE	4.9	NE	NE	NE	NE	NE	NE	10.4	9.9
HA05-19D	15.4	0.1	NE	6.4	NE	NE	NE	NE	NE	NE	8.9	8.9
HA05-20	17.0	0.3	NE	17.0	NE	NE	NE	4.2	0.6	NE	-9.4	-18.5
HA05-21	16.5	NE	NE	15.5	NE	NE	NE	NE	NE	NE	-	-1.1
HA05-21A	16.5	NE	NE	16.4	NE	NE	NE	NE	NE	NE	0.1	-3.1
HA05-22	15.0	0.4	NE	9.9	NE	NE	NE	NE	NE	NE	4.7	4.7
HA05-22A	15.0	0.4	NE	9.3	NE	NE	NE	NE	NE	NE	5.3	1.8
HA05-23	15.0	0.2	NE	>8.5	NE	NE	NE	NE	NE	NE	-	6.3
HA05-23A	15.0	0.2	NE	14.8	NE	NE	NE	NE	NE	>1.0	-	-1.0
HA07-101 <sup>5</sup>	15.5	-	-	-	-	-	-	-	-	-	5.5	-3.3
HA07-102A	17.0	NE	NE	>3.0	-	-	-	-	-	-	-	14.0
HA07-102B	17.0	NE	NE	>5.0	-	-	-	-	-	-	-	12.0
HA07-102C	17.0	NE	NE	7.5	NE	NE	NE	NE	NE	NE	9.5	9.5
HA07-103	17.8	NE	NE	7.8	NE	NE	NE	NE	NE	NE	10.0	10.0
HA07-104 <sup>5</sup>	17.8	NE	NE	>5.0	-	-	-	-	-	-	3.3	3.3
HA07-105	17.5	NE	NE	13.0	NE	NE	NE	NE	NE	NE	0.6	0.2
HA07-105A <sup>5</sup>	17.3	-	-	-	-	-	-	-	-	-	-12.7	-13.2
HA07-106	16.5	NE	NE	13.5	NE	NE	NE	7.4	0.3	NE	-4.7	-4.7
HA07-107 <sup>6</sup>	16.5	NE	NE	20.0	NE	NE	>0.4	-	-	-	-19.2	-19.2
HA07-108A	16.8	NE	NE	>11.0	-	-	-	-	-	-	-	5.8
HA07-108B	16.8	NE	NE	>10.6	-	-	-	-	-	-	-	6.2
HA07-108C	16.8	NE	NE	18.5	-	2.4	>1.1	-	-	-	-38.2	-38.2
HA07-108 <sup>6</sup>	16.0	NE	NE	18.5	NE	>3.5	-	-	-	-	-30.0	-30.0
HA07-109 <sup>6</sup>	16.0	NE	NE	18.5	NE	>0.3	-	-	-	-	-16.5	-16.5
HA07-110 <sup>6</sup>	15.0	NE	NE	19.7	NE	-	-	-	-	-	-51.9	-51.9
HA07-111 <sup>6</sup>	16.0	NE	NE	13.5	>3.5	-	-	-	-	-	-64.0	-64.0
HA07-112 <sup>6</sup>	15.8	NE	NE	18.5	NE	2.5	-	>6.0	-	-	-	-
HA07-113 <sup>6</sup>	14.0	NE	NE	21.0	NE	3.0	-	>3.0	-	-	-58.9	-58.9

Notes:

- 1 Test boring locations are shown on Figure 2. Site and Subsurface Exploration Location Plan.
- 2 Ground surface elevations at test boring locations are approximate and were estimated by interpolating between elevation contour data provided by Woodard & Curran
- 3 Elevations are in feet and reference Portland City Datum.
- 4 "NE" indicates stratum was not encountered in test boring.
- 5 Test borings HA07-101, HA07-104 and HA07-105A were advanced with solid stem augers; no soil samples were collected.
- 6 Elevation of top of bedrock is approximate and was determined using rod probe drilling techniques.



**TABLE I**  
 Subsurface Explorations  
 THE WATERMARK  
 Portland, Maine

Test Boring No. <sup>1</sup>	Estimated Ground Surface Elevation <sup>2,3</sup>	Thickness of Strata (ft)										Approx. Elevation of Top of Bedrock <sup>3</sup>	Elevation of Bottom of Exploration <sup>3</sup>
		Bituminous Concrete / Concrete	Topsoil	Fill	Glaciomarine Deposit (clay)	Glaciomarine Deposit (sand)	Organic Deposit	Glaciomarine Deposit (clay)	Glaciomarine Deposit (sand)	Glacial Till			
B5-19	18.0	NE	NE	4.0	-	-	NE	14.0	6.0	2.3	-8.3	-18.3	
B5-20	18.3	NE	NE	5.5	-	-	NE	25.0	7.0	1.0	-20.2	-29.6	
B5-21A	17.6	NE	NE	9.0	-	-	NE	5.0	3.5	2.5	0.4	0.4	
B5-22A	16.9	NE	NE	5.5	-	-	NE	5.0	3.5	2.5	0.4	0.4	
B5-23	18.3	NE	NE	4.0	-	-	NE	12.0	3.9	NE	-1.6	-1.6	

<sup>1</sup> Test boring locations are shown on Figure 2. Site and Subsurface Exploration Location Plan.  
<sup>2</sup> Ground surface elevations at test boring locations are approximate and were estimated by interpolating between elevation contour data provided by Woodard & Curran  
<sup>3</sup> Elevations are in feet and reference Portland City Datum.  
<sup>4</sup> "NE" indicates stratum was not encountered in test boring.  
<sup>5</sup> Test borings HA07-101, HA07-104 and HA07-105A were advanced with solid stem augers; no soil samples were collected.  
<sup>6</sup> Elevation of top of bedrock is approximate and was determined using rod probe drilling techniques.



**TABLE II**  
**In-Situ Vane Shear Test Results**  
**THE WATERMARK**  
**Portland, Maine**

Test Boring No. <sup>1</sup>	Estimated Ground Surface Elevation <sup>2,3</sup>	Vane Size (in. x in.)	Test No.	Depth below ground surface (ft)	Approx. Elevation <sup>3</sup> (ft)	V <sub>max</sub> <sup>4</sup> (ft-lbs)	V <sub>remolded</sub> <sup>4</sup> (ft-lbs)	S <sub>u</sub> <sup>5</sup> (psf)	S <sub>u(remolded)</sub> <sup>5</sup> (psf)
HA05-12	15.3	2x7	V <sub>1</sub>	30.0 - 30.6	-14.7 - -15.3	27	1	1,000	40
			V <sub>2</sub>	40.0 - 40.6	-24.7 - -25.3	120	0	>1,860	0
			V <sub>3</sub>	50.0 - 50.6	-34.7 - -35.3	120	0	>1,860	0
HA05-14(OW)	14.5	2x7	V <sub>1</sub>	35.3 - 36.0	-20.8 - -21.5	89	30	3,302	1,110
			V <sub>2</sub>	45.3 - 46.0	-30.8 - -31.5	22	5	820	190
HA05-15	17.0	3x5	V <sub>1</sub>	20.0 - 20.6	-3.0 - -3.6	10	3	370	110
			V <sub>2</sub>	30.0 - 30.6	-13.0 - -13.6	23	1	850	40

Notes:

- <sup>1</sup> Test boring locations are shown on Figure 2, Site and Subsurface Exploration Location Plan.
- <sup>2</sup> Ground surface elevations at test boring locations are approximate and were estimated by interpolating between elevation contour data provided by Woodard & Curran.
- <sup>3</sup> Elevations are in feet and reference Portland City Datum.
- <sup>4</sup> Vane test numbers are shown on the test boring reports presented in Appendices A and B, respectively.
- <sup>5</sup> V<sub>max</sub> and V<sub>remolded</sub> represent direct peak and remolded vane torque values, respectively.
- <sup>6</sup> S<sub>u</sub> and S<sub>u(remolded)</sub> represent corrected undrained peak and residual undrained shear strengths, respectively, rounded to the nearest 10 psf.
- <sup>7</sup> ft-lbs = foot-pounds of torque, psf = pounds per square foot.

**TABLE III**  
Proposed Foundation Support  
THE WATERMARK  
Portland, Maine

Column Location	Foundation Support	Notes	Estimated Depth of Soil Removal (ft) <sup>5</sup>	Estimated Depth of Rock Removal (ft) <sup>6</sup>
M-1	footing	bearing on bedrock at El. 9	8	0
G-2	footing	bearing on bedrock at El. 8	10	0
K-2	footing	bearing on bedrock at El. 9	9	0
N-2	footing	bearing on bedrock at El. 9	9	0
G-3	footing	bearing on bedrock at El. 9	9	0
H-3	footing	bearing on bedrock at El. 10	8	0
K-3	footing	bearing on bedrock at El. 10	8	0
M-3	footing	bearing on bedrock at El. 9	8	0
H-4	footing	bearing on bedrock at El. 7	11	0
K-4	footing	bearing on bedrock at El. 9	9	0
M-4	footing	bearing on bedrock at El. 9	8	0
H-5	footing	bearing on bedrock at El. 3	14	0
K-5	footing	bearing on bedrock at El. 5	12	0
M-5	footing	bearing on bedrock at El. 9	7	0
B-6	pile	30 ft long pile, top at El. 0	-	-
C-6	pile	20 ft long pile, top at El. 0	-	-
D-6	pile	15 ft long pile, top at El. 0	-	-
F-6	footing	bearing on bedrock at El. -1.5	-	2
H-6	footing	bearing on bedrock at El. -1.5	-	5
K-6	footing	bearing on bedrock at El. -1.5	-	7
L-6	footing	bearing on bedrock at El. -1.5	-	9
M-6	footing	bearing on bedrock at El. -1.5	-	12
B-7	pile	30 ft long pile, top at El. 0	-	-
C-7	pile	20 ft long pile, top at El. 0	-	-
D-7	pile	15 ft long pile, top at El. 0	-	-
F-7	footing	bearing on bedrock at El. -1.5	-	2
J-7	footing	bearing on bedrock at El. -1.5	-	5
L-7	footing	bearing on bedrock at El. -1.5	-	9
P-7	footing	bearing on bedrock at El. -1.5	-	8
S-7	footing	bearing on bedrock at El. -1.5	-	9
T-7	footing	bearing on bedrock at El. -1.5	-	11
B-8	pile	30 ft long pile, top at El. 0	-	-
C-8	pile	20 ft long pile, top at El. 0	-	-
D-8	pile	15 ft long pile, top at El. 0	-	-
F-8	footing	bearing on bedrock at El. -1.5	-	2
J-8	footing	bearing on bedrock at El. -1.5	-	8
L-8	footing	bearing on bedrock at El. -1.5	-	10
P-8	footing	bearing on bedrock at El. -1.5	-	7
S-8	footing	bearing on bedrock at El. -1.5	-	9
T-8	footing	bearing on bedrock at El. -1.5	-	12
A-9	pile	30 ft long pile, top at El. 0	-	-
C-9	pile	20 ft long pile, top at El. 0	-	-
D-9	pile	15 ft long pile, top at El. 0	-	-
F-9	footing	bearing on bedrock at El. -1.5	-	1
J-9	footing	bearing on bedrock at El. -1.5	-	8
L-9	footing	bearing on bedrock at El. -1.5	-	9
P-9	footing	bearing on bedrock at El. -1.5	-	7
S-9	footing	bearing on bedrock at El. -1.5	-	8
T-9	footing	bearing on bedrock at El. -1.5	-	9
A-10	pile	30 ft long pile, top at El. 0	-	-
C-10	pile	20 ft long pile, top at El. 0	-	-
D-10	pile	15 ft long pile, top at El. 0	-	-
F-10	footing	bearing on bedrock at El. -1.5	-	0
J-10	footing	bearing on bedrock at El. -1.5	-	3
L-10	footing	bearing on bedrock at El. -1.5	-	7
P-10	footing	bearing on bedrock at El. -1.5	-	7
S-10	footing	bearing on bedrock at El. -1.5	-	8
T-10	footing	bearing on bedrock at El. -1.5	-	8

Notes:

- Column locations taken from plan entitled, "P-Basement-Parking Plan-Preliminary Geotechnical Layout Drawing," provided by The Architectural Team dated 24 January 2007.
- Approximate footing bearing elevation in the basement area was provided by MacNamara-Salvia. Approximate pile lengths are based on linear interpolation between subsurface explorations and approximate bottom of pile cap at El. -1.5 (also provided by MacNamara-Salvia). Subsurface conditions may vary at locations other than at specific exploration locations.
- Elevations are in feet and reference Portland City Datum.
- Foundation bearing elevations based on assumed basement FFE of El. 4.
- Depth of soil removal values represent estimated amount of soil that will need to be removed to expose bedrock subgrade.
- Depth of rock removal values represent estimated amount of rock that will need to be excavated/blasted to reach design footing bearing levels.

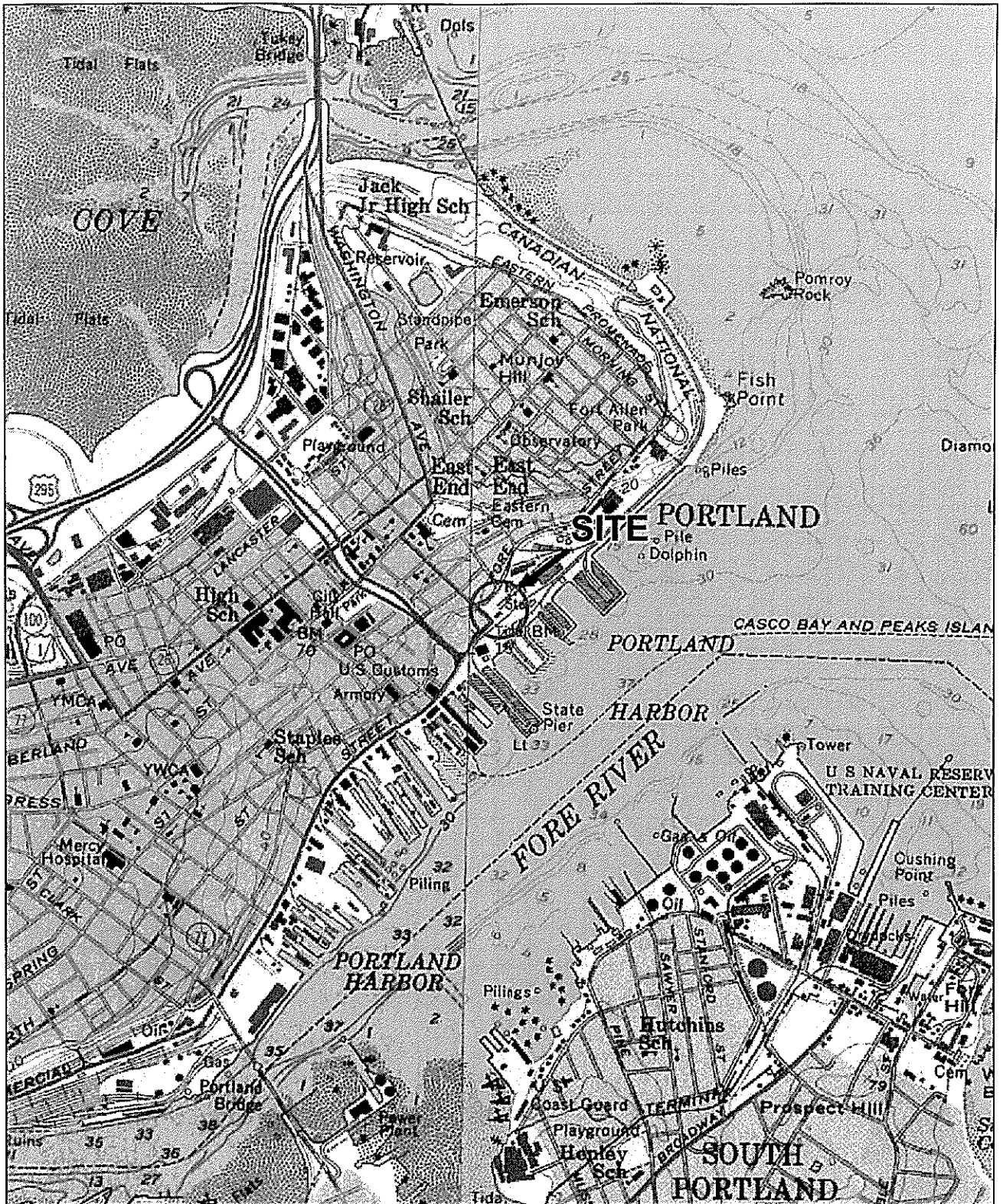
TABLE III  
Proposed Foundation Support  
THE WATERMARK  
Portland, Maine

Column Location	Foundation Support	Notes	Estimated Depth of Soil Removal (ft) <sup>5</sup>	Estimated Depth of Rock Removal (ft) <sup>6</sup>
F-11	footing	bearing on bedrock at El. -5.0	3	0
J-11	footing	bearing on bedrock at El. -1.5	-	3
L-11	footing	bearing on bedrock at El. -1.5	-	3
P-12	footing	bearing on bedrock at El. -1.5	-	7
R-12	footing	bearing on bedrock at El. -1.5	-	7
D-13	pile	15 ft long pile, top at El. 0	-	-
E-13	pile	15 ft long pile, top at El. 0	-	-
A-14	pile	30 ft long pile, top at El. 0	-	-
C-14	pile	20 ft long pile, top at El. 0	-	-
B-16	pile	30 ft long pile, top at El. 0	-	-
C-16	pile	20 ft long pile, top at El. 0	-	-
D-17	pile	15 ft long pile, top at El. 0	-	-
E-17	pile	15 ft long pile, top at El. 0	-	-
P-18	footing	bearing on bedrock at El. -1.5	10	0
R-18	footing	bearing on bedrock at El. -1.5	10	0
J-19	pile	15 ft long pile, top at El. 0	-	-
L-19	pile	15 ft long pile, top at El. 0	-	-
A-20	pile	40 ft long pile, top at El. 0	-	-
C-20	pile	40 ft long pile, top at El. 0	-	-
D-20	pile	40 ft long pile, top at El. 0	-	-
F-20	pile	40 ft long pile, top at El. 0	-	-
J-20	pile	40 ft long pile, top at El. 0	-	-
L-20	pile	30 ft long pile, top at El. 0	-	-
P-20	pile	30 ft long pile, top at El. 0	-	-
S-20	pile	20 ft long pile, top at El. 0	-	-
U-20	pile	60 ft long pile, top at El. 0	-	-
A-21	pile	70 ft long pile, top at El. 0	-	-
C-21	pile	60 ft long pile, top at El. 0	-	-
D-21	pile	50 ft long pile, top at El. 0	-	-
F-21	pile	50 ft long pile, top at El. 0	-	-
J-21	pile	40 ft long pile, top at El. 0	-	-
L-21	pile	40 ft long pile, top at El. 0	-	-
P-21	pile	30 ft long pile, top at El. 0	-	-
S-21	pile	30 ft long pile, top at El. 0	-	-
U-21	pile	70 ft long pile, top at El. 0	-	-
A-22	pile	70 ft long pile, top at El. 0	-	-
C-22	pile	60 ft long pile, top at El. 0	-	-
D-22	pile	60 ft long pile, top at El. 0	-	-
F-22	pile	70 ft long pile, top at El. 0	-	-
J-22	pile	70 ft long pile, top at El. 0	-	-
L-22	pile	70 ft long pile, top at El. 0	-	-
P-22	pile	65 ft long pile, top at El. 0	-	-
S-22	pile	65 ft long pile, top at El. 0	-	-
U-22	pile	65 ft long pile, top at El. 0	-	-
B-23	pile	60 ft long pile, top at El. 0	-	-
C-23	pile	60 ft long pile, top at El. 0	-	-
D-23	pile	60 ft long pile, top at El. 0	-	-
F-23	pile	65 ft long pile, top at El. 0	-	-
J-23	pile	65 ft long pile, top at El. 0	-	-
L-23	pile	65 ft long pile, top at El. 0	-	-
P-23	pile	65 ft long pile, top at El. 0	-	-
S-23	pile	65 ft long pile, top at El. 0	-	-

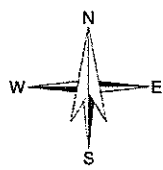
Notes:

1. Column locations taken from plan entitled, "P-Basement-Parking Plan-Preliminary Geotechnical Layout Drawing," provided by The Architectural Team dated 24 January 2007.
2. Approximate footing bearing elevation in the basement area was provided by MacNamara-Salvia. Approximate pile lengths are based on linear interpolation between subsurface explorations and bottom of pile cap at El. -1.5 (also provided by MacNamara-Salvia). Subsurface conditions may vary at locations other than at specific exploration locations.
3. Elevations are in feet and reference Portland City Datum.
4. Foundation bearing elevations based on assumed basement FFE of El. 4.
5. Depth of soil removal values represent estimated amount of soil that will need to be removed to expose bedrock subgrade.
6. Depth of rock removal represent estimated amount of rock that will need to be excavated/blasted to reach design footing bearing lev





SITE COORDINATES: 43°39'35"N 70°14'53"W



U.S.G.S. QUADRANGLE: PORTLAND EAST, ME

**HALEY & ALDRICH** THE WATERMARK PORTLAND, MAINE

PROJECT LOCUS

SCALE: 1:24,000  
APRIL 2007

FIGURE 1

30322-000 1.PDF

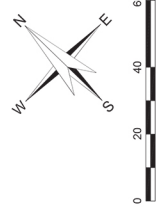
**NOTES:**

- EXISTING SITE CONDITIONS, CONTOURS OF EXISTING GROUND SURFACE ELEVATIONS AND LOCATION AND ORIENTATION OF EXISTING SITE FEATURES (EG. BUILDINGS, UTILITIES ETC) ARE TAKEN FROM THE ELECTRONIC AUTOCAD FILE "HA-2005-500C.dwg", PROVIDED BY WOODARD & CURRAN, DATED 30
- PROPOSED SITE CONDITIONS AND THE LOCATION AND ORIENTATION OF PROPOSED SITE FEATURES ARE TAKEN FROM THE ELECTRONIC AUTOCAD FILE "P-BASEMENT - PARKING PLAN - PRELIMINARY GEOTECHNICAL LAYOUT DRAWING.dwg", PROVIDED BY THE ARCHITECTURAL TEAM, DATED 24 JANUARY 2007.
- LOCATIONS OF THE 1975 AND 2005 SERIES OF TEST BORINGS AND THE TEST PIT EXCAVATED IN 2007 ARE APPROXIMATE AND WERE DETERMINED IN THE FIELD BY TAPING/SPACING DISTANCES FROM EXISTING SITE FEATURES.
- LOCATIONS OF THE 2007 SERIES OF TEST BORINGS WERE DETERMINED IN THE FIELD USING GPS SURVEY EQUIPMENT.
- SUBSURFACE EXPLORATIONS WERE MONITORED IN THE FIELD BY HALEY & ALDRICH.
- REFER TO APPENDIX A FOR LOGS OF 1975 SERIES TEST BORINGS, APPENDIX B FOR LOGS OF 2005 AND 2007 SERIES TEST BORINGS AND APPENDIX C FOR OBSERVATION WELL INSTALLATION AND GROUNDWATER MONITORING REPORTS.
- REFER TO TEXT OF REPORT AND TABLE III FOR DISCUSSION REGARDING FOUNDATION DESIGN ZONES A AND B.

**LEGEND:**

- HA07-101  
EL. 5.5  
DESIGNATION, LOCATION AND APPROXIMATE ELEVATION OF TOP OF BEDROCK AS DETERMINED BY MAINE TEST BORING, INC. OF BREWER, MAINE IN MARCH 2007
- HA05-14  
EL. -57.3  
DESIGNATION, APPROXIMATE LOCATION AND APPROXIMATE ELEVATION OF TOP OF BEDROCK OF TEST BORING DRILLED BY MAINE TEST BORING, INC. OF BREWER, MAINE IN OCTOBER 2005
- BS-19  
EL. -8.3  
DESIGNATION, APPROXIMATE LOCATION AND APPROXIMATE ELEVATION OF TOP OF BEDROCK OF TEST BORING DRILLED BY NORTHERN NEW ENGLAND TEST BORING COMPANY OF PORTLAND, MAINE IN MAY 1975
- TP-1  
EL. 8.0  
DESIGNATION, APPROXIMATE LOCATION AND APPROXIMATE ELEVATION OF TOP OF BEDROCK OF TEST BORING DRILLED BY MC HALL DEMOLITION OF SOUTH PORTLAND, MAINE IN APRIL 2007

- (OW)  
ELEVATION CONTOUR OF EXISTING GROUND SURFACE
- NE  
DENOTES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE
- OB  
DENOTES BOREHOLE NOT ENCOUNTERED IN BOREHOLE ABANDONED
- \*  
DENOTES OBSTRUCTION ENCOUNTERED IN BOREHOLE; BOREHOLE ABANDONED
- A-A  
DESIGNATION, LOCATION AND ORIENTATION OF SUBSURFACE PROFILE
- \*  
DENOTES ELEVATION OF TOP OF BEDROCK IS APPROXIMATE AND WAS DETERMINED USING ROD PROBE DRILLING TECHNIQUES ANTICIPATED TRANSITION BETWEEN "FOUNDATION DESIGN ZONE A" AND "FOUNDATION DESIGN ZONE B"

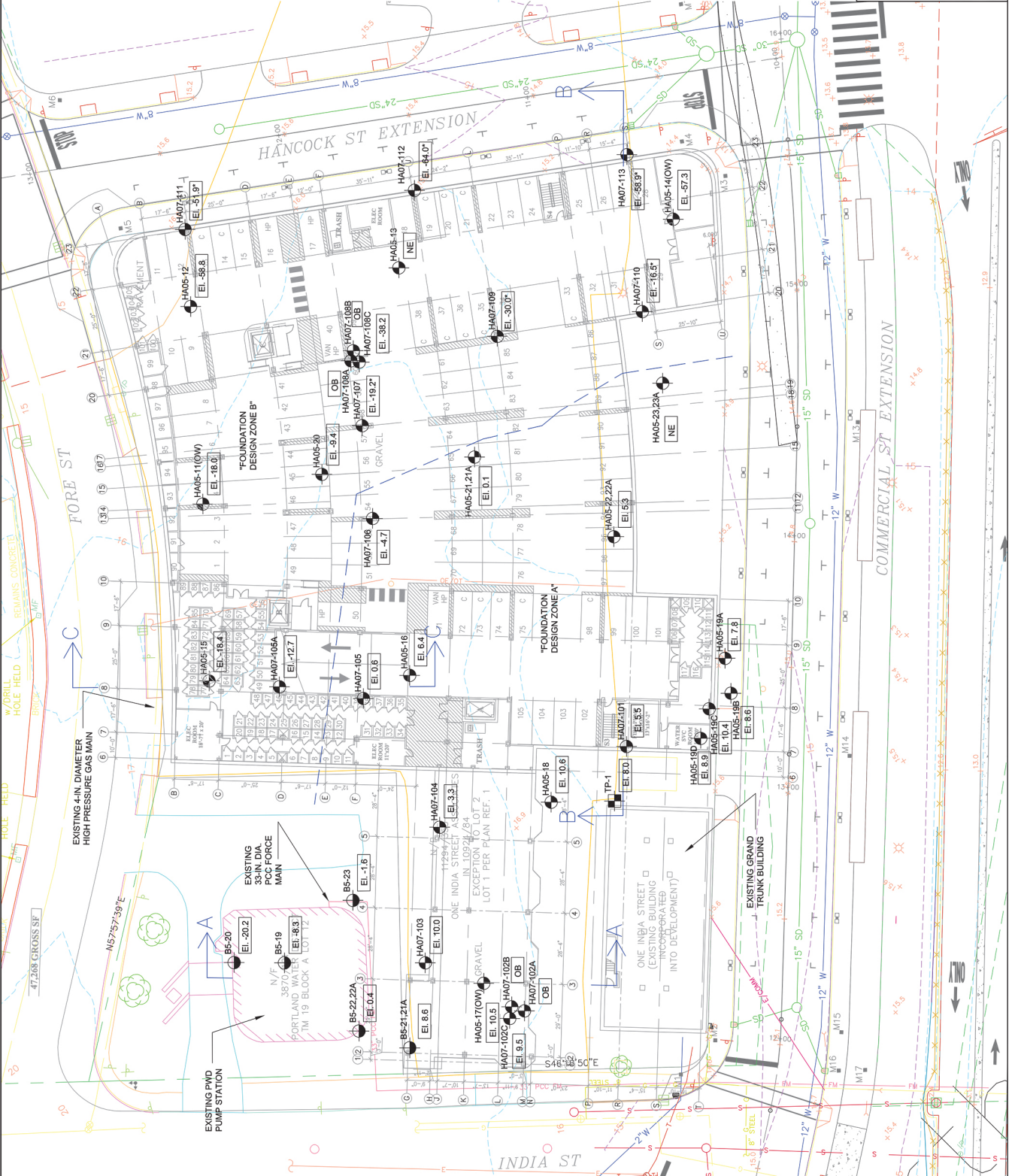


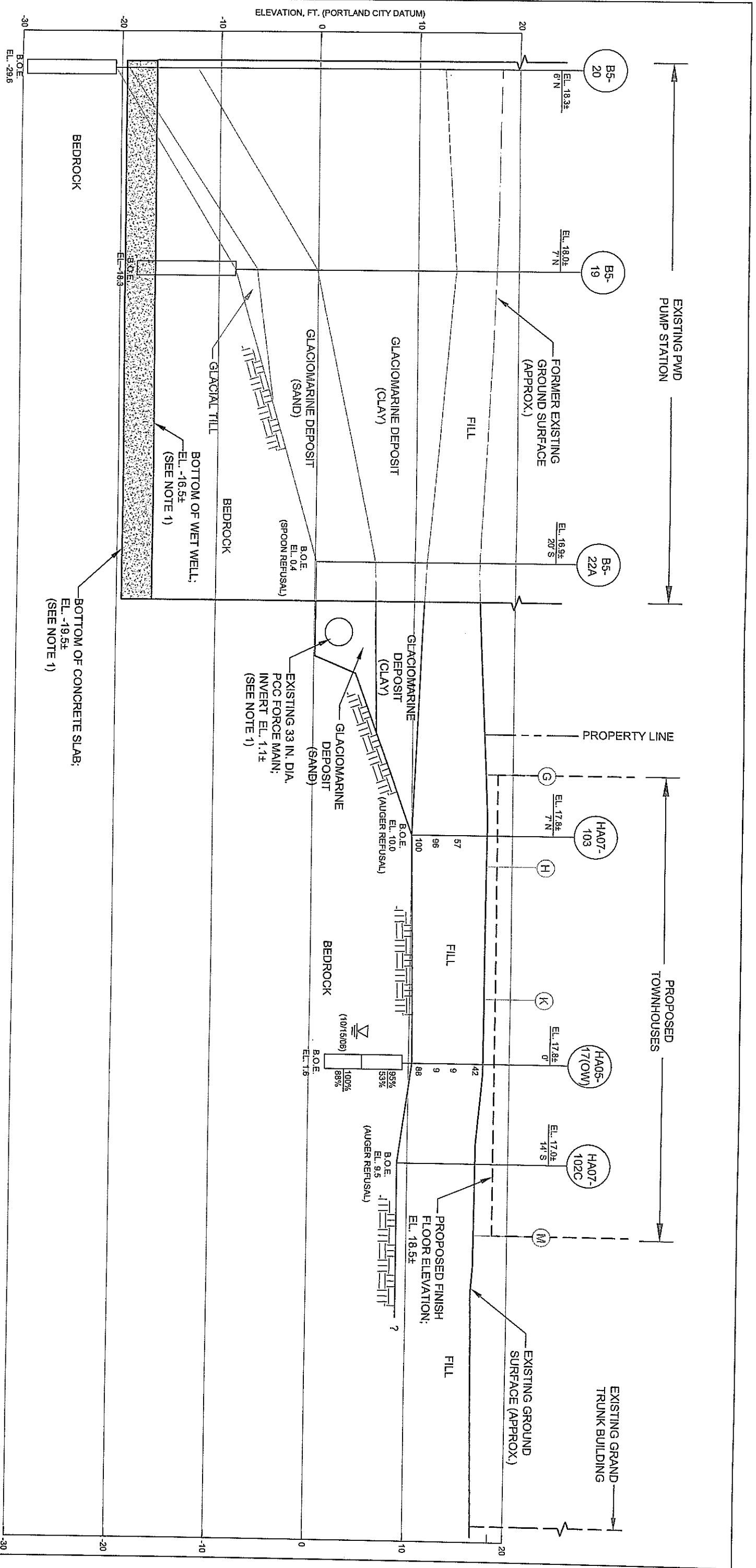
THE WATERMARK  
PORTLAND, MAINE

**HALEY & ALDRICH**

**SITE AND SUBSURFACE EXPLORATION  
LOCATION PLAN**

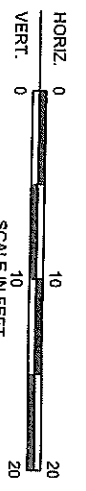
SCALE: AS SHOWN  
MAY 2007





**NOTES:**

1. INFORMATION SHOWN RELATIVE TO THE EXISTING PORTLAND WATER DISTRICT INDIA STREET PUMP STATION IS TAKEN FROM THE RECORD DRAWINGS ENTITLED "PORTLAND WATER DISTRICT POLLUTION ABATEMENT FACILITIES, CONTRACT NO. 5, INDIA STREET" AND THE REPORT ENTITLED "PROPOSED INDIA STREET PUMP STATION, WASTEWATER FACILITIES CONTRACT NO. 5, PORTLAND, MAINE," PREPARED BY HALEY & ALDRICH, INC., DATED 9 OCTOBER 1975.
2. SEE LEGEND AND NOTES, FIGURE 6.



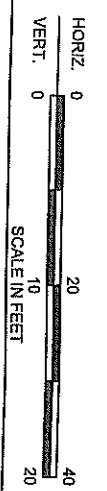
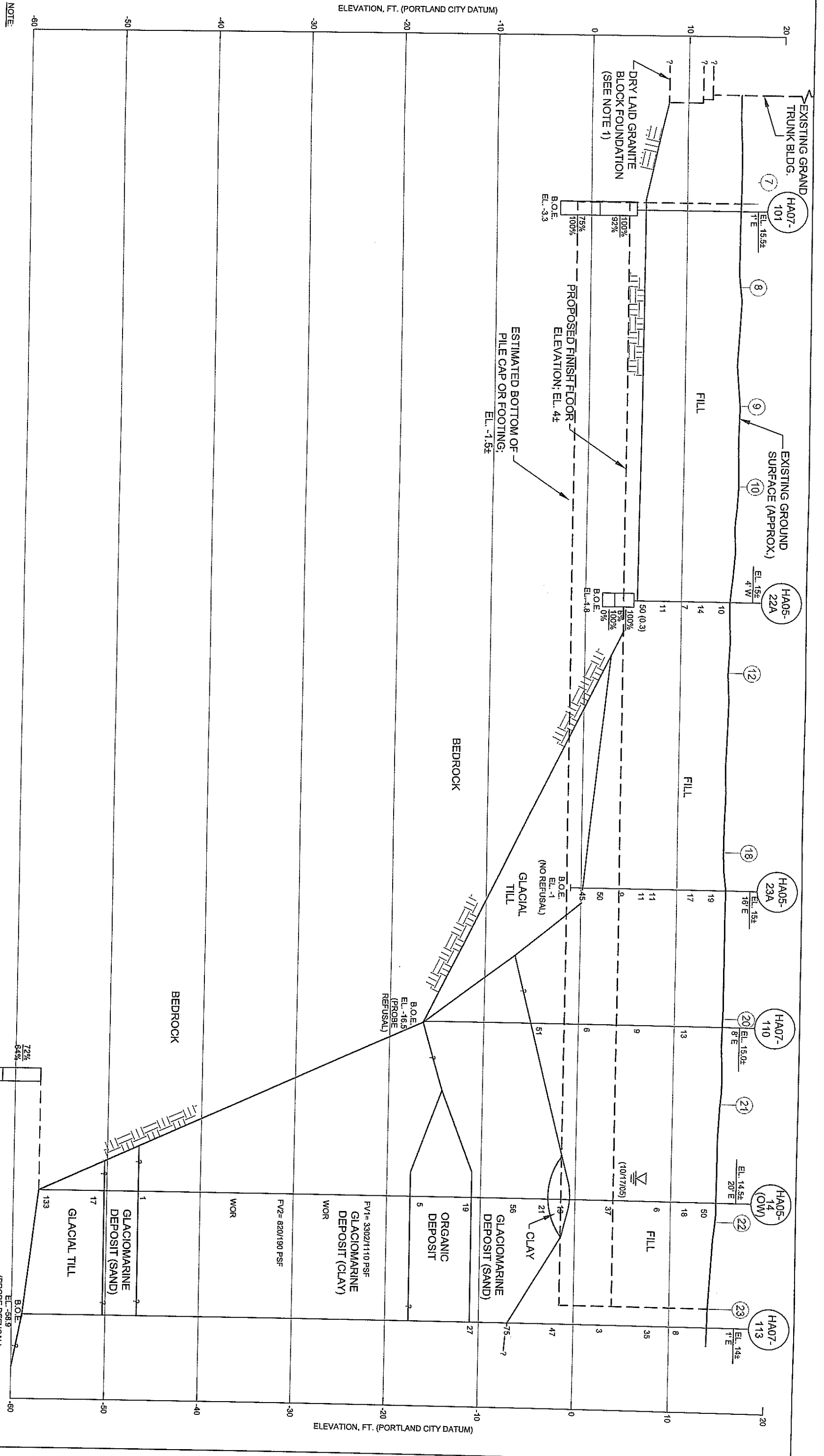
**HALEY & ALDRICH**  
THE WATERMARK  
PORTLAND, MAINE

**SUBSURFACE PROFILE A-A**

SCALE: AS SHOWN  
MAY 2007

**FIGURE 3**

- NOTE:
1. INFORMATION SHOWN RELATIVE TO THE EXISTING GRAND TRUNK BUILDING FOUNDATION IS TAKEN FROM AN EXPLORATORY TEST PIT EXCAVATED IN APRIL 2007. REFER TO APPENDIX B FOR A DETAILED SKETCH AND PHOTOGRAPHS.
  2. SEE LEGEND AND NOTES, FIGURE 6.

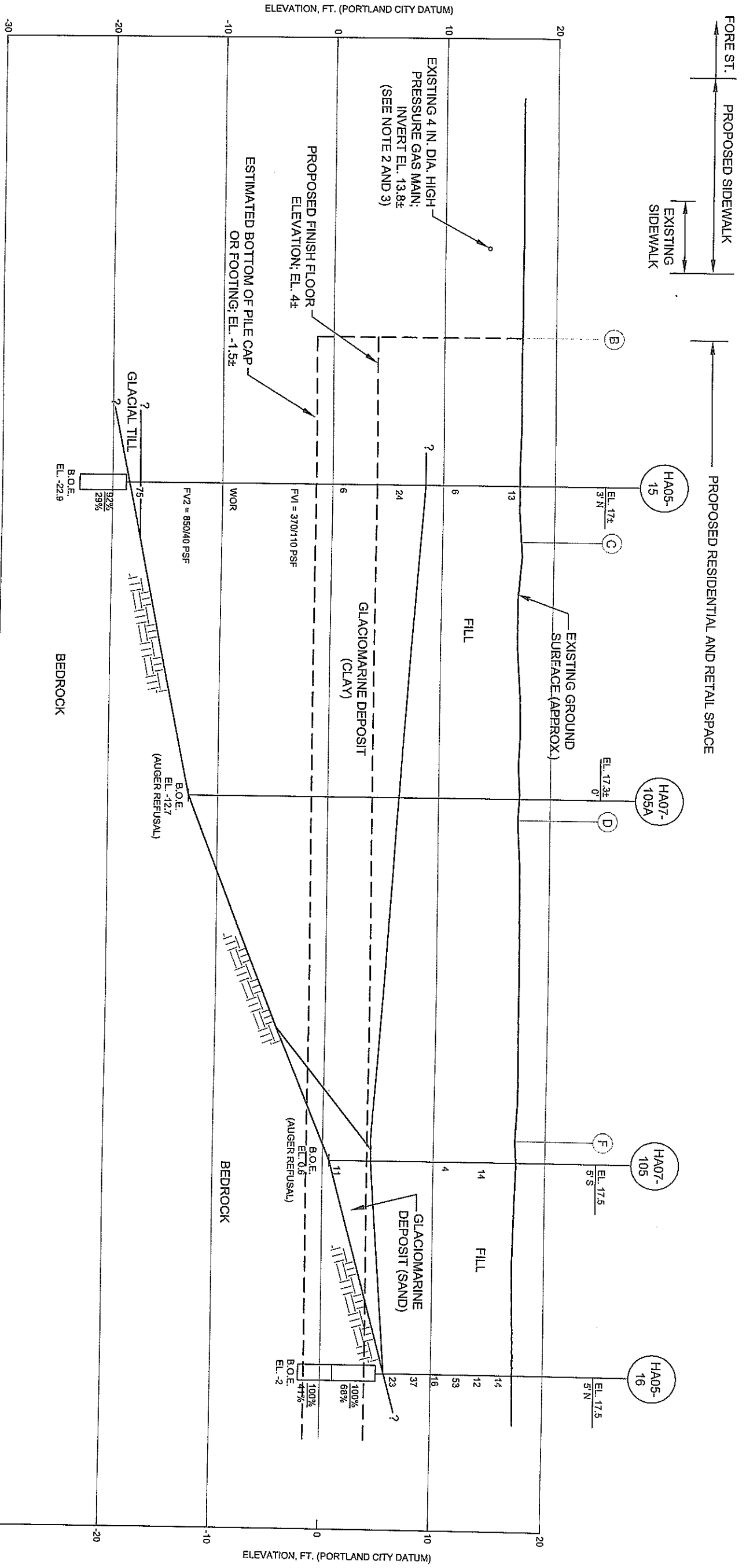


**HALEY & ADRICH**  
THE WATERMARK  
PORTLAND, MAINE

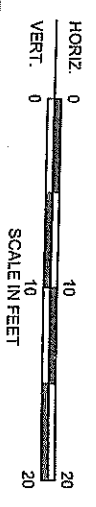
SUBSURFACE PROFILE B-B

SCALE: AS SHOWN  
MAY 2007

FIGURE 4



- NOTE:
1. SEE LEGEND AND NOTES, FIGURE 6.
  2. THE HORIZONTAL LOCATION OF THE EXISTING HIGH PRESSURE GAS MAIN IS TAKEN FROM THE ELECTRONIC AUTOCAD FILE "HA-203555-X000C.dwg", PROVIDED BY WOODARD & CURRAN, DATED 30 JANUARY 2007.
  3. THE DIAMETER AND INVERT ELEVATION OF THE EXISTING HIGH PRESSURE GAS MAIN IS BASED ON VERBAL COMMUNICATION WITH WOODARD & CURRAN.



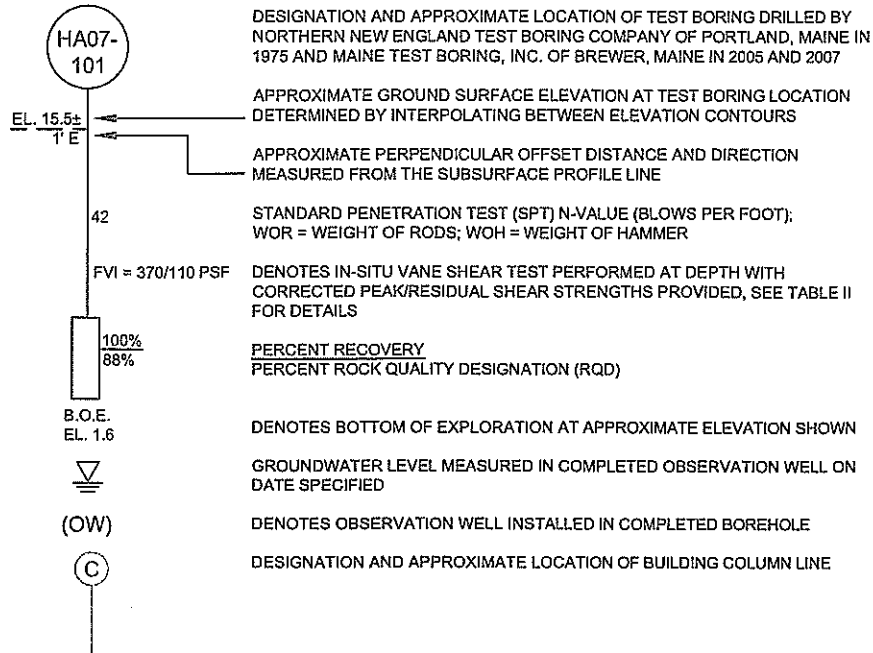
**HALEY & ANDRICH**  
 THE WATERMARK  
 PORTLAND, MAINE

**SUBSURFACE PROFILE C-C**

SCALE: AS SHOWN  
 MAY 2007

**FIGURE 5**

**LEGEND:**



**NOTES:**

1. SEE FIGURE 2 FOR LOCATION AND ORIENTATION OF SUBSURFACE PROFILES.
2. EXISTING GROUND SURFACE ELEVATIONS AT TEST BORING LOCATIONS ARE APPROXIMATE AND WERE DETERMINED BY INTERPOLATION USING TOPOGRAPHIC CONTOUR INFORMATION PROVIDED BY WOODARD & CURRAN IN THE ELECTRONIC AUTOCAD FILE ENTITLED, "HA-203555-X00C.dwg", DATED 30 JANUARY 2007.
3. PROPOSED SITE FEATURES ARE TAKEN FROM THE ELECTRONIC AUTOCAD FILE ENTITLED, "P-BASEMENT - PARKING PLAN - PRELIMINARY GEOTECHNICAL LAYOUT DRAWING.dwg", PROVIDED BY THE ARCHITECTURAL TEAM, DATED 24 JANUARY 2007.
4. LINES REPRESENTING CHANGES IN STRATA SHOWN ON THE SUBSURFACE PROFILES ARE BASED ON LINEAR INTERPOLATION BETWEEN SUBSURFACE EXPLORATIONS. THESE INTERPRETED STRATA LINES DO NOT REPRESENT ACTUAL FIELD CONDITIONS OTHER THAN AT SPECIFIC EXPLORATION LOCATIONS.
5. LOCATIONS OF THE 1975 AND 2005 SERIES OF TEST BORINGS ARE APPROXIMATE AND WERE DETERMINED IN THE FIELD BY TAPING/PACING DISTANCES FROM EXISTING SITE FEATURES. LOCATIONS OF THE 2007 SERIES OF TEST BORINGS WERE DETERMINED IN THE FIELD USING GPS SURVEY EQUIPMENT.
6. ELEVATIONS ARE IN FEET AND REFERENCE PORTLAND CITY DATUM.
7. REFER TO APPENDIX A FOR LOGS OF THE 1975 SERIES TEST BORINGS, APPENDIX B FOR LOGS OF 2005 AND 2007 SERIES TEST BORINGS AND APPENDIX C FOR OBSERVATION WELL INSTALLATION AND GROUNDWATER MONITORING REPORTS.

S:\30322\2007\_0124 - CURRENT RES. FIG 2\30322-000-001\_2007-0424\_XSECTIONS.DWG

**HALEY & ALDRICH**

THE WATERMARK  
PORTLAND, MAINE

**LEGEND AND NOTES**

SCALE: AS SHOWN  
MAY 2007

**FIGURE 6**

## **24. Site Lighting**

## **Site Lighting**

### **Street Lighting**

In conformance with Section 10 of the Technical Manual, the Eastern Waterfront fixture (in black @ 19'-3" ht.) is required along Fore and Hancock Streets. The Commercial Street District fixture (in dark green @ 18'-4" ht.) is required on Thames Street. Both light fixtures and pole shall be to City Standards.

### **Internal Lighting**

The driveway/sidewalk and half of the drop-off loop / courtyard are proposed to be illuminated with light bollards. The bollards will provide a 360 degree, low intensity level of illumination. Some light may spillover the internal property line onto the adjacent vacant lot – but that should not be an issue as that lot will share the driveway and loop and will be lit in the future with the same light bollard to match the hotel. See attached cut sheet of the Light Column Bollard by Forms+Surfaces and enclosed Photometric Plan.

### **Hotel Lighting**

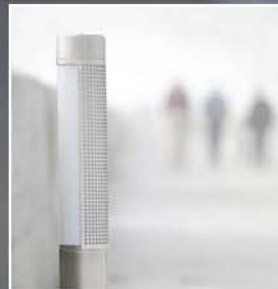
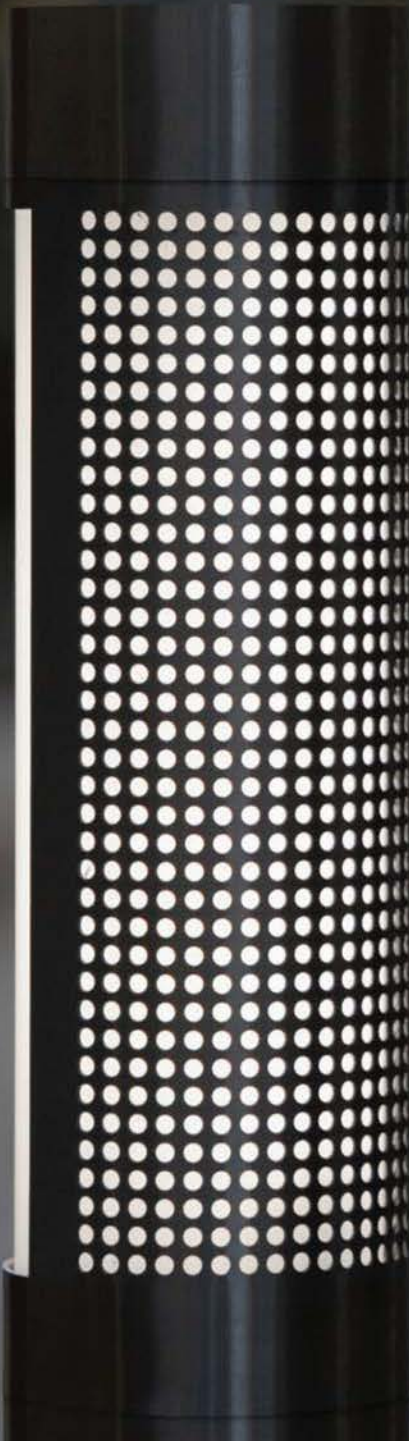
At this point in the hotel design process it is too early to engage a lighting designer as there are just too many moving parts. As the construction management company works through the hotel's design development a lighting designer will be retained to work through the lighting. We are requesting that the hotel exterior building mounted lighting be made a condition of approval to be worked out with Staff.





**LIGHT COLUMN BOLLARD**

PRODUCT DATA





# LIGHT COLUMN BOLLARD

PRODUCT DATA

Sleek in stainless steel, the **Light Column Bollard** integrates into a wide range of settings and offers numerous design possibilities. Bollard columns are available in 5" or 6" diameters. Illumination options include LED or linear fluorescent lamps and multiple ways to direct light: no shield for symmetrical lighting, or 180° and 360° shields in standard or custom designs. Non-illuminated and security core variations, and matching Light Column Pathway Bollards and Light Column Pedestrian Lighting make it easy to create a cohesive look across functionalities.

## MATERIAL & CONSTRUCTION DETAILS

CONFIGURATIONS	MATERIALS & FINISHES	FLUORESCENT LAMPS & BALLASTS
<ul style="list-style-type: none"> <li>Light Column Bollards are available in two sizes. Series 500 columns use 5" (127 mm) diameter tubular stainless steel; Series 600 columns use 6" (152 mm) diameter tubular stainless steel.</li> <li>To complement the illuminated bollard, a non-illuminated version is also available in both Series 500 and Series 600.</li> <li>Bollards can be specified with a removable base.</li> <li>Weather resistant GFCI outlet for maintenance access is available for Series 600, illuminated, non-security bollards. See drawings on our website for details.</li> <li>Door for optional GFCI outlet is accessed using a flathead screwdriver.</li> </ul>	<ul style="list-style-type: none"> <li>Illuminated bollards have a tubular stainless steel column, white-frosted acrylic lens, and a stainless steel head cap.</li> <li>Non-illuminated bollards are tubular stainless steel with welded stainless steel cap.</li> <li>Standard stainless steel finish is Satin.</li> <li>For optional powdercoat colors see the Forms+Surfaces Powdercoat Chart. Custom RAL colors are available for an upcharge.</li> </ul>	<ul style="list-style-type: none"> <li>Linear fluorescent lamps are available in two options. See lamp information on page 5.</li> <li>Ballast is an electronic, thermally protected, 120/277V combination for two F14T5 lamps, -18°C starting temperature, &lt;10% THD, Class A sound rating. Please call for HO ballast specifications.</li> </ul>
WEIGHT	SHIELD OPTIONS	LED LAMPS & DRIVERS
<ul style="list-style-type: none"> <li>Series 500, illuminated: 30 lbs (14 kg); non-illuminated: 32-33 lbs (15 kg)</li> <li>Series 600, illuminated: 34 lbs (15 kg); non-illuminated: 34-39 lbs (15-18 kg)</li> <li>Series 600, security core, illuminated: 170 lbs (77 kg); non-illuminated: 177 lbs (80 kg)</li> </ul>	<ul style="list-style-type: none"> <li>Four standard shield designs are available for an upcharge. Refer to pages 4 and 5 for details.</li> <li>Custom shield designs with either 180° or 360° coverage are also available.</li> <li>Shields are offered for Series 500 and Series 600 illuminated bollards.</li> </ul>	<ul style="list-style-type: none"> <li>Custom LED light engine with Cree® LEDs.</li> <li>Features advanced LED technology with 17W, 3000K warm white and 4000K natural white LEDs.</li> <li>LED driver input power is 100-277V.</li> <li>Driver has 0-10V dimming capabilities.</li> <li>LED driver certifications include: IP66 (waterproof) enclosure, and Class 2 rated output (UL8750)</li> </ul>

## INSTALLATION & MAINTENANCE

INSTALLATION	MAINTENANCE
<ul style="list-style-type: none"> <li>Standard mounting is surface mount with J-bolts. 1/2" thick stainless steel base plate is slotted for rotational capability.</li> <li>Security bollards use an embedded security core, available with the Series 600, for an upcharge.</li> <li>Bollards have the option of a removable base.</li> <li>Installation of a surge protector as part of each unit's wiring is recommended.</li> <li>Stainless steel hardware is included for all mounting options. Templates are available upon request.</li> </ul>	<ul style="list-style-type: none"> <li>Metal surfaces can be cleaned as needed using a soft cloth or brush with warm water and a mild detergent. Avoid abrasive cleaners.</li> </ul>



# LIGHT COLUMN BOLLARD, SERIES 600

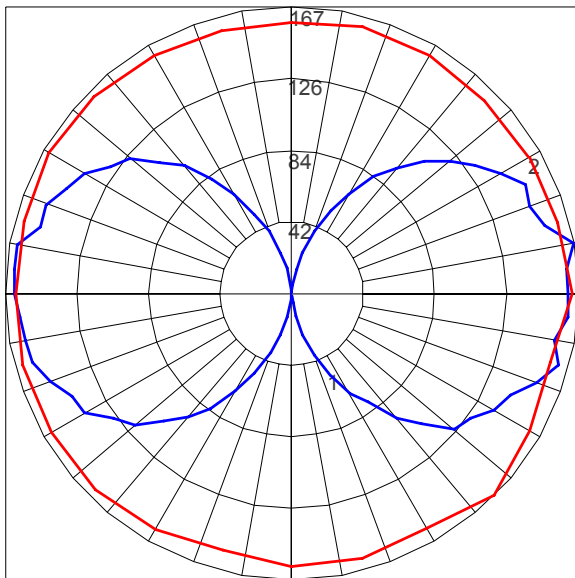
LIGHTING PLOTS

## LAMP DESCRIPTIONS

LAMP	DESCRIPTION	BASE	COLOR TEMPERATURE	LUMINAIRE LUMENS*	B.U.G. RATING
3000K LED	17W custom LED light engine	N/A	3,000K	1545	B1-U4-G1
4000K LED	17W custom LED light engine	N/A	4,000K	1545	B1-U4-G1
(2) F14T5	14W T5 linear fluorescent	Mini bi-pin	4,100K	2195	B1-U4-G2
(2) F24T5/HO	24W T5HO linear fluorescent	Mini bi-pin	4,100K	3252	B1-U5-G2

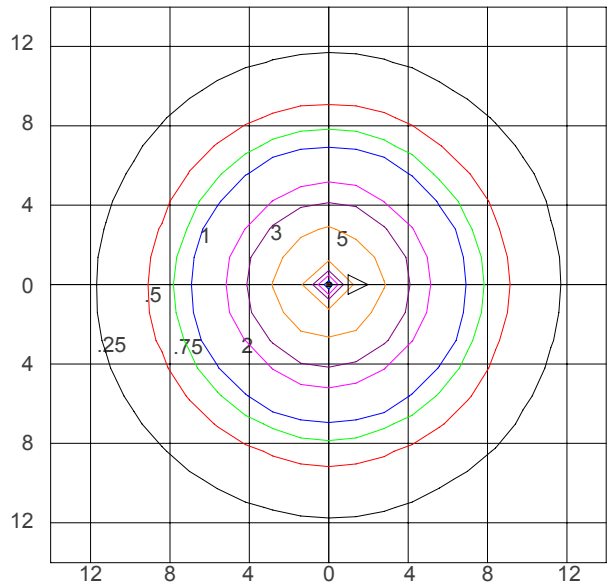
\*Luminaire lumens represents the absolute photometry for the luminaire, and indicates the lumens out of the entire fixture.

**POLAR CANDELA PLOT (17W LED, 3000K/4000K)**



Maximum Candela = 167.44; Located at Horizontal Angle = 315; Vertical Angle = 100  
 #1 - Vertical Plane Through Horizontal Angles (315 - 135) (Through Max. Cd.)  
 #2 - Horizontal Cone Through Vertical Angle (100) (Through Max Cd.)

**ISOFOOTCANDLE PLOT (17W LED, 3000K/4000K)**



Isofootcandle Plot shows light distribution pattern at ground level with custom LED light engine with no shield. Readings have been taken assuming the photometric center of the luminaire to be 2.74 feet above ground level. IES files for standard lamps are available on our website.



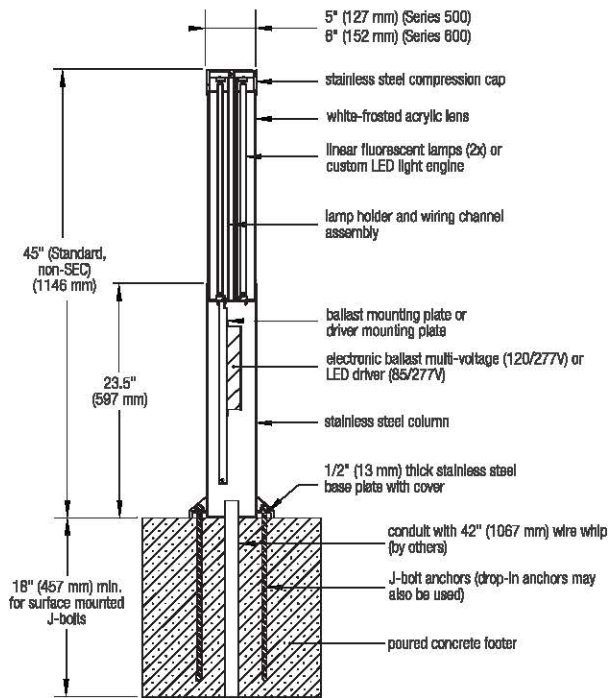
# LIGHT COLUMN BOLLARD

PRODUCT DATA

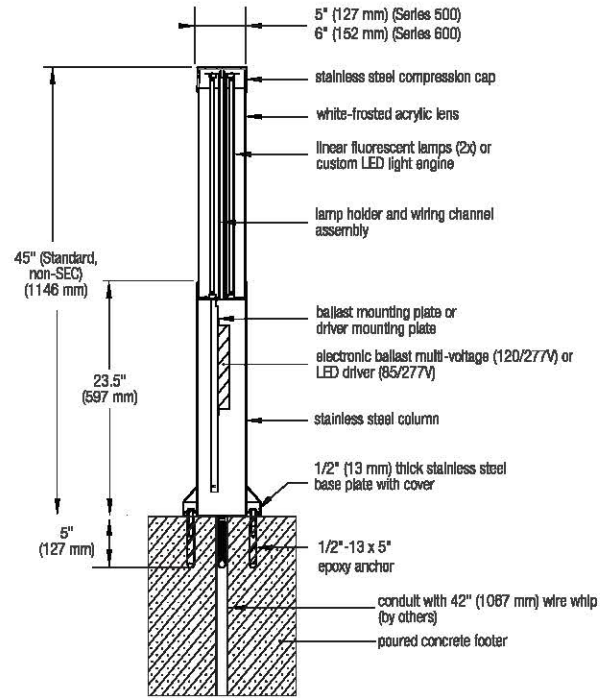
## ILLUMINATED BOLLARDS

### NOMINAL DIMENSIONS

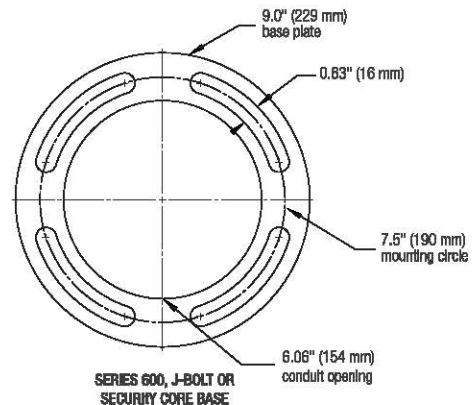
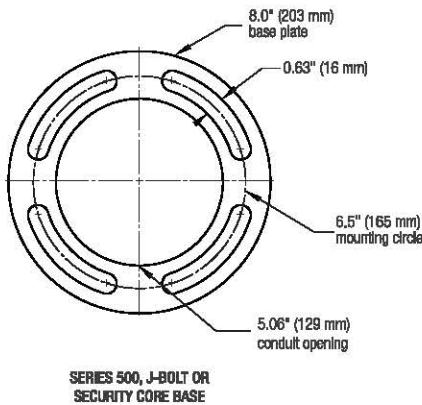
#### SURFACE MOUNT WITH J-BOLTS



#### SURFACE MOUNT WITH REMOVABLE BASE



### BASE PLATE MOUNTING DETAILS





# LIGHT COLUMN BOLLARD

PRODUCT DATA

### CERTIFICATIONS

- UL and C-UL listed for wet locations (linear fluorescent).
- ETL and C-ETL listed for wet locations (LED).

### ENVIRONMENTAL CONSIDERATIONS

- Please refer to the Light Column Bollard Environmental Data Sheets for detailed environmental impact information.
- Light Column Bollard has high recycled content and is highly recyclable.
- Powdercoat finishes are no- or low-VOC, depending on color.
- Low maintenance.

### NET PRICING AND ORDERING INFORMATION (pricing does not include freight)

MODEL	DESCRIPTION	NET PRICE (US \$)
LBLCO-504	Light Column Bollard, Series 500, illuminated	please call for pricing
<b>LBLCO-604</b>	<b>Light Column Bollard, Series 600, illuminated</b>	please call for pricing
LBLCO-504-N	Light Column Bollard, Series 500, non-illuminated	please call for pricing
LBLCO-604-N	Light Column Bollard, Series 600, non-illuminated	please call for pricing
	Optional embedded security core (available for Series 600)	please call for pricing
	Optional removable base	please call for pricing
	180° perforated shield in standard designs	please call for pricing
	360° perforated shield in standard designs	please call for pricing
	180° custom shield (customer-supplied artwork)	please call for pricing
	360° custom shield (customer-supplied artwork)	please call for pricing
	Optional GFCI outlet (available for Series 600, illuminated, non-security bollards)	please call for pricing
	Optional Premium Texture from Forms+Surfaces Powdercoat Chart	+ \$200 per color/per order
	Custom RAL powdercoat color	please call for pricing
	Custom fixture height	please call for pricing

**TO ORDER SPECIFY:** quantity, model, finish, lamp, shield (if applicable), and mounting.

**LEAD TIME:** 6 to 8 weeks. Shorter lead times may be available upon request. Please contact us to discuss your specific timing requirements.

PROJECT NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

JOB LOCATION: \_\_\_\_\_

COMPANY: \_\_\_\_\_

PLEASE USE ADOBE READER OR ADOBE ACROBAT TO FILL OUT AND SAVE FORM. USING OTHER PROGRAMS COULD RESULT IN UNSAVED DATA.

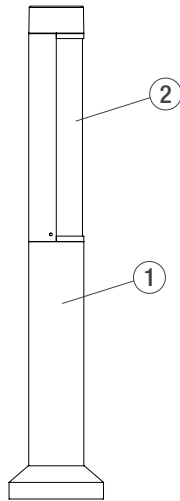
**MODEL**

QUANTITY	MODEL	
_____	LBLCO-504	Light Column Bollard, Series 500 - 5" diameter column, illuminated
_____	LBLCO-604	Light Column Bollard, Series 600 - 6" diameter column, illuminated
_____	LBLCO-504-N	Light Column Bollard, Series 500 - 5" diameter column, non-illuminated
_____	LBLCO-604-N	Light Column Bollard, Series 600 - 6" diameter column, non-illuminated

**OPTIONS**

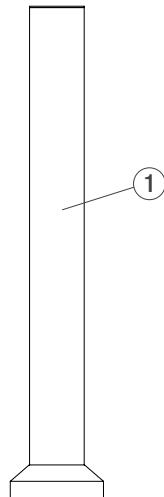
**FIG. 1 LIGHT COLUMN BOLLARD**

(180° perforated shield shown - pattern not shown for clarity)



**FIG. 2 LIGHT COLUMN BOLLARD**

(non-illuminated bollard shown)



①

**Finish Options**

Please select **one** option below.

**Standard Stainless Steel Finish**

Satin

**Standard Texture/Gloss from Forms+Surfaces Powdercoat Chart**

(Please call for pricing information)

- |  |   |
|--|---|
| <input type="checkbox"/> Aluminum Texture    | <input type="checkbox"/> Evergreen Texture  |
| <input type="checkbox"/> Argento Texture     | <input type="checkbox"/> Fog Gloss          |
| <input type="checkbox"/> Black Gloss         | <input type="checkbox"/> Silver Texture     |
| <input type="checkbox"/> Black Texture       | <input type="checkbox"/> Slate Gloss        |
| <input type="checkbox"/> Bright Silver Gloss | <input type="checkbox"/> Slate Texture      |
| <input type="checkbox"/> Cobalt Texture      | <input type="checkbox"/> Taupe Grey Texture |
| <input type="checkbox"/> Cream Texture       | <input type="checkbox"/> White Texture      |
| <input type="checkbox"/> Evergreen Gloss     |   |

**Premium Texture from Forms+Surfaces Powdercoat Chart**

(Please call for pricing information)

- |  |   |
|--|---|
| <input type="checkbox"/> Azure Texture | <input type="checkbox"/> Seafoam Texture        |
| <input type="checkbox"/> Lime Texture  | <input type="checkbox"/> Weathered Iron Texture |
| <input type="checkbox"/> Rust Texture  |   |

**Custom RAL Powdercoat Color**

(Please call for pricing information)

RAL Color: \_\_\_\_\_

②

**Shield and Pattern Options (for illuminated bollards)**

Please select **one** option below. Please call for pricing information.

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> No shield                    | <input type="checkbox"/> 180° shield with Bubbles     | <input type="checkbox"/> 360° shield with Bubbles |
| <input type="checkbox"/> 180° shield with Kente*      | <input type="checkbox"/> 180° custom shield           | <input type="checkbox"/> 360° custom shield       |
| <input type="checkbox"/> 180° shield with Perforation | <input type="checkbox"/> 360° shield with Perforation |   |
| <input type="checkbox"/> 180° shield with Scape       | <input type="checkbox"/> 360° shield with Scape       |   |

\*Kente shield is only available in Series 600, 180° configuration.

**Lamp Options (for illuminated bollards)**

Please select **one** option below. Please call for pricing information.

- 17W LED (17W custom LED light engine)  
Please select **one** color temperature below.
  - 3000K       4000K
- (2x) F14T5 (14W T5 linear fluorescent)
- (2x) F24T5/HO (24W T5HO linear fluorescent)

**Mounting Options**

Please select **one** option below. Please call for pricing information.

- Surface Mount with J-bolts
- Surface Mount with Removable Base
- Embedded Security Core\*  
\*Security core mounting is only available with Series 600.

**GFCI Outlet (for Series 600 illuminated, non-security bollards)**

Please select **one** option below. Please call for pricing information.

- Yes       No

## Neighborhood Meeting Certification

I, Ara Aftandilian, hereby certify that a neighborhood meeting was held on November 4, 2015 at the Residence Inn 145 Fore Street at 7:00 pm

I also certify that on October 22, 2015 invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development or within 1000 feet of a proposed industrial subdivision or industrial zone change.
2. Residents on the "interested parties" list.
3. A digital copy of the notice was also provided to the Planning Office (jmy@portlandmaine.gov) and the assigned planner to be forwarded to those on the interested citizen list who receive email notices.

Signed,



---

11/04/2015

Attached to this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes



## Neighborhood Meeting Invitation

October 22, 2014

Dear Neighbor:

Please join us for a neighborhood meeting to discuss our plans for a **proposed hotel, ground floor retail or restaurant space, residential condominiums, and associated lot division at 158 Fore Street.**

Meeting Location: **Residence Inn, 1<sup>st</sup> Floor Boardroom  
145 Fore Street, Portland, ME 04101**

Meeting Date: **November 4, 2015**

Meeting Time: **7:00 pm**

(The City code requires that property owners within 500 feet (1000 feet for proposed industrial subdivisions and industrial zone changes) of the proposed development and residents on an "interested parties list", be invited to participate in a neighborhood meeting. A sign-in sheet will be circulated and minutes of the meeting will be taken. Both the sign-in sheet and minutes will be submitted to the Planning Board.)

If you have any questions, please call Ara Aftandilian @ (978) 887.3640

### Note:

Under Section 14-32(C) and 14-524c of the City Code of Ordinances, an applicant for a Level III development, subdivision of over five lots/units, or zone change is required to hold a neighborhood meeting within 30 days of submitting a preliminary application or 21 days of submitting a final site plan application, if a preliminary plans was not submitted. The neighborhood meeting must be held at least seven days prior to the Planning Board public hearing on the proposal. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874- 8721 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street Portland, ME 04101 or by email: to [bab@portlandmaine.gov](mailto:bab@portlandmaine.gov)



Portland Norwich Group LLC  
AC Hotel Project  
158 Fore Street, Portland

Neighborhood Meeting – Meeting Minutes

Meeting Date – November 4, 2015

Meeting Location – Residence Inn Hotel, 145 Fore Street

Ara Aftandilian of Portland Norwich Group (“PNG”) presented the AC Hotel project and discussed the history of the development site and PNG’s current master plan for the remainder of the Portland Gateway development site.

Attendees asked the following questions, and short answers by PNG are provided.

*Does Portland need more retail space?*

The hotel includes a small retail or restaurant space and other retail space is planned on the ground floor of future buildings. Similar to area retail these spaces may be more service orientated.

*What is planned for the other buildings?*

The current master plan includes three buildings with a mix of office, residential and retail or restaurant space.

*Can more green space be added to the project?*

This is an urban project and more important than green space is active streetscapes and pedestrian connections.

*Aren't there environmental issues from the old rail yards?*

This property does include contaminated soils similar to other area properties. The Maine DEP process was discussed.

*Are there enough parking spaces in the Garage for the project?*

There is sufficient capacity in the Ocean Gateway Garage to accommodate the hotel and future buildings.

*Who is going to manage the parking garage?*

PNG has been talking to area garage management companies.

What is the ownership of this project?

PNG is the same partnership group that developed the Residence Inn hotel that opened in 2009.

What is an AC Hotel?

AC is an upscale select service boutique Marriott branded hotel. AC started in Spain and Marriott had been working with the company in Europe before acquiring the brand.

What is the occupancy of this (Residence Inn) and other hotels?

The Residence Inn and other downtown hotels operate at about an 80% annual occupancy.

What is the timing for the project?

Spring 2016 construction start for a Summer 2017 hotel opening.

What about monthly parkers in the Garage?

There is sufficient capacity in the Ocean Gateway Garage to accommodate the hotel and future buildings and still accommodate monthly daytime and evening parkers.

What is the number of stories?

The AC Hotel will be six stories.

Where is the location of the restaurant?

The hotel includes retail or restaurant space at the corner of Thames and Hancock Streets.

How would construction work and where would staging be located?

The hotel project can be constructed with minimal impact to area streets due to the larger development site.

Is there a crosswalk planned on Fore Street?

Yes, a crosswalk is planned in conjunction with the planned upgrade of the hotel project side of Fore Street.

Can the Fore and Hancock intersection be changed to a four way stop?

Concerns were raised about the speed of vehicles on Fore Street. This is a City decision and not project related.

Are trees planned for the project?

Yes, street trees and trees within the interior of the project site are planned.

Will the hotel be pet friendly?

Yes, all Marriott hotels are pet friendly and the hotel will have a similar pet policy as the Residence Inn.